

**UNITED STATES – MEASURES AFFECTING TRADE
IN LARGE CIVIL AIRCRAFT
(SECOND COMPLAINT)**

AB-2011-3

Report of the Appellate Body

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<i>US – FSC (Article 21.5 – EC)</i>	Panel Report, <i>United States – Tax Treatment for "Foreign Sales Corporations" – Recourse to Article 21.5 of the DSU by the European Communities</i> , WT/DS108/RW, adopted 29 January 2002, as modified by Appellate Body Report WT/DS108/AB/RW, DSR 2002:I, 119
<i>US – FSC (Article 21.5 – EC II)</i>	Appellate Body Report, <i>United States – Tax Treatment for "Foreign Sales Corporations" – Second Recourse to Article 21.5 of the DSU by the European Communities</i> , WT/DS108/AB/RW2, adopted 14 March 2006, DSR 2006:XI, 4721
<i>US – FSC (Article 21.5 – EC II)</i>	Panel Report, <i>United States – Tax Treatment for "Foreign Sales Corporations" – Second Recourse to Article 21.5 of the DSU by the European Communities</i> , WT/DS108/RW2, adopted 14 March 2006, as upheld by Appellate Body Report WT/DS108/AB/RW2, DSR 2006:XI, 4761
<i>US – FSC (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Tax Treatment for "Foreign Sales Corporations" – Recourse to Arbitration by the United States under Article 22.6 of the DSU and Article 4.11 of the SCM Agreement</i> , WT/DS108/ARB, 30 August 2002, DSR 2002:VI, 2517
<i>US – Gambling</i>	Appellate Body Report, <i>United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services</i> , WT/DS285/AB/R, adopted 20 April 2005, DSR 2005:XII, 5663 (Corr.1, DSR 2006:XII, 5475)

Short Title	Full case title and citation
<i>US – Gasoline</i>	Appellate Body Report, <i>United States – Standards for Reformulated and Conventional Gasoline</i> , WT/DS2/AB/R, adopted 20 May 1996, DSR 1996:I, 3
<i>US – Hot-Rolled Steel</i>	Appellate Body Report, <i>United States – Anti-Dumping Measures on Certain Hot-Rolled Steel Products from Japan</i> , WT/DS184/AB/R, adopted 23 August 2001, DSR 2001:X, 4697
<i>US – Large Civil Aircraft</i>	<i>United States – Measures Affecting Trade in Large Civil Aircraft</i> , WT/DS317
<i>US – Large Civil Aircraft (2nd complaint)</i>	Panel Report, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)</i> , WT/DS353/R, circulated to WTO Members 31 March 2011
<i>US – Line Pipe</i>	Appellate Body Report, <i>United States – Definitive Safeguard Measures on Imports of Circular Welded Carbon Quality Line Pipe from Korea</i> , WT/DS202/AB/R, adopted 8 March 2002, DSR 2002:IV, 1403
<i>US – Oil Country Tubular Goods Sunset Reviews</i>	Appellate Body Report, <i>United States – Sunset Reviews of Anti-Dumping Measures on Oil Country Tubular Goods from Argentina</i> , WT/DS268/AB/R, adopted 17 December 2004, DSR 2004:VII, 3257
<i>US – Section 211 Appropriations Act</i>	Appellate Body Report, <i>United States – Section 211 Omnibus Appropriations Act of 1998</i> , WT/DS176/AB/R, adopted 1 February 2002, DSR 2002:II, 589
<i>US – Shrimp</i>	Appellate Body Report, <i>United States – Import Prohibition of Certain Shrimp and Shrimp Products</i> , WT/DS58/AB/R, adopted 6 November 1998, DSR 1998:VII, 2755
<i>US – Softwood Lumber III</i>	Panel Report, <i>United States – Preliminary Determinations with Respect to Certain Softwood Lumber from Canada</i> , WT/DS236/R, adopted 1 November 2002, DSR 2002:IX, 3597
<i>US – Softwood Lumber IV</i>	Appellate Body Report, <i>United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada</i> , WT/DS257/AB/R, adopted 17 February 2004, DSR 2004:II, 571
<i>US – Softwood Lumber VI (Article 21.5 – Canada)</i>	Appellate Body Report, <i>United States – Investigation of the International Trade Commission in Softwood Lumber from Canada – Recourse to Article 21.5 of the DSU by Canada</i> , WT/DS277/AB/RW, adopted 9 May 2006, and Corr.1, DSR 2006:XI, 4865
<i>US – Sonar Mapping</i>	GATT Panel Report, <i>United States – Procurement of a Sonar Mapping System</i> , GPR.DS1/R, 23 April 1992, unadopted
<i>US – Steel Safeguards</i>	Appellate Body Report, <i>United States – Definitive Safeguard Measures on Imports of Certain Steel Products</i> , WT/DS248/AB/R, WT/DS249/AB/R, WT/DS251/AB/R, WT/DS252/AB/R, WT/DS253/AB/R, WT/DS254/AB/R, WT/DS258/AB/R, WT/DS259/AB/R, adopted 10 December 2003, DSR 2003:VII, 3117
<i>US – Upland Cotton</i>	Appellate Body Report, <i>United States – Subsidies on Upland Cotton</i> , WT/DS267/AB/R, adopted 21 March 2005, DSR 2005:I, 3
<i>US – Upland Cotton</i>	Panel Report, <i>United States – Subsidies on Upland Cotton</i> , WT/DS267/R, Corr.1, and Add.1 to Add.3, adopted 21 March 2005, as modified by Appellate Body Report WT/DS267/AB/R, DSR 2005:II, 299

Short Title	Full case title and citation
<i>US – Upland Cotton (Article 21.5 – Brazil)</i>	Appellate Body Report, <i>United States – Subsidies on Upland Cotton – Recourse to Article 21.5 of the DSU by Brazil</i> , WT/DS267/AB/RW, adopted 20 June 2008, DSR 2008:III, 809
<i>US – Upland Cotton (Article 21.5 – Brazil)</i>	Panel Report, <i>United States – Subsidies on Upland Cotton – Recourse to Article 21.5 of the DSU by Brazil</i> , WT/DS267/RW and Corr.1, adopted 20 June 2008, as modified by Appellate Body Report WT/DS267/AB/RW, DSR 2008:III, 997 to DSR 2008:VI, 2013
<i>US – Wheat Gluten</i>	Appellate Body Report, <i>United States – Definitive Safeguard Measures on Imports of Wheat Gluten from the European Communities</i> , WT/DS166/AB/R, adopted 19 January 2001, DSR 2001:II, 717
<i>US – Wool Shirts and Blouses</i>	Appellate Body Report, <i>United States – Measure Affecting Imports of Woven Wool Shirts and Blouses from India</i> , WT/DS33/AB/R, adopted 23 May 1997, and Corr.1, DSR 1997:I, 323

ABBREVIATIONS USED IN THIS REPORT

Abbreviation	Description
1983 Presidential Memorandum	Memorandum to the Heads of Executive Departments and Agencies: Government Patent Policy, Public Papers 248, 18 February 1983 (Panel Exhibit EC-560)
1987 Executive Order	Executive Order 12591, Facilitating Access to Science and Technology, 10 April 1987 (Panel Exhibit EC-561)
1992 Agreement	<i>Agreement between the European Economic Community and the Government of the United States of America concerning the application of the GATT Agreement on Trade in Civil Aircraft on trade in large civil aircraft, done at Brussels on 17 July 1992, Official Journal of the European Union, L Series, No. 301 (17 October 1992) 32</i>
ACT programme	NASA Advanced Composites Technology Program
Additional Procedures	Additional Procedures to Protect Sensitive Information adopted by the Appellate Body Division in its Procedural Ruling dated 15 April 2011 (contained in Annex III to this Report)
AJCA	American Jobs Creation Act of 2004, Public Law No. 108-357, 118 Stat. 1418 (Panel Exhibit EC-626)
<i>Anti-Dumping Agreement</i>	<i>Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994</i>
AS programme	NASA Aviation Safety Program
AST programme	NASA Advanced Subsonic Technology Program
ATCAS	Advanced Composite Technology Fuselage Program
ATP	USDOC Advanced Technology Program
B&O	business and occupation
B&P	bid and proposal
Bayh-Dole Act	Patent and Trademark Law Amendments Act of 1980, codified at <i>United States Code</i> , Title 35, chapter 18, sections 200-212 (Patent Rights in Inventions Made with Federal Assistance) (Panel Exhibit EC-558)
BCA	Boeing Commercial Airplanes
BCI	business confidential information
Board	NASA Inventions and Contributions Board
Cabral model	Economic model developed by Luis M.B. Cabral, Professor of Economics at New York University's Stern School of Business, in the Cabral Report
Cabral Report	Professor L.M.B. Cabral, "Impact of Development Subsidies Granted to Boeing" (New York University and CEPR, March 2007) (Panel Exhibit EC-4)

Abbreviation	Description
CHRA	Corporate Headquarters Relocation Act of 2001, Illinois Public Act 92-0207 (Panel Exhibit EC-216)
DSB	Dispute Settlement Body
DUS&T programme	USDOD Dual Use Science and Technology Program
EDGE	Economic Development for a Growing Economy
ETI	extraterritorial income
ETI Act	FSC Repeal and Extraterritorial Income Exclusion Act of 2000, Public Law No. 106-519, 114 Stat. 2423 (Panel Exhibit EC-625)
FAR	Federal Acquisition Regulation
FIP	foreground intellectual property
FPDS	Federal Procurement Data Base
FPDS-NG	Federal Procurement Data Base – Next Generation
FSC	Foreign Sales Corporation
House Bill 2294	Washington State House Bill 2294, 58th Legislature, 2nd Special Session (Washington, 2003) (Panel Exhibit EC-54)
HPCC programme	NASA High Performance Computing and Communications Program
HSBI	highly sensitive business information
HSR programme	NASA High-Speed Research Program
IDS	Integrated Defense Systems
ILFC	International Lease Finance Corporation
IR&D	independent research and development
IRBs	industrial revenue bonds
ITAR	International Traffic in Arms Regulations
ITR	International Trade Resources
JAL	Japan Airlines
KDFA bonds	Kansas Development Finance Authority Bonds
LA/MSF	launch aid/member State financing
LCA	large civil aircraft
LCF	Boeing 747 large cargo freighter
LERD	Limited Exclusive Rights Data
ManTech programme	USDOD Manufacturing Technology Program
MSA	<i>Project Olympus Master Site Development and Location Agreement between the Boeing Company and the State of Washington, County of Snohomish, City of Everett and Certain Other Governmental Units and Authorities of or in the State of Washington, 19 December 2003 (Panel Exhibit EC-58)</i>

Abbreviation	Description
NASA	United States National Aeronautics and Space Administration
OTAs	other transaction agreements
Panel Report	Panel Report, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)</i> , WT/DS353/R
Peisen Study	Peisen et al., <i>Case Studies: Time Required to Mature Aeronautic Technologies to Operational Readiness</i> (SAIC and GRA, Inc., November 1999) (Panel Exhibit EC-795)
QAT programme	NASA Quiet Aircraft Technology Program
R&D	research and development
R&T Base programme	NASA Research and Technology Base Program
R&TD	research and technological development
RDT&E	research, development, test, and evaluation
RTM	resin transfer moulding
SALE	Singapore Aircraft Leasing Enterprise
<i>SCM Agreement</i>	<i>Agreement on Subsidies and Countervailing Measures</i>
Space Act	National Aeronautics and Space Act of 1958, Public Law No. 85-568, as amended (Panel Exhibit EC-286)
Space Act Agreements	agreements between NASA and Boeing undertaken pursuant to NASA's authority under the Space Act
Spirit	Spirit AeroSystems
Subsidies Committee	Committee on Subsidies and Countervailing Measures
TIPRA	Tax Increase Prevention and Reconciliation Act of 2005, Public Law No. 109-222, 120 Stat. 345 (Panel Exhibit EC-627)
<i>Tokyo Round Subsidies Code</i>	<i>Tokyo Round Agreement on Interpretation and Application of Articles VI, XVI and XXIII of the General Agreement on Tariffs and Trade</i> , BISD 26S/56, entered into force 1 January 1980
TRL	technology readiness level
USDOC	United States Department of Commerce
USDOD	United States Department of Defense
USDOL	United States Department of Labor
<i>Vienna Convention</i>	<i>Vienna Convention on the Law of Treaties</i> , done at Vienna, 23 May 1969, 1155 UNTS 331; 8 International Legal Materials 679
VS programme	NASA Vehicle Systems Program
<i>Working Procedures</i>	<i>Working Procedures for Appellate Review</i> , WT/AB/WP/6, 16 August 2010
WTO	World Trade Organization
<i>WTO Agreement</i>	<i>Marrakesh Agreement Establishing the World Trade Organization</i>

WORLD TRADE ORGANIZATION
APPELLATE BODY

**United States – Measures Affecting Trade in
Large Civil Aircraft (Second Complaint)**

European Union¹, *Appellant/Appellee*
United States, *Other Appellant/Appellee*

Australia, *Third Participant*
Brazil, *Third Participant*
Canada, *Third Participant*
China, *Third Participant*
Japan, *Third Participant*
Korea, *Third Participant*

AB-2011-3

Present:

Bautista, Presiding Member
Unterhalter, Member
Zhang, Member

I. Introduction

1. The European Union and the United States each appeals certain issues of law and legal interpretations developed in the Panel Report, *United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)*² (the "Panel Report"). The Panel was established on 17 February 2006 to consider a complaint by the European Communities regarding a number of US measures

¹This dispute began before the entry into force of the *Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community* (done at Lisbon, 13 December 2007) on 1 December 2009. On 29 November 2009, the World Trade Organization received a Verbal Note (WT/L/779) from the Council of the European Union and the Commission of the European Communities stating that, by virtue of the *Treaty of Lisbon*, as of 1 December 2009, the "European Union" replaces and succeeds the "European Community". On 13 July 2010, the World Trade Organization received a second Verbal Note (WT/Let/679) from the Council of the European Union confirming that, with effect from 1 December 2009, the European Union replaced the European Community and assumed all the rights and obligations of the European Community in respect of all Agreements for which the Director-General of the World Trade Organization is the depositary and to which the European Community is a signatory or a contracting party. We understand the reference in the Verbal Notes to the "European Community" to be a reference to the "European Communities". Thus, although the European Communities was a party in the Panel proceedings, and the Panel referred to the European Communities in its Report, it is the European Union that filed a Notice of Appeal in this dispute after the entry into force of the *Treaty of Lisbon*, and we will thus refer to the European Union in this Report in its capacity as appellant and as appellee. However, when referring to events that took place during the Panel proceedings, or quoting from the Panel Report, we refer to the European Communities.

²WT/DS353/R, 31 March 2011.

affecting trade in large civil aircraft ("LCA").³ The European Communities claimed that the United States has provided subsidies to US producers of LCA, namely, The Boeing Company and the McDonnell Douglas Corporation (prior to its merger with Boeing⁴), and that such subsidies are prohibited and/or actionable under the *Agreement on Subsidies and Countervailing Measures* (the "SCM Agreement").

2. The European Communities' claims before the Panel related to measures from three US States and municipalities therein, as well as to a number of US Federal Government measures, all allegedly providing subsidies to Boeing, as follows⁵:

(a) State and local measures:

(i) State of Washington and municipalities therein: the provision of tax incentives by the State of Washington through five measures under House Bill 2294⁶ ("House Bill 2294"); the provision of tax reductions from the City of Everett's business and occupation ("B&O") tax pursuant to

³Panel Report, paras. 1.1-1.3. The Panel took note of the European Communities' definition of "large civil aircraft" (LCA) as follows:

In accordance with the *1992 Agreement between the European Communities and the Government of the United States of America concerning the application of the GATT Agreement on Trade in Civil Aircraft on trade in large civil aircraft*, large civil aircraft ("LCA") included all aircraft as defined in Article 1 of the GATT Agreement on Trade in Civil Aircraft, except engines as defined in Article 1.1(b) thereof, that are designed for passenger or cargo transportation and have 100 or more passenger seats or its equivalent in cargo configuration. Boeing produces or markets the following families of LCA: 717, 737, 747, 757, 767, 777, and 787.

(Panel Report, footnote 20 to para. 2.1 (quoting Request for the Establishment of a Panel by the European Communities, originally circulated as WT/DS317/5 (as amended by WT/DS353/2, WT/DS317/Add.1 and corrected by WT/DS353/2/Corr.1, WT/DS317/5/Add.1/Corr.1), footnote 4))

⁴The Panel explained that, prior to 1997, two firms produced LCA in the United States: The Boeing Company and McDonnell Douglas Corporation. McDonnell Douglas merged with Boeing in 1997. Following the merger, Boeing became the sole US producer of LCA. Boeing is divided into several different business segments and units: Boeing Commercial Airplanes ("BCA") is the segment that produces LCA and parts; Boeing's Integrated Defense Systems ("IDS") segment focuses on defence, intelligence, communications, and space; Boeing's Phantom Works unit conducts research and development ("R&D") for both the BCA and IDS segments of the company; and Boeing Capital Corporation ("BCC") provides asset-backed lending and leasing to support other Boeing business units by arranging, structuring, and providing financing to assist in the sale and delivery of Boeing LCA products. The Panel noted that, unless otherwise indicated, the references in its Report to "Boeing" included McDonnell Douglas. (See Panel Report, paras. 2.1 and 7.1 and footnote 1004 thereto, and footnote 1042 to para. 7.33) We follow the same approach in this Report.

⁵A detailed description of the measures at issue relevant to these appellate proceedings is contained in Part IV of this Report.

⁶Washington State House Bill 2294, 58th Legislature, 2nd Special Session (Washington, 2003) "*An Act related to retaining and attracting the aerospace industry to Washington state*" (Panel Exhibit EC-54). These five measures are: (i) a business and occupation ("B&O") tax rate reduction; (ii) B&O tax credits for preproduction development, computer software and hardware, and property taxes; (iii) sales and use tax exemptions for computers, construction, and equipment; (iv) leasehold excise tax exemptions; and (v) property tax exemptions. (Panel Report, paras. 7.41 and 7.42)

Ordinance No. 2759-04⁷; and the provision of various incentives, including training facilities and infrastructure improvements, in connection with the production of Boeing's 787 under the *Project Olympus Master Site Development and Location Agreement between the Boeing Company and the State of Washington* (the "MSA")⁸;

- (ii) State of Kansas and municipalities therein: the provision by the City of Wichita of property and sales tax abatements through the issuance of industrial revenue bonds ("IRBs")⁹; and the issuance by the State of Kansas of Kansas Development Finance Authority Bonds ("K DFA bonds") to fund the development and production of a portion of the fuselage for Boeing's 787 in Wichita, along with payments by the State of Kansas of the interest on such bonds¹⁰; and
- (iii) State of Illinois and municipalities therein: the provision by Cook County and the City of Chicago of four separate incentives in consideration for Boeing's decision to relocate its corporate headquarters from Seattle, Washington State to Chicago in 2001¹¹; and

⁷City of Everett Ordinance No. 2759-04 (2004) (Panel Exhibit EC-61); Panel Report, paras. 7.306-7.309.

⁸*Project Olympus Master Site Development and Location Agreement between the Boeing Company and the State of Washington, County of Snohomish, City of Everett and Certain Other Governmental Units and Authorities of or in the State of Washington*, 19 December 2003 (Panel Exhibit EC-58). The European Communities argued that the following eight measures referred to in the MSA constitute specific subsidies: (i) specific road improvements for the benefit of Boeing's LCA production facilities in Everett; (ii) the waiver of landing fees for Boeing's 747 large cargo freighters ("LCFs") at Paine Field to lower the costs of transporting 787 components to Everett; (iii) improvements to rail-barge transfer capabilities and expansion of the South Terminal facility to facilitate the transportation of 787 components to Everett; (iv) the freezing of rates for water, sanitary sewer, solid waste, and process wastewater services utilized by Boeing's LCA production facilities in Everett; (v) the provision of coordinators to Boeing to help start up Project Olympus; (vi) the creation of a workforce development programme and the provision of an "Employment Resource Center" to train Boeing's employees who will work on the assembly of the 787; (vii) the extension to 747 LCFs of tax and other incentives provided to the 787; and (viii) the assumption of litigation costs that Boeing incurs in relation to the MSA. (Panel Report, para. 7.357; see also para. 4.37)

⁹Panel Report, paras. 7.648-7.664.

¹⁰Panel Report, paras. 4.47 and 7.822-7.826.

¹¹Panel Report, paras. 7.893-7.902. The four incentives granted by Cook County and the City of Chicago are: (i) the reimbursement of up to 50% of the relocation expenses incurred by an "eligible business"; (ii) the granting of 15-year Economic Development for a Growing Economy ("EDGE") tax credits to an "eligible business", instead of the normal 10-year tax credit available under the EDGE Tax Credit Act; (iii) the abatement or refund of a portion of property taxes of an "eligible business" for up to 20 years; and (iv) the payment of \$1 million by the City of Chicago to retire the lease of the previous tenant of Boeing's new headquarters building. The first three incentives are derived from the Corporate Headquarters Relocation Act of 2001 (Illinois Public Act 92-0207 (Panel Exhibit EC-216)) (the "CHRA"). (Panel Report, paras. 7.893-7.902)

- (b) Federal measures:
- (i) US National Aeronautics and Space Administration ("NASA"): payments to Boeing and the provision of access to NASA facilities, equipment, and employees pursuant to contracts and agreements entered into under eight aeronautics research and development ("R&D") programmes¹²;
 - (ii) US Department of Defense ("USDOD"): payments to Boeing and the provision of access to USDOD facilities for aeronautics R&D relating to "dual use" technologies, pursuant to contracts and agreements entered into under 23 research, development, test, and evaluation ("RDT&E") programmes¹³;
 - (iii) NASA/USDOD: the allocation of intellectual property rights to Boeing under contracts and agreements entered into with NASA and the USDOD¹⁴; and payments by NASA and the USDOD for independent research and development ("IR&D") expenditures and bid and proposal ("B&P") reimbursements, notably relating to basic research, applied research, development, and systems and other concept formulation studies¹⁵;
 - (iv) US Department of Commerce ("USDOC"): payments to Boeing and the provision of access to USDOC facilities, equipment, and employees to perform aeronautics R&D under eight Advanced Technology Program ("ATP") projects, falling into three general categories¹⁶;
 - (v) US Department of Labor ("USDOL"): a payment of \$1.5 million, made to Edmonds Community College under the High Growth Job Training Initiative,

¹²Panel Report, paras. 7.942-7.947. The eight NASA R&D programmes that funded the R&D contracts and agreements are: (i) the Advanced Composites Technology Program ("ACT programme"); (ii) the High-Speed Research Program ("HSR programme"); (iii) the Advanced Subsonic Technology Program ("AST programme"); (iv) the High Performance Computing and Communications Program ("HPCC programme"); (v) the Aviation Safety Program ("AS programme"); (vi) the Quiet Aircraft Technology Program ("QAT programme"); (vii) the Vehicle Systems Program ("VS programme"); and (viii) the Research and Technology Base Program ("R&T Base programme"). (*Ibid.*, para. 7.944)

¹³Panel Report, paras. 7.1113-7.1123. The 23 USDOD RDT&E programmes identified by the European Communities in its panel request are set out in paragraph 7.1113 of the Panel Report.

¹⁴Panel Report, paras. 7.1260-7.1265.

¹⁵Panel Report, paras. 7.1315-7.1318.

¹⁶Panel Report, paras. 7.1213-7.1223. The three categories into which the eight ATP projects fall are: (i) improving the manufacturing of lightweight composite and metal structures and materials; (ii) improving electronics components; and (iii) improving manufacturing efficiency and supply chain logistics. (*Ibid.*, para. 7.1222) The eight USDOC projects are listed in paragraph 7.1213 of the Panel Report.

for the training of aerospace industry workers for the development and production of Boeing's 787¹⁷; and

- (vi) Foreign Sales Corporation ("FSC")/extraterritorial income ("ETI") and successor legislation: the provision of federal tax exemptions to Boeing under the original provisions of the US Internal Revenue Code relating to foreign sales corporations and successor legislative acts, including grandfathering clauses and transitional rules.¹⁸

3. According to the European Communities, all of the above measures provided Boeing's LCA division with subsidies amounting to \$19.1 billion over the period 1989-2006.¹⁹

¹⁷Panel Report, paras. 7.1355 and 7.1357.

¹⁸Panel Report, paras. 7.1378-7.1385. The FSC/ETI subsidies were provided pursuant to the following four pieces of US legislation:

(i) Sections 921-927 of the US Internal Revenue Code enabled certain corporations in certain locations outside the customs territory of the United States (FSCs) to obtain a tax exemption on a portion of their "foreign trade income" (in essence, the gross receipts of an FSC attributable to the lease or sale outside of the United States of "export property" produced within the United States). In addition, dividends from exempt and non-exempt income to the shareholder generally qualified for a full dividends-received deduction. This measure also allowed US parent companies of FSCs to defer the payment of taxes on certain "foreign trade income" that would normally be subject to immediate taxation and to avoid paying taxes on dividends received from their FSCs related to "foreign trade income". (Panel Report, para. 7.1379)

(ii) The FSC Repeal and Extraterritorial Income Exclusion Act of 2000 (Public Law No. 106-519, 114 Stat. 2423 (Panel Exhibit EC-625)) (the "ETI Act") was enacted on 15 November 2000 in response to the findings made by the panel and Appellate Body in the original *US – FSC* dispute, and repealed the provisions in the US Internal Revenue Code relating to the taxation of FSCs, subject to certain grandfathering clauses and transitional rules. The ETI Act also introduced an exclusion from income taxation of ETI (gross income of a taxpayer attributable to "foreign trading gross receipts", that is, gross receipts by certain qualifying transactions involving the sale or lease of "qualifying foreign trade property" not for use in the United States). (Panel Report, paras. 7.1380-7.1383)

(iii) The American Jobs Creation Act of 2004 (Public Law No. 108-357, 118 Stat. 1418 (Panel Exhibit EC-626)) (the "AJCA") was enacted on 22 October 2004 in response to the findings made by the panel and the Appellate Body in the *US – FSC (Article 21.5 – EC)* compliance dispute. Section 101 of the AJCA repealed the exclusion of ETI but included a "transitional rule for 2005 and 2006" allowing US taxpayers to claim 80% of ETI tax benefits with respect to certain transactions in 2005 and to claim 60% of ETI tax benefits with respect to certain transactions in 2006. The AJCA also indefinitely grandfathered the ETI Act scheme in respect of certain transactions, and left undisturbed the FSC benefits pursuant to certain transactions that had been grandfathered under the ETI Act. (Panel Report, para. 7.1384)

(iv) The Tax Increase Prevention and Reconciliation Act of 2005 (Public Law No. 109-222, 120 Stat. 345 (Panel Exhibit EC-627)) (the "TIPRA") was enacted on 17 May 2006 in response to the findings made by the panel and the Appellate Body in the *US – FSC (Article 21.5 – EC II)* second compliance dispute. Section 513(a) of the TIPRA repealed section 5(c)(1)(B) of the ETI Act that allowed for the continuation of FSC benefits in respect of transactions occurring pursuant to a binding contract in effect on 30 September 2000. Section 513(b) of the TIPRA repealed the provisions in section 101(f) of the AJCA that allowed for the continuation of ETI tax benefits in respect of transactions occurring pursuant to a binding contract in effect on 17 September 2003. Section 513(c) of the TIPRA provides that "{t}he amendments made by this section shall apply to taxable years beginning after the date of the enactment of this Act". (Panel Report, para. 7.1385)

¹⁹Panel Report, paras. 7.1605 and 7.1606. The European Communities further estimated that Boeing would receive approximately \$4.6 billion in subsidies pursuant to these measures between 2007 and 2024. (*Ibid.*, para. 7.1606 and footnote 3371 thereto)

A. *The European Communities' Claims before the Panel*

4. The European Communities requested the Panel to find that the United States acted inconsistently with its obligations under the *SCM Agreement*. First, the European Communities submitted that the State of Washington's House Bill 2294 tax incentives and the FSC and ETI federal taxation schemes constitute prohibited subsidies, within the meaning of Article 3.1(a) and in violation of Article 3.2 of the *SCM Agreement*.²⁰

5. Second, the European Communities argued that, through various measures provided by the US Federal Government and the States of Washington, Kansas, and Illinois, and municipalities therein, the United States provided actionable subsidies to Boeing's LCA division, which caused serious prejudice to the interests of the European Communities, within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement*.²¹ In particular, the European Communities requested the Panel to find that serious prejudice was caused by means of:

- (a) significant price suppression, within the meaning of Article 6.3(c) of the *SCM Agreement*, with respect to orders of Airbus' A330, Original A350, A350XWB-800, A320, and A340 families of LCA, or, in the alternative, threat of significant price suppression with respect to deliveries of Airbus' A330, A350XWB-800, A320, and A340 families of LCA²²;
- (b) significant lost sales, within the meaning of Article 6.3(c) of the *SCM Agreement*, with respect to orders of Airbus' A330, Original A350, A320, and A340 families of LCA, or, in the alternative, threat of significant lost sales with respect to deliveries of Airbus' A330, A320, and A340 families of LCA²³;
- (c) displacement and impedance, within the meaning of Article 6.3(a) of the *SCM Agreement*, with respect to orders of Airbus' A330 and Original A350 families of LCA, or, in the alternative, threat of displacement or impedance with respect to deliveries of Airbus' A330 and A350XWB-800 families of LCA²⁴;

²⁰Panel Report, para. 3.1(a) (referring to European Communities' first written submission to the Panel, para. 24).

²¹Panel Report, para. 3.1(b).

²²Panel Report, para. 3.1(b)(i) (referring to European Communities' first written submission to the Panel, paras. 1387, 1455, and 1654).

²³Panel Report, para. 3.1(b)(ii) (referring to European Communities' first written submission to the Panel, paras. 1446 and 1654).

²⁴Panel Report, para. 3.1(b)(iii) (referring to European Communities' first written submission to the Panel, paras. 1455 and 1654).

- (d) displacement and impedance, within the meaning of Article 6.3(b) of the *SCM Agreement*, with respect to orders of Airbus' A330, Original A350, A320, and A340 families of LCA, or, in the alternative, threat of displacement or impedance with respect to deliveries of Airbus' A330, A350XWB-800, A320, and A340 families of LCA²⁵; and
- (e) threat of significant price suppression with respect to future orders of Airbus' A330, A350XWB-800, A320, and A350XWB-900/1000 families of LCA.²⁶

6. Third, the European Communities contended that the United States acted inconsistently with its obligations regarding support to the LCA industry, as set forth in the 1992 *Agreement between the European Economic Community and the Government of the United States of America concerning the application of the GATT Agreement on Trade in Civil Aircraft on trade in large civil aircraft*²⁷ (the "1992 Agreement"), and that the United States' breach of that Agreement constitutes serious prejudice to the European Communities' interests, within the meaning of Article 5(c) of the *SCM Agreement*.²⁸

7. On 24 November 2006, the European Communities filed a request for preliminary rulings concerning the information-gathering procedure contained in Annex V to the *SCM Agreement*. The European Communities submitted two alternative requests. First, it requested the Panel to rule that the Annex V procedure had been initiated and that, consequently, the United States had an obligation to respond to certain questions put to it by the European Communities in a communication dated 25 May 2006. In the alternative, the European Communities asked the Panel to exercise its discretion under Article 13 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* (the "DSU") to put some or all of these questions to the United States.²⁹

²⁵Panel Report, para. 3.1(b)(iv) (referring to European Communities' first written submission to the Panel, paras. 1455, 1640, and 1654).

²⁶Panel Report, para. 3.1(b)(v) (referring to European Communities' first written submission to the Panel, para. 1654).

²⁷Done at Brussels on 17 July 1992, *Official Journal of the European Union*, L Series, No. 301 (17 October 1992) 32.

²⁸Panel Report, para. 3.1(c) (referring to European Communities' first written submission to the Panel, para. 1055).

²⁹Panel Report, para. 7.19.

B. *The Panel's Findings*

8. During the course of the Panel proceedings, the Panel adopted additional procedures for the protection of business confidential information ("BCI") and highly sensitive business information ("HSBI"), and issued a number of rulings relating to these procedures and other issues.³⁰ On 30 July 2007, the Panel issued a Preliminary Ruling declining the requests that had been made by the European Communities relating to the information-gathering procedure set out in Annex V to the *SCM Agreement*.³¹ The Panel considered that initiation of an Annex V procedure requires some form of action on the part of the Dispute Settlement Body ("DSB").³² Having examined the minutes of the various DSB meetings where the European Communities' request to initiate such a procedure was considered, the Panel found it "clear" that "the DSB never took any action to initiate an Annex V procedure", or designate a DSB representative, as required by Annex V.³³ Accordingly, the Panel denied the European Communities' request to rule that an Annex V procedure had been initiated, as well as various additional requests that were dependent upon that request.³⁴ The Panel also declined the European Communities' alternative request, explaining that it did not, in the circumstances of this dispute, consider it necessary or appropriate to exercise its discretion under Article 13 of the DSU to seek information from the United States before having reviewed the parties' first written submissions.³⁵

³⁰BCI and HSBI procedures were adopted by the Panel on 19 February 2007, at the request of, and following consultations with, the parties. The procedures were modified several times over the course of the proceedings and the Panel issued a number of rulings in connection with them. The final version of these procedures is attached to the Panel Report as Annex D. (Panel Report, para. 1.11) On 21 December 2006, Brazil requested the Panel to grant it certain enhanced third party rights, and on 22 December 2006, Canada requested the Panel to grant it any enhanced third party rights granted to Brazil. Both parties to the dispute submitted comments and opposed the requests. On 23 February 2007, the Panel informed the parties and third parties that it had decided not to grant enhanced third party rights to any third party in the proceedings. (Panel Report, paras. 1.14, 7.14, and 7.15)

³¹Panel Report, paras. 7.19-7.24.

³²Panel Report, para. 7.21.

³³Panel Report, para. 7.20.

³⁴Panel Report, para. 7.22. In this regard, the Panel rejected requests that it: (i) "rule that the United States {was} under an obligation to cooperate and answer the questions that had been put to it in the European Communities' letter to the Facilitator dated 23 May 2006"; (ii) "rule that Mr. Mateo Diego-Fernández was effectively designated as a facilitator in that procedure, and in the event that the Panel {did} not make this ruling, nevertheless to provide the relief set forth in the preceding and following points"; and (iii) "adopt such working procedures that would allow the completion of the Annex V procedure in due time before the deadline for the filing of the European Communities' first written submission". (*Ibid.* (quoting Request for preliminary rulings by the European Communities, 24 November 2006 ("European Communities' request for preliminary rulings"), para. 58))

³⁵Panel Report, para. 7.23.

9. The Panel Report was circulated to Members of the World Trade Organization (the "WTO") on 31 March 2011. In its Report, the Panel found the following *state and local measures* to constitute specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*³⁶:

- (a) State of Washington and municipalities therein: (i) the Washington State B&O tax rate reduction provided for in House Bill 2294; (ii) the B&O tax credits for preproduction development, computer software and hardware, and property taxes provided for in House Bill 2294; (iii) the sales and use tax exemptions for computer hardware, peripherals, and software provided for in House Bill 2294³⁷; (iv) the City of Everett B&O tax rate reduction³⁸; and (v) the workforce development programme and the Employment Resource Center provided under the MSA³⁹;
- (b) State of Kansas and municipalities therein: the state and local property and sales tax abatements granted to Boeing through the issuance of IRBs⁴⁰; and
- (c) State of Illinois and municipalities therein: (i) the reimbursement of a portion of Boeing's relocation expenses provided for in the Corporate Headquarters Relocation Act of 2001⁴¹ (the "CHRA"); (ii) the 15-year Economic Development for a Growing Economy ("EDGE") tax credits provided for in the CHRA; (iii) the abatement or refund of a portion of Boeing's property taxes provided for in the CHRA; and (iv) the payment to retire the lease of the previous tenant of Boeing's new headquarters building.⁴²

10. The Panel was not satisfied, however, that the European Communities had established that the following state measures constitute specific subsidies within the meaning of the *SCM Agreement*: (i) the Washington State sales tax exemptions for construction services and equipment, the leasehold

³⁶Panel Report, para. 7.1431(a)(i)-(iv), (b)(i), and (c)(i)-(iv), respectively.

³⁷The Panel estimated the amounts of the subsidy provided to Boeing's LCA division through the three House Bill 2294 tax incentives that it found to be specific subsidies to be: (i) \$13.8 million (B&O tax rate reduction); (ii) \$42.4 million (B&O tax credits) (of which, tax credit for preproduction development (\$21.3 million), computer software and hardware (\$20 million), and property taxes (\$1.1 million)); and (iii) \$8.3 million (sales and use tax exemption for computer hardware, peripherals and software). (Panel Report, paras. 7.254, 7.257, 7.258, 7.300, and 7.302)

³⁸The Panel estimated the amount of the subsidy provided to Boeing's LCA division by means of the City of Everett B&O tax rate reduction through 2006 to be \$2.2 million. (Panel Report, para. 7.354)

³⁹The Panel estimated the amount of subsidies provided to Boeing's LCA division by means of the workforce development programme and the Employment Resource Center over the period 1989-2006 to be \$11 million. (Panel Report, para. 7.644)

⁴⁰The Panel estimated the amount of the subsidy provided to Boeing through the issuance of IRBs to be \$475.8 million. (Panel Report, para. 7.819)

⁴¹Illinois Public Act 92-0207 (Panel Exhibit EC-216).

⁴²The Panel estimated the amount of the subsidy provided through the four incentives at issue to be \$11 million over the period 2002-2006. (Panel Report, para. 7.939)

tax exemption, and the property tax exemption granted pursuant to House Bill 2294⁴³; (ii) the measures—other than the workforce development programme and the Employment Resource Center—granted pursuant to the MSA⁴⁴; or (iii) the State of Kansas' issuance of K DFA bonds.⁴⁵

11. The Panel also found the following *US Federal Government measures* to constitute specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*:

- (a) NASA: (i) the payments made to Boeing pursuant to procurement contracts entered into under the eight aeronautics R&D programmes at issue; and (ii) the access to NASA facilities, equipment, and employees provided to Boeing pursuant to procurement contracts and agreements under the National Aeronautics and Space Act of 1958⁴⁶ (the "Space Act") entered into under the eight aeronautics R&D programmes at issue ("Space Act Agreements")⁴⁷;
- (b) USDOD: (i) the payments made to Boeing pursuant to assistance instruments entered into under the 23 RDT&E programmes at issue; and (ii) the access to USDOD facilities provided to Boeing pursuant to assistance instruments entered into under the 23 RDT&E programmes at issue⁴⁸; and

⁴³Panel Report, paras. 7.303 and 7.1432(a)(i)-(iii).

⁴⁴The measures found not to be specific subsidies are: (i) the I-5 and SR 527 expansion projects, the construction of a rail-barge transfer facility, and the expansion of the South Terminal by the Port of Everett; (ii) Snohomish County's waiver of 747 LCF landing fees at Paine Field; (iii) the alleged commitment made by the City of Everett and Snohomish County to freeze utility rates charged to Boeing; (iv) the provision of coordinators to Boeing pursuant to the MSA; (v) tax and other incentives related to the 747 LCFs; and (vi) the assumption by Washington State of costs to Boeing for MSA-related legal proceedings. (Panel Report, paras. 7.645 and 7.1432(a)(iv)-(ix))

⁴⁵Panel Report, paras. 7.890 and 7.1432(b)(i).

⁴⁶Public Law No. 85-568, as amended (Panel Exhibit EC-286).

⁴⁷Panel Report, paras. 7.1041, 7.1049, and 7.1431(d)(i)-(ii). The Panel estimated the amount of the subsidy provided to Boeing's LCA division in the form of payments under R&D contracts to be \$1.05 billion over the period 1989-2006, and the amount of the subsidy provided to Boeing's LCA division in the form of access to NASA facilities, equipment and employees under NASA R&D contracts and agreements to be \$1.55 billion over this same period. Thus, the Panel estimated the total amount of the subsidy provided through the eight NASA aeronautics R&D programmes over the 1989-2006 period to be \$2.6 billion. (*Ibid.*, paras. 7.1109 and 7.1110)

⁴⁸Panel Report, paras. 7.1188, 7.1198, and 7.1431(e)(i)-(ii). The Panel found that it was unable to provide an estimate of the amount of the subsidy under the 23 USDOD RDT&E programmes over the period 1991-2006 because it was "unclear". The European Communities had estimated that, out of the \$45 billion in RDT&E funding that Boeing received from the USDOD over the period 1991-2005, approximately \$4.3 billion related to "dual use" R&D. For its part, the United States estimated the total amount of any USDOD subsidy to Boeing for "dual use" R&D to be significantly less than \$308 million over the period 1991-2006. (*Ibid.*, paras. 7.1203, 7.1204, 7.1209, and 7.1210)

- (c) FSC/ETI and successor legislation: the tax exemptions and tax exclusions provided to Boeing under FSC/ETI legislation, including the transition and grandfathering provisions of the FSC Repeal and Extraterritorial Income Exclusion Act of 2000⁴⁹ (the "ETI Act") and the American Jobs Creation Act of 2004⁵⁰ (the "AJCA").⁵¹

12. The Panel was not persuaded that the European Communities had demonstrated that the following federal measures constitute specific subsidies: (i) the USDOD's payments to Boeing pursuant to procurement contracts under the 23 aeronautics RDT&E programmes at issue⁵²; (ii) the USDOD's grant of access to government facilities pursuant to procurement contracts under the 23 aeronautics RDT&E programmes at issue⁵³; (iii) the USDOC's payments to joint ventures/consortia in which Boeing participated through the ATP⁵⁴; (iv) the allocation of intellectual property rights under NASA/USDOD R&D procurement contracts and agreements⁵⁵; (v) the reimbursement of IR&D and B&P expenses under NASA/USDOD R&D procurement contracts and agreements⁵⁶; or (vi) the USDOL's payment to Edmonds Community College under the High Growth Job Training Initiative.⁵⁷

13. The Panel further found that the FSC/ETI and successor act subsidies constitute prohibited export subsidies within the meaning of Articles 3.1(a) and 3.2 of the *SCM Agreement*.⁵⁸ However, the Panel considered that the European Communities had failed to demonstrate that the Washington State tax measures provided for in House Bill 2294 are inconsistent with Articles 3.1(a) and 3.2 of the *SCM Agreement*.⁵⁹

14. The Panel determined that the above measures provided Boeing's LCA division with subsidies amounting to "at least \$5.3 billion" over the period 1989-2006.⁶⁰ The Panel declined to take account of the estimated future subsidy amounts associated with these measures.⁶¹

⁴⁹*Supra*, footnote 18, item (ii).

⁵⁰*Supra*, footnote 18, item (iii).

⁵¹Panel Report, paras. 7.1406 and 7.1431(f)(i). The Panel estimated the amount of the subsidy provided to Boeing through the FSC/ETI legislation over the period 1989-2006 to be approximately \$2.199 billion. (*Ibid.*, para. 7.1429)

⁵²Panel Report, paras. 7.1171 and 7.1432(c)(i).

⁵³Panel Report, paras. 7.1171 and 7.1432(c)(ii).

⁵⁴Panel Report, paras. 7.1257 and 7.1432(e)(i).

⁵⁵Panel Report, paras. 7.1312 and 7.1432(d)(i).

⁵⁶Panel Report, paras. 7.1354 and 7.1432(d)(ii).

⁵⁷Panel Report, paras. 7.1375 and 7.1432(f)(i).

⁵⁸Panel Report, paras. 7.1464 and 8.2(a).

⁵⁹Panel Report, paras. 7.1590 and 8.2(b).

⁶⁰Panel Report, para. 7.1433.

⁶¹Panel Report, paras. 7.153-7.158.

15. At the outset of its analysis of the European Communities' claims of serious prejudice, the Panel made a number of findings regarding the relevant "markets", "subsidized products", and "like products" for purposes of its analysis. The parties agreed, and the Panel found, that "the LCA market is a global market geographically".⁶² The European Communities further divided the global LCA market into five market segments, or product markets, on the basis of the flight range and seating capacity of the various LCA families.⁶³ Its serious prejudice claim focused on three of these product markets: (i) the 100-200 seat LCA market; (ii) the 200-300 seat LCA market; and (iii) the 300-400 seat LCA market.⁶⁴ The relevant Boeing "subsidized product(s)" and Airbus "like product(s)" in each market are set out at Table 3 in paragraph 897 of this Report. The United States accepted the European Communities' division of the market as the basis for evaluating the European Communities' serious prejudice claim⁶⁵, and so did the Panel.⁶⁶ The Panel further expressed the view that, provided that the European Communities demonstrated one of the alleged forms of serious prejudice in subparagraphs (a) through (c) of Article 6.3 in relation to a particular Boeing subsidized LCA and a corresponding Airbus like product, it would establish serious prejudice to the European Communities' LCA-related interests for purposes of Article 5(c) of the *SCM Agreement*.⁶⁷

16. The Panel further noted that, in presenting its arguments, the European Communities drew a distinction "based on the nature of the subsidies" between, on the one hand, the effects of the subsidies benefiting Boeing's 787 family of LCA and, on the other hand, the effects of the subsidies benefiting Boeing's 737NG and 777 families of LCA.⁶⁸ With regard to the 787, which competes in the 200-300 seat LCA market, the European Communities argued that the subsidies have *two principal effects*, whereas, with respect to the 737NG and 777, which compete in the 100-200 seat and the 300-400 seat LCA markets, respectively, the subsidies were alleged to have only *one* of those effects.⁶⁹ For all three product markets, the European Communities alleged that all of the subsidies have "price effects" because they provide Boeing with the ability to charge lower prices either by reducing Boeing's marginal unit costs or by increasing Boeing's non-operating cash flow.⁷⁰ For the 200-300 seat LCA market, the European Communities alleged that, in addition to those price effects, the *aeronautics R&D subsidies* have "technology effects" in that they "have helped Boeing develop, launch and produce a technologically-advanced 200-300 seat LCA much more quickly than it could

⁶²Panel Report, para. 7.1671.

⁶³Panel Report, para. 7.1669.

⁶⁴Panel Report, para. 7.1670.

⁶⁵Panel Report, para. 7.1670.

⁶⁶Panel Report, para. 7.1672.

⁶⁷Panel Report, para. 7.1667.

⁶⁸Panel Report, para. 7.1696.

⁶⁹Panel Report, paras. 7.1697 and 7.1698.

⁷⁰Panel Report, paras. 7.1697 and 7.1698.

have on its own".⁷¹ Thus, the Panel understood the European Communities to argue that the subsidies cause significant price suppression, significant lost sales, and displacement and impedance (and a threat thereof), in the 200-300 seat LCA market through both the technology effects and the price effects that they have on Boeing's commercial behaviour with respect to the 787.⁷² For the 100-200 seat and 300-400 seat LCA markets, the Panel understood the European Communities to argue that the subsidies cause the same market phenomena, but only through the price effects on Boeing's commercial behaviour with respect to the 737NG and 777.⁷³

17. The Panel concluded as follows with respect to the European Communities' claims concerning the *technology effects* of the aeronautics R&D subsidies:

{T}he effect of the aeronautics R&D subsidies is a threat of displacement and impedance of European Communities' exports from third country markets within the meaning of Article 6.3(b) of the SCM Agreement, with respect to the 200-300 seat wide-body LCA product market, and significant lost sales and significant price suppression, within the meaning of Article 6.3(c) of the SCM Agreement with respect to that product market, each of which constitute serious prejudice to the interests of the European Communities within the meaning of Article 5(c) of the SCM Agreement.⁷⁴

18. As regards the European Communities' claim of *price effects* of the FSC/ETI subsidies and the Washington State and City of Everett B&O tax rate reductions (the "tied tax subsidies"):

... the Panel {was} satisfied that the effects of the FSC/ETI subsidies and the Washington State B&O tax subsidies in the 100-200 seat single aisle LCA product market were to significantly suppress Airbus' prices in sales in which it competed against Boeing and to cause Airbus to lose significant sales, and to displace and impede European Communities' exports from third country markets in that product market. {The Panel was} also satisfied that the effects of the

⁷¹Panel Report, para. 7.1697 (quoting European Communities' first written submission to the Panel, para. 1343). The aeronautics R&D subsidies consist of: (i) the payments made to Boeing and the access to NASA facilities, equipment, and employees provided to Boeing by NASA pursuant to procurement contracts and Space Act Agreements entered into under the eight aeronautics R&D programmes at issue; and (ii) the payments made to Boeing and the access to USDOD facilities provided to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue. The Panel identified these as four types of measures, namely: (i) the payments made to Boeing pursuant to procurement contracts entered into under the eight NASA aeronautics R&D programmes at issue; (ii) the access to NASA facilities, equipment, and employees provided to Boeing pursuant to procurement contracts and Space Act Agreements entered into under the eight NASA aeronautics R&D programmes at issue; (iii) the payments made to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue; and (iv) the access to USDOD facilities provided to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue. (See *ibid.*, paras. 7.1110, 7.1210, 7.1431, and 7.1433)

⁷²Panel Report, para. 7.1697.

⁷³Panel Report, para. 7.1698.

⁷⁴Panel Report, para. 7.1797.

FSC/ETI subsidies, the Washington State B&O tax subsidies and the City of Everett B&O tax subsidies in the 300-400 seat wide-body LCA product market were to significantly suppress Airbus' prices in sales in which it competed against Boeing and to cause Airbus to lose significant sales, and to displace and impede European Communities' exports from third country markets in that product market.⁷⁵

19. In its assessment of the effects of the subsidies in the 200-300 seat LCA market, the Panel observed that the NASA and USDOD aeronautics R&D subsidies, on the one hand, and the State of Washington and City of Everett B&O tax rate reductions⁷⁶, on the other hand, "operate through entirely distinct causal mechanisms".⁷⁷ Given the different ways in which these two groups of subsidies operate, the Panel considered that it was not "appropriate to aggregate the effects of the B&O tax subsidies on Boeing's pricing of the 787 with the effects of the aeronautics R&D subsidies on Boeing's development of technologies applied to the 787".⁷⁸ The Panel therefore evaluated the effects of the two B&O tax rate reductions on their own, and found that there was "insufficient evidence before {it} ... to conclude that these subsidies are of a magnitude that would enable them, on their own, to have such an effect on Boeing's prices of the 787 as would lead to a finding that their effects in the 200-300 seat wide-body market were significant price suppression, significant lost sales or displacement or impedance of European Communities imports into the United States or exports to third countries."⁷⁹

20. With respect to the remaining eight subsidies that the Panel found to be specific⁸⁰, the Panel was not satisfied that the European Communities had established that, through their effects on Boeing's LCA pricing behaviour, these subsidies have caused serious prejudice to the European Communities' interests in any of the three LCA product markets relevant to this dispute.⁸¹

⁷⁵Panel Report, para. 7.1823.

⁷⁶As explained *infra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market.

⁷⁷Panel Report, para. 7.1824.

⁷⁸Panel Report, para. 7.1824.

⁷⁹Panel Report, para. 7.1824.

⁸⁰The eight remaining subsidies, which the Panel found amounted to approximately \$550 million, consist of: (i) the Washington State B&O tax credits for preproduction development, computer software and hardware, and property taxes; (ii) the Washington State sales and use tax exemptions for computer hardware, peripherals and software; (iii) the Washington State workforce development programme and Employment Resource Center; (iv) the property and sales tax abatements provided to Boeing pursuant to IRBs issued by the State of Kansas and municipalities therein; (v) the reimbursement of a portion of Boeing's relocation expenses by the State of Illinois; (vi) the 15-year EDGE tax credits provided by the State of Illinois; (vii) the abatement or refund of a portion of Boeing's property taxes provided by the State of Illinois; and (viii) the payment to retire the lease of the previous tenant of Boeing's new headquarters building in Chicago.

⁸¹Panel Report, paras. 7.1828 and 7.1834.

21. The Panel exercised judicial economy with respect to the European Communities' claim that certain of the subsidies at issue threaten to cause significant price suppression with respect to future orders of Airbus LCA⁸², and with respect to the European Communities' claim that the United States' violation of the 1992 Agreement constitutes serious prejudice to the European Communities' interests within the meaning of Article 5(c) of the *SCM Agreement*.⁸³

C. *Appellate Proceedings*

22. On 1 April 2011, the European Union notified the DSB of its intention to appeal certain issues of law covered in the Panel Report and certain legal interpretations developed by the Panel, pursuant to Articles 16.4 and 17 of the DSU, and filed a Notice of Appeal⁸⁴ pursuant to Rule 20 of the *Working Procedures for Appellate Review*⁸⁵ (the "*Working Procedures*").

23. Also on 1 April 2011, the Appellate Body received a request from the European Union that the Appellate Body adopt additional procedures to protect BCI and HSBI in these appellate proceedings.⁸⁶ The European Union explained that the reasons for this request were substantially the same as the reasons given by the participants in *EC and certain member States – Large Civil Aircraft*, namely, that disclosure of confidential information (which in this dispute includes company-specific data on productivity, costs, prices, sales campaigns, commercial agreements, and privileged advice) could be "severely prejudicial" to the originators of the information, that is, to the manufacturers of LCA, as well as their customers and suppliers.⁸⁷ The European Union requested the adoption of a procedural ruling with substantially the same terms as the one adopted by the Appellate Body in *EC and certain member States – Large Civil Aircraft*. On the same day, the Appellate Body Division

⁸²In particular, the A330, A350XWB-800, A320, and A350XWB-900/1000 families of LCA. (Panel Report, para. 7.1851) We also note that the Panel does not appear to have explicitly reached any finding or conclusion regarding the European Communities' claim that the United States' use of the subsidies at issue has caused displacement and impedance of its exports to the United States, within the meaning of Article 6.3(a) of the *SCM Agreement*, with respect to orders of Airbus' A330 and Original A350 families of LCA, or, in the alternative, threat of displacement or impedance with respect to deliveries of Airbus' A330 and A350XWB-800 families of LCA. Nevertheless, it seems to us that, in finding that factors other than the performance characteristics or the timing of the availability of the 787 led to the decisions of Continental Airlines and Northwest Airlines to purchase Boeing LCA rather than Airbus LCA, the Panel effectively found that the European Communities had not made out this aspect of its claim. (*Ibid.*, para. 7.1786 and footnote 3725 thereto) In any event, the European Union has not appealed the lack of an explicit finding by the Panel in this regard.

⁸³Panel Report, paras. 7.1893 and 8.3(b).

⁸⁴WT/DS353/8 (attached as Annex I to this Report). Also on 1 April 2011, the European Union sent a letter to the Chair of the DSB explaining, *inter alia*, that the reason it decided to be the first to appeal certain findings in the Panel Report was that it could not accept further delays in this dispute. This letter was circulated to WTO Members as document WT/DS353/9.

⁸⁵WT/AB/WP/6, 16 August 2010.

⁸⁶Previously, on 23 March 2011, the European Union had sent a letter to the Director of the Appellate Body Secretariat suggesting, in the event of an appeal of the Panel Report in this dispute, the adoption of additional procedures concerning the treatment of BCI and HSBI in the appellate proceedings.

⁸⁷Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 17.

selected to hear this appeal invited the United States and the third parties to comment in writing on the European Union's request, and informed the participants and third parties of its decision to adopt temporary precautions to protect confidential information. Given that the Panel record was, in accordance with Rule 25 of the *Working Procedures*, to be transmitted to the Appellate Body immediately upon the filing of a Notice of Appeal, the Division decided to provide additional protection to all BCI and HSBI transmitted to the Appellate Body as part of that record, pending its final decision on the European Union's request.

24. Written comments were received from the United States on 6 April 2011 and from Australia, Brazil, Canada, China, and Japan on 12 April 2011. The United States shared the European Union's view that it was necessary for the Division to adopt BCI/HSBI procedures in this appeal. Overall, the United States agreed that the Appellate Body procedural ruling in *EC and certain member States – Large Civil Aircraft* would serve as an appropriate basis for a procedural ruling on the protection of sensitive information in this appeal, with certain modifications made in the light of the previous experience. The third participants expressed their support for, or did not oppose, the request of the European Union, and suggested certain modifications to the proposed procedures in order to ensure that the rights of third participants to participate meaningfully in these appellate proceedings would be fully protected. On 15 April 2011, the Division issued a Procedural Ruling adopting Additional Procedures to Protect Sensitive Information (the "Additional Procedures"), pursuant to Rule 16(1) of the *Working Procedures*. The Procedural Ruling and Additional Procedures are attached as Annex III to this Report.

25. On 19 April 2011, pursuant to paragraph 19(xiv) of the Additional Procedures, the participants each provided a list of persons designated as "BCI-Approved Persons" and persons designated as "HSBI-Approved Persons". On the same day, in accordance with paragraph 19(xvi) of the Additional Procedures, the third participants each provided a list of up to eight individuals designated as "Third Participant BCI-Approved Persons". Requests to change the BCI/HSBI Approved Persons and Third Participants BCI-Approved Persons lists were subsequently submitted by the European Union, the United States, Australia, Brazil, Canada, and Korea.⁸⁸ The Division provided the participants and third participants with the opportunity to comment on each request. No objections were made and all of the requests were authorized by the Division.⁸⁹

⁸⁸Changes were submitted by the European Union on 10 August, 28 September, 10 and 11 October 2011, and 23 February 2012; by the United States on 11 August 2011; and by Australia on 6 September, Brazil on 5 August, Canada on 28 April and 8 August, and Korea on 4 August and 12 September 2011.

⁸⁹Letters from the Presiding Member to the participants and third participants dated 6 May, 12 August, 19 September, 7 October 2011 and at the second session of the oral hearing, and 6 March 2012.

26. Upon receipt of the European Union's request for additional procedures for the protection of BCI and HSBI in these proceedings, the Division decided to suspend the deadlines that would otherwise apply under the *Working Procedures* for the filing of a Notice of Other Appeal and for the filing of written submissions. On 20 April 2011, after issuing its Procedural Ruling, the Division provided the participants and third participants the deadlines for filing written submissions, pursuant to Rule 26 of the *Working Procedures*. In that communication, the Division also invited the participants to address in their appellees' submissions, and the third participants in their written submissions, the implications for the legal issues in this appeal arising from the Appellate Body report in *EC and certain member States – Large Civil Aircraft*, which was subsequently circulated on 18 May 2011.

27. The European Union filed an appellant's submission on 21 April 2011.⁹⁰ On 28 April 2011, the United States notified the DSB of its intention to appeal certain issues of law covered in the Panel Report and certain legal interpretations developed by the Panel, pursuant to Articles 16.4 and 17 of the DSU, and filed a Notice of Other Appeal⁹¹ pursuant to Rules 23 and 26(2) of the *Working Procedures*. On the same day, the United States filed an other appellant's submission.⁹²

28. On 19 May 2011, pursuant to Rule 30(1) of the *Working Procedures*, the European Union notified the Appellate Body Division hearing this appeal, as well as the United States and the third participants, that it was withdrawing its appeal insofar as it related to subsidies contingent upon export, with immediate effect.

29. On 15 June 2011, the European Union and the United States each filed an appellee's submission⁹³ and, on 23 June 2011, Australia, Brazil, Canada, China, Japan, and Korea each filed a third participant's submission.⁹⁴

30. On 4 July 2011, the Chair of the Appellate Body informed the Chair of the DSB that, due to the considerable size of the record and complexity of the appeal, the need to hold multiple sessions of the oral hearing, and the overall workload of the Appellate Body, the Appellate Body would not be able to circulate its Report by 31 May 2011—that is, by the expiration of the 60-day period provided under Article 17.5 of the DSU. The Chair of the DSB was also informed that the Appellate Body

⁹⁰Pursuant to Rules 21 and 26(2) of the *Working Procedures*.

⁹¹WT/DS353/10 (attached as Annex II to this Report).

⁹²Pursuant to Rules 23(3) and 26(2) of the *Working Procedures*.

⁹³Pursuant to Rules 22, 23(4), and 26(2) of the *Working Procedures*.

⁹⁴Pursuant to Rules 24(1) and 26(2) of the *Working Procedures*.

would hold a first session of the oral hearing in August and a second session in October 2011, and would provide thereafter an estimate for when its Report would be circulated.⁹⁵

31. By joint letter dated 11 July 2011, the participants requested that the oral hearing in this appeal be opened to public observation to the extent that this would be possible given the need for protection of sensitive information. The participants suggested that the Division adopt a further procedural ruling pursuant to Rule 16(1) of the *Working Procedures* to regulate the conduct of the oral hearing in the light of the request for public observation and the Additional Procedures, and proposed specific modalities for that purpose. On 12 July 2011, the Division invited the third participants to comment on the participants' request and proposed modalities. On 15 July 2011, Canada and China submitted comments on the participants' request to open the oral hearing to public observation. Canada agreed with the joint proposal of the participants that the Division adopt the same additional procedures that were adopted in *EC and certain member States – Large Civil Aircraft*. China expressed its wish that the Division follow the same practice as in *EC and certain member States – Large Civil Aircraft* to allow third participants the opportunity to request confidential treatment of their oral statements. On 26 July 2011, the Division issued a Procedural Ruling authorizing the participants' joint request for opening the hearing to public observation via closed-circuit broadcasting and adopted Additional Procedures on the Conduct of the Oral Hearing, including the protection of certain sensitive information during the oral hearing. The Procedural Ruling is attached as Annex IV to this Report.

32. The oral hearing in this appeal took place in two sessions: the first on 16-19 August 2011, and the second on 11-14 October 2011. Pursuant to the Procedural Ruling of 26 July 2011, the participants and third participants did not refer to any BCI or HSBI in their opening statements at either session of the oral hearing. The opening statements of the participants and third participants, with the exception of China and Korea, were videotaped at both the first and second sessions of the oral hearing. Upon confirmation that no BCI or HSBI had been inadvertently uttered, the videotapes of the opening statements were broadcast on 23 August and 18 October 2011 to those members of the public who had registered for the viewing. No participant or third participant made a closing statement at either session of the oral hearing.

⁹⁵WT/DS353/11.

33. Following the first session of the hearing, the Division invited the participants and third participants to submit additional written memoranda, pursuant to Rule 28 of the *Working Procedures*. The European Union and the United States each submitted an additional memorandum on 5 September 2011, and Brazil, Canada, Japan, and Korea each submitted an additional memorandum on 12 September 2011. The participants and third participants were given an opportunity at the second session of the oral hearing to make comments on the others' additional memoranda.

34. Pursuant to paragraph 19(xiii) of the Procedural Ruling of 15 April 2011, the Division informed the participants and third participants, on 23 February 2012, that it had found it necessary to include in the Appellate Body Report some references to information that was treated by the Panel as BCI or HSBI. Also pursuant to paragraph 19(xiii) of the Procedural Ruling, an advance copy of the Appellate Body Report was provided to the European Union and the United States on 29 February 2012. Both participants were requested to indicate, by 5 March 2012, whether there was a continuing need to treat all of the business sensitive information in the same manner as the Panel, and whether any BCI or HSBI had been included in the Appellate Body Report without having been identified as such. On 5 March 2012, the European Union indicated that it had not identified any BCI or HSBI that was not designated as such in the Appellate Body Report, and that it was willing to remove BCI protection with respect to two sentences consisting of EU BCI. On that date, the United States identified one instance in which it considered that BCI had been inadvertently disclosed, and indicated that the relevant text should be designated as BCI, or revised so as to avoid the need for BCI protection. The United States also identified a number of instances, consisting of US BCI or EU BCI, for which it suggested, or did not object to, the removal of BCI protection. On the same day, the Division requested the participants to respond to each other's comments by 7 March 2012. On 6 March 2012, the European Union indicated that it had no objection to the United States' proposal to remove BCI protection for information that related to the United States' interests, but objected to doing so with respect to such information relating to the European Union's interests. On 7 March 2012, the United States stated that it had no objection to the removal of BCI protection for the two sentences identified by the European Union in its letter of 5 March 2012. The Division modified the one inadvertent disclosure of BCI information, as suggested by the United States, so as to avoid the need for BCI protection. The Division decided to remove BCI protection in certain instances in which the participants suggested, or did not object to, such removal.

II. Arguments of the Participants and the Third Participants

A. *Claims of Error by the European Union – Appellant*

1. Annex V to the *SCM Agreement*

35. The European Union asserts that the Panel erred by refusing to rule that the information-gathering procedure under Annex V to the *SCM Agreement* had been initiated, and by denying a number of related requests. The European Union submits that, in proceeding in the way it did, the Panel failed to make an objective assessment of the matter within the meaning of Article 11 of the DSU and erred in its interpretation and application of Article 7.4 the *SCM Agreement* and paragraph 2 of Annex V thereto. The European Union requests the Appellate Body to find that the Panel erred in not ruling on whether the Annex V procedure had been initiated, and to complete the analysis and make a finding that the Annex V procedure is initiated by negative consensus or automatically. In addition, and independently of these requests, the European Union urges the Appellate Body to "constantly bear in mind the circumstances of this case"⁹⁶, in particular the withholding of information and non-cooperation by the United States. On that basis, the Appellate Body should preclude the United States from criticizing the Panel for its assessment of the facts or drawing of factual inferences and, "in case of doubt or evidentiary conflict or equipoise, the Appellate Body should rule in favour of the European Union".⁹⁷

36. In its appellant's submission, the European Union draws a distinction between DSB "action" and issues that call for a "decision" by the DSB.⁹⁸ The European Union notes that, under Article 2.4 of the DSU, "decisions" require consensus, but the requirement for "actions" to occur by negative consensus permeates the DSU. By way of example, the European Union points out that the final sentence of Article 2.1 indicates that, "where the DSB 'administer{s}' dispute settlement rules, it proceeds by way of 'decisions or actions'⁹⁹; and Article 6.1 confirms that a panel is not established by a consensus decision, but by way of DSB action by negative consensus on the one condition that a request for the establishment of a panel is received, which is something different from a consensus decision. That is why a WTO document recording the establishment of the panel "in accordance with Article 6 of the *DSU*"¹⁰⁰ is subsequently distributed.¹⁰¹ Moreover, Articles 16.4, 17.14, 22.6, and the final sentence of Article 22.7 also describe DSB actions that take place on the one condition that a

⁹⁶European Union's appellant's submission, para. 53.

⁹⁷European Union's appellant's submission, para. 53.

⁹⁸European Union's appellant's submission, paras. 21, 24, and 25.

⁹⁹European Union's appellant's submission, para. 23.

¹⁰⁰European Union's appellant's submission, para. 27.

¹⁰¹European Union's appellant's submission, paras. 27 and 28.

request is received. Like Annex V to the *SCM Agreement*, the second sentence of Article 22.6 of the DSU, regarding referrals to arbitration on the level of suspension of concessions or other obligations, does not expressly refer to negative consensus. Yet, it must be the case that a Member can seek review of a request for suspension of concessions without that review being blocked by the complaining Member through a refusal to support a consensus decision.

37. The European Union submits that this "action" versus "decision" distinction likewise applies to Annex V to the *SCM Agreement*. In support of its position, the European Union refers to: Article 7.4 of the *SCM Agreement*, which provides for the establishment of a panel "unless the DSB decides by consensus not to establish a panel"; paragraph 1 of Annex V, which states that "{e}very Member shall cooperate in the development of evidence to be examined by a panel in procedures under paragraphs 4 through 6 of Article 7"; and paragraph 2 of Annex V, which states that, "{i}n cases where matters are referred to the DSB under paragraph 4 of Article 7, the DSB shall, upon request, initiate the procedure to obtain such information".

38. The European Union asserts that the following ten considerations relating to the text and context of Annex V support its position that action is initiated by negative consensus. First, the direct cross-reference in paragraph 2 of Annex V to Article 7.4 of the *SCM Agreement* provides a "strong textual basis"¹⁰² for negative consensus to initiate an Annex V procedure, particularly in the light of the arguments made in relation to Article 22.6 of the DSU above.

39. Second, the terms used in paragraph 2 of Annex V indicate that "the provision creates {a mandatory} obligation on the DSB to proceed according to the terms of the treaty".¹⁰³ No such mandatory language is used in the DSU where decision is required by consensus. The European Union argues that "Members would not oblige the DSB to act, and yet at the same time provide the defending Member in a dispute with the means to frustrate such action".¹⁰⁴ Such "internal incoherence" would make the treaty provision "wholly ineffective", thus, an interpretation requiring a consensus decision must be avoided.¹⁰⁵

40. Third, paragraph 2 of Annex V uses the term "request", which is also used in Articles 6.1, 22.6, and 22.7 of the DSU. This provides further support for mandatory DSB initiation upon the satisfaction of the one condition of receiving a request.

¹⁰²European Union's appellant's submission, para. 21.

¹⁰³European Union's appellant's submission, para. 33.

¹⁰⁴European Union's appellant's submission, para. 33. (original underlining omitted)

¹⁰⁵European Union's appellant's submission, para. 33.

41. Fourth, the ordinary meaning of the word "under" in paragraph 2 of Annex V includes "covered by", "subject to the authority".¹⁰⁶ The initiation of an Annex V procedure is, therefore, subject to the negative consensus rule in Article 7.4 of the *SCM Agreement*. The references to "cases" and "matters" in paragraph 2 of Annex V also provide this link to Article 7.4.

42. Fifth, Article 2.1 of the DSU provides that the DSB administer relevant "rules and procedures". Appendix 2 to the DSU includes Annex V to the *SCM Agreement* as relevant rules and procedures for DSB rulings. The use of the term "procedure" in Annex V thus "clearly falls within the scope of a DSB action by negative consensus administering the rules and procedures referred to in the *DSU*".¹⁰⁷

43. Sixth, the requirement in paragraph 1 of Annex V for every Member to cooperate in the development of evidence and comply with the procedures "informs the remainder of Annex V"¹⁰⁸ and provides strong support for the inability of a Member to block initiation of an Annex V procedure and therefore also for mandatory action by negative consensus. Article 1.2 of the DSU requires the same interpretation in order to avoid conflict between different provisions. The European Union argues that the drafters of the *SCM Agreement* could not have intended to make initiation of an Annex V procedure mandatory ("the DSB shall ... initiate") and at the same time enable a Member to block such initiation.

44. Seventh, pursuant to paragraph 5 of Annex V, the information-gathering process shall be completed within 60 days from the matter's referral to the DSB. Therefore, there is an implicit assumption that an Annex V procedure will be established contemporaneously with the panel for the same "matter" following the same negative consensus action.

45. Eighth, paragraphs 6 to 9 of Annex V in effect create penalties for the non-cooperation of a Member. Permitting a WTO Member to block initiation of an Annex V procedure by requiring a consensus decision would defeat the purpose of these provisions.

46. Ninth, consequences for non-cooperation in countervailing duty investigations under Article 12.7 of the *SCM Agreement* are evidence that the drafters recognized the importance of gathering information in subsidies disputes. Therefore, in the context of subsidies disputes involving claims of serious prejudice, there is no reason why a Member should be free to prevent information-gathering with impunity.

¹⁰⁶European Union's appellant's submission, para. 35 (referring to *Shorter Oxford English Dictionary*, 5th edn, W.R. Trumble, A. Stevenson (eds) (Oxford University Press, 2002), Vol. 2, p. 3425).

¹⁰⁷European Union's appellant's submission, para. 37.

¹⁰⁸European Union's appellant's submission, para. 38.

47. Tenth, the Appellate Body report in *Canada – Aircraft* confirms the general principle that Members must cooperate during information-gathering procedures, and that it may be appropriate to draw adverse inferences when they fail to do so.¹⁰⁹

48. The European Union contends that the Panel erroneously "re-state{d}" part of the European Communities' complaint as a request for a ruling on "a narrow *factual* proposition", namely, that the DSB had initiated an Annex V procedure by action by negative consensus.¹¹⁰ In the European Union's view, the Panel's reasoning is "circular and unreasonable"¹¹¹ because the Panel used as a justification for rejecting the European Communities' request precisely what the European Communities was challenging: the absence of an Annex V procedure.

49. The European Union also relies on the object and purpose to support its view that the initiation of the Annex V procedure "is and must be by action by negative consensus".¹¹² It claims that the Annex V procedure is a "corollary and integral part"¹¹³ of panel establishment in a dispute settlement proceeding that is launched by negative consensus. Finding that initiation of an Annex V procedure requires decision by consensus, hence allowing a veto of the defending party, would "severely limit the ability of a complaining party to successfully bring a serious prejudice case", and the *SCM Agreement* "would be severely hampered".¹¹⁴ The European Union adds that the complaining party must have a tool to prepare its serious prejudice case by obtaining the necessary information prior to its written submissions to the panel.

50. The European Union finds confirmation of its interpretation in the preparatory work of the *SCM Agreement*. In this respect, the European Union recalls that the substantive provisions of Annex V to the *SCM Agreement* first appeared in the third draft text circulated by the Chairman of the Negotiating Group on Subsidies and Countervailing Measures, and that "{i}t remains clear from this and subsequent drafts that the Annex V procedure was tied-to the panel request".¹¹⁵ In the European Union's view, this explains why, when the reference to negative consensus was subsequently added to Article 7.4 of the *SCM Agreement*, it was well understood that the same decision-making rule would apply to the linked Annex V procedure.

¹⁰⁹European Union's appellant's submission, para. 42 (referring to Appellate Body Report, *Canada – Aircraft*, para. 202).

¹¹⁰European Union's appellant's submission, para. 50. (original emphasis)

¹¹¹European Union's appellant's submission, para. 50.

¹¹²European Union's appellant's submission, para. 44.

¹¹³European Union's appellant's submission, para. 44.

¹¹⁴European Union's appellant's submission, para. 44.

¹¹⁵European Union's appellant's submission, para. 45 (referring to MTN.GNG/NG10/W/38/Rev.2, 2 November 1990).

51. The European Union characterizes as "particularly instructive"¹¹⁶ the fact that the Annex V procedure was added to the *SCM Agreement* following a proposal made by the United States. The European Union recalls that, in the Uruguay Round negotiations, the United States "eloquently explained"¹¹⁷ the object and purpose of its proposal, the essential elements of which were agreed to by all Members by consensus. The European Union summarizes the United States' proposal as a "wish{}" for "an information gathering procedure hand-in-hand with a panel procedure that is mandatory (that is, by negative consensus) backed up with a threat of adverse inferences in case of failure to co-operate".¹¹⁸

52. In the light of the above, the European Union requests the Appellate Body to reverse the Panel's findings denying the European Communities' requests and to complete the analysis and make the following findings: (i) that the initiation of an Annex V procedure is by action by negative consensus; (ii) that, as a matter of law, all the conditions for the initiation of an Annex V procedure were fulfilled in this case, and such procedure was initiated and/or is deemed to have been initiated and/or should have been initiated; (iii) that, in refusing to cooperate in the information-gathering process, the United States failed to comply with its obligations under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*; and (iv) that the European Communities was entitled to present its serious prejudice case based on the evidence available to it, that the Panel was entitled to complete the record as necessary relying on best information otherwise available, and that the Panel was entitled to draw adverse inferences.¹¹⁹

53. At the oral hearing, the European Union placed less emphasis on the alleged distinction between DSB "actions" and "decisions". Instead, the European Union focused its arguments on the reasons why it considers that the DSB may decide to initiate Annex V procedures by negative consensus. The European Union also provided additional arguments to support its view that the Appellate Body has jurisdiction to make a ruling on this matter.

2. Financial Contribution – Scope of Article 1.1(a)(1) of the *SCM Agreement*

54. The European Union requests reversal or modification of the Panel's finding that Article 1.1(a)(1) excludes "purchases of services" by a government from the scope of the *SCM Agreement*. However, the European Union does not request the Appellate Body to complete the

¹¹⁶European Union's appellant's submission, para. 46 (referring to MTN/GNG/NG10/W/40, 5 October 1990, pp. 2-3).

¹¹⁷European Union's appellant's submission, para. 46.

¹¹⁸European Union's appellant's submission, para. 47.

¹¹⁹European Union's appellant's submission, paras. 51 and 52.

analysis by examining the USDOD RDT&E programme measures that were found by the Panel to constitute purchases of services.

55. The European Union argues that, in adopting an interpretation of Article 1.1(a)(1) that excludes purchases of services by a government from the scope of the *SCM Agreement*—even if those transactions included "direct transfers of funds", "provi{sion} {of} goods", or other activities specifically covered by Article 1.1(a)(1)—the Panel failed to apply properly the customary rules of treaty interpretation codified in Articles 31 to 33 of the *Vienna Convention on the Law of Treaties*¹²⁰ (the "*Vienna Convention*"). The Panel's interpretation provides "a road map for entirely avoiding the disciplines of the *SCM Agreement*", and "would allow Members to massively distort international *trade in goods*, by transferring enormous amounts of funding to specific industries and companies on non-market terms, as long as those 'transfers of funds' are pursuant to transactions properly characterised as purchases of services".¹²¹ The European Union contends that the Panel failed to consider, in a holistic manner and in accordance with Article 31(1) of the *Vienna Convention*, the ordinary meaning of the terms of Article 1.1(a)(1), in their context, and in the light of their object and purpose.¹²² In particular, the European Union objects to the Panel's evaluation of "context" and "object and purpose".

56. The European Union recalls that the Panel derived two conclusions from the context provided by Article 1.1(a)(1)(iii) and Article 14(d) of the *SCM Agreement*, which reference the provision of "goods or services" and the purchase of "goods", but not the purchase of services.¹²³ First, that the drafters intended such an exclusion, even if the transactions could be covered by other elements of the definition of financial contribution; and, second, that such an interpretation would render the term "purchases {of} goods" under Article 1.1(a)(1)(iii) inutile. The European Union notes that the Appellate Body has, in previous cases, emphasized the holistic nature of treaty interpretation and cautioned that an interpretation that excessively narrows the meaning of a term in a manner that frustrates the object and purpose of the treaty cannot constitute a "holistic" interpretation.¹²⁴ In finding that the ordinary meaning of the term "direct transfer of funds" in its context *excludes* a significant class of direct transfers of funds (that is, those that occur pursuant to transactions properly

¹²⁰Done at Vienna, 23 May 1969, 1155 UNTS 331; 8 International Legal Materials 679.

¹²¹European Union's appellant's submission, para. 103. (original emphasis)

¹²²European Union's appellant's submission, paras. 102 and 103. The European Union recalls approvingly the Panel's finding that the "ordinary meaning" of the phrase "a government practice involves a direct transfer of funds" in Article 1.1(a)(1)(i) is broad enough to cover fund transfers that occur as part of a purchase of services. (*Ibid.*, para. 104 (referring to Panel Report, para. 7.954))

¹²³European Union's appellant's submission, paras. 108-110 (referring to Panel Report, paras. 7.955 and 7.956).

¹²⁴European Union's appellant's submission, paras. 111 and 112 (referring to Appellate Body Report, *US – Continued Zeroing*, para. 268).

characterized as "purchases of services"), the Panel did not rely on the context and object and purpose to "narrow the range of possible meanings of the treaty term".¹²⁵ Nor did the Panel seek to "ascertain the common intention of the parties"¹²⁶ to the treaty, which is the goal of treaty interpretation under Article 31 of the *Vienna Convention*. Instead, the Panel put aside concerns over object and purpose, and found that there is "every reason to believe"¹²⁷ that future panels will somehow be able to deal effectively with "the enormous loophole potentially created by the interpretation".¹²⁸

57. The European Union further alleges that the Panel erred in concluding that the European Communities' interpretation could render the term "purchases {of} goods" "inutile".¹²⁹ Specifically, the Panel failed to appreciate, as pointed out by the panel in *Japan – DRAMs (Korea)*, that "certain ... transactions might be covered simultaneously by different sub-paragraphs of Article 1.1(a)(1)"¹³⁰, and that such overlap is not unexpected. Consequently, an interpretation that would allow purchases of goods to be covered by two different subparagraphs of Article 1.1(a)(1) is neither unexpected nor discouraged in some way, and there is no need to attempt to interpret the ordinary meaning so as to avoid that result. Moreover, the text of the *SCM Agreement* itself acknowledges that overlaps between categories of financial contributions are an integral feature of Article 1.1(a)(1), and therefore do not indicate "inutility" of certain subparagraphs of that provision. As an illustration, the European Union notes that an equity infusion could fall both under Article 1.1(a)(1)(i) as a "direct transfer of funds", as well as under Article 1.1(a)(1)(iii) as a "purchase{ } {of} goods".

58. Moreover, the European Union asserts that the Panel also erred by dismissing the European Communities' interpretation on the ground that "the scope and coverage of Article 1.1(a)(1) of the *SCM Agreement* would be precisely the same if those words {i.e., 'purchases goods'} had not been added to Article 1.1(a)(1)(iii)".¹³¹ In the European Union's view, the scope of application of

¹²⁵European Union's appellant's submission, para. 113 (quoting Appellate Body Report, *China – Publications and Audiovisual Products*, para. 399).

¹²⁶European Union's appellant's submission, para. 114 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 312).

¹²⁷European Union's appellant's submission, para. 114 (referring to Panel Report, para. 7.960).

¹²⁸European Union's appellant's submission, para. 114.

¹²⁹Panel Report, para. 7.956.

¹³⁰European Union's appellant's submission, para. 115 (referring to Panel Report, *Japan – DRAMs (Korea)*, para. 7.439). See also Panel Report, *EC – Countervailing Measures on DRAM Chips*, para. 7.92, where that panel found that the purchase of corporate bonds constitutes a "direct transfer of funds".

¹³¹Panel Report, para. 7.956.

Article 1.1(a)(1)(iii) may serve an important purpose that is not covered under any other subparagraph of Article 1.1(a)(1).¹³²

59. With respect to the Panel's evaluation of the object and purpose, the European Union notes that the *SCM Agreement* aims to "impose multilateral disciplines on subsidies which distort international trade" in goods.¹³³ Moreover, the Appellate Body has held that "measures that involve a service relating to a particular good"¹³⁴ properly fall within the scope of the Multilateral Agreements on Trade in Goods in Annex 1A of the *Marrakesh Agreement Establishing the World Trade Organization* (the "*WTO Agreement*"). Thus, transactions properly characterized as "purchases of services" that nonetheless relate to a particular "good" should not fall outside the scope of the *SCM Agreement*. The Panel's approach would create "a considerable gap"¹³⁵ in the coverage of the *SCM Agreement* as it would allow a Member to avoid entirely the *SCM Agreement* simply by asking for some type of service from a goods producer in exchange for something that would otherwise be considered an actionable or prohibited subsidy under Parts II and III of the *SCM Agreement* (whether through a transfer of funds, foregoing of government revenue otherwise due, or provision of goods or services).

60. Furthermore, the European Union observes that, in the application of its own test to the R&D contracts and agreements in this dispute—that is, whether the service contract was principally for the benefit and use of the US Government (or unrelated third parties)¹³⁶—the Panel did not eliminate the "loophole"¹³⁷ created by an exclusion of purchases of services from the scope of the *SCM Agreement*. In the European Union's view, the Panel's test allows Members to package together in one transaction: (i) a transaction properly characterized as a "purchase of services" (whether or not for market value); and (ii) an enormous direct transfer of funds in the form of a grant.¹³⁸ Even if, as the Panel noted,

¹³²European Union's appellant's submission, para. 117. The European Union provides an example of such a transaction, such as where the government purchases goods from a company, and the "consideration" for the purchase is or includes the promise to exercise government discretion in enforcing regulations in a certain way, or to provide preferential treatment in competitions for future government contracts. (*Ibid.*)

¹³³European Union's appellant's submission, para. 118 (referring to Panel Report, *Brazil – Aircraft*, para. 7.26; and Panel Report, *Brazil – Aircraft (Article 21.5 – Canada II)*, para. 4.4).

¹³⁴Appellate Body Report, *EC – Bananas III*, para. 221.

¹³⁵European Union's appellant's submission, para. 119. In support of its argument, the European Union refers to the Appellate Body's finding in *Canada – Autos*, where the Appellate Body did not treat the omission of the term "in law or in fact" under Article 3.1(b) of the *SCM Agreement* (where it was expressly included in the preceding subparagraph 3.1(a)) as excluding a reference from that Article's scope of coverage of *de facto* contingency on the use of domestic over imported goods. The Appellate Body explained that limiting the application to only contingency "in law" would be contrary to the object and purpose of the *SCM Agreement* and encourage circumvention of its disciplines. (*Ibid.*, para. 120 (referring to Appellate Body Report, *Canada – Autos*, paras. 142 and 143))

¹³⁶European Union's appellant's submission, para. 123 (referring to Panel Report, para. 7.1137).

¹³⁷European Union's appellant's submission, paras. 121 and 123.

¹³⁸European Union's appellant's submission, paras. 123 and 124.

panels and domestic investigating authorities could detect transactions not properly characterized as "purchases of services", Members could still combine transactions properly characterized as "purchases of services" with grants in a manner that shields the grants from the disciplines of the *SCM Agreement*.¹³⁹

61. Finally, with respect to the supplementary means of interpretation provided for under Article 32 of the *Vienna Convention*, the European Union believes that the negotiating history provides "limited insight into the conclusions that can already be drawn under the Article 31 interpretation".¹⁴⁰ Neither the Panel nor the parties could attribute any significance to the elimination of the term "purchase of services" from earlier drafts of Article 1.1(a)(1). In particular, whereas it remains unclear why the drafters omitted an explicit reference to "purchase of services", "it is unambiguously clear that the drafters *did not insert an exemption* in the *SCM Agreement* according to which a transaction that 'involves a direct transfer of funds' or 'provi{sion} {of} goods or services other than general infrastructure'"¹⁴¹ would fall outside the scope of Article 1.1(a)(1) to the extent that it is also considered a "purchase of services".

3. Specificity – Allocation of Patent Rights

62. The European Union claims that the Panel erred in its interpretation of the term "granting authority" in Article 2.1 of the *SCM Agreement* when it found that the "granting authority" in this case was the US Government as a whole.

63. The European Union's asserts that the Panel did not set out a systematic interpretation of the term "granting authority" in accordance with the *Vienna Convention*, but rather implicitly interpreted the term as encompassing the highest authority of the US Government instead of the particular authority that actually granted the subsidies at issue. The ordinary meaning of "granting authority" is the "body or persons exercising power" that "bestow{s} or confer{s}" a subsidy "as a favour, or in answer to a request".¹⁴² In addition, different provisions of the *SCM Agreement* employ different terms to reference the actor at issue—for example, whereas Article 2.1 refers to "granting authority", Articles 5 and 6 use the term "Member". In the European Union's view, if the drafters of the *SCM Agreement* had intended Article 2.1 to focus on the activities of the government as a whole, they would have used the term "Member" in that provision as well. Thus, the use of different terms in the

¹³⁹European Union's appellant's submission, para. 124.

¹⁴⁰European Union's appellant's submission, para. 125.

¹⁴¹European Union's appellant's submission, para. 126. (original emphasis)

¹⁴²European Union's appellant's submission, para. 72 (referring to *Oxford English Dictionary*, online version as at November 2010, available at <<http://www.oed.com:80/Entry/80776>> and <<http://www.oed.com:80/Entry/13349>>, respectively).

SCM Agreement and other WTO agreements "confirms a distinction between a 'Member', on the one hand, and 'authorities' comprising a Member's internal governmental structures, on the other"¹⁴³, and the European Union therefore rejects the Panel's interpretation of "granting authority" as being equivalent to "Member". The European Union further asserts that the object and purpose of the *SCM Agreement* could be frustrated by an interpretation of Article 2.1 "that looks to government-wide policies of a Member, rather than the actions and legislation of the authority that actually provides the subsidy".¹⁴⁴

64. The European Union notes that, according to Article 2.1(a) of the *SCM Agreement*, either the "granting authority" or "the legislation pursuant to which the granting authority operates" can "explicitly limit{ } access to a subsidy", and therefore specificity can be analyzed from either of these two points of view. Moreover, under Article 2.1(b), which was not specifically addressed by the Panel, specificity may likewise be evaluated from the perspective of either the "granting authority" or the "legislation pursuant to which the granting authority operates". The United States did not properly present a developed defence under the terms of Article 2.1(b), and the Panel did not evaluate the United States' arguments according to the terms of Article 2.1(b), nor did it make any findings that the United States had met the factual requisites of that provision. If the Panel had properly considered Article 2.1(b), "the Parties' arguments may have ultimately turned to Article 2.1(c), pursuant to which the European Union had also presented argument and evidence".¹⁴⁵ The European Union lastly contends that, by focusing its analysis exclusively on Article 2.1(a), the Panel failed to interpret Article 2.1 in a holistic manner.

65. The European Union submits that, as a consequence of adopting an erroneous interpretation of the term "granting authority", the Panel also erred in its application of Article 2.1 of the *SCM Agreement*. The European Union notes that it is undisputed that NASA has its own specific legislation and regulations concerning patent waivers. NASA's statutory basis for performing aeronautical R&D is provided by the Space Act, which specifically states that any invention made pursuant to a NASA contract "shall be the exclusive property of the United States, and if such

¹⁴³European Union's appellant's submission, para. 74. The European Union further underlines that several provisions of the *SCM Agreement* repeatedly refer to "the authorities of a Member" and "the authorities of the importing Member", that both the *SCM Agreement* and the *Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994* (the "*Anti-Dumping Agreement*") frequently and consistently use "authority" or "authorities" as signifying an investigating authority of a Member, and that other WTO agreements also distinguish between "authority" and "Member" by utilizing the term "authority" when referring to internal government entities. (*Ibid.*)

¹⁴⁴European Union's appellant's submission, para. 76.

¹⁴⁵European Union's appellant's submission, para. 77 (referring to European Communities' first written submission to the Panel, paras. 854-856; and European Communities' second written submission to the Panel, paras. 578-582).

invention is patentable a patent therefor shall be issued to the United States"¹⁴⁶ unless waived by NASA. The European Union also notes that the Panel correctly acknowledged that, pursuant to NASA-specific regulations, NASA generally waives patent rights to contractors at their request.¹⁴⁷ In the light of such a process of requesting and granting patent waivers, it is clear that the "granting authority" is NASA, and not the US Government as a whole, because the request to waive the patent right is made to NASA, and NASA is the body that bestows or confers the patent waiver.

66. As regards USDOD patent transfers, the European Union submits that, when applying its interpretation of "granting authority", the Panel likewise erred in finding that USDOD patent transfers are not "specific" within the meaning of Article 2.1(a) of the *SCM Agreement*. The European Union recalls the uncontested fact that, as the entity that grants the R&D contracts, the USDOD need not waive or grant rights in favour of a contractor to inventions arising from USDOD-funded contracts.¹⁴⁸ As with NASA, the USDOD is the "granting authority", because it is the body that includes in its R&D contracts the clauses providing that contractors are generally entitled to the rights from the inventions developed pursuant to these contracts, and it is also the body that chooses not to exercise its authority to remove this entitlement. The Panel found, as an alternative basis for specificity of the USDOD RDT&E programme as a whole, that "RDT&E funding goes 'predominantly' to firms in the defense industry, and this is enough to establish de facto specificity under Article 2.1(c)".¹⁴⁹ Consequently, it is the European Union's contention that the transfers of patent rights deriving from the RDT&E funding likewise go predominantly to firms in the defence industry.¹⁵⁰

67. In its oral statement at the first session of the oral hearing, the European Union emphasized that it had argued before the Panel that the allocations of patent rights under NASA and USDOD contracts and agreements are specific, based on both Articles 2.1(a) and 2.1(c) of the *SCM Agreement*. The European Union explained that, under Article 2.1(a), it had focused on the explicit limitations in the types of R&D that NASA and USDOD could fund, and consequently the enterprises that could benefit from the patent waivers. The European Union noted that it had presented evidence to the Panel regarding the manner in which discretion has been exercised by the granting authority in the decision to grant a subsidy in accordance with Article 2.1(c). It had also argued that Boeing,

¹⁴⁶Space Act, section 305(a)(2).

¹⁴⁷European Union's appellant's submission, para. 80 (referring to Panel Report, para. 7.1287).

¹⁴⁸European Union's appellant's submission, para. 88 (referring to Panel Report, para. 7.1291).

¹⁴⁹Panel Report, para. 7.1197.

¹⁵⁰The European Union points out that the United States did not contest the key underlying facts regarding the RDT&E funding, for example, the average share of RDT&E funding distributed to Boeing (12.6%) and to five aerospace companies (45.2%). (European Union's appellant's submission, para. 91 (referring to United States' first written submission to the Panel, para. 338)) Accordingly, in the European Union's view, if the proper "granting authority" is determined, such undisputed facts provide a strong basis for a finding of specificity within the meaning of Article 2.1 of the *SCM Agreement*. (*Ibid.*)

together with four other companies, received up to 45% of the total USDOD R&D funding, which also supports a finding of disproportionality. The Panel failed to consider any of the European Communities' evidence and arguments regarding Article 2.1(c) and hence ignored the third set of principles in that provision. In the European Union's view, the Panel's failure to consider the actions of the authorities that exercise the discretion to grant a subsidy creates an important gap in the subsidy disciplines. In the case at issue, NASA and the USDOD had some discretion in deciding whether to waive/transfer the patent rights, and whether to enter into the R&D contracts in the first place. However, although there was a claim of *de facto* specificity pursuant to Article 2.1(c), the Panel came to a sudden and unexpected halt after considering the arguments under Article 2.1(a). The European Union therefore considers that the Panel failed to provide the holistic interpretation and application of Article 2.1 required by the *SCM Agreement*.

4. Adverse Effects

68. The European Union requests the Appellate Body to: (i) reverse the Panel's finding that it was not "appropriate to aggregate" the effects of the B&O tax rate reductions with the effects of the aeronautics R&D subsidies in the 200-300 seat LCA market¹⁵¹; (ii) reverse the Panel's finding that the remaining subsidies, on their own, do not cause adverse effects¹⁵²; and (iii) reverse the Panel's finding that the USDOD RDT&E programmes (other than the Manufacturing Technology Program ("ManTech programme") and the Dual Use Science and Technology Program ("DUS&T programme")) do not cause the same effects as the other aeronautics R&D subsidies, at least to the extent that the remaining USDOD RDT&E programmes are funded through assistance instruments.¹⁵³ In connection with the second of these requests, the European Union further requests the Appellate Body to complete the analysis and find that, when aggregated with the tax subsidies (or the aeronautics R&D subsidies and the tax subsidies) that were found to cause adverse effects, the remaining subsidies also cause adverse effects. The European Union does not seek to have the Appellate Body complete the analysis with respect to the other two grounds of appeal.

- (a) Collective assessment of the aeronautics R&D subsidies and the B&O tax rate reductions and their effects

69. The European Union submits that the Panel erred in its interpretation and application of Articles 5 and 6.3 of the *SCM Agreement* when it declined to assess the *cumulative effects* of the B&O tax rate reductions *and* the aeronautics R&D subsidies in the 200-300 seat LCA market. The reason given by the Panel for assessing the effects of these two groups of subsidies separately—that the two

¹⁵¹Panel Report, para. 7.1824.

¹⁵²Panel Report, para. 7.1828.

¹⁵³Panel Report, para. 7.1701.

groups of subsidies operate through "entirely distinct causal mechanisms"¹⁵⁴—ignores the fact that both contributed to a negative commercial impact on Airbus LCA in the 200-300 seat LCA market, and is not a legitimate basis to refrain from assessing the cumulative effects of all of the subsidies. Although panels enjoy a certain degree of discretion in selecting an appropriate methodology for determining the effects of a subsidy, this discretion is not unbounded, and does not permit a panel to isolate or compartmentalize its analysis so as to mask the contribution of any subsidy to adverse effects. Rather, a proper interpretation of Articles 5 and 6.3 of the *SCM Agreement* requires panels to assess—quantitatively or qualitatively—the collective effects of all subsidies that impact competition in the market at issue.

70. The European Union suggests that the following approach is the proper one to take. Initially, a panel should examine the nature of the individual subsidies, in terms of their structure, design, and operation, and aggregate in a group those specific subsidies that have a sufficient nexus to the subsidized product and have a similar structure, design, and operation. Next, a panel should assess, by individual subsidy or group of subsidies, whether and how each subsidy or group of subsidies provides a competitive advantage to the subsidized producer and its products in the market. At this stage of its analysis, as the Appellate Body has stated in previous disputes, a panel has a degree of discretion to structure its approach, and to select the evidence on which to rely.¹⁵⁵ Irrespective of how a panel exercises that discretion, ultimately it must assess—quantitatively or qualitatively—whether the collective competitive impact of the different (groups of) subsidies found to have a negative impact on competition in the market causes one or more of the particular forms of adverse effects listed in Article 6.3 of the *SCM Agreement*.

71. The European Union relies upon the text of Articles 5 and 6.3, in their context, as well as the object and purpose of the *SCM Agreement*, in support of its position. The broad reference in Article 5 to "the use of *any subsidy*"¹⁵⁶, coupled with the broad reference in Article 6.3 to a "subsidized product", shows that neither provision distinguishes between different types of subsidies, and suggests that these provisions discipline the collective impact of any and all subsidies benefiting the subsidized product in the market at issue. These provisions make no reference to or distinction between any particular causal mechanisms. Accordingly, in undertaking the causation analysis required by these provisions, a panel must consider collectively the effects of all subsidies that support the same product and negatively impact competition in the market at issue in determining whether they amount to adverse effects within the meaning of Article 6.3. Articles 5 and 6.3 provide no support for an

¹⁵⁴Panel Report, para. 7.1824.

¹⁵⁵European Union's appellant's submission, para. 202 (referring to Appellate Body Report, *US – Upland Cotton*, para. 436; and Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 370).

¹⁵⁶Emphasis added by the European Union.

interpretation that the effects of different subsidies cannot be assessed cumulatively simply because those subsidies affect competition through "distinct causal mechanisms".¹⁵⁷ The now expired Article 6.1 of the *SCM Agreement* also provides contextual support for a cumulative assessment of the effects of subsidies in two ways. First, in determining whether subsidies rise to an *ad valorem* level of subsidization sufficient to trigger the presumption of serious prejudice, Article 6.1(a) and Annex IV mandated that *all* subsidies be included (except those that are non-actionable). Second, Article 6.1(b), (c), and (d) indicate that, when the drafters of the *SCM Agreement* wished to require isolation of the effects of particular types of subsidies, they did so explicitly. Those provisions expressly identified *types* of subsidies that benefited the subsidized product and affected the market at issue through a particular causal mechanism (subsidies covering operating losses for an industry or enterprise, as well as direct forgiveness of debt) and created a presumption of serious prejudice. By contrast, Article 6.3 makes no distinction between subsidies based on their type or causal mechanism; instead, it focuses on the *effects* of subsidies.

72. Moreover, the Panel's interpretation undermines the object and purpose of the *SCM Agreement*, which requires that its provisions be interpreted so as to "strengthen and improve"¹⁵⁸ the actionable subsidy disciplines, rather than undermine them. The Panel's interpretation would enable Members to escape a finding of serious prejudice by providing a series of small subsidies each of which affects the recipient in a slightly different way. Under the Panel's approach, because these small subsidies work along different causal pathways, their effects may not be cumulated. Thus, such subsidies could not be found to cause adverse effects if each, on its own, causes a degree of trade distortion that is insufficient to amount to adverse effects. In reality, however, the respondent Member would, "through the use of any subsidy referred to in paragraphs 1 and 2 of Article 1, {cause} adverse effects".¹⁵⁹ The Panel's approach, therefore, undermines the object and purpose of the *SCM Agreement*. In *US – Upland Cotton*, the Appellate Body highlighted the importance of examining whether the non-price-contingent subsidies "contribute to price suppression"¹⁶⁰, which the European Union considers to be fully consistent with an approach whereby an assessment under Articles 5 and 6.3 would require consideration of whether each challenged specific subsidy benefiting a common subsidized product contributes to the same adverse effects claimed.

¹⁵⁷Panel Report, para. 7.1824.

¹⁵⁸European Union's appellant's submission, para. 210.

¹⁵⁹European Union's appellant's submission, para. 211 (quoting Article 5 of the *SCM Agreement*).

¹⁶⁰Appellate Body Report, *US – Upland Cotton*, footnote 589 to para. 450. The European Union notes that Brazil did not appeal the panel's refusal to cumulate any effects of non-price-contingent subsidies.

73. The European Union recalls its arguments before the Panel that: (i) "*the aeronautics R&D subsidies ... 'have helped Boeing develop, launch and produce a technologically-advanced 200-300 seat LCA much more quickly than it could have on its own'*"¹⁶¹; and (ii) "*all of the subsidies have ... 'price effects' in that they have enabled Boeing to charge lower prices for its LCA*".¹⁶² The United States did not address the issue of aggregation, because it argued that the subsidies had neither technology effects nor price effects. Because the European Communities raised claims and presented arguments regarding the adverse effects caused *jointly* by the B&O tax rate reductions and the aeronautics R&D subsidies in the 200-300 seat LCA market, the Panel was required to assess the effects of these subsidies cumulatively. The European Union highlights, in this regard, that, with respect to the 100-200 seat and 300-400 seat LCA markets, the Panel found "inescapable"¹⁶³ its conclusion that the cumulative effects of the FSC/ETI subsidies and the B&O tax rate reductions caused significant price suppression, significant lost sales, and displacement and impedance to the European Communities' interests. These are the same forms of adverse effects that the European Communities claimed the B&O tax rate reductions have caused in the 200-300 seat LCA market.¹⁶⁴ Given, therefore, that the evidence that was before the Panel suggests that the B&O tax rate reductions could contribute to the adverse effects caused by the aeronautics R&D subsidies, both of which benefit the 787, the Panel was required to assess the effects of these subsidies cumulatively—even if it found that, "on their own"¹⁶⁵, the B&O tax rate reductions were not shown to cause adverse effects in that market.

74. The European Union considers that the Appellate Body report in *EC and certain member States – Large Civil Aircraft* supports its claim that the Panel's failure to aggregate the effects of the B&O tax rate reductions with the effects of the aeronautics R&D subsidies in the 200-300 seat LCA market amounts to reversible legal error. In that dispute, the Appellate Body recognized that a panel's discretion to structure its causation analysis is not unlimited and cannot absolve it from having to establish a genuine and substantial relationship of cause and effect. As the United States argued in that appeal, "isolating certain subsidies from a panel's causation analysis 'would permit circumvention of the disciplines of Article 6.3 in the case of smaller measures that individually would not have caused adverse effects, but which collectively would affect competition in a manner inconsistent with

¹⁶¹Panel Report, para. 7.1597 (quoting European Communities' first written submission to the Panel, para. 1343). (emphasis added by the Panel)

¹⁶²Panel Report, para. 7.1598 (quoting European Communities' first written submission to the Panel, para. 1229). (emphasis added by the Panel)

¹⁶³Panel Report, para. 7.1822.

¹⁶⁴European Union's appellant's submission, para. 216 (referring to Panel Report, para. 7.1822).

¹⁶⁵European Union's appellant's submission, para. 216.

Articles 5 and 6.3'.¹⁶⁶ The Appellate Body clarified that, when individual subsidies are aggregated, causation may be established for all of those aggregated subsidies, *even if* some individual subsidies (or groups of subsidies) could not be found to be a genuine and substantial cause of adverse effects if considered separately.

75. The European Union further notes that, in that dispute, the Appellate Body also held that subsidies may be aggregated in some circumstances, even where those subsidies have important "differences in the{ir} nature and operation", which "may suggest that these measures ha{ve} distinct effects".¹⁶⁷ The Appellate Body found that, as long as the discrete subsidies "all have a genuine causal link" with the claimed market impact, they can be considered as "complement{ing} and supplement{ing}" each other.¹⁶⁸ The Appellate Body further found that subsidies that were quite distinct from the launch aid/member State financing ("LA/MSF") subsidies in form, design, and operation (equity infusions, runway extensions, and other infrastructure subsidies) should be aggregated with the LA/MSF subsidies. In this case, the B&O tax rate reductions complement and supplement the effects of the aeronautics R&D subsidies, because they support Boeing's ability to achieve a pricing advantage. Thus, according to the European Union, having found that the aeronautics R&D subsidies allow Boeing to suppress Airbus' pricing in the 200-300 seat LCA market, and having also found that the B&O (along with the FSC/ETI) tax subsidies had the capacity to suppress Airbus' pricing in the 100-200 seat and 300-400 seat LCA markets, the Panel should have aggregated the B&O tax rate reductions for the 200-300 seat LCA market with the aeronautics R&D subsidies.

- (b) Collective assessment of the tied tax subsidies and the remaining subsidies and their effects

76. The European Union asserts that the Panel also erred in its interpretation and application of Articles 5 and 6.3 of the *SCM Agreement* by failing to aggregate the tied tax subsidies with the remaining subsidies. The European Union requests the Appellate Body to reverse the Panel's finding that the remaining subsidies do not, on their own, cause adverse effects, and to find, instead, that the remaining subsidies also cause adverse effects when aggregated with the tied tax subsidies (or with the aeronautics R&D subsidies coupled with the tied tax subsidies) that were found to cause adverse effects. Given the adverse effects finding for the tied tax subsidies alone, a proper cumulative analysis must also result in an adverse effects finding for the remaining subsidies.

¹⁶⁶European Union's appellant's submission, para. 726 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1367).

¹⁶⁷Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1397.

¹⁶⁸European Union's appellee's submission, para. 733 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1397).

77. Referring to the statement by the panel in *EC and certain member States – Large Civil Aircraft*, the European Union submits that it is appropriate to aggregate subsidies that complement and supplement each other in circumstances where the subsidies have a "sufficient nexus with the subsidized product ... {and} they also have a sufficient nexus with 'the particular effects-related variable{s} under examination'".¹⁶⁹ It follows that the Panel in this case should not have segregated its adverse effects analysis so that it could take account of the combined market effect of subsidies that collectively enhance Boeing's cash flow and ability to price down its LCA. Both the remaining subsidies and the tied tax subsidies contribute to price effects and also satisfy the requirements set out by the panel in *US – Upland Cotton* for an "integrated examination of effects of any subsidies", in that the remaining subsidies (i) have "a sufficient nexus" with the "subsidized product" (that is, Boeing LCA) and (ii) impact the *same* "effects-related variable" as the tied tax subsidies (that is, price).¹⁷⁰ Furthermore, the Appellate Body in the *US – Upland Cotton* dispute recognized that non-price-contingent subsidies could nevertheless contribute to price suppression, and thereby implied that the panel could have aggregated non-price-contingent subsidies with the price-contingent subsidies.¹⁷¹

78. The European Union considers that the Appellate Body report in *EC and certain member States – Large Civil Aircraft* further supports its claim that the Panel's failure to aggregate the effects of the tied tax subsidies with the effects of the remaining subsidies constitutes legal error. The Appellate Body's findings in that case show that subsidies of a different nature can be aggregated when they have a genuine causal link with the same overall effect claimed. In this dispute, the Panel found that the remaining subsidies increased the amount of cash benefitting Boeing by \$550 million. Instead of finding that subsidies "of this amount"¹⁷² did not result in market effects rising to the level of serious prejudice, the Panel should have combined the effects of those subsidies with the effects of the other subsidies causing the same market effects. The effects of these two groups of subsidies complemented and supplemented the "pervasive and consistent pricing advantage"¹⁷³ enjoyed by Boeing resulting from the effects of the tied tax subsidies, because Boeing had those additional funds at its disposal to use in strategic sales campaigns. Thus, having found that the tied tax subsidies caused, in and of themselves, serious prejudice, the Panel should have continued its analysis and found that the remaining subsidies complement and supplement the pricing effects of those tax subsidies.

¹⁶⁹Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1961.

¹⁷⁰Panel Report, *US – Upland Cotton*, para. 7.1192.

¹⁷¹European Union's appellant's submission, para. 230 (referring to Appellate Body Report, *US – Upland Cotton*, footnote 589 to para. 450).

¹⁷²Panel Report, para. 7.1828.

¹⁷³European Union's appellee's submission, para. 737 (quoting Panel Report, para. 7.1819).

79. The European Union also argues that the Panel erred in not cumulating the effects of the remaining subsidies with the effects of both the aeronautics R&D subsidies and the tied tax subsidies. The Panel was tasked with assessing whether the use of the challenged subsidies cause adverse effects, and erred by limiting its assessment to the question of whether the remaining subsidies, on their own, cause adverse effects. By failing to take the proper analytical steps to cumulate the effects of the remaining subsidies with the effects of the aeronautics R&D subsidies (and the effects of the tied tax subsidies), the Panel failed to comply with the causation requirements under Articles 5 and 6.3 of the *SCM Agreement*.

5. Article 11 of the DSU

80. The European Union argues that the Panel acted inconsistently with the principle of due process on two separate, but related, grounds when it decided to exclude all but two of the USDOD RDT&E programmes from its adverse effects analysis. The European Union claims that the Panel's "predominan{ce}"¹⁷⁴ approach was articulated for the first time in the Final Report issued by the Panel to the parties; consequently, the parties were not afforded an opportunity to comment on this approach. The European Union argues that the approach the Panel took in the Final Report could not have been anticipated by the parties, given that both parties opposed the idea of separating procurement contracts from assistance instruments for purposes of determining the existence of a subsidy and adverse effects. Along the same lines, the European Union contends that the Interim Report explained that the only reason for excluding all but two USDOD RDT&E programmes was that the Panel did not have sufficient evidence about whether such programmes funded assistance instruments as opposed to procurement contracts. By contrast, the Panel then introduced in the Final Report a different standard, namely, whether the USDOD RDT&E programmes at issue "*funded predominantly assistance instruments*, as opposed to procurement contracts, or a mixture of assistance instruments and procurement contracts".¹⁷⁵

81. Second, the European Union contends that, although the Panel recognized the insufficiency of evidence to ascertain the effects of assistance instruments alone, the Panel failed to seek from the United States the necessary information, despite the fact that the United States consistently ignored the European Communities' requests to produce information that would have permitted a contract-by-contract analysis. To the extent that the Panel chose to apply its "unexpected" "predominan{ce}" approach, the European Union alleges that "it was imperative for the Panel to request the contract information from the United States that the European Union had been seeking to

¹⁷⁴European Union's appellant's submission, para. 246 (referring to Panel Report, para. 7.1701).

¹⁷⁵European Union's appellant's submission, para. 246 (quoting Panel Report, para. 7.1701). (emphasis added by the European Union)

enable it to make the assessment it considered necessary to resolve the dispute".¹⁷⁶ However, despite adopting the novel "predominan{ce}" approach, the Panel never directed enquiries to the United States under Article 13 of the DSU, nor did it draw adverse inferences from instances of the United States' non-cooperation in disclosing relevant contracts.

82. Consequently, in the European Union's view, the Panel failed to protect the due process rights of the European Communities and therefore acted inconsistently with its obligations under Article 11 of the DSU. In addition, the European Union argues that the consequences of these Panel errors were aggravated by the United States' continuing failure to disclose the RDT&E contracts and details about the RDT&E programme elements that were exclusively in its possession. Similar to the panel's approach in *US – Continued Zeroing*, the European Union submits that the Panel "required evidence ..., but then did not take the necessary steps to elicit from the parties information that might ... 'elucidate its understanding of the facts and issues in the dispute before it'."¹⁷⁷ In that dispute, the Appellate Body found that the panel had violated Article 11 of the DSU.

83. While the European Union requests the Appellate Body to reverse the Panel's finding that the USDOD RDT&E programmes—other than the ManTech and DUS&T programmes—do not cause the same effects as the other aeronautics R&D subsidies, the European Union does not request the Appellate Body to complete the analysis.

B. *Arguments of the United States – Appellee*

1. Annex V to the SCM Agreement

84. The United States submits that both the initiation of an Annex V procedure and the designation of a facilitator require a DSB decision by positive consensus. Neither can occur without the DSB reaching a "decision", which is defined as "{t}he action of coming to a determination or resolution with regard to any point or course of action; a resolution or conclusion arrived at".¹⁷⁸ Article 2.4 of the DSU and footnote 3 to Article IX:1 of the *WTO Agreement* establish a general rule requiring positive consensus for DSB decisions unless otherwise expressly specified—such as in Articles 6.1, 16.4, 17.14, 22.6, and 22.7 of the DSU, which "all provide for the DSB to take specified procedural steps 'unless the DSB decides by consensus not to' take that procedural step".¹⁷⁹ Articles 4.4 and 7.4, Articles 4.8, 4.9, 7.6, and 7.7, and Articles 4.10 and 7.9 of the *SCM Agreement*

¹⁷⁶European Union's appellant's submission, para. 251.

¹⁷⁷European Union's appellant's submission, para. 258 (quoting Appellate Body Report, *US – Continued Zeroing*, para. 347, in turn quoting Panel Report, *US – Continued Zeroing*, footnote 20 to para. 6.20).

¹⁷⁸United States' appellee's submission, para. 54 (quoting *The New Shorter Oxford English Dictionary*, 4th edn, L. Brown (ed.) (Clarendon Press, 1993), Vol. 1, p. 608).

¹⁷⁹United States' appellee's submission, para. 55.

require the same. Given that Annex V prescribes no specific decision-making rule, the general rule of positive consensus must apply. Initiation of a procedure and designation of a DSB representative as facilitator are actions that fall within the ordinary meaning of "decision", and as such they require the consensus of the DSB under Article 2.4 of the DSU and Article IX:1 of the *WTO Agreement*.

85. The United States notes that its position is in line with the consistent practice of the DSB, which has in all past cases initiated Annex V procedures and designated facilitators by positive consensus. Furthermore, before subsequently reversing its position in this dispute, the European Communities itself "vigorously advocated the view that initiation of an Annex V process is subject to positive consensus"¹⁸⁰ in opposing the United States' request for initiation of an Annex V procedure in *EC and certain member States – Large Civil Aircraft*. In the context of that dispute, the European Communities expressed to the DSB its view that, "consistent with WTO jurisprudence, an Annex V procedure could not be initiated by only one party to a dispute, but required a meeting of the minds; an actual agreement between the parties".¹⁸¹

86. The United States adds that there is "no support in the 'overall framework' of the DSU for the distinction the {European Union} seeks to draw between 'decisions' and 'actions' of the DSB, or the different decision-making rules the {European Union} would assign to each".¹⁸² The "overall framework" of the DSU calls for the DSB to do a number of different things, but does not divide these functions into "actions" and "decisions". The DSU uses the term "action" in connection with the DSB only three times, in Articles 2.1, 21.7, and 21.8, and in none of these provisions does the use of the term "action" support the existence of the action/decision dichotomy posited by the European Union. Article 2.1, in particular, merely states a special rule identifying which Members may participate in dispute settlement matters under the Plurilateral Trade Agreements, and cannot serve as the type of "framing principle"¹⁸³ that the European Union contends it does. Moreover, the European Union's argument that the DSB does not take a "decision" in establishing a panel (Article 6.1), adopting panel and Appellate Body reports (Articles 16.4 and 17.14), or authorizing the suspension of concessions (Articles 22.6 and 22.7) "rests on a misperception of the nature of a decision".¹⁸⁴ A *decision* is a particular type of *action*.¹⁸⁵ Whether a panel is established or there is a consensus not to establish a panel, the DSB has taken a decision regarding the establishment of a panel. Furthermore, when the DSB establishes a panel or adopts a report, it declares that it has "agreed to establish a panel" or that it

¹⁸⁰United States' appellee's submission, para. 56.

¹⁸¹United States' appellee's submission, para. 56 (quoting WT/DSB/M/196, para. 45).

¹⁸²United States' appellee's submission, para. 59.

¹⁸³United States' appellee's submission, para. 62. (footnote omitted)

¹⁸⁴United States' appellee's submission, para. 63.

¹⁸⁵See United States' appellee's submission, footnote 94 to para. 62.

"adopts" the report. This indicates that the DSB is not a "passive spectator"¹⁸⁶, but that it considered an action and took a decision with regard to that action. Thus, to the extent that the overall framework of the DSU is relevant to the initiation of an Annex V procedure, it indicates that the DSB operates by positive consensus except where explicit exceptions provide otherwise. The United States stresses that no such express exception applies to the initiation of an Annex V procedure or the designation of a DSB representative to facilitate such procedure.

87. The United States also emphasizes that, even though the information-gathering procedure contemplated in Annex V is related to a panel's review of claims under Article 6 of the *SCM Agreement*, Annex V calls for a collaborative procedure independent of the panel proceedings and which operates under different rules. Such procedure is "completely optional"¹⁸⁷ in the sense that it may well be that neither party requests it in a given dispute. Only the DSB, and not the panel, has a role in such process. Indeed, since the duration of the process is limited to 60 days, it may well be that the panel will not have been composed for a substantial part of that period. Furthermore, Annex V provides no detailed guidance regarding procedures thereunder, and the DSB representative, whose "sole purpose"¹⁸⁸ is to ensure the timely development of the necessary information, has none of the authority of a panel. Accordingly, the United States reasons that there is no basis to transpose procedural rules applicable to panels into the Annex V procedure.

88. With respect to the ten points raised by the European Union in support of its argument that initiation of an Annex V procedure is a DSB action subject to negative consensus, the United States characterizes the first, fourth, and seventh points as non sequiturs. The fact that there is a relationship between an Annex V procedure and a panel's review of claims under Article 6 of the *SCM Agreement* says nothing about the procedures applicable to the respective initiation or administration of each. The DSB uses negative consensus for some dispute-related decisions, and positive consensus for others, such as authorizing the Chair of the DSB to draft non-standard terms of reference. Moreover, some steps—such as requesting consultations, becoming a third party to a dispute, or referring a matter to arbitration under Article 22.6 of the DSU—do not require any action by the DSB. This means that it is not safe to assume, simply because a procedure is related to a dispute, that it is subject to negative consensus. It also means that the reference in paragraph 2 of Annex V to Article 7.4 of the *SCM Agreement* does not import a negative-consensus decision rule. Instead, this cross-reference simply identifies establishment of a panel as a precondition for initiation of an Annex V procedure.

¹⁸⁶United States' appellee's submission, para. 64.

¹⁸⁷United States' appellee's submission, para. 66.

¹⁸⁸United States' appellee's submission, para. 66 (quoting Annex V, para. 6). (emphasis added by the United States)

89. The United States also takes issue with the European Union's contentions that the references in Annex V to "under", "cases", and "matters" mean that an Annex V procedure and a panel establishment are not separate. The phrase "under paragraph 4 of Article 7" simply clarifies that Annex V is not available when a panel is established under another provision—such as Article 4.4 of the *SCM Agreement*—and does not suggest that Article 7.4 governs initiation of an Annex V process or designation of a DSB representative as facilitator. Additionally, since a "matter" is a specific measure and the legal basis of a complaint, an Annex V procedure is not a "matter", but merely "one procedural step that may occur in the process of addressing a matter".¹⁸⁹ Just because an Annex V procedure is related to a matter does not mean that the decision-making rules are the same. The United States further contests the European Union's assumption that the initiation of an information-gathering procedure will occur upon establishment of a panel. Paragraph 5 of Annex V sets a 60-day limit from the date on which the matter has been referred to the DSB for completion of the information-gathering process, without regard to the actual date of initiation. Such a time-limit does not indicate that the rules for establishing a panel (such as the negative consensus rule) apply to initiation of an Annex V procedure.

90. The United States also rejects the European Union's third and fifth considerations that textual linkages between Annex V and provisions of the *SCM Agreement* indicate a negative consensus rule for decisions related to Annex V. A Member's "request" can trigger a positive or negative consensus decision under the DSU. This is best demonstrated by Article 6.1 of the DSU, pursuant to which a "request" to establish a panel requires positive consensus at the first DSB meeting at which the request is presented, but then the same request requires negative consensus at the second DSB meeting. Furthermore, although the word "procedure" in paragraph 2 of Annex V is linked to the "rules and procedures" that Article 2.1 and Appendix 2 to the DSU provide for the DSB to administer, this does not imply a negative consensus rule, because the DSB administers many procedures through positive consensus, such as decisions establishing a single panel or modifying procedures for particular disputes.

91. In the view of the United States, the European Union's second, sixth, eighth, ninth, and tenth considerations all raise the spectre that a positive consensus approach to Annex V procedures would render them "wholly ineffective".¹⁹⁰ Recalling that the DSB has used positive consensus for many

¹⁸⁹United States' appellee's submission, para. 70.

¹⁹⁰United States' appellee's submission, para. 75 (referring to European Union's appellant's submission, pars. 33).

decisions relating to disputes, including for initiation of Annex V procedures, the United States observes that the European Union's "alarmism"¹⁹¹ is unwarranted.

92. For the United States, a positive consensus rule comports more with the collaborative nature of initiating an Annex V procedure and designating a representative of the DSB as facilitator. Indeed, the United States cautions that, given the structure of Annex V, a negative consensus rule for the appointment of a facilitator would be "unworkable"¹⁹², because Annex V establishes no default procedures except for partial supervision by a DSB representative, who has very limited authority. The United States disagrees with the European Union's argument that the drafters of the *SCM Agreement* could not have intended to make initiation of an Annex V procedure mandatory and, at the same time, made it possible for a Member to block such initiation. For the United States, the relevant provisions—including Article 2.4 of the DSU—simply reflect a balance in the system, and are but one illustration of circumstances in which the DSB is expected to act, but it must do so by consensus. Decision-making by consensus requires Members to work together to find solutions. While this may be difficult, the rule ensures that the solution reached reflects the collective interests of all Members.

93. The United States specifically refutes the sixth point of the European Union—namely, that the existence of the general obligation to cooperate that paragraph 1 of Annex V places on all Members confirms that initiation must be subject to negative consensus—because it cannot be the case that the drafters created "an obligation to cooperate, but a right to do nothing".¹⁹³ Paragraph 1 of Annex V creates a generalized obligation to cooperate in developing evidence that is separate and independent from the procedure contemplated under paragraph 2. The obligation applies even if there is no request under paragraph 2 for an Annex V procedure, and it extends beyond such a procedure because it also covers the provision of information sought by the panel under Article 13 of the DSU, the submission by parties of information in support of their arguments, and any other procedure that develops information during the course of the panel proceeding.

94. As to the eighth argument of the European Union, the United States highlights that the consequences of non-cooperation set out in paragraphs 6 to 9 of Annex V are in fact an explicit recognition of the possibility that the parties will fail to cooperate, and highlights that such consequences—the use of the best information available or the drawing of adverse inferences—are essentially the same as those relating to non-cooperation in the context of panel proceedings.

¹⁹¹United States' appellee's submission, para. 75.

¹⁹²United States' appellee's submission, para. 59.

¹⁹³United States' appellee's submission, para. 78 (quoting European Union's appellant's submission, para. 38).

Therefore, blocking an Annex V procedure does not relieve a Member of its obligation to respond to a panel's request for information or shield the Member from the consequences of failing to do so.

95. Responding specifically to the European Union's ninth argument, the United States argues that a domestic countervailing duty proceeding is not akin to an Annex V procedure. Like investigating authorities whose requests for information are not satisfactorily answered, a panel may rely on the best information available when a party fails to provide the requested information. Furthermore, and with respect to the European Union's tenth point, a panel's information-gathering capabilities and powers to use the best available information and draw adverse inferences are not affected by the presence or absence of an Annex V procedure.

96. With respect to the object and purpose of the *SCM Agreement*¹⁹⁴, the United States submits that interpreting the relevant provisions to mean that an Annex V procedure is initiated by positive consensus conforms to the object and purpose of the *SCM Agreement* by requiring a collaborative approach that balances the needs and sensitivities of the complaining party and the responding party. In contrast, accepting the position of the European Union would allow the complaining party to dictate the procedural rules. This is illustrated by the fact that the European Union goes as far as to argue that, not only does the DSB designate a representative by negative consensus, but the complaining party may also unilaterally choose the candidate for the post.¹⁹⁵ Such a result would, in the view of the United States, upset the "delicate balance"¹⁹⁶ that the *SCM Agreement* strikes between the interests of complaining parties and responding parties.

97. Lastly, the United States urges the Appellate Body to attach no weight to the European Union's reliance on the negotiating history of the *SCM Agreement* and the original proposal for an information-gathering procedure. The United States disagrees with the European Union's argument that the negotiating history makes "clear" that "the linked Annex V procedure would follow the same procedure"¹⁹⁷ as set out in Article 7.4 of the *SCM Agreement*. Moreover, the United States emphasizes that its proposal during the Uruguay Round negotiations was premised on the lack of "an

¹⁹⁴The United States recalls that the object and purpose of the *SCM Agreement* has been held to be "to strengthen and improve GATT disciplines relating to the use of both subsidies and countervailing measures, while, recognizing at the same time, the right of Members to impose such measures under certain conditions". (United States' appellee's submission, para. 83 (quoting Appellate Body Report, *US – Softwood Lumber IV*, para. 64, in turn referring to Appellate Body Report, *US – Carbon Steel*, paras. 73 and 74))

¹⁹⁵United States' appellee's submission, para. 84 (referring to, *inter alia*, European Communities' request for preliminary rulings, para. 44).

¹⁹⁶United States' appellee's submission, para. 84 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 301; and Appellate Body Report, *US – Countervailing Duty Investigation on DRAMS*, para. 115; and referring to Appellate Body Report, *US – Softwood Lumber IV*, para. 64).

¹⁹⁷United States' appellee's submission, para. 85 (quoting European Union's appellant's submission, para. 45).

information-gathering mechanism or a means for assuring the co-operation of the party in possession of information necessary to demonstrate adverse effects"¹⁹⁸ in the Tokyo Round *Agreement on Interpretation and Application of Articles VI, XVI and XXIII of the General Agreement on Tariffs and Trade*¹⁹⁹ (the "*Tokyo Round Subsidies Code*"). The situation is different under the DSU, which, as the Appellate Body has recognized, endows panels with the authority to draw adverse inferences from a Member's refusal to provide information and, thereby, provides a strong incentive for cooperation.²⁰⁰

2. Financial Contribution – Scope of Article 1.1(a)(1) of the *SCM Agreement*

98. The United States agrees with the Panel that transactions that are properly characterized as "purchases of services" fall outside the scope of Article 1.1(a)(1) and, consequently, of the *SCM Agreement*. In the United States' view, this finding is "beyond reproach".²⁰¹

99. The United States underscores that a proper interpretation of the *SCM Agreement* gives meaning to all of its terms and does not insert words and concepts that are not there.²⁰² Moreover, as the Appellate Body has stated, it involves a "holistic exercise"²⁰³ of applying relevant interpretative rules to derive the meaning of the terms of a treaty so as to enforce the parties' intentions. The United States argues that the object and purpose of the treaty, which is stated at a "high level of generality"²⁰⁴, cannot be elevated over other considerations. An attempt to read "purchases of services" into the text of Article 1.1(a)(1) "so as to advance 'holistic' goals divined from the object and purpose" would be incompatible with the principles of treaty interpretation.²⁰⁵ Moreover, the United States disagrees that an interpretation that "narrows the meaning of a term"²⁰⁶ necessarily frustrates the object and purpose of the *SCM Agreement*. Rather, consistent with previous

¹⁹⁸United States' appellee's submission, para. 86 (quoting MTN.GNG/NG10/W/40, p. 2).

¹⁹⁹BISD 26S/56, entered into force 1 January 1980.

²⁰⁰United States' appellee's submission, para. 86 (referring to Appellate Body Report, *Canada – Aircraft*, para. 202).

²⁰¹United States' appellee's submission, para. 148.

²⁰²United States' appellee's submission, para. 154 (referring to Appellate Body Reports in *India – Patents (US)*, para. 45; *India – Quantitative Restrictions*, para. 94; *EC – Hormones*, para. 181; *US – Line Pipe*, para. 250; *US – Steel Safeguards*, para. 471; *EC – Bed Linen*, para. 83; *EC – Computer Equipment*, para. 83; *EC – Poultry*, para. 146; and *EC – Selected Customs Matters*, para. 297).

²⁰³Appellate Body Report, *China – Publications and Audiovisual Products*, para. 399; Appellate Body Report, *US – Continued Zeroing*, paras. 268 and 273.

²⁰⁴United States' appellee's submission, para. 155.

²⁰⁵United States' appellee's submission, para. 155.

²⁰⁶United States' appellee's submission, para. 156.

Appellate Body jurisprudence, the object and purpose of the *SCM Agreement* reflects a "delicate balance"²⁰⁷ that lies at the heart of the Agreement.

100. For the United States, the European Union's specific criticisms of the Panel's interpretation do not provide a basis for including purchases of services within the scope of the *SCM Agreement*. First, the Panel engaged in a "careful consideration of all text and context, including how each provision informed the scope of the others"²⁰⁸ in a type of holistic exercise previously endorsed by the Appellate Body. Contrary to the European Union's arguments, the Panel applied all of the relevant rules of treaty interpretation in a manner consistent with the Appellate Body's guidance.

101. The United States also asserts that the Panel correctly treated the list of categories under the subparagraphs of Article 1.1(a)(1) as "closed"²⁰⁹, and as imparting meaning to each other. Unlike other provisions of the *SCM Agreement*—including those relating to "benefit" (Articles 1.1(b) and 14) and "export contingent" subsidies (Article 3.1(a)), which set out a non-exhaustive list of terms that inform the breadth of these terms—the closed list of transactions included in the definition of "financial contribution" in Article 1.1(a)(1) is structured so that a transaction that does not fall within one of the listed categories is not covered by the Agreement. For the United States, there must be precision with respect to which subparagraph the specific transaction falls under, as this has repercussions for other aspects of a subsidy analysis, such as benefit under Article 14, and specificity under Article 2.1.

102. The United States considers "misplace{d}"²¹⁰ the European Union's reliance on a statement by the panel in *Japan – DRAMs (Korea)* that certain transactions could be covered by more than one of the subparagraphs in Article 1.1(a)(1). While the Panel did acknowledge the possibility of overlap, it did not find this to be the case with respect to purchases of "goods". As the European Communities' argument regarding "purchase of services" necessarily implied such an overlap, it "could not stand".²¹¹ Therefore, the example of equity infusions provided by the European Union to illustrate that a transaction can fall into two categories is "simply irrelevant"²¹² to the case of purchases of goods. The United States disagrees in any event that transactions involving equity infusions qualify as both purchases of goods and direct transfers of funds, because it does not accept the European Union's

²⁰⁷See Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 301; Appellate Body Report, *US – Countervailing Duty Investigation on DRAMS*, para. 115; and Appellate Body Report, *US – Softwood Lumber IV*, para. 64.

²⁰⁸United States' appellee's submission, para. 158.

²⁰⁹Panel Report, para. 7.955.

²¹⁰United States' appellee's submission, para. 163 (referring to European Union's appellant's submission, para. 115, in turn referring to Panel Report, *Japan – DRAMs (Korea)*, para. 7.439).

²¹¹United States' appellee's submission, para. 165.

²¹²United States' appellee's submission, para. 166.

reading of the Appellate Body's findings in *US – Softwood Lumber IV* to mean that "ownership rights can be considered 'goods'".²¹³ Furthermore, Articles 14(a) and 14(d), which provide two "separate and distinct" guidelines for calculating the amount of subsidy for equity capital and purchases of goods, respectively, "demonstrate{ } that the meanings of these two terms are clearly distinct in the context of the SCM Agreement", and that an equity infusion can fall only within a single category.²¹⁴

103. The United States supports the Panel's conclusion that categorizing "direct transfers of funds" as encompassing "purchases {of} goods" would render the explicit reference in subparagraph (iii) "redundant and inutile"²¹⁵, an outcome not permitted by the rules of treaty interpretation. The European Union attempts to avoid the conclusion of inutility by positing that the term "purchases {of} goods" covers transactions that would otherwise fall outside the *SCM Agreement*, such as where the government promises to exercise preferential treatment in exchange for a private company's provision of goods.²¹⁶ In the United States' view, this does not provide a basis to ascribe an independent meaning to the term "purchases {of} goods".²¹⁷ The United States questions whether this would be a "purchase" at all, since the European Union provides no evidence that such transactions occur or that the drafters wished to cover them.

104. The United States further asserts that the European Union's interpretation ignores the object and purpose of the *SCM Agreement*, which "reflects a delicate balance between the Members that sought to impose more disciplines on the use of subsidies and those that sought to impose more disciplines on the application of countervailing measures".²¹⁸ The United States does not agree with the European Union's characterizations of previous Appellate Body statements regarding the object and purpose of the *SCM Agreement*, because they result in "a one-sided evaluation of disciplines on subsidies that would disregard or minimize provisions that ... 'recogniz{e} ... the right of Members to impose such measures under certain conditions'."²¹⁹

²¹³United States' appellee's submission, para. 167 (quoting European Union's appellant's submission, para. 116, in turn referring to Appellate Body Report, *US – Softwood Lumber IV*, paras. 46-76).

²¹⁴United States' appellee's submission, para. 168.

²¹⁵Panel Report, para. 7.956.

²¹⁶United States' appellee's submission, para. 170 (referring to European Union's appellant's submission, para. 117).

²¹⁷United States' appellee's submission, para. 172.

²¹⁸United States' appellee's submission, para. 173 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 301, in turn quoting Appellate Body Report, *US – Countervailing Duty Investigation of DRAMS*, para. 115).

²¹⁹United States' appellee's submission, para. 173 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 301; and Appellate Body Report, *US – Softwood Lumber IV*, para. 64).

105. The United States disagrees that the Panel's analysis creates the "loopholes" envisaged by the European Union. Rather, the Panel was aware of the risk that Members would characterize their transactions as "purchases of services" in order to avoid the disciplines under the *SCM Agreement*, and expressed confidence that this would be detected by WTO panels and investigating authorities.²²⁰ The concerns relating to circumvention do not arise here because the focus is only on transactions "properly characterized" as "purchases of services".²²¹ The United States also notes the European Union's argument that the Panel's analysis would allow Members to avoid the *SCM Agreement* by asking for a service from a goods producer "in exchange for ... a transfer of funds, foregoing of government revenue otherwise due, or provision of goods and services".²²² The United States is not convinced that these "scenarios"²²³ present a threat of circumvention.

106. In the case of the scenario in which the government provides a service in exchange for a "transfer of funds", the United States denies that "circumvention" would occur, because the resulting transaction would either: (i) not be a financial contribution (because it constitutes a "purchase of services"); (ii) be some other type of financial contribution (such as a grant with incidental services); or (iii) be a net transfer of funds to the government, which is not covered by the *SCM Agreement*.²²⁴ Regarding the scenario involving a supply of services in exchange for a government's foregoing of revenue otherwise due, the United States notes that this could be a transaction properly characterized as a "purchase of services", or a financial contribution with an "incidental service", but that such a determination would depend on a detailed consideration of the facts.²²⁵ Finally, with respect to the scenario in which a government provides goods and services in exchange for a supply of goods by a producer, the United States refers to the Panel's findings elsewhere in its Report that such transactions constitute "provision", rather than "purchases", of services, making the European Union's concerns about circumvention "{un}realistic".²²⁶

107. Therefore, the United States requests the Appellate Body to uphold the Panel's finding that transactions properly characterized as "purchases of services" are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement*.

²²⁰United States' appellee's submission, para. 175 (referring to Panel Report, para. 7.960).

²²¹United States' appellee's submission, para. 175 (quoting Panel Report, para. 7.960 (original emphasis)).

²²²European Union's appellant's submission, para. 119.

²²³United States' appellee's submission, para. 178.

²²⁴See United States' appellee's submission, paras. 179-182.

²²⁵United States' appellee's submission, para. 183.

²²⁶United States' appellee's submission, para. 184.

3. Specificity – Allocation of Patent Rights

108. The United States notes that the European Union does not dispute the Panel's statement that "the allocation of patent rights is uniform under all ... U.S. government departments and agencies, for all enterprises in all sectors".²²⁷ According to the United States, that should be the end of the analysis under Article 2.1(a) of the *SCM Agreement*. Contrary to what the European Union argues, nothing in the *SCM Agreement* supports the notion that uniform treatment becomes specific when individual government agencies, such as NASA and the USDOD, accord such treatment pursuant to contracts and agreements subject to agency-specific procedural rules.²²⁸

109. The United States also observes that, although the Panel came to its decision before the Appellate Body issued its reports in *US – Anti-Dumping and Countervailing Duties (China)* and *EC and certain member States – Large Civil Aircraft*, the Panel's analysis "follows the lines laid out in those reports".²²⁹ The Panel properly considered all of the legal instruments at all government levels and conducted a "detailed evaluation"²³⁰, examining each instrument individually and considering it as part of a broader "framework".²³¹ It further examined whether the authorities or the legislation imposed limitations on access to the alleged subsidy, and found that they did not. Lastly, in the United States' view, the Panel concluded—albeit without using these precise words—that "evidence under consideration unequivocally indicates ... non-specificity by reason of law"²³² under Article 2.1(a), rendering further analysis unnecessary.

110. The United States asserts that the European Union misinterprets Article 2.1 of the *SCM Agreement* in calling for an analysis based on a subset of the US legislation related to the challenged financial contributions. The "fundamental flaw" in the European Union's approach is its insistence that, under Article 2.1(a), "the only 'granting authority' for purposes of the specificity analysis is the entity that directly conferred the alleged financial contribution to the alleged recipient."²³³ If multiple authorities participate in the process of granting the subsidy, nothing in the text of Article 2.1(a) prevents a panel from considering all of them to be collectively "the granting authority". The United States asserts that the European Union also errs in failing to recognize that

²²⁷Panel Report, para. 7.1276.

²²⁸United States' appellee's submission, para. 115.

²²⁹United States' appellee's submission, para. 124.

²³⁰United States' appellee's submission, para. 126.

²³¹Panel Report, para. 7.1293.

²³²United States' appellee's submission, para. 126 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 371; and Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 945).

²³³United States' appellee's submission, para. 128.

Article 2.1(a) "does not restrict the analysis to the granting authority *or* the legislation", but rather "allows a consideration of both, as appropriate".²³⁴

111. The United States agrees with the European Union on the ordinary meaning of the term "granting authority"²³⁵, but it rejects the European Union's conclusion that "granting authority" means only the governmental entity that executed the document conferring the financial contribution underlying the subsidy. The European Union fails to address the full definition of the word "authority", which may entail "*one or more of 't}hose in power or control' of the alleged subsidy*".²³⁶ The context provided by Article 1.1(a)(1) of the *SCM Agreement*—which refers to "government or any public body"—confirms the previous conclusion. Article 2.1 of the *SCM Agreement* frames the specificity analysis in different terms, because it refers to the "granting authority". This change in terminology "moves the focus of the analysis to the 'authority' responsible for granting the subsidy and away from the mechanical act of making the contribution".²³⁷ In response to the European Union's contention that a Member cannot be a granting authority because the *SCM Agreement* uses the term "Member" in some contexts and "authority" in others, the United States argues that the term "authority" is "conceptually broader"—it can cover one entity or multiple entities at a variety of levels—whereas "Member" "refers exclusively to the Member as a whole".²³⁸

112. The United States rejects the proposition that Article 2.1(a) creates a binary, one-or-the-other choice between "the granting authority" and "the legislation pursuant to which the granting authority operates". Instead, the United States considers that the term "granting authority" calls for "an examination, as appropriate, of the authority, the legislation, or both".²³⁹ In addition, the United States rejects the European Union's assertion that the Panel based its conclusion regarding non-specificity on "an overall 'policy' related to intellectual property rights in government

²³⁴United States' appellee's submission, para. 128. (original emphasis) The United States notes that the Appellate Body has emphasized that the use of the term "principles"—instead of, for instance, "rules"—in the chapeau of Article 2.1 "suggests that subparagraphs (a) through (c) are to be considered within an analytical framework that recognizes and accords appropriate weight to each principle". (*Ibid.*, para. 132 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 366; and Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 942))

²³⁵United States' appellee's submission, para. 129 (referring to European Union's appellant's submission, para. 72).

²³⁶United States' appellee's submission, para. 129 (quoting *The New Shorter Oxford English Dictionary*, 4th edn, L. Brown (ed.) (Clarendon Press, 1993), Vol. 1, p. 151). (emphasis added by the United States) The United States also notes that the Appellate Body reached essentially the same conclusion when it found in *US – Anti-Dumping and Countervailing Duties (China)* that, in considering specificity under Article 2.1(a), "a proper factual analysis" is "based on the totality of evidence, *at all levels of government*" (*Ibid.*, para. 129 (quoting Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 400) (emphasis added by the United States))

²³⁷United States' appellee's submission, para. 130.

²³⁸United States' appellee's submission, para. 131.

²³⁹United States' appellee's submission, para. 132.

contracts".²⁴⁰ The Panel based its conclusion on legal requirements and nothing in its reasoning suggests that a WTO Member could rely, as the European Union fears, on a general policy "to defeat specificity for differential treatment among sectors".²⁴¹

113. With respect to the European Union's arguments regarding NASA, the United States notes that, if the European Union means to suggest that "the Space Act and its implementing regulations are the *only* legislation pursuant to which NASA operates, it is wrong."²⁴² Instead, NASA operates pursuant to additional measures—the Patent and Trademark Law Amendments Act of 1980²⁴³ (the "Bayh-Dole Act"), the 1983 Presidential Memorandum²⁴⁴, and the 1987 Executive Order²⁴⁵—and these instruments "form part of the 'legislation' that can indicate specificity or non-specificity for purposes of Article 2.1(a)".²⁴⁶ The European Union identifies nothing in the *SCM Agreement* "that precludes consideration of the full spectrum of measures affecting an authority's grant of a subsidy".²⁴⁷ The European Union erroneously focuses on the "granting authority" as opposed to the subsidy and limitations on access to it. The United States notes that the NASA contracts and waiver instruments do not "limit access"²⁴⁸ to the alleged subsidy to Boeing or the aerospace industry. Other enterprises in other industries can have access to the same rights through contracts with other agencies. The United States further submits that "{t}he mere fact that the {European Communities} addressed two agencies {did} not preclude the Panel from addressing the availability of identical treatment throughout the U.S. government."²⁴⁹

114. With respect to the USDOD, the United States asserts that the European Union's "attempts to paint the allocation of patent rights ... as specific are even more invalid than its arguments regarding NASA, because {US}DOD does not even have its own laws and regulations in this area."²⁵⁰ The USDOD follows the general regulations applicable to all agencies under *United States Code of Federal Regulations*, Title 48, sections 27.300-27.306.²⁵¹ The USDOD's role in entering into contracts "does not mean that it is the sole granting authority, or that it limits access to the alleged

²⁴⁰United States' appellee's submission, para. 133 (quoting European Union's appellant's submission, para. 70).

²⁴¹United States' appellee's submission, para. 134.

²⁴²United States' appellee's submission, para. 137. (original emphasis)

²⁴³Codified at *United States Code*, Title 35, chapter 18, sections 200-212 (Patent Rights in Inventions Made with Federal Assistance) (Panel Exhibit EC-558).

²⁴⁴Memorandum to the Heads of Executive Departments and Agencies: Government Patent Policy, Public Papers 248, 18 February 1983 (Panel Exhibit EC-560).

²⁴⁵Executive Order 12591, Facilitating Access to Science and Technology, 10 April 1987 (Panel Exhibit EC-561).

²⁴⁶United States' appellee's submission, para. 137. (footnote omitted)

²⁴⁷United States' appellee's submission, para. 137.

²⁴⁸United States' appellee's submission, para. 139.

²⁴⁹United States' appellee's submission, para. 140.

²⁵⁰United States' appellee's submission, para. 142.

²⁵¹(Patent Rights under Government Contracts) (Panel Exhibit EC-559).

subsidy ... from other agencies in other sectors".²⁵² Nor does it mean that "the legislation pursuant to which the patent rights allocation occurs is {}specific".²⁵³ The USDOD is, like all agencies, "required to allow its contractors to 'retain' title to inventions"²⁵⁴, and it may only do otherwise "in exceptional circumstances".²⁵⁵ The exception, however, does not change the analysis under Article 2.1(a), because "all agencies have the same authority".²⁵⁶ The European Union's arguments "provide no support for considering specificity in isolation for each agency"²⁵⁷, and hence provide no basis for the Appellate Body to reverse the Panel's findings on specificity.

115. At the oral hearing, the United States rejected the European Union's argument that the Panel erred in not addressing its assertions of *de facto* specificity under Article 2.1(c) of the *SCM Agreement*. In the United States' view, there was no relevant argument for the Panel to address. Article 2.1(c) frames the specificity analysis in terms of whether there was "the granting of disproportionately large amounts of subsidy to certain enterprises".²⁵⁸ Accordingly, disproportionality depends on the subsidy, and not on particular granting authorities. The European Union's assertions covered only NASA and USDOD contracts, which did not provide any information with regard to the subsidy as granted by other entities, and hence did not contain any relevant information for purposes of the assessment of disproportionality.

4. Adverse Effects

116. The United States contends that the European Union's two grounds of appeal relating to the Panel's decision not to aggregate the effects of certain groups of subsidies "lack merit".²⁵⁹ The European Union's "extremely broad interpretation"²⁶⁰ of Articles 5 and 6.3 of the *SCM Agreement*, which amounts to requiring cumulative assessment in all cases, is inconsistent with the text of these provisions, as well as with the Appellate Body's previous interpretation of these provisions.

(a) Collective assessment of the aeronautics R&D subsidies and the B&O tax rate reductions and their effects

117. The United States submits that the Panel properly assessed the effects of the aeronautics R&D subsidies separately from those of the B&O tax rate reductions. The Panel's approach is permissible

²⁵²United States' appellee's submission, para. 143.

²⁵³United States' appellee's submission, para. 143.

²⁵⁴United States' appellee's submission, para. 144. (original emphasis)

²⁵⁵*United States Code*, Title 35, chapter 18, section 202 (Disposition of rights) (Panel Exhibit US-137).

²⁵⁶United States' appellee's submission, para. 144. (original emphasis)

²⁵⁷United States' appellee's submission, para. 147.

²⁵⁸United States' oral statement at the first session of the oral hearing.

²⁵⁹United States' appellee's submission, para. 187.

²⁶⁰United States' appellee's submission, para. 190.

under Articles 5 and 6.3 of the *SCM Agreement* and consistent with the Appellate Body's interpretation of these provisions, which affirms that panels enjoy "a certain degree of discretion in selecting an appropriate methodology" for determining adverse effects, and that the "appropriateness of a particular method may have to be determined on a case-specific basis".²⁶¹ The United States also points out that, although the European Union repeatedly relies upon the report of the panel in *US – Upland Cotton*, that panel declined to aggregate non-price-contingent subsidies with price-contingent subsidies because the former were "of a different nature, and thus effect".²⁶²

118. The United States considers that, in this dispute, given the argumentation and evidence before it concerning the fundamentally different natures of the aeronautics R&D subsidies and the B&O tax rate reductions, the Panel selected an appropriate methodology based on "the nature, design, and operation of the subsidies at issue, the alleged market phenomena, and the extent to which the subsidies are provided in relation to a particular product or products".²⁶³ The Panel structured its adverse effects analysis in the light of the European Communities' allegations about the nature of the various subsidies and their effects on Boeing's commercial behaviour. Before the Panel, the European Communities drew a "categorical distinction"²⁶⁴ between subsidies alleged to reduce Boeing's marginal unit costs and all other subsidies at issue, and never alleged that the B&O tax rate reductions had any "technology" or other effect on Boeing's ability to launch the 787 in 2004. The Panel properly assessed the effects of these two groups of subsidies separately, and properly considered that "it is clear that the two groups of subsidies operate through entirely distinct causal mechanisms".²⁶⁵

119. The United States adds that the Panel's approach accords with the views of the Appellate Body in *EC and certain member States – Large Civil Aircraft*. In that case, the Appellate Body identified two methodologies that seek to account for the combined effects of multiple subsidies: (i) an "aggregate" assessment, in which the effects of multiple subsidies are assessed collectively and simultaneously; and (ii) a "complementary" assessment, in which the effects of one group of very similar subsidies are analyzed first and then, if that first group of subsidies has a "genuine and substantial" causal relationship with the alleged market phenomena, discerning whether a second group of subsidies has a "genuine causal connection" with the same market phenomena, such that the second group "complement{s} or supplement{s}" the first.²⁶⁶ The Appellate Body endorsed the

²⁶¹ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376.

²⁶² Panel Report, *US – Upland Cotton*, para. 7.1307.

²⁶³ United States' appellee's submission, para. 196 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376).

²⁶⁴ United States' appellee's submission, para. 197.

²⁶⁵ Panel Report, para. 7.1824.

²⁶⁶ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1378 and 1379.

panel's application of the latter methodology, while stressing the need to establish a "genuine causal connection" for each subsidy.²⁶⁷ The United States understands the Appellate Body as having considered that both methodologies for assessing the effects of multiple subsidies should focus on discerning whether the various subsidies operate through the same causal mechanism to cause adverse effects, and recognized the importance of ensuring that subsidies with little or no causal relationship are not found to cause adverse effects simply because they are grouped together with subsidies that do have a genuine and substantial causal connection with the alleged effects. In the case at hand, the Panel aggregated all subsidies alleged to operate through the causal mechanism of enhancing Boeing's ability to launch the 787, namely, the aeronautics R&D subsidies. Since the Panel did not find that the aeronautics R&D subsidies have the "price effects" of causing Boeing to reduce the sales price of the 787, and since the B&O tax rate reductions, by their nature, design, and operation, did not, and were not, alleged to have affected Boeing's launch of the 787, the United States submits that the Panel properly did not include them in its analysis of the effects of the aeronautics R&D subsidies.

120. The United States argues that there is no support for the "extremely broad interpretation" of Articles 5 and 6.3 of the *SCM Agreement* proposed by the European Union, which amounts to an argument that "these provisions require a cumulative assessment *in all cases*".²⁶⁸ Such a rule is not supported by the text of Articles 5 and 6.3 and is inconsistent with the Appellate Body's interpretation of these provisions in prior cases. The United States points out that the reference in Article 5 to "any subsidy" and the references in each of the subparagraphs of Article 6.3 to "the effect of the subsidy" are in the singular form. This reflects the requirement that a "genuine and substantial relationship of cause and effect" or a "genuine causal connection" must be established between any particular subsidy found to exist and any adverse effect found to exist²⁶⁹, rather than the European Union's suggestion that "these provisions discipline the *collective* impact of *any and all* subsidies benefiting the subsidised product in the market at issue".²⁷⁰ Although it may be true that "{t}he text of {Articles 5 and 6.3 of the *SCM Agreement*}" does not even refer to any 'mechanism' or manner in which subsidies cause adverse effects²⁷¹, it is equally true that the text of these provisions does not refer to subsidies that complement and supplement the "product effect" of other subsidies. Nevertheless, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body found that it was permissible for the

²⁶⁷United States' appellee's submission, para. 200 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1378 and 1379).

²⁶⁸United States' appellee's submission, para. 203 (referring to European Union's appellant's submission, paras. 205 and 206). (original emphasis)

²⁶⁹United States' appellee's submission, para. 204 (referring to Appellate Body Report, *US – Upland Cotton*, para. 438; and Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1376 and 1378).

²⁷⁰European Union's appellant's submission, para. 205. (original emphasis)

²⁷¹European Union's appellant's submission, para. 207.

panel to examine whether multiple subsidies complement and supplement a particular "product effect" in its analysis of adverse effects.²⁷² The United States recalls, in this regard, that "Article 6.3(c) requires the establishment of a causal link between the subsidies and the particular market situations being claimed under that provision"²⁷³, but the precise methodology to be used to establish such a causal link is not specified in the *SCM Agreement*.

121. The United States adds that the European Union's proposed interpretation is at odds with the Appellate Body's finding in *EC and certain member States – Large Civil Aircraft*, and would undermine the "methodological discretion"²⁷⁴ that panels enjoy in their analysis of adverse effects and overlook the case-specific nature of the determination as to whether a cumulative assessment is appropriate. Such a determination "depend{s} on a number of factors and factual circumstances such as the nature, design, and operation of the subsidies at issue, the alleged market phenomena, and the extent to which the subsidies are provided in relation to a particular product or products".²⁷⁵ The United States underlines in this regard that, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body found that the panel "was required to find more than simply that two or more subsidies 'support{ed} the same subsidised product and negatively impact{ed} competition in the market at issue'.²⁷⁶ The United States understands the Appellate Body as having found that the panel was required to establish that the non-LA/MSF subsidies had a "genuine causal link" with the same causal mechanism through which the LA/MSF operated (Airbus' ability to launch its LCA models) so as to cause the alleged adverse effects in a way *similar to* the LA/MSF subsidies.²⁷⁷ For all of these reasons, the United States submits that the Appellate Body should reject the European Union's "one-size-fits-all analytical approach"²⁷⁸ whereby aggregation or cumulation is required in all cases.

²⁷²United States' appellee's submission, para. 207 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1378 and 1381-1409).

²⁷³United States' appellee's submission, para. 207 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1231).

²⁷⁴United States' appellee's submission, para. 208.

²⁷⁵United States' appellee's submission, para. 209 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376).

²⁷⁶United States' appellee's submission, para. 210 (quoting European Union's appellant's submission, para. 206; and referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376).

²⁷⁷United States' appellee's submission, para. 210. The United States quotes the following statement of the Appellate Body in paragraph 1379 of its report in *EC and certain member States – Large Civil Aircraft*: "[T]he Panel's approach to the analysis of causation did not absolve it from establishing a genuine causal link between the different categories of non-LA/MSF subsidies and Airbus' ability to launch and bring to market its LCA models, thereby *similarly causing* the displacement and significant lost sales of Boeing LCA during the reference period". (emphasis added by the United States)

²⁷⁸United States' appellee's submission, para. 211.

- (b) Collective assessment of the tied tax subsidies and the remaining subsidies and their effects

122. The United States argues that the Panel did not err in declining to aggregate the remaining subsidies and the tied tax subsidies in its analysis of adverse effects. Accordingly, the Appellate Body should reject the European Union's request to reverse the Panel's finding that the remaining subsidies do not cause adverse effects, as well as its further request that the Appellate Body find that, when aggregated with the tied tax subsidies (or the aeronautics R&D subsidies), the remaining subsidies also cause adverse effects. The United States observes that, implicit in this request to complete the analysis is a request that the Appellate Body find that the remaining subsidies have led Boeing to offer particular price reductions for particular subsidized products, yet the European Union does not identify any factual findings or undisputed facts that would support such a finding. Nor does the European Union's Notice of Appeal contain a request that the Appellate Body complete the analysis with respect to this Panel finding.

123. In the view of the United States, the European Union grounds its appeal on two flawed arguments. The first incorrectly relies on the panel reports in *US – Upland Cotton* and *EC and certain member States – Large Civil Aircraft*, and the second incorporates by reference the flawed interpretation of Articles 5 and 6.3 of the *SCM Agreement* as requiring the collective assessment of "any and all subsidies benefiting the subsidised product in the market at issue".²⁷⁹ In response to the latter of these arguments, the United States relies upon its response, summarized above, to the European Union's proposed interpretation of these provisions in the context of its appeal of the Panel's decision not to aggregate the effects of the aeronautics R&D subsidies with the effects of the B&O subsidies in the 200-300 seat LCA market.

124. The United States observes that the European Union cites to the panel in *US – Upland Cotton*, which found that an "integrated examination of effects of any subsidies" was permitted in circumstances where subsidies had "a sufficient nexus" with (i) "the subsidized product" and (ii) "the particular effects-related variable under examination"²⁸⁰, and asserts that "{t}he Remaining Subsidies in this dispute fulfil these requirements".²⁸¹ The United States characterizes such an assertion as "incorrect"²⁸² for two main reasons. First, no sufficient nexus between the remaining subsidies and the subsidized products has been established. Based on the arguments of the European Communities, the Panel identified three separate groups of subsidized products. The Panel found that the remaining

²⁷⁹European Union's appellant's submission, para. 205. (original emphasis)

²⁸⁰European Union's appellant's submission, para. 227 (quoting Panel Report, *US – Upland Cotton*, para. 7.1192).

²⁸¹European Union's appellant's submission, para. 228.

²⁸²United States' appellee's submission, para. 213.

subsidies, "unlike the {tied} tax subsidies ... are not directly related to Boeing's production or sale of LCA"²⁸³, and the European Union itself concedes that the remaining subsidies are not tied to the production of Boeing LCA. The mere fact that the remaining subsidies were received by Boeing's LCA division says very little about the existence of any nexus between the subsidies and any of the three groups of subsidized products and, as the United States argued before the Panel, "the ways in which Boeing supposedly used the alleged subsidies is critical to its causation arguments"; "{y}et that 'evidence' is essentially non-existent".²⁸⁴ Furthermore, the Panel never agreed with the European Communities' contention that the remaining subsidies confer the equivalent of additional cash flow. Second, the remaining subsidies do not impact the same "effects-related variable" as the tied tax subsidies—namely, price. The Panel rejected both bases underpinning the European Communities' causation theory for the price effects of the remaining subsidies and other non-recurring subsidies—that is, (i) the Cabral price effects model²⁸⁵ and (ii) the European Communities' arguments that Boeing would not have been economically viable without the subsidies.²⁸⁶ The United States points out that the Panel did, however, correctly take into account its findings on the nature and magnitude of the remaining subsidies in assessing their effects and in reaching the conclusion that the evidence was simply insufficient to support the allegation that the remaining subsidies have an impact on the price of any subsidized product.

125. The United States further rejects the European Union's attempt to rely upon a statement by the panel in *EC and certain member States – Large Civil Aircraft* as support for the proposition that "a panel must not segregate its adverse effects analysis so that it cannot take account of the combined market effect of subsidies that collectively enhance Boeing's cash flow and its ability to price down LCA."²⁸⁷ The United States stresses that the Panel did not find that the remaining subsidies or the tied tax subsidies "enhance Boeing's cash flow", much less that they do so "collectively", and that the Panel rejected all of the European Communities' arguments that the remaining subsidies "enhance" Boeing's "ability to price down LCA".²⁸⁸ This contrasts sharply with the situation in *EC and certain member States – Large Civil Aircraft* where the Appellate Body upheld that panel's findings that the non-LA/MSF subsidies complemented and supplemented the effects of the LA/MSF subsidies. The circumstances of this dispute are, in fact, more comparable to those where the Appellate Body

²⁸³Panel Report, para. 7.1827.

²⁸⁴See Panel Report, footnote 3786 to para. 7.1828 (referring to United States' comments on the European Communities' response to Panel Question 301, paras. 601 and 602).

²⁸⁵Panel Report, para. 7.1832. The Cabral model is explained in detail in Appendix VII.F.2 of the Panel Report, p. 757.

²⁸⁶Panel Report, para. 7.1831.

²⁸⁷United States' appellee's submission, para. 217 (quoting European Union's appellant's submission, para. 226).

²⁸⁸United States' appellee's submission, para. 218 (quoting Panel Report, paras. 7.1829-7.1832).

reversed the *EC and certain member States – Large Civil Aircraft* panel because "a general finding that they enabled Airbus to develop 'features and aspects' of its LCA on a schedule that otherwise it would have been unable to accomplish does not provide a sufficient basis to determine that {research and technological development ("R&TD")} subsidies 'complemented and supplemented' the 'product effect' of LA/MSF in enabling Airbus to launch particular models of LCA."²⁸⁹ Similarly, here, the European Communities' general allegation that the remaining subsidies "constitute the functional equivalent of additional cash flow available to Boeing's LCA division"²⁹⁰—which the Panel did not accept—could not have provided a sufficient basis to determine that those subsidies complement and supplement the effect of the tied tax subsidies in enabling Boeing to reduce the price of each aircraft it manufactures and sells. Thus, submits the United States, the approach taken by the Appellate Body in *EC and certain member States – Large Civil Aircraft* confirms that the Panel in this case was correct to decline to aggregate the tied tax subsidies and the remaining subsidies.

5. Article 11 of the DSU

126. The United States further contends that the Panel acted consistently with its obligations under Article 11 of the DSU when it found that it was unable to determine whether certain USDOD RDT&E subsidies cause the alleged adverse effects.

127. The United States submits that the European Union's allegation that the Panel should have afforded it an opportunity to respond to the Panel's approach or to seek necessary information from the United States is without merit. As an initial matter, parties are not entitled to make comments on the panel's revisions to its interim report because, otherwise, "the interim review stage {would turn} into a potentially indefinite cycle of comments and changes".²⁹¹ In any event, the United States maintains that, in this case, the European Communities had all the opportunities it needed to make its *prima facie* case, since the Panel afforded the parties the opportunity to comment on the Interim Report, and addressed such comments in the Final Report, in accordance with Article 15.3 of the DSU.

²⁸⁹ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1407.

²⁹⁰ European Union's appellant's submission, para. 228.

²⁹¹ United States' appellee's submission, para. 223.

128. Moreover, the United States contends that the Panel's approach was not "unexpected"²⁹² or "surprising"²⁹³, because the European Communities had "clear notice"²⁹⁴ that the USDOD RDT&E programmes funded different categories of contracting instruments that could be treated differently under Article 1 of the *SCM Agreement*. Several of the Panel's questions to the parties show the Panel's concern over the different legal implications of the divergences among the categories of legal instruments underlying the alleged subsidies. Thus, the Panel conducted an objective assessment of the arguments and evidence submitted by the parties and, having found that assistance instruments, but not procurement contracts, were "specific" subsidies, the Panel correctly concluded that it could only make adverse effects findings on those USDOD RDT&E programmes for which it had discernible evidence of the effects of the assistance instruments—namely, the ManTech and DUS&T programmes. The European Union misunderstands the Panel's analysis in arguing that the Panel limited its findings to two USDOD RDT&E programmes. Rather, the Panel made it clear that its analysis of adverse effects was in respect of all the RDT&E programmes, but that the European Communities failed to adduce arguments or evidence with respect to the effects of the subsidies under all but two of the USDOD RDT&E programmes at issue.

129. The United States asserts that the Panel was under no obligation under Article 13 of the DSU "to develop information on behalf of the complaining party".²⁹⁵ In addition, the United States did not fail to cooperate with the information-gathering process, because it complied with the relevant decisions and rulings by the DSB under Annex V to the *SCM Agreement*, and discussed at great length throughout the Panel proceedings individual procurement contracts and assistance instruments. Furthermore, the Panel did ask numerous questions about the differences between the legal instruments funded pursuant to the USDOD RDT&E programmes at issue. The European Union, again, misunderstands the Panel's adverse effects finding when faulting the Panel for not requesting specific contracts from the United States. As the United States sees it, the Panel did not need "more contracts" but, rather, more evidence from the European Communities relating to the effects of the assistance instruments that the United States had placed on the record "years earlier".²⁹⁶

²⁹²European Union's appellant's submission, para. 244.

²⁹³European Union's appellant's submission, para. 247.

²⁹⁴United States' appellee's submission, para. 227.

²⁹⁵United States' appellee's submission, para. 239.

²⁹⁶United States' appellee's submission, para. 243.

C. *Claims of Error by the United States – Other Appellant*

1. NASA Procurement Contracts and USDOD Assistance Instruments

(a) Financial contribution – Application of the "purchase of services" test

(i) NASA

130. The United States requests the Appellate Body to reverse the Panel's application of its "purchase of services" test to the procurement contracts entered into between NASA and Boeing for aeronautics R&D and the Panel's ultimate finding that the transactions are not "purchases of services". The United States' appeal is twofold. First, the United States asserts that the Panel erred in the application of its "purchase of services" test to the facts of the case. Second, the United States argues that, in its consideration of the evidence, the Panel failed to make an "objective assessment of the matter" under Article 11 of the DSU. In the event of reversal of the Panel's finding on one or both of these grounds, the United States does not seek completion of the analysis given the complexity and disputed nature of the facts on the Panel record.

131. The United States agrees with the test laid down by the Panel for identifying a transaction involving a government's purchase of services. The United States does not dispute that, in order to determine whether a transaction involves a purchase of services, it must be determined whether the object of the transaction was "principally for the benefit and use"²⁹⁷ of the private entity or of the government (or unrelated third parties). Although the United States disagrees with the Panel's use of "an inapposite definition for the term 'service'"²⁹⁸, it does not consider that the use of such a definition affected the Panel's overall conclusion. Nonetheless, in order "to avoid future confusion"²⁹⁹, the United States requests the Appellate Body to clarify the Panel's reasoning by using a more appropriate definition of the word "service".

132. The United States highlights that the Panel's test "necessitates comparative analysis", since "{r}eaching a conclusion as to whether the government has paid for services 'principally' for the use and benefit of the recipient, as opposed to the use and benefit to the government (or unrelated third parties) requires a comparison of how each party to the transaction could actually use or benefit from the research."³⁰⁰

²⁹⁷Panel Report, para. 7.978.

²⁹⁸United States' other appellant's submission, para. 23; see also para. 19.

²⁹⁹United States' other appellant's submission, para. 23.

³⁰⁰United States' other appellant's submission, para. 23.

133. Absent consideration of what both parties to the research transactions received, it is impossible to reach a reasoned conclusion as to whether the benefit and use of the research is *principally* for one side or the other. According to the United States, the Panel looked exclusively at the benefit and use of NASA's research to Boeing, without addressing the benefit and use to the government or third parties unrelated to Boeing. However, this "one-sided"³⁰¹ approach failed to follow the legal test that the Panel correctly found to be necessary and, accordingly, failed to establish a "financial contribution" for purposes of Article 1.1(a)(1) of the *SCM Agreement*, the treaty text that the Panel sought to apply.

134. According to the United States, the NASA programmes and contracts before the Panel had the objective of expanding foundational aeronautics knowledge for the broader scientific community in the United States and other countries, and not only for Boeing. However, the Panel erred by focusing narrowly on two of NASA's statutory objectives, while ignoring the fact that a significant portion of NASA's aeronautics research went to objectives of "undeniable government use".³⁰² Second, even though the Panel noted that almost all of the transactions between NASA and Boeing took the form of procurement contracts—as opposed to assistance instruments—it nevertheless concluded that this did not "shed very much light on the nature of the transactions".³⁰³ Third, the Panel did not discuss the evidence on record showing that NASA and unrelated third parties benefited from the aeronautics R&D conducted by Boeing. Fourth, the Panel likewise failed to engage in a comparative analysis of the benefit and use of the resulting intellectual property rights to the parties on either side of the transactions. Lastly, when addressing whether the transactions at issue "involve the typical elements of a purchase of services"³⁰⁴, the Panel erred by focusing only on whether the contracts provided for a fee, while never addressing "*other* typical elements of a purchase, such as the existence of a value-for-value exchange".³⁰⁵

135. The United States further asserts that the Panel's finding that the access provided to Boeing to NASA facilities, equipment, and employees under the R&D contracts was a financial contribution must fail along with its finding regarding the contracts themselves. The Panel provided no explanation for this finding. The United States submits, moreover, that recognizing that the NASA R&D contracts at issue were purchases of services leads to the conclusion that any access to NASA facilities, equipment, and employees was "incidental"³⁰⁶ to that purchase.

³⁰¹United States' other appellant's submission, para. 13. See, more generally, paras. 16-37.

³⁰²United States' other appellant's submission, para. 25.

³⁰³Panel Report, para. 7.984.

³⁰⁴Panel Report, para. 7.1026.

³⁰⁵United States' other appellant's submission, para. 36. (original emphasis)

³⁰⁶United States' other appellant's submission, para. 39.

136. In addition to alleging an error of application, the United States asserts that the Panel failed to make an objective assessment of the matter under Article 11 of the DSU in its evaluation of the "benefit and use" of the research under the contracts at issue. The United States claims that the Panel erred, first, by failing to consider evidence regarding NASA's objectives in its assessment of the "benefit and use" to Boeing and the government and unrelated third parties³⁰⁷; and, second, by failing to consider other objective evidence of the usefulness of the aeronautics R&D programmes to the government and unrelated third parties.³⁰⁸

137. The United States recalls the Panel's emphasis on two of the nine Space Act's stated objectives, namely, the "preservation of the role of the United States as a leader in aeronautical and space science and technology" and the "preservation of the United States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes".³⁰⁹ The United States observes, however, that there are other objectives of the Space Act to which the Panel did not give adequate consideration—such as "{t}he expansion of human knowledge of the Earth and of phenomena in the atmosphere and space"³¹⁰—which are critical to understanding the use and benefit for the government and the broader community. In the view of the United States, the Panel gave "inadequate consideration" to the objective "{t}he improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles".³¹¹ The United States explains that NASA's activities in this area—including research undertaken by Boeing—are for the use and benefit of the government, because they improve air travel safety, make air traffic management more efficient, and discover ways to reduce the environmental impact of air travel. As several official statements demonstrate, "NASA did not see these advances as specific to Boeing".³¹²

138. Moreover, the United States contends, "{t}he evidence is not limited to official expressions" of NASA's objectives, but rather there is also evidence of the "usefulness of NASA research to the broader scientific community in the United States and across the world".³¹³ The United States notes that NASA scientists present their aeronautics research at conferences open to the worldwide aerospace community—including Airbus employees—and also publish in scholarly journals. In

³⁰⁷See United States' other appellant's submission, paras. 45-58.

³⁰⁸See United States' other appellant's submission, paras. 59 and 60.

³⁰⁹United States' other appellant's submission, para. 45 (quoting Space Act, sections 102(d)(5) and (9) respectively). See also Panel Report, para. 7.982.

³¹⁰United States' other appellant's submission, para. 45 (quoting Space Act, section 102(d)(1)).

³¹¹United States' other appellant's submission, para. 46 (quoting Space Act, section 102(d)(2)).

³¹²United States' other appellant's submission, para. 48 (referring to, *inter alia*, statements by NASA Administrator Dan Goldin, in testimony to Congress at the 24 April 2001 Senate Hearing on Science, Technology and Space of the Committee on Commerce, Science and Transportation, FDCH Political Transcripts (Panel Exhibit EC-292)).

³¹³United States' other appellant's submission, para. 59.

addition, NASA requires contractors to submit periodic reports on the progress of their work, which are also publicly available. This evidence shows how private entities' work under NASA research contracts advances the Space Act's objective of "{t}he expansion of human knowledge of the Earth and of phenomena in the atmosphere and space".³¹⁴

139. The United States submits that, by omitting essentially all of this evidence, and discussing only evidence supporting the European Communities' allegation that NASA aeronautics R&D programmes existed to serve Boeing, the Panel failed to make an objective assessment of the facts under Article 11 of the DSU. The United States therefore requests the Appellate Body to reverse the Panel's conclusion that NASA's R&D contracts with Boeing constitute a "direct transfer of funds" under Article 1.1(a)(1)(i) of the *SCM Agreement*.

140. At the oral hearing, the United States emphasized that the Panel's test for determining whether a measure could be properly characterized as a "purchase of services" is not an issue before the Appellate Body, since neither of the participants has challenged the Panel's test on appeal. In the United States' view, because the participants have accepted the appropriateness of the "principally for the benefit and use test" applied by the Panel, the Appellate Body has not had the benefit of a vigorous presentation of differing points of view and arguments for and against the test.

141. Also at the oral hearing, the United States emphasized that it is not requesting the Appellate Body to make a finding as to the consistency of the "principally for the benefit and use test" with the *SCM Agreement*. However, in the event the Appellate Body were to reverse the Panel's "principally for the benefit and use" test, the United States noted that the Panel's finding that the NASA procurement contracts with Boeing are financial contributions would necessarily fail, as this finding would then have been based on an invalid test. The United States added that, since many of the Panel's findings were based on that test, it is difficult to envisage how the Appellate Body could complete the Panel's analysis based on those same findings while using a different legal test.

(ii) *USDOD*

142. The United States requests the Appellate Body to reverse the Panel's findings that the assistance instruments between the USDOD and Boeing for aeronautics R&D are not properly characterized as "purchases of services" and its consequential finding that the payments and access to USDOD facilities provided to Boeing thereunder constitute "financial contributions" within the meaning of Article 1.1(a)(1) of the *SCM Agreement*.

³¹⁴United States' other appellant's submission, para. 60 (quoting Space Act, section 102(d)(1)).

143. First, the United States asserts that the Panel's failure to consider the descriptions of the work performed under the assistance instruments constituted a significant error, given that the Panel itself stated that the nature of the work Boeing was required to perform was "central to understanding the core *term* of the transaction".³¹⁵ The United States submits that, although the Panel found some "benefit and use" to the government from its analysis of the cursory descriptions of the RDT&E programme element numbers, it would have found a "significant benefit and use to the government"³¹⁶ had it reviewed the statements of work. The United States recalls that the parties provided the Panel with the work descriptions and summaries of five cooperative agreements, six technology investment agreements ("TIAs"), and two other transaction agreements ("OTAs").³¹⁷

144. The United States argues that these descriptions of the work to be performed, and in most cases "even the titles alone"³¹⁸, illustrate that the research has military applications that clearly constitute a significant benefit and use to the government. In this regard, the United States points to the statement of work of some TIAs, and notes, for instance, that structural health monitoring is important for spotting structural damage before it impairs performance, which is an obvious advantage for operators of military aircraft. Likewise, tanks used in missiles and improved materials for turbine engines are similarly useful to the military, whereas precision image registration has military and intelligence applications.³¹⁹ The United States asserts that, when assessing whether the research was principally for the benefit and use of the government or the contractor, the Panel erred in not considering the "most compelling evidence", that is, the cooperative agreements, TIAs, and OTAs, which contain "the most precise and, therefore, most significant indication of the nature of the research".³²⁰

145. In addition, the United States claims that the Panel failed to take account of the limiting effect of the International Traffic in Arms Regulations (the "ITAR") on Boeing's ability to benefit from and use the results of the USDOD R&D. While the Panel acknowledged that the ITAR restrict Boeing's use of certain USDOD R&D-created technology on LCA and that Boeing "complies with ITAR in general and took steps to ensure that the 787 will be 'ITAR free'"³²¹, the Panel rejected the proposition that the ITAR make it "effectively impossible"³²² for Boeing to use the R&D results. The United States argues that the Panel failed to progress beyond mere observations and actually consider

³¹⁵Panel Report, para. 7.1137. (original emphasis)

³¹⁶United States' other appellant's submission, para. 84.

³¹⁷See United States' other appellant's submission, paras. 86-88.

³¹⁸United States' other appellant's submission, paras. 86 and 87.

³¹⁹See United States' other appellant's submission, para. 87.

³²⁰United States' other appellant's submission, para. 89.

³²¹Panel Report, para. 7.1160.

³²²Panel Report, para. 7.1160 (referring to Statement of Michael Bair (Panel Exhibit US-7)).

the effect of ITAR restrictions. Had it done so, the Panel would have realized that ITAR-controlled LCA are "commercially useless for Boeing"³²³ for the following reasons: restrictions on each LCA component are actively enforced; exceptions to the restrictions are rare; the ITAR limit the countries that an ITAR-controlled LCA may fly to; and each component that is exported requires detailed review by the US State Department before an export licence is granted. Furthermore, the United States refers to arguments that it made before the Panel that show that Boeing maintains "a rigorous and comprehensive set of internal procedures"³²⁴ to ensure ITAR components are not included in its products, including the Boeing 787. Moreover, the level of benefit and use to Boeing from the USDOD R&D assistance instruments is decreased when these ITAR restrictions are considered along with other findings of the Panel—namely, that the USDOD R&D was aimed at designing advanced defence systems or reducing their costs; most agreements involved 50-50 cost sharing—and the European Communities' concession that 44% of payments under the 23 USDOD RDT&E programmes³²⁵, without even considering ITAR restrictions, were directed at military objectives. The United States argues that the Panel's failure to apply its findings regarding the ITAR to its weighing of the civil and military utility of the USDOD research meant that it did not conduct the comparison needed for its "principally for the benefit and use" test.

146. The Panel's second error, in the United States' view, relates to the Panel's application of the "principally for the benefit and use" test to the five categories of evidence that the Panel said it would consider.³²⁶ As regards the first two categories—the Panel's analysis of the relevant US legislation and the types of instruments entered into between the USDOD and Boeing—the United States contends that the formal regulatory categorization of the assistance instruments does not support a legal conclusion that the research at issue was principally for the use and benefit of Boeing, because,

³²³United States' other appellant's submission, para. 95.

³²⁴United States' other appellant's submission, para. 95.

³²⁵United States' other appellant's submission, para. 98 (referring to Panel Exhibit EC-25, table at p. 20, containing data on USDOD RDT&E). The Panel noted that the European Communities challenged funding under 13 "general aircraft" programmes—Defense Research Sciences; Materials; Aerospace Flight Dynamics and Aerospace Vehicle Technologies; Aerospace Propulsion; Aerospace Sensors; Dual Use Applications and Dual Use Science & Technology; Advanced Materials for Weapon Systems; Flight Vehicle Technology; Aerospace Structures and Aerospace Technology Dev/Demo; Aerospace Propulsion and Power Technology; Flight Vehicle Technology Integration; RDT&E for Aging Aircraft; and Manufacturing Technology/Industrial Preparedness—and under 10 "military aircraft" programmes—C-17; CV-22; Joint Strike Fighter; AV-8B Aircraft; Comanche; F-22; B-2 Advanced Technology Bomber; V-22; A-6 Squadrons; and F/A-18 Squadrons. (See Panel Report, paras. 7.1114-7.1117; and European Communities' first written submission to the Panel, paras. 676 and 677)

³²⁶The five categories of evidence considered by the Panel were: (i) the US legislation authorizing the programmes at issue; (ii) the types of instruments entered into between the USDOD and Boeing; (iii) whether the USDOD had any "demonstrable use" for the R&D performed under the programmes; (iv) the allocation of intellectual property rights under the transactions; and (v) whether the transactions at issue had "the typical elements of a 'purchase of services'". (United States' other appellant's submission, para. 100; Panel Report, para. 7.1138)

while cooperative agreements, TIAs, and OTAs may all fall in the category of "assistance", this does not mean that they require Boeing to perform research that is principally for the benefit and use of the company.³²⁷ As for the Panel's evaluation of the "demonstrable use"³²⁸ of the R&D performed under the programmes to the USDOD, the United States asserts that the Panel's own findings support the conclusion that the USDOD was the principal beneficiary or user of the research performed by Boeing. With respect to the allocation of intellectual property rights, the United States argues that this did not involve the government paying a private party and getting nothing in return; rather, the assignment of data rights is part of what the private party gets in exchange for contributing to a research project of interest to both parties. Although the Panel seemed to have reached the same conclusion, the United States fails to see how the Panel took this into account in its overall analysis of the assistance instruments. Lastly, in its analysis of the "typical elements" of a purchase of services, the Panel took "too narrow a view", considering only the profit to the seller and failing to address other typical elements, such as the exchange of value for value.³²⁹

147. In sum, the United States argues that the Panel did not explain "how it weighed the five factors it considered against each other".³³⁰ Moreover, the Panel's analysis of two of the factors that it did consider—namely, the "demonstrable use" for the R&D and the allocation of intellectual property rights—actually demonstrates that the R&D was for the benefit and use of the government.³³¹ The United States does not consider that the Panel's consideration of the other three factors supports its conclusion that the assistance instruments were not purchases of services, and therefore requests the Appellate Body to reverse the Panel's conclusion under Article 1.1(a)(1)(i) and (iii) of the *SCM Agreement*.

148. As it did with respect to the NASA procurement contracts, the United States emphasized at the oral hearing that neither party has appealed the Panel's "principally for the benefit and use" test and, consequently, that such test is outside the scope of appellate review. Nevertheless, in the event the Appellate Body were to reverse the Panel's test, the United States noted that the Panel's finding that the USDOD assistance instruments are financial contributions would necessarily fail, as it would then have been based on an invalid test and it would be difficult for the Appellate Body to complete the analysis based on the same finding while using a different legal test.

³²⁷United States' other appellant's submission, paras. 102 and 106.

³²⁸United States' other appellant's submission, para. 107.

³²⁹United States' other appellant's submission, para. 109.

³³⁰United States' other appellant's submission, para. 115.

³³¹See United States' other appellant's submission, paras. 101, 107, and 115.

(b) Benefit

(i) NASA

149. The United States appeals the Panel's finding that the financial contributions provided to Boeing under the NASA aeronautics R&D procurement contracts "confer a benefit" within the meaning of Article 1.1(b) of the *SCM Agreement*. The United States submits that the Panel's finding that research under the NASA R&D contracts is "principally for the benefit and use of Boeing" was the sole basis for the finding of benefit.³³² In the United States' view, since the Panel's conclusion that the research was principally for the benefit and use of Boeing is erroneous, the finding of existence of a benefit is equally erroneous.

150. The United States recalls that the Panel reached its conclusion under Article 1.1(b) in three steps. First, the Panel noted that the "core 'term' upon which the financial contributions are provided" is "that Boeing use the payments and access to facilities, equipment and employees that it receives from NASA for the purpose of conducting aeronautics R&D work that is principally for Boeing's own benefit and use".³³³ Second, the Panel stated that the "relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D".³³⁴ Third, the Panel concluded that "no commercial entity, i.e. no private entity acting pursuant to commercial considerations, would provide payments (and access to its facilities and personnel) to another commercial entity on the condition that the other entity perform R&D activities principally for the benefit and use of that other entity".³³⁵

151. The United States alleges that the third conclusion—namely, that no private entity would provide payments and other support under those terms—has no support, other than the Panel's erroneous finding that the research was principally for the benefit and use of Boeing, and therefore cannot establish the existence of a benefit for purposes of Article 1.1(b). In the light of this, the United States requests the Appellate Body to reverse the Panel's finding that the financial contributions found by the Panel conferred a benefit on Boeing.

152. In addition, the United States submits that the Panel erred under Article 1.1(b) when it estimated the value of any benefit conferred on Boeing under the NASA R&D contracts and agreements. The Panel erred because it based its valuation of the total benefit conferred by NASA

³³²United States' other appellant's submission, para. 64.

³³³Panel Report, para. 7.1038.

³³⁴Panel Report, para. 7.1039 (referring to European Communities' response to Panel Question 21, para. 76; and United States' response to Panel Question 136, para. 85).

³³⁵Panel Report, para. 7.1039.

"on a combination of transactions covering not only 'LCA-related research' challenged by the {European Communities}, but also other transactions that the {European Communities} did not challenge".³³⁶

153. The United States recalls that the European Communities explicitly excluded from its challenge any research conducted by Boeing for NASA on space, aircraft engines, hypersonic flight, air traffic management, and other topics unrelated to Boeing's development and production of LCA.³³⁷ The United States further recalls that, when NASA set out to determine the value of the research contracts covered by the European Communities' claims, "it first segregated all expenditures under contracts between Boeing and the four NASA aeronautics research centers, which came to \$1.05 billion" and then "excluded \$280 million in expenditures for research that the {European Communities} had not challenged, resulting in a total value of \$775 million between 1989 and 2006".³³⁸ However, when calculating the value of the NASA research contracts, the Panel "stopped with the \$1.05 billion figure" and erred by failing to deduct NASA's payments to Boeing for research unrelated to the European Communities' claims, "or even address the evidence that the \$1.05 billion included such research".³³⁹ The United States characterizes this omission as an "error" inconsistent with Article 1.1(b) of the *SCM Agreement* because "it treats transactions that were not part of the financial contribution under Article 1.1(a) as conferring a benefit".³⁴⁰

154. The United States relies on the Appellate Body's reasoning in *Canada – Aircraft*³⁴¹ as support for its assertion that a benefit for purposes of Article 1.1(b) can be conferred only by a financial contribution identified under Article 1.1(a). Thus, the evaluation of the benefit "is limited to what the government conferred through the financial contribution", and "government actions that are *not* part of the relevant financial contribution are *not* part of the benefit".³⁴²

155. The United States adds that the Panel estimated the value of the access to facilities, equipment, and employees provided by NASA to Boeing based on the ratio of the payments under the challenged R&D contracts to total NASA payments to all contractors. Consequently, the

³³⁶United States' other appellant's submission, para. 66.

³³⁷United States' other appellant's submission, para. 66 (referring to Panel Exhibit EC-25, containing a compilation of charts setting out NASA/USDOD/USDOC aeronautics R&D subsidies to Boeing's LCA division; and CRA International, "Response to U.S. Assertions in DS353 Regarding Benefits of DoD RDT&E for Boeing's Large Civil Aircraft Division", CRA Project No. D08745-00 (November 2007) (Panel Exhibit EC-1176)).

³³⁸United States' other appellant's submission, para. 66 (referring to United States' response to Panel Question 188, para. 223).

³³⁹United States' other appellant's submission, para. 66.

³⁴⁰United States' other appellant's submission, para. 66.

³⁴¹United States' other appellant's submission, para. 67 (referring to Appellate Body Report, *Canada – Aircraft*, para. 157).

³⁴²United States' other appellant's submission, para. 67. (original emphasis)

United States submits that any error in calculating the total value of the payments under contracts would affect the estimated value of access to facilities, equipment, and employees.

156. Therefore, if the Appellate Body were to uphold the Panel's financial contribution finding, the United States requests the Appellate Body to modify the Panel's finding concerning the value of the benefit to Boeing resulting from the NASA aeronautics R&D programmes by deducting payments that are not part of the financial contribution challenged by the European Communities, and adjusting, accordingly, the associated value of the access to NASA facilities, equipment, and employees provided to Boeing.

157. At the oral hearing, the United States rejected the European Union's argument that the United States' appeal "lacks legal foundation"³⁴³ because its Notice of Other Appeal did not explicitly reference the value of the benefit as an issue on appeal. In the United States' view, the amount of the benefit derives from the same process for identifying the existence of the benefit, and the United States clearly referenced the issue of whether the financial contributions in question conferred a benefit in its Notice of Other Appeal. The United States also disagreed with the European Union's contention that Article 1.1(b) of the *SCM Agreement* covers only the existence of a benefit, and not its value. The United States asserted that the fact that the Appellate Body has found that a precise quantification of the amount of a subsidy is not required in proceedings under Articles 5 and 6 of the *SCM Agreement* does not mean that valuation is entirely outside the analysis of Article 1.1(b). Furthermore, the United States argued that, even though the European Union contends that the Panel "found no adequate basis"³⁴⁴ to reduce the amount of the subsidy from \$1.05 billion to \$775 million, the fact is that the Panel made no finding on that point. The United States contended that the four reasons alleged by the European Union in support of the Panel's approach are either not mentioned by the Panel, irrelevant, or both. For example, the Panel never found that the United States had conducted a "subjective"³⁴⁵ review to derive the \$775 million figure. Lastly, the United States rejected the European Union's assertion that the Panel understood the \$1.05 billion figure to be an "estimate", and that the benefit could be more than \$1.05 billion in the light of the Panel's finding in its adverse effects analysis that this type of subsidy "is intended to multiply the benefit from a given expenditure".³⁴⁶ The United States argued that the Panel's statement about "multiply{ing} the benefit" in the adverse effects context does not, and should not, affect the valuation of the benefit for purposes of Article 1.1(b) of the *SCM Agreement*.

³⁴³European Union's appellee's submission, p. 42, subheading II.A.4.f.ii.1.

³⁴⁴European Union's appellee's submission, para. 106.

³⁴⁵European Union's appellee's submission, para. 106. (original emphasis)

³⁴⁶Panel Report, para. 7.1760.

(ii) *USDOD*

158. The United States challenges the Panel's finding that the financial contributions provided to Boeing under the USDOD assistance instruments confer a benefit within the meaning of Article 1.1(b) of the *SCM Agreement*. The United States submits that such a finding is in error because the Panel failed to consider the payments and other contributions that Boeing makes under the assistance instruments.

159. In the United States' view, the Panel "based its analysis of the benefit on a transaction that never occurred"³⁴⁷, that is, that the USDOD provided payments and access to its facilities on the condition that Boeing perform R&D activities principally for the benefit of Boeing without some form of royalties or repayment. The United States notes that the assistance instruments submitted to the Panel generally require a contribution from Boeing, and it also recalls that the Panel itself found that "under assistance instruments, the 'recipient' is required to contribute its own funds to the R&D on a cost-shared basis".³⁴⁸ Accordingly, "the exchange on which the Panel based its finding of benefit—payment for research for the benefit and use of Boeing without some form of royalty or repayment—is not what the R&D {assistance instruments did}".³⁴⁹

160. The United States recalls that, in *Canada – Aircraft*, the Appellate Body emphasized that the comparison between the government's financial contribution and the market should focus on the "terms" offered by the government.³⁵⁰ In this respect, the United States contends that, "if the appreciation of the *terms* of the financial contribution is incorrect, the comparison with the market will also be incorrect, and any conclusion as to the existence of a benefit will be invalid".³⁵¹ In this case, the Panel failed to address all of the relevant terms of the assistance instruments, and it did not consider that the terms it did address "required Boeing to perform research of benefit and use to {US}DOD and to contribute company resources to the R&D project".³⁵²

161. The United States points out that, in making its analysis of benefit, the Panel first described what it characterized as the "core 'term'" of the USDOD assistance instruments, namely, "that Boeing use the payments and access to facilities it received from {US}DOD for the purpose of conducting aeronautics R&D work that is principally for Boeing's own benefit and use".³⁵³ The Panel also noted

³⁴⁷United States' other appellant's submission, para. 116 (referring to Panel Report, para. 7.1184).

³⁴⁸Panel Report, para. 7.1149.

³⁴⁹United States' other appellant's submission, para. 116.

³⁵⁰United States' other appellant's submission, para. 117 (referring to Appellate Body Report, *Canada – Aircraft*, para. 157).

³⁵¹United States' other appellant's submission, para. 117. (emphasis added)

³⁵²United States' other appellant's submission, para. 118.

³⁵³Panel Report, para. 7.1183.

that both parties agreed that the proper benchmark for the comparison with the market is "the terms of a commercial transaction in which one entity pays another to conduct R&D".³⁵⁴ The United States acknowledges that, if a panel finds that a financial contribution is "economically irrational", it may conclude that such a transaction confers a benefit, even "absent evidence to the contrary".³⁵⁵ However, the United States contests the Panel's findings in this case because "the transaction the Panel found to be economically irrational ... is not the financial transaction that actually occurred".³⁵⁶ In addition to the government payments to Boeing, Boeing contributed with its own resources to research that was of interest to the government.

162. The United States asserts that, "when framed properly, the question posed by the Panel does not allow a conclusion in the abstract as to whether the transaction is economically rational".³⁵⁷ Instead, the answer should depend on the "aggregate terms of the transactions" and more specifically on "whether the actual exchange made by the parties was one that would have occurred on the market".³⁵⁸ The United States considers that this was the case with the USDOD assistance instruments.

163. Therefore, the United States requests the Appellate Body to reverse the Panel's finding that the financial contribution it found to exist confers a benefit on Boeing for purposes of Article 1.1(b) of the *SCM Agreement*. The United States, however, does not request the Appellate Body to complete the analysis on this point because the Panel record lacks sufficient factual evidence in this respect.

164. The United States also requests reversal of the Panel's statement, in paragraph 7.1205 of the Panel Report, that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA". The United States asserts that this statement lacks an evidentiary basis and that, in making it, the Panel failed to make an objective assessment of the matter under Article 11 of the DSU. The United States further contends that the challenged statement is inconsistent with the Panel's own finding that "any attempt by the Panel to go further and arrive at {its} own estimate of the amount of the subsidy to Boeing's LCA division would be speculative".³⁵⁹ Moreover, it is difficult to reconcile with the fact that the Panel recognized differences as to the exact scope of the term "dual

³⁵⁴Panel Report, para. 7.1184 (quoting European Communities' response to Panel Question 21, para. 76; and United States' response to Panel Question 136, para. 85).

³⁵⁵United States' other appellant's submission, para. 121.

³⁵⁶United States' other appellant's submission, para. 121.

³⁵⁷United States' other appellant's submission, para. 122.

³⁵⁸United States' other appellant's submission, para. 122.

³⁵⁹Panel Report, para. 7.1209.

use" and emphasized that it was "not taking a position on this definitional issue".³⁶⁰ In the light of this, the United States asserts that any finding as to the value of USDOD funding for R&D of potential relevance to LCA "clearly lacks an evidentiary basis".³⁶¹ Accordingly, the United States submits, the Appellate Body should "find this comment to be inconsistent with Article 11 of the DSU"³⁶² and reverse the Panel's finding in that regard.

2. Washington State B&O Tax Rate Reduction

(a) Financial contribution – Revenue foregone

165. The United States claims that the Panel erred in both the interpretation and application of the legal standard to be applied under Article 1.1(a)(1)(ii) of the *SCM Agreement* to determine when there is a financial contribution because government revenue that is otherwise due is foregone. Accordingly, the United States requests the Appellate Body to reverse the Panel's finding that the Washington State B&O tax rate reduction for manufacturers of commercial airplanes or components, enacted as part of House Bill 2294, constitutes a financial contribution under Article 1.1(a)(1)(ii) of the *SCM Agreement*.

(i) *Interpretation of Article 1.1(a)(1)(ii) of the SCM Agreement*

166. With regard to the interpretation of Article 1.1(a)(1)(ii), the United States submits that the Panel "departed from the standard set forth in the text of the *SCM Agreement* and engaged in an overly simplistic analysis that failed to take into account the complexity of the Washington {State} B&O tax system".³⁶³ The United States adds that, despite the fact that the Panel referenced passages from prior Appellate Body reports in *US – FSC* and *US – FSC (Article 21.5 – EC)*, including those "warnings about the risks inherent in a simple 'but for' test"³⁶⁴, the Panel incorrectly paraphrased and interpreted the Appellate Body's guidance.³⁶⁵

³⁶⁰Panel Report, footnote 2796 to para. 7.1205.

³⁶¹United States' other appellant's submission, para. 125.

³⁶²United States' other appellant's submission, para. 125.

³⁶³United States' other appellant's submission, para. 130.

³⁶⁴United States' other appellant's submission, para. 130 (referring to Panel Report, paras. 7.116 and 7.117; Appellate Body Report, *US – FSC*, para. 90; and Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91).

³⁶⁵United States' other appellant's submission, para. 138 (referring to Panel Report, para. 7.120, in turn referring to Appellate Body Report, *US – FSC (Article 21.5 – EC)*, paras. 91 and 98).

167. The United States argues that, contrary to the Panel's understanding, the requirement to compare the challenged tax measure with the treatment applied to comparable income for taxpayers in comparable circumstances is not limited to "other situations"³⁶⁶ where a "but for" test cannot be applied. In *US – FSC (Article 21.5 – EC)*, the Appellate Body rejected the proposition that the "but for" test, or the "general rule" and "exception" analysis, reflects the correct standard under Article 1.1(a)(1)(ii). The United States understands the Appellate Body to have explained, "{i}nstead", that "the challenged taxation measure should always be compared to the treatment applied to comparable income, for taxpayers in comparable circumstances in the jurisdiction in issue".³⁶⁷ As the United States sees it, this standard is "to be applied in all cases, and a 'but for' test is simply one methodology that may be useful for applying that standard in certain, limited situations".³⁶⁸

168. The United States considers that, while it may be possible in some situations to apply a "but for" test to perform the comparison required by Article 1.1(a)(1)(ii), the Appellate Body noted that "usually"³⁶⁹ it will be difficult to do so. According to the United States, the general rule requires a comparison with the tax treatment of legitimately comparable income. The Panel, however, "erroneously elevated the 'but for' test to the status of {a} general rule and treated the comparison of legitimately comparable income as an exception to that rule, only to be applied if no 'but for' situation can be established".³⁷⁰

(ii) *Application of Article 1.1(a)(1)(ii) of the SCM Agreement*

169. With regard to the application of Article 1.1(a)(1)(ii), the United States challenges two aspects of the Panel's analysis. The United States submits that the Panel erred, first, by identifying as the normative benchmark, not the Washington State B&O tax system as a whole, but a subset of that tax system, namely, the tax rates applied to manufacturing, wholesaling, and retailing activities. According to the United States, the Appellate Body has clarified that the "prevailing domestic standard"³⁷¹ reflected in a Member's tax laws provides the reference point for determining whether "revenue ... foregone" is "otherwise due", and for identifying the fiscal treatment of the relevant income for taxpayers in comparable situations.³⁷² The tax rates for manufacturing, wholesaling, and

³⁶⁶Panel Report, para. 7.120.

³⁶⁷United States' other appellant's submission, para. 141 (referring to Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91).

³⁶⁸United States' other appellant's submission, para. 139.

³⁶⁹Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91.

³⁷⁰United States' other appellant's submission, para. 142.

³⁷¹Appellate Body Report, *US – FSC*, para. 90.

³⁷²United States' other appellant's submission, para. 152 (referring to Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91).

retailing activities do not, on their own, reflect the prevailing domestic standard. Rather, the Washington State B&O tax system "is a multi-rate tax system that applies numerous tax rates to numerous individually identified categories of activities, and the tax rate applied to aerospace manufacturing and selling is within the range of tax rates applied to other activities".³⁷³

170. The United States observes that the Appellate Body has explained that "there must be a rational basis for comparing the fiscal treatment of the income subject to the contested measure and the fiscal treatment of certain other income".³⁷⁴ The Appellate Body has also stressed that "it is important to ensure that the examination under Article 1.1(a)(1)(ii) involves a comparison of the fiscal treatment of the relevant income for taxpayers in comparable situations".³⁷⁵ The United States asserts that there is no rational basis for the Panel to have disregarded the fiscal treatment of the other activities that are also individually identified in the Washington State tax code. The Panel erred in relying on the language used in House Bill 2294 and other documents produced by Washington State, because the terms used in those documents "do not identify whether income generated by some activities is 'legitimately comparable' to income generated by others, or whether one rate 'foregoes' revenue that would otherwise be due".³⁷⁶ Such language is thus irrelevant to a proper analysis under Article 1.1(a)(1)(ii), and does not justify the Panel's failure to take into account the fiscal treatment of other relevant income for taxpayers in comparable situations.

171. The United States submits that, instead of heeding the Appellate Body's instruction to conduct a substantive analysis of the normative benchmark, "the Panel tried to create simplicity by reducing the analysis to two classes of income—aerospace manufacturing and manufacturing not covered by a sector-specific rate—without regard to any other classes of income".³⁷⁷ The United States contends that such isolated consideration of a few lines from the Washington State tax code is contrary to the Appellate Body's instruction to consider the tax rules applied through the contested measure with the fiscal treatment of other relevant income for taxpayers in comparable situations.

172. The United States asserts that the European Communities did not explain why income from certain categories of business activity in Washington State becomes not "legitimately comparable" simply because the Washington State B&O tax system imposes multiple tax rates on different categories of business activity. The Panel likewise failed to explain or even address why business activities other than those in the categories of "manufacturing", "wholesaling", and "retailing" are not "legitimately comparable" to aircraft manufacturing and selling. The Panel's failure to consider this

³⁷³United States' other appellant's submission, para. 153.

³⁷⁴Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 90.

³⁷⁵Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 92.

³⁷⁶United States' other appellant's submission, para. 155.

³⁷⁷United States' other appellant's submission, para. 156.

legal question was a result of its narrow focus on applying an oversimplified "but for" test.³⁷⁸ Even assuming, *arguendo*, that all business activities subject to the Washington State B&O tax are not "legitimately comparable", the Panel's implicit finding—that "manufacturing", "wholesaling", and "retailing" are the *exclusive* categories of business activity that are "legitimately comparable" to aircraft manufacturing and selling—is legally insufficient. This is because the Panel failed to take into account, for example, other separately identified categories of business activity, such as manufacturing of semiconductor materials and manufacturing and selling of nuclear fuel processors. Indeed, the Panel never addressed why the other categories of business activity separately identified in the Washington State tax code, including a variety of other manufacturing and selling activities, would or would not be "legitimately comparable" to aircraft manufacturing and selling. This failure by the Panel to identify properly "legitimately comparable" income for the purpose of making the comparison required under Article 1.1(a)(1)(ii) is fatal to the Panel's financial contribution finding.³⁷⁹

173. The second error committed by the Panel in the application of Article 1.1(a)(1)(ii) was that it failed to examine properly the fiscal treatment of other taxpayers in comparable situations. The United States explains that evidence relating to the effective tax rate is highly relevant to an understanding of the "fiscal treatment" of income from business activities under the Washington State B&O tax system.³⁸⁰ The United States explains that, taking into account the pyramiding inherent in the Washington State B&O tax system, the B&O tax rate reduction lowered the effective tax rate for aerospace manufacturing from 2.53% to 1.578%, which exceeds the average effective tax rate for other Washington businesses of 1.53%. The reduced B&O tax rate, therefore, "is *not a favorable rate*"³⁸¹ for aerospace manufacturing. Rather, it makes the effective tax rate for this sector "*less unequal* when compared to the effective tax rate applied to other business activities in the State".³⁸² For these reasons, the United States considers that the tax rate applied to aerospace manufacturing and selling cannot be considered revenue foregone that is otherwise due under Article 1.1(a)(1)(ii) of the *SCM Agreement*.

174. The United States notes that the Panel's rejection of its arguments regarding the effective B&O tax rate in Washington State appears to be founded on the United States' acknowledgment that such a rate "is not a normative benchmark by which to contrast the fiscal treatment afforded to

³⁷⁸United States' additional memorandum following the first session of the oral hearing, para. 51.

³⁷⁹United States' additional memorandum following the first session of the oral hearing, para. 52.

³⁸⁰See United States' other appellant submission, paras. 157-161; United States' oral statement at the first session of the oral hearing; and United States' additional memorandum following the first session of the oral hearing, para. 54.

³⁸¹United States' other appellant's submission, para. 157. (original emphasis)

³⁸²United States' other appellant's submission, para. 157. (original emphasis)

legitimately comparable income".³⁸³ For the United States, the Panel's conclusion is a non sequitur because it does not render evidence of the effective tax rate irrelevant to the Panel's analysis. Instead, "evidence of the average effective rate of taxation is highly relevant—both factually and legally—to the determination of whether a financial contribution was provided as a result of lowering the nominal tax rate for aerospace manufacturing and selling".³⁸⁴ The United States considers that the Panel's failure to take this evidence into account in its analysis undermines its finding that the tax rate applied to aerospace manufacturing and selling constitutes a financial contribution.

(b) Specificity – Article 2.1(a) of the *SCM Agreement*

175. The United States submits that the Panel erred in the application of Article 2.1(a) of the *SCM Agreement* by failing to consider, in its assessment of specificity, the entirety of the subsidy that the Panel had found to exist.

176. The United States emphasizes that the evaluation under Article 2.1 of the *SCM Agreement* seeks "to determine whether a subsidy, *as defined in paragraph 1 of Article 1*, is specific".³⁸⁵ Therefore, the analysis "must address the specificity of the subsidy that has been found to exist, not some other subsidy, and not merely a part of the subsidy found to exist".³⁸⁶ According to the United States, once the Panel had identified the standard rate of taxation in Washington State, and found that the application of a tax rate lower than the standard rate would constitute a subsidy, it was required to assess whether and how Washington State tax law "explicitly limits" access to such a subsidy to "certain enterprises". The Panel failed to make such an assessment because it examined only whether the Washington State B&O tax rate reduction for aircraft manufacturing, wholesaling, and retailing was "specific"; however, "the exceptions or differentiated rules that the Panel found to exist are not limited to the aircraft manufacturing industry".³⁸⁷ The United States notes, for example, the Panel's own recognition that there are other manufacturing, wholesaling, and retailing activities, apart from those relating to selling commercial aircraft and components, that are subject to differential rates of taxation.³⁸⁸

³⁸³Panel Report, para. 7.137.

³⁸⁴United States' other appellant's submission, para. 160.

³⁸⁵Emphasis added by the United States.

³⁸⁶United States' other appellant's submission, para. 168.

³⁸⁷United States' other appellant's submission, para. 172.

³⁸⁸United States' other appellant's submission, para. 172 (referring to Panel Report, paras. 7.202 and 7.203).

177. The United States argues that the Panel failed to explain the relevance of evidence that "the differential tax rates were introduced at a range of different times and for a variety of different purposes".³⁸⁹ The United States observes that the Panel's own description identifies the "exceptions" to the "general rates" as "all part of the same subsidy".³⁹⁰ The fact that the tax rates applied to other activities differ from the rate applied to aerospace manufacturing, wholesaling, and retailing, and the fact that the tax rates differ among one another would, at most, be relevant to the measurement of the benefit conferred to any particular recipient of the financial contribution. That question is separate from that of whether specificity exists. Moreover, the United States argues that nothing in Article 2.1(a) indicates that the *purpose* of a subsidy is relevant to the specificity analysis. As the Panel explained, *de jure* specificity must be discerned by evaluating "the face of the legislation or ... other statements or means by which the granting authority expresses its will".³⁹¹ The United States further asserts that the fact that differential taxation rates were created or modified at different times is not relevant to the specificity analysis. The relevant subject of the analysis should have been the Washington State tax code as it existed at the time of the Panel's specificity analysis.

178. The United States notes that, despite recognizing the need to examine the Washington State tax code "as a whole"³⁹², the Panel made a *de jure* specificity finding that is not supported by the evidence on the record and was based on irrelevant considerations.³⁹³ The Panel found that section 3 of House Bill 2294 effectuates the addition of aircraft manufacturing and selling to the existing "list of activities that are subject to a taxation rate that differs from" the "general rates".³⁹⁴ The Panel was, therefore, required to determine whether all of the industries that had been granted preferential taxation rates, taken together, would constitute "certain enterprises" for purposes of Article 2.1(a) of the *SCM Agreement*. The Panel, however, did not conduct such an analysis. Instead, it found that the taxation rates for other activities are not "part of a common subsidy programme" because they "were introduced at a range of different times and for a variety of different purposes".³⁹⁵ In the United States' view, consideration of timing and purpose has potentially "troubling implications"³⁹⁶, which can be avoided by properly focusing on the text of the legislation as it exists. In this regard, the United States notes that the different taxation rates are all set forth in the same provision of the Washington State tax code and each is described using nearly identical language.

³⁸⁹Panel Report, para. 7.205 (referring to Business and Occupation Tax – Differential Tax Rates, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-191)).

³⁹⁰United States' other appellant's submission, para. 175.

³⁹¹Panel Report, para. 7.192.

³⁹²Panel Report, para. 7.199.

³⁹³United States' additional memorandum following the first session of the oral hearing, para. 60.

³⁹⁴Panel Report, para. 7.125; United States' additional memorandum following the first session of the oral hearing, para. 61.

³⁹⁵Panel Report, para. 7.205.

³⁹⁶United States' additional memorandum following the first session of the oral hearing, para. 63.

179. The United States submits that the relevant question before the Panel was whether access to the subsidy that it had found to exist—that is, the application of a preferential tax rate lower than the general rate—was explicitly limited to "certain enterprises". The Panel observed that the "differential rates" under the Washington State tax code were explicitly limited to certain enterprises³⁹⁷, but failed to analyze whether access was limited once all of the "differential rates" were considered collectively. Because the Panel "did not even attempt to ascertain" whether access to the subsidy was so limited, the United States maintains that the Panel's specificity finding "is without foundation".³⁹⁸

180. Accordingly, the United States requests the Appellate Body to reverse the Panel's finding that "the B&O tax reduction granted to the aerospace industry under {House Bill} 2294 is a subsidy that is specific within the meaning of Article 2.1(a)".³⁹⁹ The United States adds that it is not possible for the Appellate Body to complete the analysis. The Panel failed to make any factual findings as regards to whether any collection of enterprises or industries in addition to "aerospace" would constitute "certain enterprises", and there is insufficient evidence on the record to enable the Appellate Body to complete the analysis and determine that the preferential taxation rates are *de jure* specific.

3. City of Wichita Industrial Revenue Bonds (IRBs) – Specificity

181. The United States claims that the Panel erred in finding that the City of Wichita IRBs are "in fact ... specific" within the meaning of Article 2.1(c) of the *SCM Agreement* on the basis that disproportionately large amounts of the subsidy were provided to Boeing and Spirit AeroSystems ("Spirit").⁴⁰⁰ The United States maintains that the Panel used the wrong baseline for its disproportionality analysis, and that it failed to take into account the lack of diversification of the economy of the City of Wichita.

182. With respect to the Panel's baseline, the United States criticizes the Panel for using Boeing and Spirit company-specific employment levels relative to total manufacturing employment within the jurisdiction of the granting authority. The United States argues that the Panel's approach would result in findings of specificity even where a subsidy is "sufficiently broadly available"⁴⁰¹ and there are no *de jure* or *de facto* limits on access to the subsidy. The United States explains that there is no reason to assume that there is necessarily a "proportionate" relationship between, on the one hand, the

³⁹⁷Panel Report, para. 7.204.

³⁹⁸United States' other appellant's submission, para. 178.

³⁹⁹Panel Report, para. 7.205.

⁴⁰⁰In its other appellant's submission, the United States asserts that the Panel erred in finding that the IRBs issued after the date of the European Communities' request for the establishment of a panel were within the Panel's terms of reference. However, the United States did not provide argumentation in support of this claim. At the oral hearing, the United States confirmed that it was not pursuing this particular claim.

⁴⁰¹Panel Report, *US – Upland Cotton*, para. 7.1142.

number of employees of a particular company or group of companies relative to all employment in the Wichita manufacturing sector and, on the other hand, the amount of IRB tax benefits received. It would have made much more sense, according to the United States, to look at qualifying investments during the relevant time period, or some other factor that bears an actual relationship to the number of companies that qualify for IRB funding. The Panel's choice of baseline also took no account of the fact that some industries "may employ disproportionate numbers of people for a range of perfectly justifiable reasons".⁴⁰² Nor did the Panel account for the fact that many government programmes may be broadly or generally available, but the number of companies that use the programmes may not be directly proportionate to the level of overall employment that they represent, or that certain companies may not be able to assume the administrative effort required to participate in the programme, or otherwise be interested in participating in it. These examples confirm that the Panel's approach, by focusing on a single numerical ratio and using the total level of manufacturing employment within the jurisdiction of the granting authority as its baseline, does not provide a valid benchmark for determining proportionality. Instead, it results in a finding of *de facto* specificity "whenever discrepancies exist between a company's relative level of employment within an economy as a whole, and the amount of subsidy it receives".⁴⁰³

183. The United States contends that the Panel could have avoided these problems if it had followed the approach, advocated by the United States, of using the group of recipients of the alleged subsidy as the baseline for the disproportionality analysis. This approach takes into account the proportion of companies that actually or potentially qualify for IRB benefits, as opposed to determining specificity "based on a broader baseline factor that would bear no relation to the proportion at which recipients would be expected to use the subsidy".⁴⁰⁴ As for the Panel's concern that the United States' approach would be inconsistent with the purpose of determining whether a subsidy is sufficiently broadly available throughout an economy, the United States contends that the panel in *EC and certain member States – Large Civil Aircraft* came to the opposite conclusion. That panel concluded that, "where the subsidy at issue has been granted pursuant to a subsidy programme, that programme should normally be used for the purpose of identifying the 'baseline' or 'reference data' needed to perform a disproportionality analysis".⁴⁰⁵ The United States asserts that, had the Panel used the actual or potential recipients of the subsidy programme as the baseline in this case, instead of the total level of manufacturing employment within the jurisdiction of the granting authority, it would not have found *de facto* specificity, "because there is no information on the record to suggest that

⁴⁰²United States' other appellant's submission, para. 184.

⁴⁰³United States' other appellant's submission, para. 186.

⁴⁰⁴United States' other appellant's submission, para. 188.

⁴⁰⁵Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.964.

Boeing's and Spirit's share of the Wichita IRB benefits was disproportionate to their respective shares of the overall group of actual or potential recipients of such IRBs".⁴⁰⁶

184. The United States maintains that the Panel also erred by failing to take into account the extent of economic diversification in the City of Wichita. The United States observes that it provided evidence to the Panel to support its argument that the City of Wichita economy was undiversified and focused on aircraft production. Despite the fact that the European Communities did not submit any rebuttal evidence, and notwithstanding the requirement in Article 2.1(c) that the extent of diversification of an economy shall be taken into account, the Panel rejected the United States' argument. The Panel "simply ignored that ... it was for the {European Communities} to demonstrate and for the Panel to find, that in addition to the appearance of 'disproportionality', the subsidy was *in fact* specific, even when taking into account the lack of diversification of the Wichita economy and the evidence submitted by the United States to that effect".⁴⁰⁷

185. At the oral hearing, the United States reiterated its criticisms of the Panel's approach. First, the United States noted that the relevance of Boeing's share of economic activity for the disproportionality analysis is unclear, regardless of the baseline group. Where a subsidy is granted to virtually all applicants in amounts in proportion to the construction and improvement activity for which the subsidy is sought, the fact that a company receives more of the subsidy because it engages in more eligible activity cannot amount to a finding that this company has received disproportionately large amounts of subsidy. Second, even assuming *arguendo* that Boeing's share of economic activity was relevant, Boeing's employment level says very little about the company's place within the economy, because no single indicator is capable of doing so alone. According to the United States, the European Communities failed to present all the necessary evidence to reach a meaningful conclusion as regards Boeing's place in the Wichita economy. Third, it is also unclear why Boeing's share of total economic activity in the entire manufacturing sector would be relevant for the Panel's disproportionality analysis. In this respect, the United States agreed with Australia that comparing a recipient's portion of the subsidy against the baseline of its relative economic importance in the economy as a whole would always lead to disproportionality and hence specificity to be found.

186. For these reasons, the United States requests the Appellate Body to reverse the Panel's finding that the City of Wichita IRBs are "specific" within the meaning of Article 2.1(c) of the *SCM Agreement*.

⁴⁰⁶United States' other appellant's submission, para. 190.

⁴⁰⁷United States' other appellant's submission, para. 193. (original emphasis)

4. Adverse Effects

(a) Technology effects of the aeronautics R&D subsidies

187. The United States claims that the Panel erred in finding that the aeronautics R&D subsidies have caused adverse effects under Articles 5(c) and 6.3 of the *SCM Agreement*. At the outset, the United States recalls that the Panel conducted its examination of the adverse effects of the aeronautics R&D subsidies in two stages, beginning with "an analysis of the effects of the subsidies on *Boeing's* pricing and product offerings, followed by an analysis of the effects of the subsidies ... on *Airbus'* prices and sales".⁴⁰⁸ The United States' arguments address both stages of the Panel's analysis.

(i) *The Panel's finding that the aeronautics R&D subsidies have improved Boeing's product offering for the 787*

188. The United States raises two separate and independent grounds of appeal with respect to the first stage of the Panel's analysis. First, the United States asserts that the Panel erred when finding that the aeronautics R&D subsidies have caused adverse effects under Articles 5(c) and 6.3 of the *SCM Agreement* because they have "contributed in a genuine and substantial way to Boeing's development of technologies for the 787".⁴⁰⁹ Second, the United States claims that the Panel erred in its application of Article 6.3(c) of the *SCM Agreement* "by failing to incorporate all of its relevant findings into the counterfactual analysis of whether, absent the subsidies, Boeing would have launched the 787 at the same level of technological innovation in 2004".⁴¹⁰

The Panel's findings on a genuine and substantial link between the aeronautics R&D subsidies and the 787

189. The United States submits that the facts, as found by the Panel, do not establish the existence of a genuine and substantial relationship of cause and effect between the aeronautics R&D subsidies and the development of technologies for the 787. The United States notes that the Panel made a number of findings⁴¹¹ and characterized the NASA R&D subsidies as "strategically-focused R&D programmes with a significant and pervasive commercial dimension, undertaken in collaboration with U.S. industry to provide competitive advantages to U.S. industry by funding research into high risk, high pay-off research of the sort that individual companies are unlikely to fund on their own".⁴¹² Regarding the USDOD's ManTech and DUS&T programmes, the Panel further noted that these

⁴⁰⁸Panel Report, para. 7.1660. (original emphasis)

⁴⁰⁹Panel Report, para. 7.1773.

⁴¹⁰United States' other appellant's submission, para. 215.

⁴¹¹United States' other appellant's submission, para. 219 (referring to Panel Report, paras. 7.1740, 7.1742, 7.1745-7.1748, and 7.1771).

⁴¹²Panel Report, para. 7.1764.

programmes are "focused on pursuing 'dual use' technologies through collaborative efforts with U.S. industry".⁴¹³ However, the Panel also made "a number of other findings" that show that the links the Panel attempted to forge between NASA/USDOD R&D and the availability of technologies to the development of the 787 in 2004 do not amount to "a genuine and substantial relationship of cause and effect".⁴¹⁴ The United States thus asserts that, "having made these *findings*, the Panel had to take account of them in its analysis of causation", and the failure to do so means that the Panel's findings "were in error".⁴¹⁵ The United States makes the following specific arguments in this regard.

190. First, the United States asserts that much of the NASA R&D at issue in this dispute was neither in the causal pathway of the technologies that the Panel considered most relevant to the 787, nor was it aimed at making Boeing more competitive.⁴¹⁶ Although the Panel "correctly recognized that NASA research in particular areas of aeronautics science would have different degrees of relevance to Boeing's ability to launch the 787 in 2004", it erred when examining "only three programs" and then "extrapolating their effects" to the other NASA and USDOD programmes.⁴¹⁷ By doing so, the Panel "exaggerated the effect"⁴¹⁸ of these remaining programmes. The United States recalls that the Panel focused on the work on composites and composites technologies studied under the three NASA programmes—namely, the Advanced Composites Technology Program ("ACT programme"), the Advanced Subsonic Technology Program ("AST programme"), and the Research and Technology Base Program ("R&T Base programme")—because, in the Panel's view, they were "the most commercially and technologically significant programmes".⁴¹⁹ The United States therefore contests the Panel's "broad conclusion" about the nature and magnitude of the entirety of Boeing's participation in the aeronautics R&D programmes, which was based solely on the Panel's view about this "subset of the research" under the three programmes that the Panel considered to be "on the high end of significance to the 787".⁴²⁰

⁴¹³Panel Report, para. 7.1764.

⁴¹⁴United States' other appellant's submission, para. 220 (referring to subsections VI.B.1.a and b of its submission; and Panel Report, para. 7.1760).

⁴¹⁵United States' other appellant's submission, para. 221. (emphasis added) The United States "does not agree with the picture of NASA's work that the Panel draws. However, the Panel's errors do not, except as indicated below, rise to the level of a failure to make an objective assessment under Article 11 of the DSU". (*Ibid.*)

⁴¹⁶United States' other appellant's submission, p. 90, subheading VI.B.1.a.

⁴¹⁷United States' other appellant's submission, para. 222.

⁴¹⁸United States' other appellant's submission, para. 222.

⁴¹⁹Panel Report, para. 7.1702.

⁴²⁰United States' other appellant's submission, para. 224.

191. The United States recalls, in this respect, that the Panel's findings establish that most of the NASA R&D programmes "did *not* relate to the identified areas of commercial advantage for the 787", and that they "were *not* directed at a competitive advantage for industry in the first place".⁴²¹ As an example, the United States points to the Aviation Safety Program ("AS programme"), which is aimed at "saving lives", and not at conferring a "competitive advantage" or developing technologies for "Boeing's exclusive or predominant use".⁴²² It also refers to the High-Speed Research Program ("HSR programme"), which accounts for "nearly 40 per cent of the \$1.05 billion in NASA contracts with Boeing that the Panel found to be subsidies", and notes that the research under this programme related to supersonic flight and "was not on the causal pathway that ... led to the technologies selected for the subsonic 787".⁴²³ In the light of this, the United States contends that the Panel's findings indicate "little or no relationship"⁴²⁴ between the AS programme or the HSR programme supersonic research, on the one hand, and the technology used on the 787, on the other hand. Consequently, the United States asserts that the presence of this research in the larger category of aeronautics R&D subsidies analyzed by the Panel "call{s} into question whether the remaining research related to the 787 was sufficient to cause serious prejudice of the type the Panel found to exist".⁴²⁵

192. Second, the United States contends that, even when the NASA research was on the causal pathway toward technologies incorporated in the 787, the Panel found that the research stopped at a level far lower than what Boeing required in order to apply a technology in a commercial context.⁴²⁶ The United States notes that the Panel itself recognized that "it takes a significant amount of time and effort to mature a technology from initial concept to commercial application".⁴²⁷ Indeed, the Panel illustrated the distance between different levels of technology maturation by reference to the NASA technology readiness levels ("TRLs"), a scale that traces the progress of research from "Basic scientific/engineering principles observed and reported" (TRL 1) to "operational use of actual system tested, and benefits proven" (TRL 9).⁴²⁸ The Panel further found that "NASA's research efforts focus on the development of higher risk technologies up to TRL 6 (prototype demonstration)".⁴²⁹ The

⁴²¹United States' other appellant's submission, para. 224. (emphases added)

⁴²²United States' other appellant's submission, para. 225.

⁴²³United States' other appellant's submission, para. 226.

⁴²⁴United States' other appellant's submission, para. 228.

⁴²⁵United States' other appellant's submission, para. 228.

⁴²⁶United States' other appellant's submission, p. 93, subheading VI.B.1.b.

⁴²⁷United States' other appellant's submission, para. 229 (referring to, *inter alia*, Panel Report, para. 7.1758).

⁴²⁸United States' other appellant's submission, para. 230 (referring to Panel Report, para. 7.1748; and D.J. Peisen et al., *Case Studies: Time Required to Mature Aeronautic Technologies to Operational Readiness* (SAIC and GRA, Inc., November 1999) (Panel Exhibit EC-795) ("Peisen Study")).

⁴²⁹Panel Report, para. 7.1748.

United States contends that any "further work needed to mature technologies" to reach "operational use" (TRL 9) would have to be performed by Boeing or some other entity.⁴³⁰

193. In this respect, the United States notes that the evidence cited by the Panel indicates that, for airframe technologies, it takes 16.5 years to move from TRL 1 to TRL 9, 11.3 years of which are devoted to moving from TRL 6 to TRL 9.⁴³¹ This means that it takes, on average, 5.2 years to move from TRL 1 to TRL 6. The United States highlights, however, that the Panel "did not use these figures, apparently because it misunderstood the table it was citing".⁴³² The Panel stated that "the average time from *TRL 1 to TRL 6 was 11.3 years* ..., while the average time from TRL 1 to TRL 9 was 16.5 years".⁴³³ In the United States' view, these findings by the Panel demonstrate that "even if a NASA technology is in the causal pathway toward a technology ready for operational use ... on the 787", it would "require { } substantial additional private development work to get there."⁴³⁴

194. Third, the United States emphasizes that Boeing devoted a substantial amount of its own research toward developing the technologies used on the 787.⁴³⁵ Specifically, the United States recalls that the Panel itself found that "Boeing conducted a substantial amount of research on its own to develop and launch the 787"⁴³⁶, and that NASA aeronautics research "stops at TRL 6 or lower", whereas the major time commitment in the development process "comes in the subsequent stages of turning technological concepts into commercial applications".⁴³⁷ The Panel also found that, "even at the earlier stages of development, {Boeing} conducted work independent of NASA".⁴³⁸ Therefore, the United States contends that NASA-funded research played a small role in Boeing's ability to launch a technologically innovative 787 in 2004.

195. Fourth, the United States points to the role of Boeing's suppliers, who are responsible for a substantial amount of the technology needed for the 787, and to Boeing's own experience, which largely contributed to its ability to integrate those technologies into a finished product.⁴³⁹ According to the United States, even if the Panel were correct that Boeing had NASA and USDOD to "thank { }

⁴³⁰United States' other appellant's submission, para. 230 (referring to Affidavit of Branko Sarh (Panel Exhibit US-1254), para. 15).

⁴³¹United States' other appellant's submission, para. 231 (referring to Peisen Study, p. 11).

⁴³²United States' other appellant's submission, para. 232.

⁴³³Panel Report, para. 7.1748. (emphasis added)

⁴³⁴United States' other appellant's submission, para. 235.

⁴³⁵United States' other appellant's submission, p. 96, subheading VI.B.1.c.

⁴³⁶United States' other appellant's submission, para. 236.

⁴³⁷United States' other appellant's submission, para. 236.

⁴³⁸United States' other appellant's submission, para. 236 (referring to Panel Report, para. 7.1746).

⁴³⁹United States' other appellant's submission, p. 96, subheading VI.B.1.d.

... in large part"⁴⁴⁰ for its technology integration abilities in civil aeronautics, the Panel's findings establish that the "company's home-grown capabilities were also responsible for a large part" of "Boeing's ability to accommodate the technology stream coming from suppliers".⁴⁴¹ Therefore, the suppliers' contribution to Boeing's knowledge base attenuates any link between the aeronautics R&D subsidies and the technology used on the 787.

196. The United States further considers that the Panel failed to make an objective assessment under Article 11 of the DSU, since there was no meaningful support in the evidence for the finding that Boeing's ability to use other companies' commercially available technologies on the 787 was due to "the knowledge and experience that Boeing obtained pursuant to the aeronautics R&D subsidies as an integrator of the various technologies".⁴⁴² The Panel simply accepted the European Communities' assertion that "NASA provides relevant learning and experience to perform the task of integrating technologies supplied by third parties into a complete {LCA}"⁴⁴³; but the European Communities cited no evidence. The United States submits that there was, however, evidence on the Panel record suggesting that Boeing had developed experience in the application of composites in primary and secondary structures since the 1960s, had further developed this experience when work on the 777 began in the late 1980s, and had continued to develop it in the 1990s. This work involved integrating the technologies of multiple suppliers independent of the NASA and USDOD R&D programmes. Therefore, the United States asserts, the Panel's finding that Boeing could meet the challenge of integrating technologies from a wide variety of suppliers "thanks in large part to NASA and {US}DOD funding and support"⁴⁴⁴ lacks a basis in the evidence and should be reversed.

197. The United States also alleges that the integration of a variety of supplier technologies in a commercial programme differs greatly, in both scale and quality, from the work executed pursuant to the NASA and USDOD R&D programmes at issue. Even the largest NASA programme (the HSR programme) amounted to only \$440 million, which, in the end, was only \$307 million given that NASA cut the programme short.⁴⁴⁵ Furthermore, the nature of the "integration" in a NASA project is different in three critical ways from the "integration" that Boeing performed in producing LCA: (i) NASA-funded aeronautics R&D projects do not advance beyond the laboratory and do not deal with real-world problems of applying these technologies; (ii) most NASA research does not involve

⁴⁴⁰Panel Report, para. 7.1772 (quoting European Communities' oral statement at the first Panel meeting (BCI), para. 14).

⁴⁴¹United States' other appellant's submission, para. 239.

⁴⁴²Panel Report, para. 7.1772.

⁴⁴³United States' other appellant's submission, para. 247.

⁴⁴⁴Panel Report, para. 7.1772 (quoting European Communities' oral statement at the first Panel meeting (BCI), para. 14).

⁴⁴⁵United States' other appellant's submission, para. 242.

making usable physical parts and components; and (iii) even in those rare cases when NASA projects called for making a physical component, it was at most one or two Articles over a period of months or years for laboratory test purposes.⁴⁴⁶ The United States adds that another key difference between even the largest NASA project (the HSR programme) and Boeing's development of LCA relates to the person in charge of the project. For the former, NASA gives instructions as to "what gets done and how it gets done"⁴⁴⁷, whereas on an LCA development project, Boeing plays that role.

198. Fifth, the United States contends that NASA's public dissemination requirement lessens the value of the aeronautics R&D subsidies to Boeing.⁴⁴⁸ The United States recalls the Panel's finding that "NASA publicly disseminated the reports that summarized the results of the research conducted under the eight {NASA} programmes at issue, and that this represents a situation in which Boeing has given up something of value in exchange for the funds and access to facilities, equipment and employees that it receives".⁴⁴⁹ The United States recognizes that the Panel also found that "there are restrictions on the dissemination of certain aspects of NASA-funded research results, and that public dissemination does not occur immediately".⁴⁵⁰ However, the "critical implication" of the latter finding is that Limited Exclusive Rights Data ("LERD") clauses "*only* restrict dissemination of '*certain aspects*' of research results for a '*limited*' time".⁴⁵¹ Therefore, despite the fact that the Panel declined to attach an amount to how much of the NASA funding did not confer a benefit, the point remains that the Panel found that some portion of the \$2.6 billion in funding had less value because of NASA's dissemination policies.

199. Sixth, the United States asserts that, relative to the immense R&D expenditures of Boeing and its suppliers, that the magnitude of the aeronautics R&D subsidies is too small to create a genuine and substantial relationship of cause and effect with the technologies used on the 787.⁴⁵² The United States contends that the \$2.6 billion in aeronautics R&D subsidies found by the Panel, spread over the 18 years from 1989 to 2006, "is small compared to Boeing's own {R&D} spending".⁴⁵³ In this regard, the United States notes that, when a full aircraft development programme like the 787 is under way, Boeing's R&D costs "run to more than \$2 billion *per year*, as opposed to the average of \$153 million per year of aeronautics R&D subsidies found by the Panel".⁴⁵⁴ Therefore, since the \$2.6 billion total "is less significant than it appears", and the total cost of developing an LCA is

⁴⁴⁶United States' other appellant's submission, para. 244.

⁴⁴⁷United States' other appellant's submission, para. 245.

⁴⁴⁸United States' other appellant's submission, p. 101, subheading VI.B.1.e.

⁴⁴⁹Panel Report, para. 7.1100.

⁴⁵⁰Panel Report, para. 7.1771.

⁴⁵¹United States' other appellant's submission, para. 250. (emphasis added)

⁴⁵²United States' other appellant's submission, p. 102, subheading VI.B.1.f.

⁴⁵³United States' other appellant's submission, para. 251.

⁴⁵⁴United States' other appellant's submission, para. 251. (original emphasis)

"greater", any link between the research and Boeing's ability to develop and launch the technologically innovative 787 in 2004 "is that much more attenuated".⁴⁵⁵

200. In conclusion, the United States submits that, when considered in their totality, the Panel's findings do not establish a genuine and substantial relationship of cause and effect and thus do not meet the requirement under Articles 5 and 6.3 of the *SCM Agreement* for the aeronautics R&D subsidies to have caused adverse effects.

201. At the oral hearing, the United States rejected the European Union's assertion that the United States is disputing the Panel's findings of fact. The United States responded that it is challenging only one finding of fact under Article 11 of the DSU (that is, that NASA research projects are "largely responsible"⁴⁵⁶ for Boeing's expertise as an integrator of aircraft), and that, otherwise, it accepts the facts as laid out by the Panel. In the United States' view, the issue of causation is a legal issue involving the application of the causation standard in the *SCM Agreement* to the facts at issue.

202. In the light of the above, the United States requests the Appellate Body to reverse the Panel's finding that the aeronautics R&D subsidies caused adverse effects to the interests of the European Communities, within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement*.

The Panel's findings regarding the counterfactual analysis

203. The United States raises a second ground of appeal, namely, that the Panel's counterfactual analysis was insufficient to demonstrate that, but for the aeronautics R&D subsidies, Boeing would not have been able to launch the 787 in 2004.⁴⁵⁷ The United States describes the Panel's examination of whether Boeing would have launched the 787 when it did in the absence of the subsidies as " cursory"⁴⁵⁸, and it criticizes the Panel for failing to take into account its own findings regarding the nature of the subsidy, Boeing's research priorities, its actual research activities, and its available resources. A proper counterfactual causation analysis, in accordance with the Appellate Body's reasoning in *US – Upland Cotton (Article 21.5 – Brazil)*, would have more rigorously examined all of the Panel's findings and looked at all of the Panel's findings in the context of the conditions of competition.⁴⁵⁹ It is the United States' contention that several findings of the Panel demonstrate that Boeing's commercial behaviour relating to the launch of the 787 would not have changed in the absence of the aeronautics R&D subsidies.

⁴⁵⁵United States' other appellant's submission, para. 252.

⁴⁵⁶United States' other appellant's submission, p. 96, subheading VI.B.1.d.

⁴⁵⁷United States' other appellant's submission, p. 105, heading VI.B.2.

⁴⁵⁸United States' other appellant's submission, para. 258.

⁴⁵⁹United States' other appellant's submission, para. 261 (referring to Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 351).

204. The United States first recalls the Panel's conclusion that "{t}he essence of the intense competition between Boeing and Airbus is to design and build better airplanes".⁴⁶⁰ The United States sees this statement as recognition that LCA manufacturers "have strong commercial incentives to spend the resources needed to gain a technical advantage over competitors".⁴⁶¹ The United States also points to the Panel's finding that under the aeronautics R&D programmes "the definition of the scope and programme of research was arrived at in collaboration with industry"⁴⁶² and that, as a result, the aeronautics R&D programmes focused on creating a competitive advantage for Boeing.⁴⁶³ Boeing therefore "knew what research needed to be done, knew that it would result in a competitive advantage, and could formulate a plan for the deployment of resources to meet those objectives".⁴⁶⁴ Boeing's expected competitive advantage would, in the United States' view, "provide a compelling motive to do just that".⁴⁶⁵

205. In addition, the United States points to the Panel's finding that private parties can obtain access to NASA goods and services through reimbursable Space Act Agreements, and that, under these instruments, "NASA requires full reimbursement, defined as 'full cost recovery' for the goods, services or facilities provided".⁴⁶⁶ The United States therefore submits that a private party may engage the NASA facilities, equipment, and employees by paying the agency the cost of their use. The United States further refers to the Panel's finding that Boeing was self-funding research on the same topics as NASA, and was doing so at the same time.⁴⁶⁷ The United States also underscores the Panel's finding that Boeing had sufficient funds to achieve the same learning and experience as that which may have resulted from the aeronautics R&D subsidies at issue.⁴⁶⁸

206. The United States asserts that all of these findings "point to a straightforward counterfactual conclusion"⁴⁶⁹, namely, that, in the absence of the subsidies, Boeing "would have funded this 'critical' research itself, either using Boeing's own resources or by obtaining them from NASA under a reimbursable Space Act Agreement".⁴⁷⁰ Accordingly, a "proper counterfactual" analysis would have determined that "the aeronautics R&D subsidies are *not* a genuine and substantial cause of adverse

⁴⁶⁰Panel Report, para. 7.1765.

⁴⁶¹United States' other appellant's submission, para. 263.

⁴⁶²Panel Report, para. 7.1745.

⁴⁶³United States' other appellant's submission, para. 264 (referring to Panel Report, para. 7.1740).

⁴⁶⁴United States' other appellant's submission, para. 264.

⁴⁶⁵United States' other appellant's submission, para. 264.

⁴⁶⁶United States' other appellant's submission, para. 266 (quoting Panel Report, footnote 2624 to para. 7.1082).

⁴⁶⁷United States' other appellant's submission, para. 267 (referring to Panel Report, para. 7.1746).

⁴⁶⁸United States' other appellant's submission, para. 268 (referring to Panel Report, paras. 7.1759, 7.1830, and 7.1831).

⁴⁶⁹United States' other appellant's submission, para. 269.

⁴⁷⁰United States' other appellant's submission, para. 270.

effects".⁴⁷¹ The Panel reached "the opposite conclusion" and provided "no explanation reconciling this conclusion with its other findings".⁴⁷²

207. The United States also argues that the Panel's rejection of the proposition that Boeing would have performed the same research on the grounds that there are "large disincentives for private sector investment in long term, high risk aeronautical R&D"⁴⁷³ is contradicted by the Panel's finding that the aeronautics R&D research has a greater effect than what its dollar value would indicate, because "it is intended to multiply the benefit from a given expenditure".⁴⁷⁴ The United States further notes that the Panel rejected the "United States' invitation to compare the amounts of the aeronautics R&D subsidies with Boeing's payments to shareholders".⁴⁷⁵ The United States explains, however, that it "did *not* 'invite' this comparison", but rather a comparison of "net income and cash flow from operations over the period"⁴⁷⁶, which it had demonstrated "were sufficient to support Boeing's commercial behaviour absent the subsidies".⁴⁷⁷ It showed that such commercial behaviour would have taken place "*even if* Boeing had made all \$16 billion in shareholder payments that it made over the period".⁴⁷⁸ Moreover, the Panel made a "more important error" by not accepting the proposition that "the effect of the aeronautics R&D subsidies was essentially to benefit Boeing's shareholders"⁴⁷⁹, which is a necessary implication of the counterfactual analysis.

208. In conclusion, the United States submits that the Panel failed properly to conduct its counterfactual analysis, and thus failed to establish a causal link between the subsidies and the adverse effects to the interests of the European Communities. For these reasons, the United States requests the Appellate Body to reverse the Panel's finding that, "absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008"⁴⁸⁰, and also to reverse the dependent findings that those subsidies caused adverse effects to the interests of the European Communities within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement*.

⁴⁷¹United States' other appellant's submission, para. 270. (emphasis added)

⁴⁷²United States' other appellant's submission, para. 271.

⁴⁷³Panel Report, para. 7.1759.

⁴⁷⁴Panel Report, para. 7.1760.

⁴⁷⁵Panel Report, para. 7.1760.

⁴⁷⁶United States' other appellant's submission, para. 275. (emphasis added)

⁴⁷⁷United States' other appellant's submission, para. 275.

⁴⁷⁸United States' other appellant's submission, para. 275 (referring to the United States' comment on European Communities' response to Panel Question 78, para. 270). (original emphasis)

⁴⁷⁹United States' other appellant's submission, para. 276.

⁴⁸⁰Panel Report, para. 7.1775.

(ii) *The Panel's finding with respect to the effects of the aeronautics R&D subsidies on Airbus' prices and sales*

209. With respect to the second stage of the Panel's analysis of the technology effects⁴⁸¹, the United States appeals the Panel's finding that "the effect of the subsidies was significant lost sales, {threat of} displacement and impedance, and price suppression with regard to the A330 or Original A350".⁴⁸²

Lost sales and threat of displacement or impedance

210. The United States notes, first, that the Panel erred in finding that Airbus "lost" sales of the A330 and Original A350 in sales campaigns where "the customer chose the 787 over the Original A350".⁴⁸³ It observes that the Qantas, Ethiopian Airlines, Icelandair, and Kenya Airways sales campaigns "each involved a single transaction", and "{i}n none of these transactions did the customer consider buying both an Original A350 *and* an A330".⁴⁸⁴ The United States thus contends that, "to the extent that any of these transactions resulted in a lost sale of the {Original} A350, it {could} not also be a lost sale of the A330", since Airbus "cannot lose the same sale twice".⁴⁸⁵

211. The United States further asserts that, in each of the lost sales found by the Panel, Airbus either "did not bid any aircraft"⁴⁸⁶, "removed the A330 from consideration in favour of the Original A350"⁴⁸⁷, or "offered only the Original A350 against the 787".⁴⁸⁸ Therefore, "{n}one of these campaigns involved a potential order for the Original A350 *and* the A330".⁴⁸⁹ The United States adds that, "even assuming *arguendo* that the 787 was unavailable at the time of the campaign" or "lacked the technological features that swayed the customers", Airbus "could only have expected to obtain additional sales of the Original A350", but not of the A330 as well.⁴⁹⁰ Consequently, the lost sales findings regarding the A330 do not meet the requirements of Article 6.3(c) of the *SCM Agreement*. Because the Panel used these "invalid" lost sales findings as the sole basis of its findings of threat of

⁴⁸¹The United States clarifies that it makes this claim "assuming *arguendo* the existence of a genuine and substantial link between the subsidies and Boeing's ability to reach the level of technological innovation present in the 787". (United States' other appellant's submission, para. 216)

⁴⁸²United States' other appellant's submission, para. 216.

⁴⁸³United States' other appellant's submission, para. 281.

⁴⁸⁴United States' other appellant's submission, para. 281. (original emphasis)

⁴⁸⁵United States' other appellant's submission, para. 281.

⁴⁸⁶United States' other appellant's submission, para. 283 (referring to European Communities' first written submission to the Panel, Annex D – 787 Campaign Annex (HSBI), para. 42).

⁴⁸⁷United States' other appellant's submission, para. 283 (referring to European Communities' first written submission to the Panel, Annex D – 787 Campaign Annex (HSBI), para. 22).

⁴⁸⁸United States' other appellant's submission, para. 283 (referring to European Communities' first written submission to the Panel, Annex D – 787 Campaign Annex (HSBI), paras. 49 and 60).

⁴⁸⁹United States' other appellant's submission, para. 283. (original emphasis)

⁴⁹⁰United States' other appellant's submission, para. 284.

displacement and impedance of the A330 in Australia, Ethiopia, Iceland, and Kenya, the United States asserts that the latter findings are "similarly inconsistent" with Article 6.3(b) of the *SCM Agreement*.⁴⁹¹

212. Second, the United States argues that, in finding lost sales for the Original A350 and A330 involving Ethiopian Airlines, Icelandair, and Kenya Airways, the Panel erred because it failed to take account of "customer-specific situations showing that Boeing's victory in the campaign was not the effect of the aeronautics R&D subsidies".⁴⁹² The Panel correctly found that "Boeing's customer relationship precluded lost sales findings at Continental Airlines, All Nippon Airways, and Japan Airlines".⁴⁹³ Yet, the United States submits, "{s}ubstantially the same situation" existed for Ethiopian Airlines, Icelandair, and Kenya Airways, namely, "{t}hey had all-Boeing fleets, with Ethiopian Airlines and Kenya Airways seeking a replacement for the 767, and Icelandair looking to replace its 757s".⁴⁹⁴ The Panel's finding was therefore contradictory in that respect.

213. Third, the United States argues that a "similar inconsistency" exists between the Panel's lost sales finding with respect to Icelandair and the Panel's finding of no lost sale for Royal Air Maroc, by virtue of Airbus' "failure to submit a formal offer within the time limit specified by the airline (Royal Air Maroc)".⁴⁹⁵ Regarding the Icelandair campaign, the United States observes that, for a sale to be "lost" by a Member, "there must have been some competition in which the Member's producer 'might have had' the sale".⁴⁹⁶ If the Member's producer did not attempt to get the sale or did not make an offer that responded to the customer's requirements, it could not have expected to gain the sale and, therefore, cannot be understood to have "lost" it.⁴⁹⁷ The United States thus contends that "{t}he fact that Boeing secured an order does not necessarily mean, as the Panel appeared to presume, that Airbus

⁴⁹¹United States' other appellant's submission, para. 281.

⁴⁹²United States' other appellant's submission, para. 286.

⁴⁹³United States' other appellant's submission, para. 288 (referring to Panel Report, footnote 3725 to para. 7.1786).

⁴⁹⁴United States' other appellant's submission, para. 288 (referring to United States' first written submission to the Panel, U.S. Campaign Annex (BCI), footnote 2 to para. 10).

⁴⁹⁵United States' other appellant's submission, para. 289 (quoting Panel Report, footnote 3725 to para. 7.1786).

⁴⁹⁶United States' other appellant's submission, para. 290. The United States notes that Article 6.3(c) of the *SCM Agreement* provides that serious prejudice may arise where "the effect of the subsidy is ... lost sales in the same market", and that the relevant meaning of "lost" appears to be to "fail to obtain (something one might have had)" or "{b}e deprived of (something) in a contest or game ... be defeated in (a game, battle, a lawsuit)" (*Ibid.* (quoting *The New Shorter Oxford English Dictionary*, 4th edn, L. Brown (ed.) (Clarendon Press, 1993), Vol. 1, p. 1632 (Panel Exhibit US-14); and referring to United States' first written submission to the Panel, para. 892) (underlining added))

⁴⁹⁷United States' other appellant's submission, para. 290 (referring to United States' first written submission to the Panel, paras. 892 and 893).

lost the order"⁴⁹⁸, and notes that there is no evidence concerning the Icelandair sale to demonstrate that, "if Boeing had not secured the order, Airbus would have actually secured it".⁴⁹⁹

214. Lastly, the United States argues that, since the Panel's erroneous finding of lost sales was "the sole basis"⁵⁰⁰ for the Panel's finding that there was threat of displacement or impedance in Ethiopia, Iceland, and Kenya, the latter finding lacks any support. Accordingly, the United States requests the Appellate Body to reverse these findings by the Panel under Articles 5(c) and 6.3(b) of the *SCM Agreement*.

Threat of displacement or impedance

215. The United States submits that the Panel erred in finding a threat of displacement and impedance of Airbus 200-300 seat LCA under Article 6.3(b) of the *SCM Agreement* in Ethiopia, Kenya, and Iceland.⁵⁰¹ First, the Panel declined to assess whether these countries constituted "third country markets" within the meaning of Article 6.3(b).⁵⁰² Second, the Panel's finding of threat of displacement and impedance in Ethiopia, Kenya, and Iceland, based solely on a single sales campaign in each country, means that the Panel interpreted and applied Article 6.3(b) in a manner that "reduces 'market' to a nullity".⁵⁰³ If the drafters had intended such an interpretation, Article 6.3(b) would describe displacement or impedance "from a third country" and omit any reference to "a third country market".⁵⁰⁴ Therefore, the United States requests the Appellate Body to reverse the Panel's findings of threat of displacement and impedance.

Price suppression

216. The United States argues that the Panel erroneously found that the effect of the aeronautics R&D subsidies was significant price suppression in the worldwide market for 200-300 seat LCA. First, with respect to the A330, the United States asserts that the Panel failed to satisfy the requirements for a finding of significant price suppression, because "it did not conduct a valid counterfactual assessment" and "relied on a coincidence of trends analysis that did not examine closely enough the evolution of the trends".⁵⁰⁵ The United States explains that the Panel relied on a perceived coincidence between the 2004 launch of the 787 and a decline in A330 prices, instead of

⁴⁹⁸United States' other appellant's submission, para. 291. (original emphasis)

⁴⁹⁹United States' other appellant's submission, para. 292.

⁵⁰⁰United States' other appellant's submission, para. 294.

⁵⁰¹United States' other appellant's submission, para. 295 (referring to Panel Report, paras. 7.1791 and 7.1794).

⁵⁰²United States' other appellant's submission, para. 295.

⁵⁰³United States' other appellant's submission, paras. 295 and 296.

⁵⁰⁴United States' other appellant's submission, para. 296. (original emphasis)

⁵⁰⁵United States' other appellant's submission, para. 298.

conducting a meaningful counterfactual analysis of A330 prices.⁵⁰⁶ Moreover, the Panel drew the wrong conclusion from worldwide market share data for 200-300 seat LCA.⁵⁰⁷ Although acknowledging that the arithmetic conclusions drawn by the Panel in comparing 2000-2003 trends with 2004-2006 trends were correct, the United States nevertheless argues that the Panel erred in "failing to look more rigorously at the evolution of these trends", which reveals that "no discernible correlation exists between the 787's market presence and A330 prices".⁵⁰⁸ Thus, the Panel's A330 price suppression findings are erroneous because the Panel relied on a "temporal coincidence" between market share levels and A330 prices that "contradicts its inferences".⁵⁰⁹

217. Second, with respect to the Original A350, the United States maintains that the Panel's finding of significant price suppression fails because, "with no pricing data of any kind and anecdotal evidence covering barely 30 per cent of sales", the evidence with respect to the Original A350 "is insufficient to support any conclusion about overall pricing levels".⁵¹⁰ The United States recalls that the Panel identified the worldwide market for 200-300 seat LCA as the "same market" in which it would analyze whether the effect of the subsidies was significant price suppression for the Original A350 and for the other Airbus aircraft in that "product market" (the A330 and A350XWB-800).⁵¹¹ The United States does not appeal this aspect of the Panel's reasoning, but contends that, "once the Panel selected that market as the frame of reference", it was required to assess, in accordance with Article 6.3(c) of the *SCM Agreement*, "whether prices of Airbus 200-300 seat {LCA} in that worldwide market, were significantly suppressed".⁵¹²

218. The United States further states that, although it was the European Communities' burden to present evidence in support of its assertions, the European Communities did not provide any evidence regarding price trend data for the Original A350.⁵¹³ Furthermore, because an "evaluation of price suppression without prices is a *non sequitur*", the United States submits that any conclusion reached by the Panel fails, "for that reason alone", to establish an inconsistency with Article 6.3(c) of the *SCM Agreement*.⁵¹⁴ The United States notes that, in an attempt "to plug the hole" left by the

⁵⁰⁶United States' other appellant's submission, para. 299 (referring to Panel Report, paras. 7.1782-7.1785).

⁵⁰⁷United States' other appellant's submission, para. 300 (referring to Panel Report, paras. 7.1783-7.1785).

⁵⁰⁸United States' other appellant's submission, para. 302.

⁵⁰⁹United States' other appellant's submission, para. 303.

⁵¹⁰United States' other appellant's submission, para. 304.

⁵¹¹United States' other appellant's submission, para. 307 (referring to Panel Report, para. 7.1674; and European Communities' first written submission to the Panel, para. 1186).

⁵¹²United States' other appellant's submission, para. 307. (original emphasis)

⁵¹³United States' other appellant's submission, para. 309 (referring to United States' comments on the European Communities' response to Panel Question 381, para. 337).

⁵¹⁴United States' other appellant's submission, para. 309.

European Communities, the Panel referred to "anecdotal evidence on 'certain sales'".⁵¹⁵ However, the "sales" in question were "three campaigns that provide{d} an insufficient basis from which to draw conclusions" on whether prices in "the same market" have been suppressed to a significant degree.⁵¹⁶ The three Original A350 sales campaigns cited by the European Communities represented 30.4% of the total orders for that aircraft in "the same market", and hence there was "simply no way of knowing what happened with Original A350 pricing in the majority of sales for that aircraft".⁵¹⁷

219. Therefore, the United States submits that, absent evidence as to actual prices or price trends for the Original A350 in the world market, the Panel had no way to test whether the actual evolution of prices conformed to its theory that "the combination of the superior technology and lower operating costs of the 787 clearly affected the comparative value of Airbus' A330 and {Original} A350, leaving Airbus no other option but to reduce the prices of its aircraft in order to compete".⁵¹⁸ An "expectation based on economic reasoning"⁵¹⁹ is not enough to justify the finding necessary to establish an inconsistency with Article 6.3(c) of the *SCM Agreement*: that "the effect of the subsidy is ... significant price suppression ... in the same market".⁵²⁰

220. Finally, as regards Airbus's 200-300 seat LCA market as a whole, the United States submits that, in assessing whether the effect of the aeronautics R&D subsidies to the 787 was significant price suppression in the same market within the meaning of Article 6.3(c), the Panel's task was to determine whether significant price suppression existed for "the product in question, as a whole, in the relevant market, as a whole".⁵²¹ The Panel chose to examine price suppression on a "model-by-model basis"⁵²², despite the fact that the product in question consisted of all three of the 200-300 seat Airbus models identified by the European Communities: the A330, the Original A350, and the A350XWB-800. Furthermore, the Panel rejected the European Communities' assertion of significant price suppression of the A350XWB-800⁵²³, and, moreover, that it had an insufficient basis from which to find significant price suppression for the Original A350. This, according to the United States, "leaves a finding of price suppression exclusively with respect to ... the A330".⁵²⁴ A price suppression finding specific to the A330 cannot be considered as a sufficient basis for the Panel's conclusion as to the effects "with respect to the 200-300 seat wide-body LCA product

⁵¹⁵United States' other appellant's submission, para. 310.

⁵¹⁶United States' other appellant's submission, para. 310.

⁵¹⁷United States' other appellant's submission, para. 310.

⁵¹⁸Panel Report, para. 7.1792.

⁵¹⁹United States' other appellant's submission, para. 311.

⁵²⁰United States' other appellant's submission, para. 311. (original emphasis)

⁵²¹United States' other appellant's submission, para. 312 (quoting Panel Report, *Korea – Commercial Vessels*, para. 7.557). (emphasis added by the United States)

⁵²²United States' other appellant's submission, para. 313.

⁵²³United States' other appellant's submission, para. 313 (referring to Panel Report, para. 7.1793).

⁵²⁴United States' other appellant's submission, para. 313.

market".⁵²⁵ The United States therefore requests the Appellate Body to reverse the Panel's conclusion that an effect of the aeronautics R&D subsidies is significant price suppression with regard to Airbus 200-300 seat LCA.

(iii) *Conclusion on technology effects of the aeronautics R&D subsidies*

221. In sum, the United States claims that the Panel erred in finding that the aeronautics R&D subsidies have caused adverse effects under Articles 5(c) and 6.3 of the *SCM Agreement*. The United States requests the Appellate Body to reverse the Panel's finding that the aeronautics R&D subsidies have caused adverse effects to the interests of the European Union by contributing "in a genuine and substantial way to Boeing's development of technologies for the 787".⁵²⁶ In addition, because the Panel failed to conduct a proper counterfactual analysis, the United States requests the Appellate Body to reverse the Panel's finding that, "absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008"⁵²⁷, and the dependent findings that those subsidies caused adverse effects to the interests of the European Communities. Finally, the United States requests the Appellate Body to reverse the Panel's findings regarding the effects of the aeronautics R&D subsidies on the prices and sales of Airbus LCA competing in the 200-300 seat LCA market.

(b) Price effects of the tied tax subsidies

222. The United States raises a number of claims against the Panel's analysis of price effects under Articles 5 and 6.3 of the *SCM Agreement*. Each of these claims arises from the United States' view that the Panel "took a number of impermissible shortcuts in its analysis of the tax subsidies"—that is, the FSC/ETI subsidies and the B&O tax rate reductions—"allegedly conferred on Boeing", and therefore "did not establish a genuine and substantial relationship of cause and effect between the subsidies and the adverse effects alleged by the {European Communities}".⁵²⁸ The United States requests the Appellate Body to reverse the Panel's finding that the effects of the FSC/ETI subsidies and the B&O tax rate reductions in the 100-200 seat and 300-400 seat LCA markets were significant price suppression, significant lost sales, and displacement and impedance, within the meaning of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*.

⁵²⁵Panel Report, para. 8.3(a)(i).

⁵²⁶United States' other appellant's submission, paras. 217 and 257.

⁵²⁷Panel Report, para. 7.1775.

⁵²⁸United States' other appellant's submission, para. 315.

(i) *The Panel's counterfactual analysis*

223. The United States submits that the Panel erred by dispensing with considerations highlighted by the Appellate Body as important or critical for panels when evaluating claims under Articles 5(c) and 6.3 of the *SCM Agreement*.

224. The United States argues that the Panel's counterfactual analysis failed to address whether Boeing's prices would have been higher in the absence of the tax subsidies. A counterfactual analysis of the effect of subsidies on prices should evaluate whether the subsidized producer's prices "would have been higher in the absence of the subsidies (that is, *but for*, the subsidies)".⁵²⁹ Instead, the Panel stated that it had "no doubt"⁵³⁰ that the availability of the FSC/ETI subsidies, in combination with the B&O tax rate reductions, enabled Boeing to lower its prices beyond the level that would otherwise have been economically justifiable, and that, in some cases, this led to Boeing securing sales that it would not otherwise have made, while, in other cases, it led to Airbus being able to secure the sale only at a reduced price. The United States contends that "{t}his brief explanation is no substitute for a counterfactual analysis", and that the Panel "failed to establish that, absent the tax subsidies, Boeing's prices would have been at a higher, 'economically justifiable' level".⁵³¹

225. According to the United States, the parties' argumentation and evidence narrowed the counterfactual question before the Panel to whether, but for the subsidies, Boeing would have had the resources to act in an economically rational manner. The Panel, however, rejected the European Communities' argument that, but for the subsidies, Boeing would have been forced, as a matter of economic necessity, to raise its prices. Accordingly, the Panel erred under Articles 5 and 6.3 of the *SCM Agreement* by finding that the tax subsidies caused Boeing to lower its prices beyond an "economically justifiable" level.

Magnitude of the subsidies

226. The United States argues that the Panel failed to conduct a proper analysis of the magnitude of the tax subsidies. The Appellate Body has stated that the magnitude of a subsidy is an important factor in the analysis of whether the effect of the subsidy is significant price suppression.⁵³² In fact, when it found that the B&O tax rate reductions were, by themselves, too small to cause serious prejudice, the Panel implicitly recognized that the magnitude could be the *decisive* factor. The Panel,

⁵²⁹United States' other appellant's submission, para. 321 (quoting Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 370 (original emphasis)).

⁵³⁰Panel Report, para. 7.1818.

⁵³¹United States' other appellant's submission, para. 321 (quoting Panel Report, para. 7.1818).

⁵³²United States' other appellant's submission, para. 323 (referring to Appellate Body Report, *US – Upland Cotton*, para. 461).

however, conducted no such analysis in relation to the FSC/ETI measure. The United States maintains that both parties put forward calculations showing that the amount of the FSC/ETI benefit was consistently less than 1% of the value of Boeing's annual sales from 2001 to 2006. The Panel dismissed this evidence as not "particularly informative or illustrative of the capacity for the FSC/ETI subsidies to have affected Boeing's prices, and by extension, Airbus' prices and sales"⁵³³, but failed to recognize that this meant the complaining party had failed to meet its burden of proof. In respect of its lost sales claims, the European Communities' own evidence shows that a counterfactual increase in Boeing's prices by less than 1% would not have changed the outcome of campaigns won for the 737 and 777. As to significant price suppression, the European Communities never asserted or attempted to demonstrate that suppression of Airbus' prices by less than 1% *ad valorem* would constitute significant price suppression. Because those subsidies were simply too small during the 2004-2006 period to have had the effect of causing Boeing to win significant sales and market share from Airbus, or to suppress Airbus' prices by a significant degree, the United States asserts that no causal link exists.

Correlation between the subsidies and their effects

227. The United States contends that the Panel failed to address the absence of any correlation between the amount of the tax subsidies and the alleged lost sales, price suppression, and changes in market share. The Appellate Body has previously found that a discernible correlation would be expected between significantly suppressed prices and the challenged subsidy if the effect of the subsidy is significant price suppression, and that this "is an important factor in any analysis of whether the effect of a subsidy is significant price suppression".⁵³⁴ The same reasoning applies in evaluating whether the effect of the subsidy is significant lost sales or displacement or impedance. In this dispute, no correlation exists between the level of subsidies and the evolution of prices and sales for LCA in the 2001-2003 and 2004-2006 periods. The United States argues that these facts show that no meaningful relationship exists between the tax subsidies and Boeing's prices for and sales of LCA, and yet the Panel never made any findings on this issue.

Non-attribution factors

228. The United States argues that the Panel failed to perform an adequate non-attribution analysis, as required under Articles 5(c) and 6.3 of the *SCM Agreement*. Although the Appellate Body has observed that "it is necessary to ensure that the effects of other factors on prices are not improperly

⁵³³Panel Report, para. 7.1816.

⁵³⁴Appellate Body Report, *US – Upland Cotton*, para. 451.

attributed to the challenged subsidies"⁵³⁵, the Panel did not engage in any meaningful analysis of the effects of other factors on the prices and sales of either Boeing or Airbus. The United States had argued before the Panel that Airbus A320 and A340 sales and prices were not higher than they were because: (i) Airbus undercut prices for both 100-200 seat and 300-400 seat LCA, which increased its market share dramatically but set customer expectations for low prices; (ii) Boeing decided to price the 737 and 777 more competitively following significant market share losses to Airbus; and (iii) prices for Airbus' four-engine A340 fell (as compared to the more fuel-efficient 777) when fuel prices spiked in 2005 and 2006. Yet the Panel failed to explain inconsistencies between its findings and evidence on the record regarding these non-subsidy factors. In fact, the United States argues, the Panel did not mention any non-subsidy factors in its analysis, other than to state that the United States' arguments and evidence "do not reverse or attenuate the pervasive and consistent pricing advantage that Boeing had in LCA campaigns in the 2001-2003 period due to the availability of the FSC/ETI subsidies".⁵³⁶ The United States considers that the Panel's statement simply restated the test enunciated by the Appellate Body, but did nothing to ensure that the effects of other factors on prices were not improperly attributed to the challenged subsidies.

(ii) *Treatment of FSC/ETI as prohibited export subsidies*

229. The United States submits that the Panel erred by presuming that a finding that a subsidy is prohibited under Part II of the *SCM Agreement* also signifies that the subsidy causes serious prejudice under Part III of that Agreement. In particular, the United States refers to the Panel's statement that, "precisely because the FSC/ETI subsidies are contingent on Boeing making export sales, we are entitled to determine, absent reliable evidence to the contrary, that by their very nature, they will have trade distortive effects".⁵³⁷ Although the Panel did not use the words "presumption" or "presume", the mechanism it described is indistinguishable from a rebuttable presumption. The United States considers that the relationship that the Panel posited between findings under Parts II and III is contrary to the terms of the *SCM Agreement*.

230. The United States contends that there are "many important differences"⁵³⁸ between Parts II and III of the *SCM Agreement*. Unlike Part III, Part II applies without a finding of specificity, requires no finding as to the effect of the subsidy, and has no significance requirement. In addition, Part II places an absolute prohibition on certain subsidies, whereas Part III allows a Member to maintain a subsidy if it can remove any adverse effects. The flaw in the Panel's reasoning is that

⁵³⁵ Appellate Body Report, *US – Upland Cotton*, para. 437.

⁵³⁶ Panel Report, para. 7.1819.

⁵³⁷ Panel Report, para. 7.1810.

⁵³⁸ United States' other appellant's submission, para. 340.

Part II prohibits export-contingent subsidies and import-substitution subsidies even if they have no adverse effects. As a result, a finding under Part II cannot be said to "entitle"⁵³⁹ a panel to assume trade-distortive effects in other Parts of the *SCM Agreement*.

231. The United States argues that an examination of the context provided by various provisions of the *SCM Agreement* reveals further flaws in the Panel's reasoning. When the negotiators meant to transpose legal standards from one Part of the *SCM Agreement* to another, they created specific cross-references. The absence of such a cross-reference indicates that findings under Part II do not create presumptions for purposes of Part III. Now expired Article 6.1 in Part III provided that "serious prejudice in the sense of subparagraph (c) of Article 5 shall be deemed to exist" in specified circumstances, but subsidies prohibited under Part II of the *SCM Agreement* were not covered. Part V further confirms the Panel is wrong because, although Article 15 sets out detailed conditions under which an investigating authority may find that subsidized imports cause material injury, it does not contain any language entitling such an authority to determine that a prohibited subsidy will have trade-distortive effects. The United States considers that Article 6 requires analysis of "a number of inherently factual issues", and that "{t}he Panel's analytical short-cut side-steps these issues and, therefore, does not provide the type of robust serious prejudice analysis the Appellate Body has found to be necessary".⁵⁴⁰

232. The United States also considers that the WTO dispute settlement reports relied upon by the Panel are of limited relevance, because they did not involve actionable subsidy claims under Articles 5 and 6.3 of the *SCM Agreement*. Moreover, these reports do not support the Panel's conclusions. Although the Appellate Body referred, in *Canada – Aircraft*, to cases involving prohibited export subsidies "for which the adverse effects are presumed"⁵⁴¹, there is no indication that the Appellate Body meant to refer to adverse effects for purposes of Article 5. In any event, the Appellate Body's statement was *obiter dictum*, and is best understood as generally describing the situation under Part II, and not as creating a presumptive status for Part III of the *SCM Agreement*. Moreover, although the panel in *Brazil – Aircraft* stated that prohibited subsidies are "specifically designed to affect trade"⁵⁴², this does not mean that they will necessarily have trade-distortive effects. The United States adds that the *SCM Agreement* does not focus on the intent of the granting authority but, rather, on the actual effects of the subsidy.

⁵³⁹United States' other appellant's submission, para. 341.

⁵⁴⁰United States' other appellant's submission, para. 345 (referring to Appellate Body Report, *US – Upland Cotton*, paras. 434, 437, 451, 458, and 461; and Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 351).

⁵⁴¹Appellate Body Report, *Canada – Aircraft*, para. 202.

⁵⁴²Panel Report, *Brazil – Aircraft*, para. 7.26.

233. The United States contends that the Panel's aggregation of its analysis of the FSC/ETI and B&O tax measures also "exposes a peril"⁵⁴³ of the Panel's approach. The Panel found that the B&O tax rate reductions, by themselves, were of insufficient magnitude to cause serious prejudice with respect to 200-300 seat LCA. However, the Panel disregarded evidence that FSC/ETI benefits were relatively insignificant in comparison to Boeing's delivery and order values. Rather than explain why this magnitude data was irrelevant, the Panel relied on the FSC/ETI tax measure's status as an export subsidy. Thus, the United States argues, the Panel's presumption as to the "trade-distortive effects" of prohibited subsidies was "outcome-determinative"⁵⁴⁴ in the finding that the Washington State and City of Everett B&O tax rate reductions caused serious prejudice in the 100-200 seat and 300-400 seat LCA markets.

234. The United States submits that, without the Panel's presumption of trade-distortive effects, its entire finding that the tax subsidies caused adverse effects falls apart. This is because "{t}he finding that subsidies tied to sales will have an impact on those sales is accurate, but meaningless in this context, as it indicates nothing about whether the impacts take the form of displacement, impedance, price suppression, or lost sales, or whether any impact has the requisite level of significance".⁵⁴⁵ The observations that subsidies can have a significant impact or can enable certain behaviour by Boeing are also insufficient, as neither establishes that Boeing actually engaged in the behaviour that these subsidies would make possible. The United States concludes that, because the Panel's assessment was "so dependent on its improper reference to FSC's status as an export subsidy"⁵⁴⁶, the Panel's finding with regard to the tax subsidies does not establish that they caused adverse effects in the 100-200 seat and 300-400 seat LCA markets.

(iii) *Additional claims relating to the Panel's analysis of price suppression, lost sales, and displacement and impedance*

Price suppression

235. The United States submits that the Panel found significant suppression of prices for Airbus' A320 and A340 without undertaking the requisite price analysis for those aircraft and Boeing's 737 and 777. The Appellate Body has observed that, under Article 6.3(c) of the *SCM Agreement*, an assessment of general price trends is "clearly relevant to significant price suppression (although, as the {p}anel itself recognized, price trends alone are not conclusive)".⁵⁴⁷ With respect to the 737/A320

⁵⁴³United States' other appellant's submission, para. 350.

⁵⁴⁴United States' other appellant's submission, para. 350.

⁵⁴⁵United States' other appellant's submission, para. 352.

⁵⁴⁶United States' other appellant's submission, para. 354.

⁵⁴⁷Appellate Body Report, *US – Upland Cotton*, para. 434.

and 777/A340 market segments, the Panel: (i) never referred to the pricing trend data on the record for the relevant aircraft; (ii) never examined other relevant factors affecting pricing, such as Airbus' price-undercutting and high production levels or the role of surging fuel costs to evaluate whether the pricing data was consistent with price suppression; and (iii) never assessed the degree of price suppression to determine whether it was "significant" within the meaning of Article 6.3(c). The United States maintains that the Panel's finding is therefore inadequate as a matter of law under Article 6.3(c), and that, given that price trends were "plainly inconsistent with a price suppression phenomenon"⁵⁴⁸, the Panel had no rational basis for finding that the tax measures suppressed prices to a significant degree.

Lost sales

236. The United States argues that, contrary to its own findings on the aeronautics R&D subsidies and with the reports of other panels, the Panel did not identify the transactions that it found to have caused significant lost sales. According to the United States, the Panel's findings are insufficient to establish that serious prejudice existed for purposes of Article 6.3(c). Moreover, the United States contends that "the high degree of vagueness"⁵⁴⁹ in these findings means that the Panel failed to satisfy its obligation under Article 12.7 of the DSU to include in its report "the basic rationale behind any findings and recommendations that it makes".

237. The United States maintains that a finding of significant lost sales under Article 6.3(c) requires a positive finding as to each of the operative elements: (i) significance; (ii) lost sales; and (iii) a market in which they occur. The absence of any one of these criteria means that there is no serious prejudice under Article 6.3(c). Furthermore, a panel must specify what facts exist to meet each of these elements. The use of the word "sales" highlights that the "lost sales" under Article 6.3(c) are not generalized levels of market share or volume, but individual transactions. The United States considers that this is confirmed by the panel's examination and findings in *EC and certain member States – Large Civil Aircraft* as to each of the transactions alleged by the United States in that case to be a lost sale.

238. By contrast, when it came to analyzing sales of 100-200 seat and 300-400 seat LCA, the Panel did not indicate what particular sales it concluded had been lost. Instead, it stated simply that the effects of the subsidies "constitute significant lost sales ... within the meaning of Article 6.3(c) of the SCM Agreement".⁵⁵⁰ The Panel's analysis neither provides the names of the campaigns nor refers

⁵⁴⁸United States' other appellant's submission, para. 369.

⁵⁴⁹United States' other appellant's submission, para. 355.

⁵⁵⁰Panel Report, para. 7.1822.

to other materials that do. The Panel summarized the European Communities' allegations of lost sales of its 100-200 seat A320 to Ryanair, Japan Airlines, Singapore Airline Leasing Enterprise, Lion Air, and DBA, and of its 300-400 seat A340 to Singapore Airlines, Air New Zealand, and Cathay Pacific. However, the Panel's "vague" finding that there were "significant lost sales" offers no hint as to which transactions it considered to be lost sales.⁵⁵¹ The United States considers that "{t}his silence means that the Panel's finding failed to meet the minimum substantive requirements under Article 6.3{(c)} for finding that the effect of {the} subsidies is significant lost sales".⁵⁵²

239. Finally, the United States contends that the Panel also failed to meet the procedural requirement under Article 12.7 of the DSU that its report "set out the findings of fact, the applicability of relevant provisions and the basic rationale behind any findings and recommendations that it makes". In *Chile – Price Band System (Article 21.5 – Argentina)*, the Appellate Body explained that the explanations and reasons provided by a panel must suffice "to disclose the essential, or fundamental, justification for those findings and recommendations".⁵⁵³ The United States contends that the Panel acted inconsistently with this obligation because, in failing to identify the lost sales transactions, the Panel failed to set out the basic rationale behind its finding, and therefore violated Article 12.7 of the DSU.

Displacement and impedance

240. The United States argues that the Panel also erred by not naming the third countries in which it found displacement or impedance, and, accordingly, did not make findings sufficient to establish that serious prejudice existed for purposes of Article 6.3(b). The United States also contends that "the high degree of vagueness" in these findings means that the Panel has failed to satisfy its obligation under Article 12.7 to include in its report "the basic rationale behind any findings and recommendations that it makes".⁵⁵⁴

241. The United States argues that a finding of displacement or impedance under Article 6.3(b) requires a positive finding as to each of the operative elements: (i) a subsidy; (ii) a like product; (iii) a Member exporting that product; and (iv) a third-country market. The absence of any one of these criteria means that there is no serious prejudice under Article 6.3(b). Moreover, a panel must specify what facts exist to meet each of the elements. The fact that Article 6.3(b) requires that displacement or impedance exists with regard to a "market" further underscores that it requires a

⁵⁵¹United States' other appellant's submission, para. 362.

⁵⁵²United States' other appellant's submission, para. 362.

⁵⁵³Appellate Body Report, *Chile – Price Band System (Article 21.5 – Argentina)*, para. 243 (quoting Appellate Body Report, *Mexico – Corn Syrup (Article 21.5 – US)*, para. 106).

⁵⁵⁴United States' other appellant's submission, para. 355.

market-by-market conclusion, and not a generalized finding with regard to multiple markets. The United States points out that, when the panel in *EC and certain member States – Large Civil Aircraft* addressed claims under Article 6.3(b), it identified the third-country markets in which it found that displacement had occurred (Australia, Brazil, China, India, Korea, Mexico, Singapore, and Chinese Taipei).⁵⁵⁵

242. The United States maintains that, before the Panel, the European Communities identified the relevant third-country markets—that is, Singapore, Indonesia, and Japan for 100-200 seat LCA and Singapore, New Zealand, and Hong Kong, China for 300-400 seat LCA. The Panel addressed none of this evidence, instead making a generalized conclusion that the effects of the subsidies are "displacement and impedance of exports from third country markets, within the meaning of Article 6.3(b)".⁵⁵⁶ The Panel referenced the third-country markets by name only in the section of its Report summarizing the European Communities' arguments, and did not indicate which of them were encompassed in its generalized finding. The United States thus considers that the Panel's silence means that it "failed to meet the minimum substantive requirements under Article 6.3(b) for finding that the effect of {the} subsidies is to displace or impede exports of a like product in a third country".⁵⁵⁷

243. The United States raises two additional claims in respect of the Panel's analysis of displacement and impedance. First, the United States asserts that the Panel omitted critical steps in its analysis. The United States observes that a necessary component of any displacement or impedance analysis under Article 6.3(b) is an assessment of the data concerning the relationship between exports of the subsidized product and the like product in the third-country market at issue. Although the record in this dispute included data on market share and delivery volumes in each of the third-country markets identified by the European Communities, the Panel never referred to that data. The United States argues that, as a result, the Panel made it "impossible to discern in which of the markets it found displacement and impedance"⁵⁵⁸, and consequently neglected to conduct the analysis needed to show that displacement or impedance had occurred.

244. The United States further maintains that, to the extent the Panel made a finding of displacement and impedance with regard to countries in which Airbus had 0% or 100% of deliveries, a finding of displacement, impedance, or both would be inconsistent with Article 6.3(b). This is the case for the 737 and A320 aircraft in Singapore, where Airbus retained a 100% market share

⁵⁵⁵United States' other appellant's submission, para. 357 (referring to Panel Report, *EC and certain member States – Large Civil Aircraft*, paras. 7.1790 and 7.1791).

⁵⁵⁶United States' other appellant's submission, para. 359 (quoting Panel Report, para. 7.1822).

⁵⁵⁷United States' other appellant's submission, para. 359.

⁵⁵⁸United States' other appellant's submission, para. 365.

throughout the reference period, and in Indonesia, where Boeing made no deliveries, but where Airbus went from making no deliveries in 2004-2005, to making two deliveries in 2006. The United States maintains that, "in any counterfactual analysis, Airbus' market share would be unchanged".⁵⁵⁹ For the 777 and A340 aircraft in the Hong Kong, China and New Zealand markets, because there were no Airbus deliveries during the reference period, "there was no basis for the Panel to find displacement".⁵⁶⁰

245. Second, the United States argues that, because the Panel made no findings that any of the countries in which the European Communities alleged displacement or impedance was a "market", the Panel erred in applying its "generalized findings of displacement and impedance"⁵⁶¹ in third-country markets covering Indonesia, Japan, and Singapore for the 100-200 seat LCA, and covering Hong Kong, China, New Zealand, and Singapore for the 300-400 seat LCA. The United States requests reversal of any findings the Panel is considered to have made with regard to displacement or impedance of these products in the indicated markets.

246. In conclusion, the United States submits that the Panel did not satisfy the requirements for establishing that the tax subsidies have caused adverse effects to the interests of the European Union, and therefore requests the Appellate Body to reverse the Panel's findings under Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement* in that regard.

D. *Arguments of the European Union – Appellee*

1. NASA Procurement Contracts and USDOD Assistance Instruments

(a) Financial contribution – Application of the "purchase of services" test

(i) NASA

247. The European Union argues that the Appellate Body should reject the United States' appeal of the Panel's findings that the payments and other support provided to Boeing under the NASA procurement contracts constitute a financial contribution under Article 1.1(a)(1) of the *SCM Agreement*.

⁵⁵⁹United States' other appellant's submission, para. 365.

⁵⁶⁰United States' other appellant's submission, para. 365.

⁵⁶¹United States' other appellant's submission, para. 366.

248. The European Union recalls its own appeal of the Panel's legal interpretation of Article 1.1(a)(1) as excluding "purchases of services" from the scope of that provision. The European Union asserts that, if the Appellate Body agrees with the European Union and reverses the Panel's interpretation, the United States' appeal of the Panel's finding would be moot, because NASA's payments to Boeing would be "indisputably"⁵⁶² financial contributions, irrespective of whether they could be properly characterized as "purchases of services". This, contends the European Union, is because "the sole basis"⁵⁶³ of the United States' appeal of the financial contribution finding is that the Panel erred by finding that NASA-funded research is not part of a purchase of services.

249. The European Union argues that, in any event, the United States' arguments that the Panel improperly applied Article 1.1(a)(1) without considering the evidence of what the government received is essentially an argument that the Panel improperly weighed the facts. This type of argument is, at best, one that implicates an analysis under Article 11 of the DSU, and not an error of application. In support, the European Union relies on the Appellate Body report in *EC and certain member States – Large Civil Aircraft*, which states that "how the {p}anel reasoned over disputed facts"⁵⁶⁴ properly pertains to Article 11 of the DSU. As a consequence of the above, the content of the United States' appeal should have been raised, if at all, as a violation of Article 11 of the DSU and under the standard of review appropriate to such an allegation.

250. Even assuming *arguendo* that the United States can bring this claim under Article 1.1(a)(1), the European Union maintains that the United States' arguments fail on their merits because they rely entirely on an erroneous characterization of the Panel Report. In the European Union's view, the Panel properly considered the totality of the evidence, and used its discretion as the trier of facts to conclude that the NASA R&D contracts are not properly characterized as "purchases of services". Its finding therefore stands, even though the United States came to a different conclusion as to the principal beneficiary and user of the NASA R&D contracts.

251. The European Union does not dispute that the Panel did not fully discuss in its Report every argument and piece of evidence that the United States had put forward, but notes that the Panel specifically stated that it had in fact considered the evidence "in its totality".⁵⁶⁵ The European Union points out that the United States does not criticize the Panel for basing its decision on the five

⁵⁶²European Union's appellee's submission, para. 8.

⁵⁶³European Union's appellee's submission, para. 28.

⁵⁶⁴European Union's appellee's submission, para. 33 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 880).

⁵⁶⁵European Union's appellee's submission, para. 41.

particular categories of evidence⁵⁶⁶, but, rather, contends that the Panel's consideration of each of these five categories was entirely one-sided and unbalanced. In the European Union's view, however, "it is clear from the Panel Report"⁵⁶⁷ that the Panel discussed the limited evidence and arguments on the record, and the fact that the United States disagrees with the Panel's overall weighing of the evidence and the Panel's ultimate conclusion does not constitute an erroneous application of Article 1.1(a)(1).

252. With respect to the Panel's alleged failure to make an "objective assessment" under Article 11 of the DSU, the European Union disagrees that the Panel systematically failed to consider the evidence submitted by the United States. The European Union asserts that the Panel Report shows that the Panel did in fact assess the evidence that the United States alleges the Panel failed to consider. Specifically, the Panel considered the evidence regarding NASA's objectives, the alleged benefit and use to the government of NASA R&D, and the alleged usefulness of the programmes to the government and to unrelated third parties. However, the European Union submits, nothing in the evidence and arguments cited by the United States demonstrates that the Panel exceeded its discretion to weigh the facts in finding that the principal benefit and use of the NASA R&D contracts accrued to Boeing, rather than the government.

253. At the oral hearing, the European Union recalled that neither of the participants has appealed the Panel's "principally for the benefit and use" test for determining whether the NASA and USDOD R&D contracts and agreements at issue were genuine "purchases of services". Rather, the European Union argued that any such test was unnecessary, since there is no exclusion for purchases of services under Article 1.1(a)(1) of the *SCM Agreement*, and the United States appeals only the Panel's *application* of the test.

254. In the European Union's view, the Appellate Body has no basis to reconsider or reverse the Panel's test, given that neither the United States nor the European Union has appealed the test. Furthermore, the Appellate Body should recall that the Panel never indicated that this was the exclusive test for determining whether any transaction is a genuine purchase of services. If the Appellate Body were to reverse the test—contrary to the wishes of both participants—and formulate its own test, the European Union submits that the Panel's underlying factual findings and the

⁵⁶⁶The Panel considered: (i) the legislation authorizing the R&D programmes at issue; (ii) the types of instruments entered into between NASA and Boeing; (iii) whether NASA has any demonstrable use for R&D performed under these programmes; (iv) the allocation of intellectual property rights under these transactions; and (v) whether the transactions at issue have the typical elements of a "purchase of services". (European Union's appellee's submission, para. 43 (referring to Panel Report, para. 7.980))

⁵⁶⁷European Union's appellee's submission, para. 51.

uncontested facts about the NASA R&D contracts at issue would be more than sufficient to allow the Appellate Body to complete the analysis under any possible test.

(ii) *USDOD*

255. As it did with NASA, the European Union argues, at the outset, that, if the Appellate Body were to reverse the Panel's finding that Article 1.1(a)(1) of the *SCM Agreement* excludes from its scope transactions properly characterized as "purchase of services", this reversal would render moot the United States' appeal relating to the Panel's conclusion that the payments and other support provided through the USDOD assistance instruments are financial contributions.

256. The European Union submits that, in any event, the Panel's finding should be upheld. First, the European Union considers the United States' arguments to be in the nature of claims under Article 11 of the DSU, because they are essentially arguments that the Panel improperly weighed the facts. The European Union points out that the United States has not raised an Article 11 claim in its Notice of Other Appeal or other appellant's submission. By failing to lodge an Article 11 claim, the United States' allegations, even if true, would not allow for a reversal of the Panel's finding.

257. Second, the European Union asserts that "the Panel properly considered and evaluated the {United States'} allegations and evidence regarding the nature of the {US}DOD R&D support, ITAR, and other factors related to the benefit to the US Government".⁵⁶⁸ The European Union notes that "{p}resumably", because the Panel found that the R&D conducted pursuant to procurement contracts constitutes a purchase of services that is therefore excluded from the scope of the *SCM Agreement*, the United States does not argue that the Panel's analysis of the nature of the USDOD R&D programmes "is as one-sided as the Panel's NASA analysis".⁵⁶⁹ Rather, the United States "alleges two discrete types of evidence" that it claims the Panel failed to consider, and then "advances an amorphous catch-all claim about the Panel's weighing of the evidence that it did consider".⁵⁷⁰ According to the European Union, however, neither of the United States' claims can stand.

258. With respect to the United States' allegation that the Panel elevated form over substance in its assessment of the USDOD assistance instruments by not considering the statements of work in the individual instruments, the European Union quotes the Panel's statement that it had "examined, in detail, the different substantive features of these contracts and agreements, as reflected ... in U.S. laws

⁵⁶⁸European Union's appellee's submission, p. 63, subheading II.B.4.c.

⁵⁶⁹European Union's appellee's submission, para. 140.

⁵⁷⁰European Union's appellee's submission, para. 140.

and regulations and in the contracts and agreements themselves".⁵⁷¹ The European Union notes that a panel has discretion to decide what is discussed in its report. The European Union further mentions the following reasons that may explain the absence of a discussion of this evidence in the Panel Report. First, the assistance instruments at issue contain HSBI, and therefore could not be reproduced in the Panel Report. Second, the evidence before the Panel was unreliable because the United States provided only summaries of the statements of work and did not grant access to the majority of the USDOD assistance instruments.

259. The European Union does not consider that the Panel's discussion of evidence indicating the military objectives of the R&D highlighted by the United States would "materially contribute" to the Panel's discussion, as the Panel acknowledged that "the purpose of these programmes was to conduct R&D aimed at designing more advanced weapons or other defense systems or to reduce the costs of such systems".⁵⁷² The European Union further notes that the summaries of the assistance instruments contain not only information about military objectives, but also commercial aircraft.⁵⁷³

260. As to the ITAR, the European Union maintains that the Panel "considered and specifically rejected"⁵⁷⁴ the United States' claims that the ITAR make it "effectively impossible"⁵⁷⁵ for Boeing to benefit from technology developed through the assistance instruments. The Panel specifically noted that two of the USDOD programmes had "the *explicit objective* of being applied towards civil aircraft".⁵⁷⁶ Moreover, the United States ignores evidence that Boeing does benefit and use technology acquired from USDOD R&D, including a statement by the United States itself that "*some {USDOD} RDT&E has applications in the civil sector*"⁵⁷⁷, and statements by the European Communities—which were not rebutted by the United States—that Boeing gained knowledge about design and production, which it applied to the design and production processes but not to the physical content of the LCA, and thus did not breach ITAR restrictions.⁵⁷⁸ The European Union also refers to the fact that the training and experience Boeing's employees received on USDOD programmes was transferred to the US LCA industry when these employees were

⁵⁷¹European Union's appellee's submission, para. 146 (quoting Panel Report, para. 7.1169). (underlining added by the European Union)

⁵⁷²European Union's appellee's submission, para. 150 (quoting Panel Report, para. 7.1147).

⁵⁷³See European Union's appellee's submission, paras. 151 and 152.

⁵⁷⁴European Union's appellee's submission, para. 153.

⁵⁷⁵European Union's appellee's submission, para. 153 (quoting Panel Report, para. 7.1160).

⁵⁷⁶Panel Report, para. 7.1160. (original emphasis)

⁵⁷⁷European Union's appellee's submission, para. 155 (quoting United States' response to Panel Question 208(b), para. 294 (original emphasis)).

⁵⁷⁸European Union's appellee's submission, para. 156 (referring to European Communities' second written submission to the Panel, para. 437).

transferred to the LCA programme⁵⁷⁹, and that Boeing's LCA R&D discoveries were actually rehashed USDOD R&D discoveries. The European Union argues that the Panel's findings on adverse effects illustrate that it was well aware of the uses of USDOD R&D-created knowledge and technology for Boeing LCA.

261. The European Union rejects the United States' argument that the Panel improperly weighed the five categories of evidence it considered under its "purchase of services" test. First, the European Union asserts that the United States' argument is a "purely factual"⁵⁸⁰ argument and is not properly brought under Article 1.1(a)(1) of the *SCM Agreement*. Second, assuming *arguendo* that the United States' allegation can be analyzed as a potential erroneous application of Article 1.1(a)(1), the United States' arguments "must fail on their merits".⁵⁸¹

262. Regarding the first and second categories of evidence—namely, the US legislation authorizing the programmes and transactions at issue and the different instruments entered into by the USDOD—the United States attempts to "divine" how the Panel may have weighed the evidence, and "finds error" in what it alleges "*may have been* the Panel's approach".⁵⁸² In particular, the United States adduces that the Panel based its conclusions on "the formal distinction drawn in U.S. law between acquisition instruments and assistance instruments".⁵⁸³ However, the European Union contends that the Panel was "entirely clear" that it did not base its conclusions on such formalities, and hence the United States' claim is "directly contradicted by the Panel Report, itself".⁵⁸⁴

263. With respect to the third and fourth categories of evidence—namely, the stated objectives of the USDOD RDT&E programmes at issue and the allocation of intellectual property rights—the European Union notes that the United States agrees that the Panel "may have reached the *correct* conclusion".⁵⁸⁵ Regarding the objectives of the USDOD programmes, the United States does not take issue with the Panel's finding that "at least two ... had the explicit objective of developing 'dual use' R&D"⁵⁸⁶, which supports the Panel's conclusions about assistance instruments, given that these two programmes are funded through assistance instruments. As for the allocation of intellectual property rights, the Panel understood that Boeing retained patent rights to any invention that it conceived in the

⁵⁷⁹European Union's appellee's submission, para. 157 (referring to European Communities' second written submission to the Panel, paras. 440-446).

⁵⁸⁰European Union's appellee's submission, para. 159.

⁵⁸¹European Union's appellee's submission, para. 160.

⁵⁸²European Union's appellee's submission, para. 161 (referring to United States' other appellant's submission, para. 102). (original emphasis)

⁵⁸³United States' other appellant's submission, para. 103.

⁵⁸⁴European Union's appellee's submission, para. 162 (referring to Panel Report, para. 7.1169).

⁵⁸⁵European Union's appellee's submission, para. 165 (referring to United States' other appellant's submission, paras. 107 and 108). (original emphasis)

⁵⁸⁶Panel Report, para. 7.1148.

course of performing the USDOD R&D procurement contracts and assistance instruments.⁵⁸⁷ In the European Union's view, this factor "again weighs in favour of a finding that assistance instruments are not purchases of services".⁵⁸⁸

264. The European Union further rejects the United States' assertion that the Panel conducted too narrow an analysis of the last category of evidence, that is, whether the transactions at issue involved the typical elements of a purchase of services.⁵⁸⁹ The European Union recalls the Panel's finding that, unlike procurement contracts, assistance instruments do not provide for any fee or profit for the contractor⁵⁹⁰, and that this "atypical"⁵⁹¹ element supports the conclusion that USDOD assistance instruments are not purchases of services. The United States alleges that the Panel should have considered other aspects of the assistance instruments that could have explained "why the absence of a 'profit' for Boeing did not make a difference in the exchange between Boeing and {US}DOD"⁵⁹²; however, in the European Union's view, this is precisely what the Panel examined throughout its analysis of the five categories of evidence. Lastly, the European Union submits that the United States provides no support whatsoever for its assertions about value-for-value exchanges between Boeing and the USDOD, and therefore it "is not surprising"⁵⁹³ that the Panel did not discuss them.

265. As it did with respect to the NASA measures, the European Union argues that the Appellate Body has no basis to reconsider or reverse the Panel's "principally for the benefit and use" test, given that neither the United States nor the European Union has appealed it. If the Appellate Body were to reverse the test—contrary to the wishes of both participants—and formulate its own test, the European Union submits that the Panel's underlying factual findings and the uncontested facts about the USDOD assistance instruments at issue would be more than sufficient to allow the Appellate Body to complete the analysis under any possible test.

⁵⁸⁷European Union's appellee's submission, para. 165 (referring to Panel Report, paras. 7.1149 and 7.1024).

⁵⁸⁸European Union's appellee's submission, para. 165.

⁵⁸⁹European Union's appellee's submission, para. 166 (referring to United States' other appellant's submission, paras. 109-113).

⁵⁹⁰European Union's appellee's submission, para. 166 (referring to Panel Report, para. 7.1152).

⁵⁹¹European Union's appellee's submission, para. 166 (referring to Panel Report, para. 7.1166).

⁵⁹²European Union's appellee's submission, para. 167 (referring to United States' other appellant's submission, paras. 111-113).

⁵⁹³European Union's appellee's submission, para. 168.

(b) Benefit

(i) NASA

266. The European Union notes that the sole basis of the United States' appeal of the Panel's finding of "benefit" is the Panel's alleged "erroneous finding, under Article 1.1(a)(1), that the NASA R&D contracts were principally for the benefit and use of Boeing".⁵⁹⁴ The European Union understands the United States to "implicitly incorporate{} by reference all the arguments that it has raised in alleging errors under Article 1.1(a)(1) of the *SCM Agreement*".⁵⁹⁵ The European Union asserts that the United States has failed to identify any errors in the Panel's evaluation of the existence of financial contributions, either with respect to the application of Article 1.1(a)(1) of the *SCM Agreement* or consistency with Article 11 of the DSU. Consequently, in view of the fact that the United States' Article 1.1(b) appeal "is entirely based on its Article 1.1(a)(1) appeal"⁵⁹⁶, it is the European Union's view that the United States' Article 1.1(b) appeal must likewise fail.

267. The European Union further asserts that the United States' appeal regarding the Panel's finding that the value of the benefit to Boeing from payments under the NASA R&D contracts was \$1.05 billion "lacks legal foundation".⁵⁹⁷ The European adduces two reasons for its assertion.

268. First, the European Union submits that this claim "is not properly within the scope of this appeal" because nowhere in the United States' Notice of Other Appeal does the United States identify "any alleged errors by the Panel under Article 1.1(b) of the *SCM Agreement* in valuing the benefit to Boeing from the NASA aeronautics R&D programmes, or reference any of the relevant paragraphs of the Panel Report, as required by Rule 23(2)(c)(ii) of the *Working Procedures for Appellate Review*".⁵⁹⁸ The European Union recalls that the United States alleged only one error under Article 1.1(b) in its Notice of Other Appeal, namely, the Panel's finding that the NASA R&D contracts conferred a benefit. The European Union notes that the Appellate Body has emphasized that "due process requires that a Notice of Appeal place an appellee on notice of the issues raised on appeal"⁵⁹⁹, and that a Notice of Appeal "serve{s} to ensure that the appellee also receives notice, albeit brief, of the 'nature of the appeal' and the 'allegations of errors' by the panel".⁶⁰⁰ It further notes,

⁵⁹⁴European Union's appellee's submission, para. 92 (referring to United States' other appellant's submission, paras. 64 and 65).

⁵⁹⁵European Union's appellee's submission, para. 92.

⁵⁹⁶European Union's appellee's submission, para. 93.

⁵⁹⁷European Union's appellee's submission, para. 95.

⁵⁹⁸European Union's appellee's submission, para. 96 (referring to Panel Report, paras. 7.1055-7.1109).

⁵⁹⁹Appellate Body Report, *Japan – Apples*, para. 126.

⁶⁰⁰Appellate Body Report, *EC – Bananas III (Article 21.5 – US)*, para. 281 (quoting Appellate Body Report, *US – Countervailing Measures on Certain EC Products*, para. 62).

however, that the United States has provided "*no notice whatsoever* of this alleged {valuation} error".⁶⁰¹

269. Second, the European Union contends that the United States' claim is not properly brought under Article 1.1(b) of the *SCM Agreement*. In this respect, the European Union submits that Article 1.1(b) "contains no obligations pertaining to the quantification of the benefit" and thus the Panel "could not have committed any errors under Article 1.1(b) in valuing the amount of the subsidy".⁶⁰² The European Union agrees with the Panel that "the question of whether a challenged measure constitutes a subsidy within the meaning of Article 1 is distinct from the question of what *amount* of the subsidy is properly allocated to Boeing's LCA division".⁶⁰³ Moreover, in the European Union's view, even if Article 1.1(b) contained obligations pertaining to the quantification of the benefit, the United States' claim is "an effort to reargue the facts", and merely amounts to "an accusation that the Panel insufficiently weighed the evidence submitted by the United States" regarding the amount that should be deducted from the \$1.05 billion to obtain "what the United States considers to be a more appropriate valuation of the payments" at issue.⁶⁰⁴ The European Union considers that such a claim "may be appropriate" under Article 11 of the DSU, "but not under Article 1.1(b) of the *SCM Agreement*".⁶⁰⁵

270. The European Union further asserts that, even assuming *arguendo* that the United States' claim is properly within the scope of this appeal and properly brought under Article 1.1(b) of the *SCM Agreement*, "it would also lack merit on the substance".⁶⁰⁶ The European Union agrees with the United States that when a transaction is not part of the financial contribution it should not be counted "in any precise quantification"⁶⁰⁷ of the benefit conferred. However, the Panel "did not perform a precise quantification of the benefit, because there was no obligation for the Panel to do so".⁶⁰⁸ The Panel, thus, properly recognized, in accordance with the Appellate Body's guidance in *US – Upland Cotton*, that, "in a case brought under Part III of the *SCM Agreement*, a panel is under no obligation to 'quantify precisely the amount of the subsidy'".⁶⁰⁹

⁶⁰¹European Union's appellee's submission, para. 97. (original emphasis)

⁶⁰²European Union's appellee's submission, para. 98.

⁶⁰³Panel Report, para. 7.35. (original emphasis)

⁶⁰⁴European Union's appellee's submission, para. 101.

⁶⁰⁵European Union's appellee's submission, para. 101.

⁶⁰⁶European Union's appellee's submission, para. 102.

⁶⁰⁷European Union's appellee's submission, para. 103.

⁶⁰⁸European Union's appellee's submission, para. 103.

⁶⁰⁹Panel Report, para. 7.1101 (quoting Appellate Body Report, *US – Upland Cotton*, para. 467).

271. The European Union argues that the Panel, rather than deriving a precise quantification of the benefit, engaged in an exercise to estimate the amount of the subsidy to Boeing's LCA division. In doing so, the Panel fully recognized the United States' arguments and evidence concerning the \$1.05 billion covering all contracts between Boeing and the four NASA research centres, and the \$280 million needed to be deducted to arrive at the value of the payments for LCA-related research. However, the Panel weighed the evidence, determined that it had no adequate basis to reduce the \$1.05 billion figure to \$775 million, and accordingly decided that \$1.05 billion was the better estimate of the amount of the subsidy.⁶¹⁰

272. The European Union contends that the Panel's factual determination was based on adequate reasoning, which the Appellate Body should not overturn. It asserts that there is "ample explanation"⁶¹¹ in the Panel Report showing that the Panel fully understood and took into account the United States' argument, and how the Panel found "no adequate basis"⁶¹² for reducing the \$1.05 billion figure to \$775 million. According to the European Union, the Panel recognized that the United States' derivation of the \$1.05 billion figure was an objective exercise based on the search in the Federal Procurement Data Base⁶¹³ ("FPDS"/"FPDS-NG")⁶¹⁴, but it properly found that the reduction from \$1.05 billion to \$775 million by subtracting \$280 million in allegedly non-LCA related contracts by NASA's aeronautics centres was a "*subjective* exercise based on the 'manual{ } review' by NASA personnel of the subject matter descriptions of each contract".⁶¹⁵

273. The European Union therefore requests the Appellate Body not to modify the Panel's finding as to the value of the benefit to Boeing resulting from the NASA aeronautics R&D subsidies.

⁶¹⁰European Union's appellee's submission, para. 104.

⁶¹¹European Union's appellee's submission, para. 105.

⁶¹²European Union's appellee's submission, para. 106.

⁶¹³For the years 2004 to 2006, the relevant database was the Federal Procurement Data Base – Next Generation (FPDS-NG), which had superseded the Federal Procurement Data Base (FPDS). (Panel Report, para. 7.1058)

⁶¹⁴European Union's appellee's submission, para. 106 (referring to Panel Report, para. 7.1067).

⁶¹⁵European Union's appellee's submission, para. 106 (referring to Panel Report, para. 7.1068). (original emphasis)

(ii) *USDOD*

274. The European Union submits that the United States' claim that the Panel improperly concluded that the USDOD's financial contributions provided to Boeing confer a benefit within the meaning of Article 1.1(b) of the *SCM Agreement* is without merit. The European Union highlights that the United States "does *not* appeal the Panel's analytical framework, namely, that 'if a Panel finds that a financial contribution is economically irrational, it may, absent evidence to the contrary, conclude that the transaction confers a benefit'".⁶¹⁶ Rather, the United States argues only that the Panel incorrectly characterized the nature of the USDOD assistance instruments as "payment for research principally for the benefit and use of Boeing without some form of royalty or repayment"⁶¹⁷, without taking into consideration that the research carried out by Boeing was also of benefit and use to the USDOD and that Boeing was required to contribute company resources to the R&D project.

275. The European Union asserts that the Panel's characterization was correct, and that, accordingly, the Panel's conclusion that a benefit exists based on this characterization was also proper.⁶¹⁸ The European Union notes that the United States presents its benefit argument assuming *arguendo* that this financial contribution finding by the Panel is correct. The European Union further maintains that "there is no evidence on the record suggesting that anything like royalties or repayment was provided by Boeing in exchange for payments and support provided by {US}DOD under its aeronautics R&D assistance instruments".⁶¹⁹

276. In this regard, the European Union points out that the United States has provided no information whatsoever, neither on the actual results of the R&D funded by the USDOD assistance instruments, nor on how the income generated from those results may translate into payments from Boeing to the USDOD for the contributions made by the USDOD towards that R&D. In addition, the European Union submits that "it is clear that there is no transfer of {US}DOD's R&D funding back to the US Government, as there was, for example, during the period of time when the US Government

⁶¹⁶European Union's appellee's submission, para. 169 (quoting United States' other appellant's submission, para. 121 (original emphasis)).

⁶¹⁷European Union's appellee's submission, para. 169 (quoting United States' other appellant's submission, para. 116).

⁶¹⁸European Union's appellee's submission, para. 172 (referring to Panel Report, paras. 7.1183-7.1185).

⁶¹⁹European Union's appellee's submission, para. 174.

had in effect a policy of 'recoupment'".⁶²⁰ The European Union further notes that this "recoupment" policy was cancelled by the USDOD in June 1992 "precisely to move away from a market-based approach".⁶²¹ The European Union contends that neither of the elements that the United States suggests that the Panel failed to take into account (that is, the costs contributed by Boeing towards the R&D and the benefit obtained by the government from the R&D) are akin to "royalties" or "repayment"⁶²², because neither of these elements entails any payments by Boeing to the USDOD. The European Union therefore argues that both the Panel's characterization of the transactions at issue "as being principally for Boeing's benefit or use without any associated royalties or repayment", and its conclusion that "these were economically irrational transactions that conferred a benefit upon Boeing", were not improper.⁶²³

277. The European Union maintains that, even explicitly taking into consideration the cost contributions by Boeing and the benefits retained by the USDOD from the research, "the record still supports the conclusion that a benefit *exists* under Article 1.1(b) of the *SCM Agreement*".⁶²⁴ The European Union submits that there is enough evidence on the record to conclude that the transactions at issue were economically irrational, and that such a conclusion "follows from two important

⁶²⁰European Union's appellee's submission, para. 176. The European Communities explained before the Panel that, "{u}nder this {recoupment} policy, which lasted from 1967 to 1992, the US Government required contractors to reimburse {US}DOD for nonrecurring costs when contractors made or intended to make commercial sales using dual-use technologies that had been funded with {US}DOD investment." (European Communities' first written submission to the Panel, para. 669 (footnote omitted))

The European Communities quoted the following document explaining the reasons behind the recoupment policy:

The {USDOD} recoupment policies recognize that foreign licensed production or purchase of a U.S. defense article should not be subsidized by the U.S. government. These policies also recognize the potential for crossover into development and production of civilian aircraft of benefits that may result from government support of research and development (R&D) on military items. *It is precisely because of the USG's policy opposing government support of specific companies that the USG instituted procedures to recoup from commercial (non-USG) sales monies which represents costs savings {sic} accruing to civilian production from USG investment. One of the objectives in implementing this policy is to ensure that civil aircraft companies remain commercially competitive based on their own investment and technology.*

(U.S. Government Response to the EC-Commissioned Report "U.S. Government Support of the U.S. Commercial Aircraft Industry" (March 1992) (Panel Exhibit EC-413), p. 13 (emphasis added by the European Communities))

⁶²¹European Union's appellee's submission, para. 176 (referring to USDOD Rules and Regulations, "Recoupment of Nonrecurring Costs on Sales of U.S. Items", *United States Code of Federal Regulations*, Title 58, section 16497 (29 March 1993) (Panel Exhibit EC-416)).

⁶²²European Union's appellee's submission, para. 177 (referring to United States' other appellant's submission, paras. 118 and 119).

⁶²³European Union's appellee's submission, para. 178 (referring to Panel Report, paras. 7.1183-7.1185).

⁶²⁴European Union's appellee's submission, para. 179. (original emphasis)

points".⁶²⁵ First, the European Union recalls that, in its financial contribution analysis, the Panel reached the factual conclusion that "the work Boeing performed under its aeronautics R&D 'assistance instruments' with {US}DOD was principally for the benefit and use of Boeing itself"⁶²⁶, and that "the focus by the Panel on this 'core' term of the transaction {did} not ignore other terms, such as the cost contributions by Boeing and any benefits retained by {US}DOD".⁶²⁷ Second, the European Union notes that the United States highlights that most (but not all) USDOD R&D agreements involved cost sharing where "{t}he provision on the private party's contribution generally called for the government and the private party to split costs evenly, although some R&D agreements called for the government to pay more than half".⁶²⁸ The European Union further notes that, "in instances where there was no cost sharing, it was the government that paid the full cost, with no contribution from Boeing".⁶²⁹ Therefore, it is the European Union's contention that "the government always paid at least half of the costs under any {US}DOD aeronautics R&D assistance instrument".⁶³⁰

278. In the European Union's view, the two points above support the existence of a benefit, even explicitly taking into account the cost sharing and benefits retained by the USDOD. Indeed, the European Union submits, "{w}hen the R&D performed under an instrument is for the principal benefit of Boeing, the fact that the government paid for at least half ... of that R&D does not change the conclusion that a non-market benefit *exists*".⁶³¹ In other words, if the evidence indicated that Boeing obtained more than 50% of the benefit while paying also more than 50% of the costs, then additional benchmark evidence may be required to establish the existence of a benefit. However, where the evidence indicates that Boeing obtained *more than 50%* of the benefit (that is, the principal benefit) while paying *only 50% or less* of the costs, the benefit question can be answered affirmatively in the abstract.

279. For these reasons, the European Union asserts that the Panel did not err in concluding that the USDOD aeronautics R&D assistance instruments conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*, and maintains that the Panel's finding in this respect should be upheld.

⁶²⁵European Union's appellee's submission, para. 179.

⁶²⁶European Union's appellee's submission, para. 180 (quoting Panel Report, para. 7.1171). (underlining added by the European Union)

⁶²⁷European Union's appellee's submission, para. 180 (referring to Panel Report, para. 7.1183).

⁶²⁸European Union's appellee's submission, para. 181 (quoting United States' other appellant's submission, para. 119). (underlining added by the European Union omitted)

⁶²⁹European Union's appellee's submission, para. 181 (referring to United States' other appellant's submission, footnote 220 to para. 119). (underlining omitted)

⁶³⁰European Union's appellee's submission, para. 182. (original underlining; footnote omitted)

⁶³¹European Union's appellee's submission, para. 183. (original italics; underlining omitted)

280. The European Union submits that, contrary to what the United States argues, the Panel's statement, in paragraph 7.1205 of the Panel Report, that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA", is supported by evidence and therefore fully consistent with Article 11 of the DSU. The European Union asserts that the Panel's statement was of no consequence to its "legal findings and conclusions"⁶³² and thus should not be subject to review by the Appellate Body.⁶³³ The European Union notes that the Panel did not estimate the value of the USDOD RDT&E subsidies⁶³⁴; rather, when considering the magnitude of the subsidies in its adverse effects analysis, the Panel found that they amounted to "at least \$2.6 billion".⁶³⁵ This figure would have been the same had the Panel accepted the United States' argument that less than 1% of the \$45 billion in USDOD RDT&E funding to Boeing had any potential relevance to LCA. Even if such a statement were reviewable on appeal, the European Union considers that "there is ample evidence on the record"⁶³⁶ to support it. The European Union notes that the Panel offered three reasons why it found the \$308 million figure—argued by the United States to be the maximum amount of dual-use USDOD funding to Boeing—to be not credible: (i) it excluded funding provided under military aircraft RDT&E programmes; (ii) the United States failed to provide any evidence as regards the maximum value of the USDOD dual-use contracts and agreements, like it did for NASA; and (iii) the United States did not account for the value of access to USDOD facilities.⁶³⁷ Moreover, in the European Union's view, there is "much additional evidence on the record"⁶³⁸ supporting the Panel's conclusion, including: the detailed expert report by CRA International on which the European Union based its estimate⁶³⁹; the Panel's finding—not appealed under Article 11 of the DSU or otherwise—that the amount of the subsidy to Boeing's LCA division would not be more than \$1.2 billion⁶⁴⁰; and the Panel's factual finding—equally not appealed under Article 11 of the DSU or otherwise—that the United States "has failed to substantiate its assertion".⁶⁴¹

⁶³²Article 17.13 of the DSU provides: "The Appellate Body may uphold, modify or reverse the legal findings and conclusions of the panel".

⁶³³The European Union notes that the Appellate Body has previously declined to review statements by a panel that have no bearing on a panel's legal findings or conclusions. (European Union's appellee's submission, footnote 360 to para. 186 (referring to Appellate Body Report, *US – Wool Shirts and Blouses*, p. 17, DSR 1997:I, 323, at 338))

⁶³⁴European Union's appellee's submission, para. 186 (referring to Panel Report, para. 7.1209).

⁶³⁵European Union's appellee's submission, para. 186 (quoting Panel Report, para. 7.1760).

⁶³⁶European Union's appellee's submission, para. 187.

⁶³⁷European Union's appellee's submission, para. 188 (referring to Panel Report, para. 7.1205).

⁶³⁸European Union's appellee's submission, para. 189.

⁶³⁹European Union's appellee's submission, para. 189 (referring to Panel Report, para. 7.1203).

⁶⁴⁰European Union's appellee's submission, para. 189 (referring to Panel Report, footnote 2800 to para. 7.1209).

⁶⁴¹European Union's appellee's submission, para. 189 (referring to Panel Report, para. 7.1159).

281. In the light of this, it is the European Union's contention that the Panel satisfied the requirements under Article 11 of the DSU. In particular, the Panel "considered the evidence presented to it, weighed and assessed its credibility, and ensured that its comment had a proper basis in that evidence".⁶⁴²

2. Washington State B&O Tax Rate Reduction

(a) Financial contribution – Revenue foregone

282. The European Union requests the Appellate Body to reject the United States' claim that the Panel erred in the interpretation and application of Article 1.1(a)(1)(ii) of the *SCM Agreement* in finding that the Washington State B&O tax rate reduction for manufacturers of commercial airplanes and components constitutes a financial contribution under that provision.

(i) *Interpretation of Article 1.1(a)(1)(ii) of the SCM Agreement*

283. The European Union argues that the Panel did not misinterpret the legal standard under Article 1.1(a)(1)(ii) of the *SCM Agreement*, and that there is nothing in the Panel's exposition that conflicts with the Appellate Body's findings in *US – FSC* and *US – FSC (Article 21.5 – EC)*, or with the European Union's or the United States' understandings of those findings. In referring to the Panel's summary in respect of which the United States charges legal error, the European Union notes that the Panel made clear "that a 'but for' test *can* be applied, not *must* be applied, where it is possible to identify a general rule of taxation; and otherwise, legitimately comparable income *should* be compared".⁶⁴³ The European Union thus argues that the Panel did not elevate the "but for" test to a general rule but, rather, understood that such a test is applicable in certain situations in order to effectuate a comparison of legitimately comparable income.

(ii) *Application of Article 1.1(a)(1)(ii) of the SCM Agreement*

284. The European Union also disagrees with the United States' claim that the Panel erred in the application of Article 1.1(a)(1)(ii) of the *SCM Agreement*. First, the European Union rejects the United States' argument that the Panel erred in applying a "but for" test in the present dispute. The European Union considers that the Panel conducted a lengthy examination of the Washington State B&O tax system and concluded that, because "it is not difficult to identify a general rule of taxation and exceptions to it, the guidance provided by the Appellate Body suggests that a 'but for' test can be

⁶⁴²European Union's appellee's submission, para. 190 (referring to Appellate Body Report, *Brazil – Retreaded Tyres*, para. 185).

⁶⁴³European Union's appellee's submission, para. 214. (original emphasis)

applied".⁶⁴⁴ In the European Union's view, the Panel appropriately applied a "but for" test in the present dispute and, in doing so, "compare{d} the fiscal treatment of legitimately comparable income".⁶⁴⁵

285. Second, the European Union argues that the Panel considered and properly rejected to use the "range" of 36 B&O tax rates submitted by the United States as the "defined, normative benchmark" for purposes of establishing whether a financial contribution exists.⁶⁴⁶ As the European Union observes, the Panel correctly rejected the United States' "range" approach because it would mean that the lowest B&O tax rate at any given point in time becomes the general rule for purposes of an Article 1.1(a)(1)(ii) analysis. As the Panel stated, if some category of products is tax exempt, then "every tax rate falls within the range and it is never possible for a tax reduction to constitute a financial contribution".⁶⁴⁷ Moreover, the European Union argues, the Panel correctly recognized that the "range" is neither "defined" nor "normative".⁶⁴⁸ The European Union adds that the United States has never provided a "rational basis"⁶⁴⁹ for treating tax categories as disparate as child care, meat or soybean processing, or stevedoring as relevant or comparable to the production and sale of commercial aircraft. The European Union considers that, for these reasons, the Panel would have erred had it followed the United States' approach of selecting the "range" of 36 B&O tax rates as the defined, normative benchmark.

286. Third, the European Union contends that the Panel properly excluded from its analysis consideration of pyramiding and the average effective B&O tax rate in Washington State. As the European Union observes, the United States conceded that the average effective B&O tax rate is not a normative benchmark. It would have been inappropriate for the Panel to take the average effective B&O tax rate into account in its Article 1.1(a)(1)(ii) analysis for the same reasons it was inappropriate for it to do so in respect of the "range" of 36 B&O tax rates. To do so would have resulted in "the comparison of income that is not legitimately comparable".⁶⁵⁰ Moreover, the United States offers no evidence or argument to support the notion that combating pyramiding and bringing effective B&O tax rates closer to the average effective B&O tax rate is any stated norm in Washington State tax law. Instead, the United States refers only to a study that has never been associated with the B&O tax rate reduction except in these proceedings. Similarly, the United States has been unable to offer any

⁶⁴⁴European Union's appellee's submission, para. 218 (quoting Panel Report, para. 7.133).

⁶⁴⁵European Union's appellee's submission, para. 218 (quoting Panel Report, para. 7.119, in turn quoting Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91).

⁶⁴⁶European Union's appellee's submission, para. 221.

⁶⁴⁷Panel Report, footnote 1224 to para. 7.135.

⁶⁴⁸European Union's appellee's submission, para. 223 (referring to Panel Report, para. 7.136).

⁶⁴⁹European Union's appellee's submission, para. 226 (quoting Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 90).

⁶⁵⁰European Union's appellee's submission, para. 230.

"rational basis" for comparing the income earned by commercial aircraft manufacturers with that earned by other activity categories identified in the study.⁶⁵¹ According to the European Union, taking the average effective B&O tax rate into account in this case would constitute error under Article 1.1(a)(1)(ii).

287. The European Union requests that, should the Appellate Body consider that the legitimately comparable income standard must be applied in this case without the use of a "but for" test, there is an adequate basis in the Panel record to conclude that the House Bill 2294 B&O tax rate reduction constitutes the foregoing of government revenue otherwise due within the meaning of Article 1.1(a)(1)(ii) of the *SCM Agreement*. In the European Union's view, the Panel record demonstrates that income generated by Boeing "is legitimately comparable to income generated from manufacturing, wholesaling and retailing in general, but *not* legitimately comparable to any of the other categories of income (whether on an individual basis or as an average) identified by the United States".⁶⁵²

(b) Specificity – Article 2.1(a) of the *SCM Agreement*

288. According to the European Union, the United States' argument that the Panel erred by analyzing only the B&O tax rate reduction for aircraft manufacturing, instead of the entirety of the B&O tax rate exceptions under Washington State tax law, "has no merit".⁶⁵³ The European Union submits that the Panel needed to examine only House Bill 2294 to arrive at a finding of *de jure* specificity. Nevertheless, the Panel proceeded to evaluate the B&O taxation system as a whole. In doing so, the Panel "made a finding of fact that the multiple B&O tax rate exceptions do not constitute a single 'subsidy' programme, but rather may constitute separate and distinct measures, because there was no evidence to justify considering all of the B&O tax rate exceptions together as a single measure for purposes of the Article 2.1(a) analysis".⁶⁵⁴ Indeed, the Panel noted on several occasions the lack of evidence submitted by the United States that would have allowed the Panel to reach the conclusion that the multiple B&O tax rate exceptions in Washington State constitute a single programme. On this basis, the European Union argues that the Panel properly concluded that the B&O tax rate reduction granted to the aerospace industry under House Bill 2294 is a subsidy that is specific within the meaning of Article 2.1(a) of the *SCM Agreement*.

⁶⁵¹European Union's appellee's submission, para. 232 (referring to Washington State Tax Structure Study Committee Report, *Tax Alternatives for Washington State: A Report to the Legislature*, Vol. 2 – Appendices (November 2002) (Panel Exhibit US-183), p.41, which refers to categories such as "CONSTRUCTION", "MOVIES/AMUSE/REC", "MINING/QUARRY", "AG FOR FISHING", and "SVC AUTO REPAIR").

⁶⁵²European Union's appellee's submission, para. 233. (original emphasis)

⁶⁵³European Union's appellee's submission, para. 235.

⁶⁵⁴European Union's appellee's submission, para. 237 (referring to Panel Report, paras. 7.200-7.205).

289. The European Union asserts that the United States now seeks to overturn the Panel's factual determination that the multiple B&O tax rate exceptions in Washington State do not constitute a single subsidy programme. Such a factual determination is not subject to review by the Appellate Body. Nor can the United States appropriately ask the Appellate Body to re-examine how the Panel weighed the evidence. The Panel examined the evidence provided by the United States and found that it was "vague" and even "self-contradictory".⁶⁵⁵ Thus, in the absence of a claim under Article 11 of the DSU, the Appellate Body should reject the United States' appeal.

290. Even if the Appellate Body could review this determination, the European Union submits that the United States has pointed to no evidence in support of its argument, and fails to show any error in the Panel's analysis. The European Union observes that the Appellate Body is being asked to find that the multiple B&O tax rate exceptions are part of the same subsidy programme based solely on the fact that multiple B&O tax rates appeared in the Washington State tax code as it existed at the time of the Panel's specificity analysis. The European Union argues, however, that "the simple fact that the unified Washington State tax code listed multiple B&O tax rate exceptions at the time of the Panel's analysis is not sufficient evidence to demonstrate that those multiple tax breaks should in fact be considered a single subsidy programme".⁶⁵⁶

291. The European Union considers that the Panel rightly called for evidence of a connection among the multiple tax breaks in order to determine that they were part of a common subsidy programme, and, in particular, evidence as to the timing of the different tax breaks, their purposes, and their levels. The European Union notes the United States' position that evidence regarding factors such as timing or purpose are not relevant to determining whether there is a single subsidy or multiple subsidy programmes for purposes of a specificity analysis under Article 2.1(a). As the Panel observed, the United States, under its own domestic law, considers similar factors in determining whether two or more separate subsidy programmes can be treated as one programme for specificity purposes. The European Union thus considers it "disingenuous"⁶⁵⁷ for the United States to argue that such factors are not relevant to the specificity analysis under Article 2.1(a), and adds that the United States has failed to demonstrate that the multiple B&O tax rate exceptions in the Washington State tax code should be considered a single subsidy programme.

⁶⁵⁵European Union's appellee's submission, para. 239 (referring to Panel Report, paras. 7.204 and 7.205).

⁶⁵⁶European Union's appellee's submission, para. 240.

⁶⁵⁷European Union's appellee's submission, para. 243.

292. The European Union notes that, at the oral hearing, the United States was able to point to only one commonality among the various reduced tax rates (relative to the manufacturing, wholesaling, or retailing rates). This single commonality was that, even though those rates were initially enacted in separate pieces of legislation, *they were all summarized in the same legislative act*—an act that simply repeated all of the various existing tax rates while amending only those tax rates pertaining to the manufacturing, wholesaling, or retailing of commercial aircraft and components.⁶⁵⁸ The European Union responds that, if this were all that was required to demonstrate that multiple measures enacted at different times and for different reasons constitute a single subsidy or subsidy programme for purposes of specificity, it would become very easy for a Member to avoid a specificity finding. For these reasons, the European Union requests the Appellate Body to uphold the Panel's finding that the Washington State B&O tax rate reduction for aircraft manufacturing, wholesaling, and retailing is a specific subsidy within the meaning of Article 2.1(a) of the *SCM Agreement*.

3. City of Wichita Industrial Revenue Bonds (IRBs) – Specificity

293. The European Union argues that the United States has failed to establish any error with respect to the baseline selected by the Panel for its disproportionality analysis. In the European Union's view, the Panel's baseline was derived from a careful reading of Article 2.1 of the *SCM Agreement* and is consistent with the principles of treaty interpretation. The European Union states that, although Article 2.1(c) does not identify explicitly the baseline against which a comparison must be made to determine whether the amounts of subsidy are "disproportionately large", guidance is provided in the chapeau of Article 2.1, and the third sentence of Article 2.1(c), both of which refer to "within the jurisdiction of the granting authority".⁶⁵⁹ This supports the view that the disproportionality analysis focuses on "the territory over which the granting authority can extend or exercise its powers".⁶⁶⁰

294. The European Union considers that the Panel's conclusions are not undermined by the criticisms of the United States. Even though the United States argues that the Panel failed to take several circumstances into account, the United States offered no evidence suggesting that these circumstances apply to the evaluation of the IRBs or the Wichita manufacturing sector. The Panel correctly noted that the United States simply failed to "provide{} a convincing rebuttal of {the European Communities'} prima facie case" or to "present any statistics to indicate that Boeing and Spirit do indeed account for approximately 69 per cent of the economic activity in Wichita and that an

⁶⁵⁸European Union's additional memorandum following the first session of the oral hearing, para. 48.

⁶⁵⁹European Union's appellee's submission, paras. 272 and 273.

⁶⁶⁰European Union's appellee's submission, para. 274.

examination of the employment levels of Boeing and Spirit is misleading in this regard".⁶⁶¹ The European Union adds that "the mere fact that there may be situations in which a baseline or economic indicator, other than those used by the Panel here, would be more appropriate does not undermine the utility of that baseline or the employment indicator on the facts presented in *this* dispute".⁶⁶²

295. The European Union agrees with the Panel's understanding of the term "disproportionately large" as meaning a "*significant* disparity between the two relevant ratios".⁶⁶³ The European Union considers that this interpretation conforms to the text, context, and the object and purpose of Article 2.1 of the *SCM Agreement*. The Panel correctly understood that "the disparity between the relevant ratios must be significant, important, and of enough relevance so as to conclude that the subsidy is not sufficiently broadly available throughout an economy and is capable of causing distortions and inefficiencies in international trade".⁶⁶⁴ The European Union moreover considers that a panel cannot be said to be adding to or diminishing the rights and obligations of Members in violation of Article 3.2 of the DSU if it engages in a correct interpretation and application of Article 2.1(c).

296. The European Union further contends that the United States' two alternative baselines provide no basis for reversal of the Panel's findings. Before the Panel, the United States advocated a baseline based on the ratio of Boeing's and Spirit's employment levels in relation to the aggregated employment levels of the *actual* group of recipients of the alleged subsidy. The European Union notes the Panel's conclusion that such a baseline was not supported by the text or context of Article 2, and was difficult to reconcile with this provision's purpose of determining whether a subsidy is sufficiently broadly available throughout an economy so as not to benefit only "certain enterprises". The United States "offers no defence to this powerful critique by the Panel".⁶⁶⁵ Moreover, although the United States criticized the Panel for disregarding the extent of diversification of economic activities as required by the third sentence of Article 2.1(c), the European Union considers that the baseline proposed by the United States does just that, "as it is self-contained within the realm of the particular subsidy programme at issue".⁶⁶⁶

⁶⁶¹Panel Report, para. 7.769.

⁶⁶²European Union's appellee's submission, para. 277. (original emphasis)

⁶⁶³Panel Report, para. 7.768. (original emphasis)

⁶⁶⁴European Union's appellee's submission, para. 279. (footnote omitted)

⁶⁶⁵European Union's appellee's submission, para. 284.

⁶⁶⁶European Union's appellee's submission, para. 284.

297. The European Union further considers that the merits of the United States' second proposed baseline, which permits an examination of proportionality only among *potential* recipients of a subsidy, does not implicate the propriety of the baseline actually adopted by the Panel. The European Union observes that this baseline was proposed by Australia before the Panel, and notes that, given the absence of evidence on the record that would allow the Panel to evaluate disproportionality on that basis, and given the legal and evidentiary support for the European Communities' proposed baseline, the Panel opted for the European Communities' approach.⁶⁶⁷ The Panel further considered that, given that the pool of eligibility for the IRBs is very wide, employing the Australian approach was unlikely to alter its analysis. In this light, the United States has not shown any legal error by the Panel. The European Union also rejects the United States' argument about the usefulness of the panel's reasoning in *EC and certain member States – Large Civil Aircraft*, because the panel in that case was addressing whether the subsidy amounts provided to an enterprise or industry ought to be measured against the amounts provided to other subsidy recipients, and was not addressing the nature of the benchmark at issue as in this appeal.

298. With respect to the United States' contention that the Panel did not account for the extent of diversification of economic activities in the City of Wichita, the European Union argues that the Panel's methodology incorporates the element of diversification, and that the Panel considered the United States' evidence that Wichita was focused on aircraft production. The European Union also notes that the Panel concluded that the United States had not provided a convincing rebuttal of the European Communities' *prima facie* case, because the United States argued at a relatively high level of generality that the degree of diversification in the Wichita economy is low, and otherwise failed to present any statistics to indicate that Boeing and Spirit do indeed account for approximately 69% of the economic activity in Wichita and that an examination of the employment levels of Boeing and Spirit is misleading. The United States disagrees with these conclusions, "but has offered no reasonable basis for second-guessing them".⁶⁶⁸ The European Union maintains that, to the extent the United States objects to the manner in which the Panel weighed the evidence, this could only be addressed as a challenge under Article 11 of the DSU, something which the United States has not done in respect of this claim.

299. The European Union notes that, at the oral hearing, the United States suggested that the appropriate benchmark for evaluation of disproportionality should be the eligible subsidy recipients who *actually applied* for a subsidy. The European Union asserts that such benchmark would put an

⁶⁶⁷European Union's appellee's submission, para. 285 (referring to Panel Report, paras. 7.767 and 7.768).

⁶⁶⁸European Union's appellee's submission, para. 295.

"insurmountable burden"⁶⁶⁹ on a complainant. It would require the complainant to submit a type of data that would not generally be publicly available (that is, the actual applications), "which is particularly troubling given the {United States'} position on a Member's ability to block the initiation of Annex V proceedings".⁶⁷⁰

4. Adverse Effects

(a) Technology effects of the aeronautics R&D subsidies

300. The European Union submits that the United States' appeal is, "in large part, a disguised Article 11 appeal".⁶⁷¹ It contends that the United States' grounds of appeal "purport to identify errors of law" under Articles 5(c) and 6.3 of the *SCM Agreement*; however, by "simply labelling" its claims as referring to the application of the law to the facts, the United States fails to put them "within the remit" of Articles 5(c) and 6.3.⁶⁷² According to the European Union, a close review of the United States' appeal reveals nothing more than the United States' disagreement with the Panel's weighing of the evidence.

301. In the European Union's view, the substance of the United States' appeal is "effectively re-arguing factual findings"⁶⁷³ by the Panel and, therefore, should be brought under Article 11 of the DSU. The European Union stresses that the United States has failed, in this regard, to "explicitly articulate{ }"⁶⁷⁴ an Article 11 claim in its Notice of Other Appeal or in its other appellant's submission, and thus the Appellate Body should reject the United States' appeal "on the basis of that failure alone".⁶⁷⁵

302. If, nonetheless, "the Appellate Body were to entertain that appeal", the European Union recalls that the Appellate Body in *EC and certain member States – Large Civil Aircraft* reiterated that panels "are not required to accord to factual evidence of the parties the same meaning and weight as do the parties".⁶⁷⁶ Consequently, since the United States has not demonstrated that the Panel abused its discretion as the trier of facts, the European Union requests the Appellate Body to reject the United States' appeal.

⁶⁶⁹European Union's additional memorandum following the first session of the oral hearing, para. 51.

⁶⁷⁰European Union's additional memorandum following the first session of the oral hearing, para. 51.

⁶⁷¹European Union's appellee's submission, p. 144, heading III.A.2.

⁶⁷²European Union's appellee's submission, para. 324.

⁶⁷³European Union's appellee's submission, para. 330.

⁶⁷⁴European Union's appellee's submission, para. 332 (quoting Appellate Body Report, *Mexico – Anti-Dumping Measures on Rice*, para. 274).

⁶⁷⁵European Union's appellee's submission, para. 332.

⁶⁷⁶European Union's appellee's submission, para. 334 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1317, in turn quoting Appellate Body Report, *Australia – Salmon*, para. 267). (emphasis added by the European Union omitted)

- (i) *The Panel's finding that the aeronautics R&D subsidies improved Boeing's product offering for the 787*

The Panel's finding that there is a genuine and substantial link between the aeronautics R&D subsidies and the 787

303. The European Union submits that the United States' first group of claims is "baseless"⁶⁷⁷, and built on "isolated" and "out of context" statements made by the Panel.⁶⁷⁸ In the European Union's view, a "careful review"⁶⁷⁹ of the Panel's findings reveals no legal error in the Panel's conclusion that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787".⁶⁸⁰

304. The European Union first addresses the United States' argument that "{t}he Panel relied on a subset of evidence about three of the eight NASA programs, and extrapolated its conclusions to the other programs".⁶⁸¹ The European Union asserts, in this regard, that the Panel neither erred in the application of law, nor exceeded the bound of its discretion as the trier of fact. Rather, in the European Union's view, the Panel recognized that eight NASA and two USDOD programmes each contributed, "albeit to different degrees"⁶⁸², to the development of technologies used on the 787, and thus caused adverse effects. The Panel "specifically discussed" and "objectively assessed" each of the programmes "individually in its analysis"⁶⁸³, and eventually found that the aeronautics R&D programmes "taken together contributed to the technologies applied on the 787".⁶⁸⁴

305. The European Union explains that the Panel "went into considerable detail" when assessing the effects of the aeronautics R&D subsidies, and based its findings on a "careful weighing of the evidence" submitted by both parties.⁶⁸⁵ The Panel analyzed the structure and design of each of the eight NASA aeronautics programmes⁶⁸⁶ and the two USDOD programmes at issue.⁶⁸⁷ Likewise, the

⁶⁷⁷European Union's appellee's submission, p. 149, heading III.A.3.

⁶⁷⁸European Union's appellee's submission, para. 342.

⁶⁷⁹European Union's appellee's submission, para. 342.

⁶⁸⁰Panel Report, para. 7.1773.

⁶⁸¹United States' other appellant's submission, para. 203.

⁶⁸²Panel Report, para. 7.1702.

⁶⁸³European Union's appellee's submission, para. 348 (referring to Panel Report, paras. 7.1709-7.1740). (original emphasis)

⁶⁸⁴European Union's appellee's submission, para. 348. (original underlining)

⁶⁸⁵European Union's appellee's submission, para. 349 (referring to Panel Report, Appendix VII.F.1 – Parties' arguments regarding the links between the U.S. Government funded R&D and the specific technologies applied to the 787, p. 729).

⁶⁸⁶European Union's appellee's submission, para. 350 (referring to Panel Report, paras. 7.1709-7.1737).

⁶⁸⁷European Union's appellee's submission, para. 350 (referring to Panel Report, paras. 7.1738-7.1740).

Panel addressed the operation of the aeronautics R&D subsidies, "taking particular account of the conditions of competition in the LCA industry".⁶⁸⁸

306. The European Union recalls that, based on the evidence on the record, the Panel rejected the United States' argument that the "NASA R&D subsidies were directed to general aeronautics research or to research of incidental importance to the development of a product"⁶⁸⁹, and found that the ManTech and DUS&T programmes had the explicit objective of "developing 'dual use' R&D".⁶⁹⁰ The Panel further found that the aeronautics R&D subsidies "complemented Boeing's internal product development efforts"⁶⁹¹ and had a role "in reducing Boeing's R&D risk".⁶⁹² The European Union also notes the Panel's finding that the effects of the aeronautics R&D subsidies cannot be assessed "based on the face value of the financial contributions involved, which amount{s} to *at least* \$2.6 billion".⁶⁹³ The Panel found, instead, that the aeronautics R&D subsidies "multiply the benefits of any given expenditure".⁶⁹⁴

307. In addition, the European Union observes that the Panel "painstakingly" summarized, in a 27-page appendix to its Report⁶⁹⁵, evidence submitted by both parties on the relationship between NASA/USDOD measures and Boeing's development of 787 technologies. In the European Union's view, rather than "extrapolat{ing}"⁶⁹⁶ its findings on the links between the ACT, AST, and R&T Base programmes and the 787 to the other aeronautics R&D programmes, the Panel addressed concrete evidence of technology spin-offs from the other five NASA programmes and from the two USDOD programmes.⁶⁹⁷ In accordance with Article 11 of the DSU, the Panel was not required to refer in its Report to all evidence and arguments submitted by the parties.⁶⁹⁸

308. The European Union then turns to "respond{} to each of the factual assertions"⁶⁹⁹ raised on appeal by the United States. It first rejects the United States' argument that "{m}uch of the NASA research at issue ... was not in the causal pathway of the technologies the Panel considered

⁶⁸⁸European Union's appellee's submission, para. 351 (referring to Panel Report, paras. 7.1741-7.1773).

⁶⁸⁹Panel Report, para. 7.1742.

⁶⁹⁰Panel Report, para. 7.1701.

⁶⁹¹Panel Report, para. 7.1746.

⁶⁹²Panel Report, para. 7.1747.

⁶⁹³European Union's appellee's submission, para. 355 (referring to Panel Report, para. 7.1433). (original emphasis)

⁶⁹⁴European Union's appellee's submission, para. 355.

⁶⁹⁵European Union's appellee's submission, para. 360 (referring to Panel Report, Appendix VII.F.1.D, p. 740).

⁶⁹⁶European Union's appellee's submission, para. 362.

⁶⁹⁷European Union's appellee's submission, paras. 363 and 364.

⁶⁹⁸European Union's appellee's submission, para. 365 (referring to Appellate Body Report, *Brazil – Retreated Tyres*, para. 202).

⁶⁹⁹European Union's appellee's submission, para. 367.

most relevant to the 787".⁷⁰⁰ In this respect, the European Union notes that it had demonstrated that technologies and design solutions found on the 787 "are rarely 1:1 copies of developments undertaken in one research programme".⁷⁰¹ Rather, Boeing "chose among the solutions which were best suited" to the specific requirements of the 787 through "cherry-picking" from decades of government-funded R&D.⁷⁰² Since the Panel "properly" framed the question under Articles 5(c) and 6.3 of the *SCM Agreement* as being "whether the subsidies contributed" to the 787 technologies, and not "whether there was a 1:1 identity" between them, the European Union requests the Appellate Body to reject the United States' challenge of the Panel's findings.⁷⁰³

309. The European Union further submits that the United States' assertions about NASA research being at a "far lower level ... than necessary for commercial application on the 787"⁷⁰⁴ does not invalidate the Panel's findings of a causal link. The European Union contends that the Panel's alleged factual error in reading the evidence related to TRLs "does not rise to a level that would alter the Panel's findings".⁷⁰⁵ First, even the revised numbers show that NASA R&D subsidies (focused on TRL1 through TRL 6) provided Boeing with a "significant time{} advantage of several years in developing the 787".⁷⁰⁶ Second, the "reduction in risk"⁷⁰⁷ that the subsidies provided to Boeing continues to be important. And third, the timeframes associated with the TRLs are "merely average development times for a broad range of 'airframe' technologies".⁷⁰⁸ The European Union thus contends that, "even if the numerical finding at issue were in error", the Panel's ultimate conclusion "remains fully supported".⁷⁰⁹

310. With respect to the United States' argument that, compared to Boeing's own R&D spending, the magnitude of the United States' aeronautics R&D subsidies is "too small to create a genuine and substantial relationship of cause and effect with the technologies used on the 787"⁷¹⁰, the European Union notes that the Panel properly recognized that these kinds of subsidies are "intended to

⁷⁰⁰United States' other appellant's submission, p. 90, subheading VI.B.1.a.

⁷⁰¹European Union's appellee's submission, para. 373 (referring to Joint Declaration by Dominik Wacht and Tim Sommer (2007) (Panel Exhibit EC-1336) (HSBI/BCI)).

⁷⁰²European Union's appellee's submission, para. 373 (referring to Joint Declaration by Dominik Wacht and Tim Sommer (2007) (Panel Exhibit EC-1336) (HSBI/BCI)).

⁷⁰³European Union's appellee's submission, para. 377.

⁷⁰⁴European Union's appellee's submission, para. 379 (referring to United States' other appellant's submission, paras. 229-235).

⁷⁰⁵European Union's appellee's submission, p. 171, subheading III.A.3.a.iv.

⁷⁰⁶European Union's appellee's submission, para. 385.

⁷⁰⁷European Union's appellee's submission, para. 386.

⁷⁰⁸European Union's appellee's submission, para. 387 (referring to Panel Report, footnote 3668 to para. 7.1748).

⁷⁰⁹European Union's appellee's submission, para. 388.

⁷¹⁰European Union's appellee's submission, para. 389 (quoting United States' other appellant's submission, p. 102, subheading VI.B.1.f).

multiply the benefit from a given expenditure".⁷¹¹ The European Union further notes that the Panel "was not required to attach particular significance to the amount of the financial contribution in comparison to other expenditure".⁷¹²

311. The European Union recalls the United States' challenge, under Article 11 of the DSU, of the Panel's finding that the aeronautics R&D subsidies enabled Boeing to meet the challenges of integrating technologies from a wide variety of suppliers.⁷¹³ The European Union submits that the United States' argument "fails to recognise that several ... contracts were precisely focused on making Boeing a better integrator"⁷¹⁴ and "overlooks the importance of the knowledge and experience that Boeing obtained pursuant to the aeronautics R&D subsidies".⁷¹⁵ Simply because the Panel accorded the evidence a different weight than does the United States does not mean that the Panel failed to conduct an objective assessment under Article 11 of the DSU. The European Union therefore requests the Appellate Body to reject the United States' appeal in this respect.

312. Lastly, the European Union agrees with the Panel that dissemination of NASA research results is limited in view of restrictions that have the purpose of benefiting the United States' LCA manufacturers.⁷¹⁶ The technical papers published by NASA have "little value"⁷¹⁷ because they do not contain "critical research results"⁷¹⁸ and are "general and ambiguous".⁷¹⁹ In addition, such reports are often "subject to limited access rights" and are therefore "published late".⁷²⁰ The European Union also notes that Boeing generally holds the patents to the developed technologies and

⁷¹¹European Union's appellee's submission, para. 391 (quoting Panel Report, para. 7.1760). (underlining added by the European Union)

⁷¹²European Union's appellee's submission, para. 394.

⁷¹³European Union's appellee's submission, para. 396 (referring to United States' other appellant's submission, paras. 214 and 238-249).

⁷¹⁴European Union's appellee's submission, para. 397.

⁷¹⁵European Union's appellee's submission, para. 398 (quoting Panel Report, para. 7.1772). The European Union stresses, in this respect, the Panel's finding that "{t}he critical question in developing and building LCA is *not* how to *get* the different technologies and design and manufacturing tools. The critical question is how to *use* them." (Panel Report, para. 7.1772 (original emphasis))

⁷¹⁶European Union's appellee's submission, para. 402 (referring to Panel Report, para. 7.1771 and footnote 3699 thereto).

⁷¹⁷European Union's appellee's submission, para. 404.

⁷¹⁸European Union's appellee's submission, para. 404 (referring to Declaration by Ray Kingcombe (9 November 2007) (Panel Exhibit EC-1177); and Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI))). (emphasis omitted)

⁷¹⁹European Union's appellee's submission, para. 404 (referring to Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI))).

⁷²⁰European Union's appellee's submission, para. 404 (referring to European Communities' first written submission to the Panel, Annex C – Linking of US Aeronautics Subsidies to the 787, paras. 122-124 and 135-151).

processes, and hence the developed technology is "not available for use by Airbus", or "available only at a fee".⁷²¹

The Panel's findings regarding the counterfactual analysis

313. The European Union contends that the Panel's counterfactual analysis was "neither of a 'cursory' nature nor 'insufficien{t}'".⁷²² On the contrary, the Panel's entire analysis demonstrates, in the European Union's view, that the Panel properly completed the first step of its counterfactual analysis "of the effects of the subsidies on *Boeing's* pricing and product offerings" before addressing their effects on "*Airbus's* prices and sales".⁷²³

314. Turning to the specific arguments presented by the United States, the European Union notes, first, that the United States "points to no evidence"⁷²⁴ substantiating the allegation that Boeing knew what research needed to be done. The Panel properly found that "fundamental research constitutes high-risk investments that private firms are reluctant to incur".⁷²⁵ Based on the evidence before it, the Panel concluded that the aeronautics R&D subsidies are "particularly valuable" to Boeing because they contribute to research that the company would not otherwise undertake, "even if it had the financial resources to do so".⁷²⁶

315. The European Union also rejects the United States' assertion that Boeing could have conducted the research using its own funds. It notes that the Panel found that the issue is not whether Boeing "*could* have funded the research", but whether "*it would have done so*"⁷²⁷ in the light of "the large disincentives for private sector investment in long term, high risk aeronautical {R&D}".⁷²⁸ Regarding the United States' argument that the distance from the final operational technology diminishes the value of the aeronautics R&D subsidies, the European Union notes that "it is precisely this distance" that made the research too costly and risky for Boeing to undertake by itself, and that made the NASA and USDOD subsidies "more valuable".⁷²⁹

⁷²¹European Union's appellee's submission, para. 404 (referring to European Communities' first written submission to the Panel, Annex C – Linking of US Aeronautics Subsidies to the 787, paras. 122-134).

⁷²²European Union's appellee's submission, para. 414 (quoting United States' other appellant's submission, paras. 258 and 215).

⁷²³European Union's appellee's submission, para. 414 (quoting Panel Report, para. 7.1660 (original emphasis)).

⁷²⁴European Union's appellee's submission, para. 419 (referring to United States' other appellant's submission, para. 264).

⁷²⁵European Union's appellee's submission, para. 420.

⁷²⁶European Union's appellee's submission, para. 422.

⁷²⁷European Union's appellee's submission, para. 424. (original emphases)

⁷²⁸European Union's appellee's submission, para. 424 (quoting Panel Report, para. 7.1747).

⁷²⁹European Union's appellee's submission, para. 426 (referring to United States' other appellant's submission, para. 202).

316. At the oral hearing, the European Union noted that Article 6.3 of the *SCM Agreement* requires a panel to find a genuine and substantial relationship of cause and effect between the subsidy and the market phenomenon in question. The Panel need not have concluded that, absent the subsidies, the world would be in a particular defined alternative state. It was sufficient for the Panel to find that, absent the subsidies, the 787 would be a different competitor, either with fewer attractive features than actually found on the 787, or with identical features but launched at a later time. The Panel properly based its counterfactual analysis on a qualitative assessment and properly explained the consequences of its findings that the United States' aeronautics R&D subsidies contributed to the launch of the technologically advanced 787 in 2004, in turn causing adverse effects to the European Communities.

317. The European Union further emphasized that the Panel posed the correct counterfactual, and properly reached the conclusion that, despite having the incentive to launch a product like the 787, and the financial resources to do so, Boeing would not have been in the same position in terms of technological knowledge, experience, and confidence to launch the 787 in 2004 but for the effects of the United States' aeronautics R&D subsidies. In making such a finding, the Panel carefully weighed and considered the non-attribution factors raised by the United States, but eventually found that they did not attenuate the genuine and substantial relationship the Panel had identified.

318. The European Union therefore asserts that "the extensive factual findings" support the Panel's counterfactual analysis and conclusion that, "absent the aeronautics R&D subsidies, Boeing would not have launched the 787 as and when it did in 2004".⁷³⁰

(ii) *The Panel's finding with respect to the effects of the subsidies on Airbus' prices and sales*

319. The European Union contends that the United States' assertion that the Panel double-counted each 787 sale as two lost sales for Airbus "is devoid of any basis in the Panel's findings".⁷³¹ The European Union explains that it never argued that a single sales campaign, in which both the A330 and Original A350 were offered, should count as two lost sales.⁷³² The Panel simply recognized that in several of the challenged sales campaigns Airbus "offered the airline customer a mix of A330s and Original A350s"⁷³³, and therefore lost sales of a number of both of these aircraft.

⁷³⁰European Union's appellee's submission, para. 428.

⁷³¹European Union's appellee's submission, para. 442.

⁷³²European Union's appellee's submission, para. 443 (referring to European Communities' first written submission to the Panel, Annex D – 787 Campaign Annex (HSBI), paras. 7-14 and 20-29, and table at para. 77).

⁷³³European Union's appellee's submission, para. 444.

320. Furthermore, the European Union contends that the Panel "considered" and "properly rejected" non-attribution factors.⁷³⁴ The fact that the Panel found that in six of the ten challenged sales campaigns non-attribution factors "played a significant part in the Boeing sale"⁷³⁵ confirms "beyond doubt"⁷³⁶ that the Panel took those other factors into account. In the European Union's view, the United States' challenge is a "challenge to the Panel's weighing of the evidence"⁷³⁷, which the United States failed properly to raise under Article 11 of the DSU.

321. The European Union additionally rejects the United States' assertion that the Panel erred in finding a threat of displacement/impedance of Airbus 200-300 seat LCA in Ethiopia, Kenya, and Iceland because it "erroneously declined to assess whether these countries constituted 'third country markets' within the meaning of Article 6.3(b)".⁷³⁸ The European Union notes that the United States does not challenge the Panel's finding of a threat of displacement/impedance in Australia.⁷³⁹

322. The European Union recalls that, in *EC certain member States – Large Civil Aircraft*, the Appellate Body stated that the term "market" refers to both a geographical market and a product market.⁷⁴⁰ Because Article 6.3(b) is limited in its scope of application to "third country market{s}", there can only be discussion over "the relevant *product* market within third country markets".⁷⁴¹ However, the European Union notes that the Panel "correctly stated" that "there is *no* disagreement by the Parties over the relevant *product* markets".⁷⁴² The European Union therefore submits that, given that neither the relevant product markets nor the relevant geographical markets (namely, Ethiopia, Kenya, and Iceland) were disputed, the Panel was correct in concluding that it was "not required to consider"⁷⁴³ whether the European Communities had established the existence of third-country markets for the purposes of its displacement and impedance arguments.

323. The European Union further submits that, "even if the Panel was under an obligation to make findings on the extent of the geographic market within a third country, *quod non*"⁷⁴⁴, the Panel's finding is still correct. The Panel found, with the explicit agreement of both parties, that there existed

⁷³⁴European Union's appellee's submission, para. 446.

⁷³⁵Panel Report, para. 7.1786.

⁷³⁶European Union's appellee's submission, para. 447.

⁷³⁷European Union's appellee's submission, para. 447.

⁷³⁸United States' other appellant's submission, paras. 295 and 296.

⁷³⁹European Union's appellee's submission, para. 462 (referring to United States' other appellant's submission, para. 295).

⁷⁴⁰European Union's appellee's submission, para. 464 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1117-1123).

⁷⁴¹European Union's appellee's submission, para. 464. (original emphasis)

⁷⁴²European Union's appellee's submission, para. 464 (referring to Panel Report, para. 7.1670). (original emphasis)

⁷⁴³Panel Report, para. 7.1674.

⁷⁴⁴European Union's appellee's submission, para. 465.

a world market for "wide-body aircraft with a capacity of approximately 200 to 300 passengers".⁷⁴⁵ The European Union therefore notes that, factually, there could not be multiple geographic markets within each third country, since "{a} world market encompasses the territory of *all* third countries where there is any LCA competition".⁷⁴⁶

324. The European Union submits that the Panel also properly found significant price suppression in the world market for 200-300 seat LCA.⁷⁴⁷ It asserts that an examination of the evidence as a whole demonstrates that "there *is* a direct correlation between the 787 launch and the drop in A330 prices".⁷⁴⁸ In the European Union's view, the United States attempts to reargue the facts "by artificially analysing annual data points, rather than the clear trends over time".⁷⁴⁹ However, even accepting the United States' annual data point comparison, the United States' argument fails.

325. The European Union argues that the "level of detailed pricing information"⁷⁵⁰ the United States requests for the Original A350 and the A350XWB is not required in order to find price suppression for the 200-300 seat LCA market. The Panel based its finding on "detailed pricing information for the A330" and had "all necessary information" to assess the impact of the 787 launch on A330 prices.⁷⁵¹ Although elaborated information on prices for the Original A350 and A350XWB was "much less relevant"⁷⁵², the European Union also presented some pricing information for the Original A350.

326. In sum, the European Union rejects the three grounds of appeal presented by the United States concerning the effects of the aeronautics R&D subsidies, and submits that: (i) the alleged errors in the Panel's findings linking the aeronautics R&D subsidies with technologies applied on the 787 "do not exist"⁷⁵³; (ii) Boeing could not have conducted the same NASA-supported R&D with its own funds⁷⁵⁴; and (iii) the Panel properly found that the effect of the aeronautics R&D subsidies causes serious prejudice within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement* in the 200-300 seat LCA market.⁷⁵⁵

⁷⁴⁵Panel Report, para. 7.1669.

⁷⁴⁶European Union's appellee's submission, para. 465. (original emphasis)

⁷⁴⁷European Union's appellee's submission, p. 203, subheading III.A.3.c.v.

⁷⁴⁸European Union's appellee's submission, para. 468. (original emphasis)

⁷⁴⁹European Union's appellee's submission, para. 469 (referring to United States' other appellant's submission, para. 302).

⁷⁵⁰European Union's appellee's submission, para. 471 (referring to United States' other appellant's submission, paras. 304 and 309-313).

⁷⁵¹European Union's appellee's submission, para. 479.

⁷⁵²European Union's appellee's submission, para. 479.

⁷⁵³European Union's appellee's submission, para. 320.

⁷⁵⁴European Union's appellee's submission, para. 321.

⁷⁵⁵European Union's appellee's submission, para. 322.

(b) Price effects of the tied tax subsidies

(i) *The Panel's counterfactual analysis*

327. The European Union submits that the United States' arguments that the Panel's counterfactual analysis failed to address whether Boeing's prices would have been higher in the absence of the tied tax subsidies are without merit for three reasons. First, contrary to the United States' allegations, the Panel engaged in a comprehensive counterfactual assessment of the effects of the tied tax subsidies at issue on prices, taking into consideration: (i) the nature of the subsidies; (ii) the magnitude and duration of the subsidies; and (iii) the conditions of competition between Airbus and Boeing.

328. Regarding the nature of the tied tax subsidies, the European Union maintains that the Panel gave a detailed description of the reasons why these subsidies, given their direct link to LCA production and sales, had price-suppressing effects. The Panel also noted the United States' agreement that, as a matter of economics, "tied" subsidies have an impact on the sales they are tied to, and that, consequently, such "product-specific subsidies can have a significant impact on *prices* and output".⁷⁵⁶ The Panel further found that the FSC/ETI subsidies "bear a more direct relationship to Boeing's LCA *prices*"⁷⁵⁷ than other, indirect, types of subsidies. Finally, the Panel confirmed the price-suppressing effects of the tax subsidies by giving "considerable weight"⁷⁵⁸ to factual evidence before it, consisting of statements by Airbus and Boeing executives and the US Trade Representative.

329. Regarding the magnitude of the subsidies, the European Union considers that the Panel did not find the parties' attempts to measure the magnitude of the FSC/ETI subsidies to be informative or illustrative of the capacity for these subsidies to have affected Boeing's prices because "even relatively small amounts of subsidies of this nature could have significant effects".⁷⁵⁹ With respect to the duration of the tax subsidies, the Panel found that the FSC/ETI subsidies gave Boeing an important advantage over Airbus in subsequent sales of aircraft of the same family to the same customer. The European Union argues that, in practical terms, this meant that Airbus had to offer greater price discounts to entice Boeing's customer base to switch to Airbus. This meant that Airbus experienced present significant price suppression or lost sales from previous FSC/ETI subsidies that allowed Boeing to secure the initial sale with a particular airline.

⁷⁵⁶European Union's appellee's submission, para. 533 (quoting Panel Report, para. 7.1806). (emphasis added by the European Union)

⁷⁵⁷European Union's appellee's submission, para. 534 (quoting Panel Report, para. 7.1808). (emphasis added by the European Union)

⁷⁵⁸European Union's appellee's submission, para. 535.

⁷⁵⁹European Union's appellee's submission, para. 539.

330. With respect to the conditions of competition, the European Union contends that the Panel made a series of factual findings regarding key aspects of the LCA industry, and found that the LCA markets at issue are competitive duopolies between Airbus and Boeing, characterized by fierce competition over price and product quality. The Panel also found that the "price-sensitive nature of certain significant LCA sales campaigns"⁷⁶⁰ meant that the tax subsidies at issue led Boeing to lower its prices over the 2004-2006 period. In sum, the European Union argues, "the Panel properly found that, without {the} subsidies, Boeing would not have been able to secure certain sales that it did make, while in other cases Boeing's subsidy-induced prices forced Airbus to secure the sales Airbus made at reduced prices".⁷⁶¹

331. Second, the European Union contends that, although the United States "essentially argues that the 'tied' FSC/ETI and B&O tax subsidies had *no* effects on Boeing's prices whatsoever"⁷⁶², this is contradicted by the United States' own statements regarding the nature of the tax subsidies at issue. The Panel noted the United States' agreement that the nature of the subsidies plays an important role in an analysis of adverse effects, and that "tied" subsidies have a direct impact on output and prices. Coupled with the United States' admission that the tax subsidies at issue are "specifically designed to affect trade"⁷⁶³, this demonstrates that the United States explicitly recognized that the "tied" nature of tax subsidies is a key factor in an assessment of price effects.

332. Third, the European Union argues that the alternative counterfactual put forward by the United States, in which Boeing would not have priced its LCA any differently had it not received the tax subsidies, is "profoundly flawed"⁷⁶⁴ and misrepresents and ignores important Panel findings. The United States' counterfactual fails to discuss the importance of the "tied" nature of the tax subsidies for the Panel's causation analysis. The United States also misrepresents findings central to that analysis. Contrary to the United States' claim, the Panel's rejection of the European Communities' argument that Boeing would not have been economically viable without the receipt of subsidies is not tantamount to a finding that Boeing had unfettered access to capital and could therefore make its pricing decisions independently of the subsidy payments. Moreover, there was no credible evidence before the Panel to support the United States' assertion that Boeing would have enjoyed unfettered access to capital in the absence of the subsidies. To the contrary, there was considerable evidence

⁷⁶⁰Panel Report, para. 7.1820.

⁷⁶¹European Union's appellee's submission, para. 541 (referring to Panel Report, para. 7.1822).

⁷⁶²European Union's appellee's submission, para. 526. (original emphasis)

⁷⁶³European Union's appellee's submission, para. 529 (quoting United States' other appellant's submission, para. 327). See also United States' other appellant's submission, para. 352: "The finding that subsidies tied to sales will have an impact on {LCA prices and} sales is *accurate*". (emphasis added by the European Union)

⁷⁶⁴European Union's appellee's submission, para. 544.

before the Panel supporting the conclusion that Boeing was unable to take pricing decisions unconstrained by variations in its cash flow, and that Boeing sought "to use all available financial means, including tax subsidies, to 'out-price' Airbus".⁷⁶⁵ The European Union considers that a company possessing unfettered access to capital would not have had to engage in such price-cutting strategies.

333. The European Union further argues that the alternative counterfactual advanced by the United States cannot be reconciled with the Panel's findings on the conditions of competition in the LCA market. The European Communities had established before the Panel that, for a market characterized by duopoly competition, "economic theory predicts that there is an inherent incentive for each duopolist to 'out-price' its rival, either by aggressive pricing or by additional R&D".⁷⁶⁶ The European Union maintains that the evidence before the Panel shows that Boeing was constantly experiencing resource constraints that prevented it from pushing Airbus out of the LCA market. If Boeing had unfettered access to capital markets, the European Union contends, "Boeing would have priced its LCA such as to force Airbus out of the market".⁷⁶⁷

Magnitude of the subsidies

334. The European Union rejects the United States' efforts to "reargue the weight and significance of the evidence before the Panel"⁷⁶⁸ regarding the magnitude of the subsidies. Contrary to the United States' position, the Panel did not indicate that, because it had found the B&O tax rate reductions to be, by themselves, too small to cause serious prejudice, the magnitude of the subsidies could be, or in fact was, the decisive factor for the Panel's causation analysis. The Panel did conduct an analysis of the magnitude of the tax subsidies, concluding that, based on the totality of the evidence, these subsidies caused price effects in strategic sales campaigns, even where granted in relatively small amounts. The Panel adopted reasoning of a qualitative nature and "explained the significance of highly-trade-distorting tax subsidies of relatively small magnitude".⁷⁶⁹ In so doing, the Panel incorporated earlier findings, not appealed by the United States, regarding the specific nature of the subsidies at issue, the conditions of competition between Airbus and Boeing, and the duration of the subsidies. Following consideration of the context provided by these other relevant factors, the

⁷⁶⁵European Union's appellee's submission, para. 551. (emphasis omitted)

⁷⁶⁶European Union's appellee's submission, para. 554.

⁷⁶⁷European Union's appellee's submission, para. 561.

⁷⁶⁸European Union's appellee's submission, para. 565.

⁷⁶⁹European Union's appellee's submission, para. 573.

Panel "rightly concluded that, given the conditions of competition in the LCA markets at issue, the tax subsidies were of a sufficient nature to cause price effects in strategic sales campaigns".⁷⁷⁰

335. The European Union also rejects the United States' argument that the Panel applied an incorrect legal standard. The European Union asserts that the Panel correctly identified its obligation to establish a "genuine and substantial relationship of cause and effect" between the subsidies at issue and the alleged market effects, and it had a "certain degree of discretion" in choosing the appropriate methodology to assess causation. The European Union considers that the Panel's decision to discuss the magnitude of the subsidies in the context of various factors that accentuated the effects of the tax subsidies was "reasonable and appropriate"⁷⁷¹ and "well within the bounds of its discretion as the trier of fact".⁷⁷²

Correlation between the subsidies and their effects

336. The European Union considers that the United States' argument that the Panel erred because it failed to make any findings on the issue of correlation between the subsidies and their effects has no merit. The European Union argues that the Panel did address the issue of correlation between market effects, prices, and the FSC/ETI subsidies. The Panel gave considerable weight to, for example, evidence of a strategic sales campaign between Airbus and Boeing in which Airbus' negotiation team was asked by the potential customer to reduce its sales offer by the amount of the FSC subsidies granted to Boeing. The Panel also indicated that it assessed questions of correlation when it explained that it could not "ascertain the effects of the subsidies from *direct* observation of market share and pricing trend data" over the 2000-2006 period because the "FSC/ETI programme was in operation prior to 2000".⁷⁷³

337. The European Union additionally maintains that there is no legal requirement to establish a temporal correlation between the amount of subsidies and price suppression. There is no requirement to quantify precisely the amount of subsidies, and the Appellate Body has clarified that the absence of a temporal correlation is not a determinative factor.⁷⁷⁴ As the European Union sees it, the United States is effectively asking the Appellate Body to re-weigh evidence and arguments that the Panel did not consider persuasive. The Appellate Body should reject these arguments because the United States has not raised a challenge under Article 11 of the DSU. Even if the Panel's

⁷⁷⁰European Union's appellee's submission, para. 584.

⁷⁷¹European Union's appellee's submission, para. 585.

⁷⁷²European Union's appellee's submission, para. 586.

⁷⁷³European Union's appellee's submission, para. 590 (quoting Panel Report, para. 7.1819). (emphasis added by the European Union)

⁷⁷⁴European Union's appellee's submission, para. 592 (referring to Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 414).

consideration of the evidence had been properly raised on appeal, the United States "has not shown any reasons for the Appellate Body to interfere with the Panel's discretion as the finder of fact".⁷⁷⁵

Non-attribution factors

338. The European Union rejects the United States' argument that the Panel failed to engage in a meaningful analysis to ensure that the effects of other factors on prices were not improperly attributed to the tax subsidies. The Panel properly considered that "there is no requirement for panels to undertake a separate analytical step to evaluate potential non-attribution factors, and that it is permissible to adopt an analysis that takes these potential non-attribution factors into account simultaneously with the effect of the subsidies and in the context of conditions of competition affecting the market".⁷⁷⁶ The Panel further explained that, in applying its "unitary"⁷⁷⁷ approach to causation, it would assess whether other factors affected Boeing's pricing and product offerings, or attenuated the effects of the subsidies on Airbus' prices and sales. Moreover, the Panel confirmed that it had fully considered the United States' arguments and evidence regarding other factors contributing to the prices and performance of Airbus LCA relative to Boeing LCA when it stated that this evidence does not "reverse or attenuate the pervasive and consistent pricing advantage that Boeing had in LCA campaigns in the 2001-2003 period due to the availability of the FSC/ETI subsidies".⁷⁷⁸ This finding was based on the Panel's earlier finding that Boeing would always have a pricing advantage because of the FSC/ETI subsidies, regardless of whether other factors may have influenced Airbus' or Boeing's prices.

339. In respect of the non-attribution factors identified by the United States, the European Union explains that the Panel found that a "pervasive and consistent pricing advantage"⁷⁷⁹ existed regardless of the pricing pressures these factors brought to bear on Boeing and Airbus. The Panel's non-attribution findings must be read together with the Panel's extensive findings that "point quite clearly to the significance of the FSC/ETI subsidies to Boeing's ability to compete on price against Airbus".⁷⁸⁰ The Panel thus properly found that Boeing's pervasive and consistent pricing advantage existed in strategic sales campaigns regardless of non-attribution factors, and this finding is fully supported by the evidence and properly explained in the Panel's reasoning. The Appellate Body stated in *EC and certain member States – Large Civil Aircraft* that the panel in that case should have indicated that it would ensure that the effects of other factors were not improperly attributed to the

⁷⁷⁵European Union's appellee's submission, para. 596.

⁷⁷⁶Panel Report, para. 7.1660.

⁷⁷⁷European Union's appellee's submission, para. 601.

⁷⁷⁸Panel Report, para. 7.1819.

⁷⁷⁹Panel Report, para. 7.1819.

⁷⁸⁰Panel Report, para. 7.1818.

challenged subsidies.⁷⁸¹ The European Union argues that this is precisely what the Panel did in this case when it found that the non-attribution factors raised by the United States did not reverse or attenuate the pricing advantage enjoyed by Boeing.

(ii) *Treatment of FSC/ETI subsidies as prohibited export subsidies*

340. The European Union submits that the Panel did not, as the United States claims, assess the FSC/ETI subsidies independent of their nature, magnitude, or other characteristics. Rather, the "tied" nature of the FSC/ETI subsidies was a central element to the Panel's causation analysis. The Panel's statement that it was entitled to determine that the FSC/ETI subsidies have trade-distortive effects "*precisely because the FSC/ETI subsidies {were} contingent on {i.e., 'tied to'} Boeing making export sales*"⁷⁸² must be read in the context of the Panel's other finding that the FSC/ETI subsidies were realized on the delivery of every LCA that Boeing exported. It is this "tied", or "contingent", nature that provides a direct link between the prohibited export subsidies finding and their actual effects on the LCA markets. Where such a direct link, or "tie", exists, the effect of the subsidies is not at all remote; rather, it is immediate, direct, and consequential. The Panel therefore agreed with the conclusion of the panel in *Brazil – Aircraft* that "subsidies contingent upon exportation ... are specifically designed to affect trade".⁷⁸³ The European Union considers that there is therefore no legal or logical basis for the United States to challenge the Panel's findings that the status of the FSC/ETI subsidies as prohibited export subsidies was "one of a number of relevant *facts* in assessing the capacity of these subsidies to cause various forms of serious prejudice".⁷⁸⁴ The European Union adds that "the United States itself ... explicitly agreed that the FSC/ETI export subsidies, due to their 'tied' nature, lead to an increase in Boeing revenues after the export sale of a Boeing LCA"⁷⁸⁵, and acknowledged that the tax subsidies at issue were "specifically designed to affect trade".⁷⁸⁶

341. The European Union also argues that the Panel did not, as the United States claims, make its adverse effects findings "without any other evidence or reasoning".⁷⁸⁷ To the extent the Panel determined that the FSC/ETI subsidies had trade-distortive effects because of their status as export subsidies that were directly "tied to" particular aircraft sales, it coupled that determination with

⁷⁸¹European Union's appellee's submission, para. 610 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1234).

⁷⁸²European Union's appellee's submission, para. 613 (quoting Panel Report, para. 7.1810). (emphasis and bracketed language added by the European Union)

⁷⁸³Panel Report, para. 7.1809 (quoting Panel Report, *Brazil – Aircraft*, para. 7.26).

⁷⁸⁴European Union's appellee's submission, para. 616. (original emphasis)

⁷⁸⁵European Union's appellee's submission, para. 617 (referring to Panel Report, paras. 7.1806 and 7.1635).

⁷⁸⁶United States' other appellant's submission, para. 327.

⁷⁸⁷United States' other appellant's submission, para. 339.

references to what it termed "reliable evidence which confirms that determination".⁷⁸⁸ According to the European Union, the paragraphs referred to by the Panel reflect the considerable evidence it relied on in finding that the tax subsidies "contingent upon" or "tied to" Boeing's export sales cause serious prejudice to the interests of the European Communities.

342. The European Union contends that, in view of the extensive evidence that the Panel found to confirm its determination that the FSC/ETI subsidies had trade-distortive effects, there is no basis for the United States to assert that the alleged presumption was "outcome-determinative".⁷⁸⁹ The Panel's qualification in footnote 3763 of the Panel Report, together with the additional analysis that it undertook, make clear that the Panel did not stop with what the United States describes as a presumption of trade-distortive effects. Instead, the Panel confirmed its finding based on an objective assessment of the evidence before it. By challenging the Panel's factual findings as "not enough", "insufficient", "irrelevant", "meaningless", and "simply inadequate to support a finding of serious prejudice"⁷⁹⁰, the United States' arguments "boil down to an attack on the *weight* that the Panel attached to evidence in arriving at its *factual* finding of the effects of the tax subsidies at issue on Boeing's ... commercial behaviour, and by extension Airbus' sales and prices".⁷⁹¹ The European Union maintains that the United States has not challenged these findings under Article 11 of the DSU, rendering its arguments inadmissible. In any event, the European Union adds, the Panel's findings were proper and provide no basis for a reversal under Articles 5(c) and 6.3 of the *SCM Agreement*, nor do they exceed the bounds of the Panel's discretion as the trier of facts under Article 11 of the DSU.

- (iii) *Additional claims relating to the Panel's analysis of price suppression, lost sales, and displacement or impedance*

Price suppression

343. The European Union rejects the United States' claims that the Panel: (i) failed to refer to pricing trend data; (ii) failed to examine other factors affecting pricing; and (iii) failed to assess the degree of price suppression to determine if it was "significant". With regard to pricing trend data, the European Union argues that this is an attempt by the United States to re-introduce its "correlation" argument. There is no requirement for a panel examining price suppression to conduct an assessment of general price trends. The European Union explains that the alleged relevance of price trends in *US – Upland Cotton* originated from the panel's confusion of price suppression with price depression,

⁷⁸⁸Panel Report, footnote 3763 to para. 7.1810.

⁷⁸⁹United States' other appellant's submission, para. 350.

⁷⁹⁰United States' other appellant's submission, para. 352.

⁷⁹¹European Union's appellee's submission, para. 625. (original emphasis)

for which the Appellate Body criticized that panel, and for its bifurcated approach to first finding the existence of price suppression by reference to price movements. The European Union adds that, in *US – Upland Cotton (Article 21.5 – Brazil)*, the Appellate Body explained why, for a case involving price suppression (as opposed to price depression), no specific analysis of pricing trends is required. Because the Panel in this case adopted a unitary approach to assessing causation, the relevant issue was whether, "irrespective of the particular trends in prices in the LCA markets at issue, prices would have been higher".⁷⁹² Although the United States maintains that price trends witnessed in the 2004-2006 reference period for the A340 and 777 aircraft are inconsistent with a price suppression finding, such a finding is "not dependent"⁷⁹³ upon observations about the actual pricing for these aircraft.

344. The European Union also argues that the Panel took into consideration pricing and price trend data, but that these considerations "were neither central nor decisive for the Panel's findings".⁷⁹⁴ The European Union considers that the factors selected by a panel in its causation analysis are highly context-dependent, and that, "in the context of the FSC/ETI and B&O tax subsidies, a closer examination of price trends was not warranted".⁷⁹⁵ The tax subsidies at issue were not linked to the world market prices for LCA but, rather, tied to the production, sale, and export of LCA. Moreover, these subsidies had affected market prices for such a long time that an assessment of price trends would not have revealed relevant information. The European Union considers that this is to be contrasted with the situation in *US – Upland Cotton*, where an examination of price trends was undertaken because that case involved counter-cyclical, price-contingent subsidies, and where, in any event, the Appellate Body did not attribute much weight to the issue of price trends. The European Union underscores that the Appellate Body confirmed that "Article 6.3(c) does not set forth any specific methodology for determining whether the effect of a subsidy is significant price suppression" and that "there may well be different ways to make this determination".⁷⁹⁶

345. With respect to the Panel's treatment of non-attribution factors, the European Union contends that the United States "errs fundamentally when it asserts that the Panel did not consider non-subsidy factors in the 'unitary' causation analysis of significant price suppression".⁷⁹⁷ The European Union maintains that the Panel considered the United States' arguments regarding various non-attribution

⁷⁹²European Union's appellee's submission, para. 634. (original emphasis)

⁷⁹³European Union's appellee's submission, para. 640.

⁷⁹⁴European Union's appellee's submission, para. 635.

⁷⁹⁵European Union's appellee's submission, para. 635.

⁷⁹⁶European Union's appellee's submission, para. 638 (quoting Appellate Body Report, *US – Upland Cotton*, para. 427).

⁷⁹⁷European Union's appellee's submission, para. 641 (referring to United States' other appellant's submission, para. 368).

factors as part of its causation analysis, but that it did not find that these factors reversed or attenuated the pervasive and consistent pricing advantage enjoyed by Boeing.

346. Regarding the Panel's treatment of the degree of price suppression, the European Union maintains that the United States is wrong to assert that the Panel was under an obligation to quantify the level of price suppression to determine its significance. The Panel based its "significance" findings on various qualitative factors, including the nature, design, and operation of the tied tax subsidies, the particularities of the LCA markets, the duopoly competition between Airbus and Boeing, the price-sensitive nature of certain strategic sales campaigns, the pervasive and consistent pricing advantage enjoyed by Boeing, and the existence of buyer switching cost advantages. The European Union maintains that these findings, as well as their explanation and evidentiary basis, comply fully with the requirements of Articles 5 and 6.3(c) of the *SCM Agreement*.

Lost sales

347. The European Union also disagrees with the United States' claims that the Panel failed to identify which particular sales campaigns were lost by Airbus, or otherwise discuss what facts existed to support its findings of lost sales. The European Union submits that there is no requirement for a panel to identify, address, and discuss specifically individual sales campaigns in order to make a finding of significant lost sales. The European Union refers to the Appellate Body's statement in *EC and certain member States – Large Civil Aircraft* that an examination of specific sales campaigns "may be appropriate given the particular characteristics of a market", but that an aggregation of such information "is also permissible".⁷⁹⁸ Consistent with this statement, the Panel conducted a unitary counterfactual analysis and "made its significant lost sales finding on the basis of its earlier finding regarding the existence of such LCA world markets".⁷⁹⁹ The Panel focused its counterfactual analysis on what it termed "strategic", "price-sensitive", or "significant" sales campaigns.⁸⁰⁰ The Panel thus properly concluded that lost sales could occur where the price advantage provided by the tied tax subsidies caused Boeing to win certain strategic and highly price-sensitive sales that it would otherwise not have been able to secure. According to the European Union, this was a permissible and appropriate approach to the Panel's findings of significant lost sales.

348. The European Union also argues that the United States' claim should be rejected in the light of the manner in which the European Communities structured its claim before the Panel. If a complaining Member structures its case based on a series of individual claims of serious prejudice

⁷⁹⁸ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1217.

⁷⁹⁹ European Union's appellee's submission, para. 650.

⁸⁰⁰ European Union's appellee's submission, para. 651 (quoting Panel Report, paras. 7.1820, 7.1822, and 7.1823).

relating to individual significant lost sales, then it may be necessary for a panel to make findings on each asserted lost sale. In this dispute, however, the European Communities "brought a single claim of serious prejudice, and *illustrated* its claim presenting evidence of, *inter alia*, lost sales, by providing details regarding various sales campaigns".⁸⁰¹ The Panel was within its discretion to consider these sales campaigns as evidence within its overall assessment of the existence of significant lost sales. The European Union maintains that, "much as panels are not required to quantify price suppression, they may, but are not required to, precisely identify lost sales".⁸⁰² The European Union adds that, even if the Panel were required to have identified individual lost sales, the Panel cited the particular sales campaign evidence introduced by the European Communities, and confirmed that its assessment of the European Communities' serious prejudice claim was based on all of the evidence before it.

349. The European Union further submits that the United States' claim under Article 12.7 of the DSU "is entirely dependent on its claims under Article 6.3(c)"⁸⁰³ of the *SCM Agreement*. Consistent with guidance by the Appellate Body, the Panel set out the necessary findings of fact, the applicability of relevant provisions, and the basic rationale behind its findings. Although the United States argues that the Panel did not set out a basic rationale by failing to disclose the essential or fundamental justification for its findings and recommendations, Articles 5 and 6.3(c) of the *SCM Agreement* do not require panels to identify specifically each lost sale at issue. In the European Union's view, there is no reason to find that the Panel failed to meet the requirements of Article 12.7 of the DSU.

Displacement and impedance

350. With respect to the United States' argument that the Panel failed to establish that any of the countries in which the European Communities alleged displacement or impedance was a "market", the European Union contends that the Panel properly concluded that it was not required to do so. The Appellate Body has stated that the term "market" refers to both a geographical market and a product market. Given that Article 6.3(b) is limited in its scope to "third country market{s}", and therefore "indisputable"⁸⁰⁴, and that there was no disagreement by the parties over the relevant product market, the Panel was correct that it did not need to determine the existence of third-country markets for the purposes of its displacement and impedance assessment. Even if the Panel was under an obligation to make findings on the extent of the geographic market within a third country, the Panel was still correct in finding that there was a world market for 100-200 seat and 300-400 seat LCA because,

⁸⁰¹European Union's appellee's submission, para. 655. (original italics and underlining)

⁸⁰²European Union's appellee's submission, para. 657.

⁸⁰³European Union's appellee's submission, para. 661.

⁸⁰⁴European Union's appellee's submission, para. 675.

"{w}here such an integrated world market exists, it logically includes the individual sub-markets within that world market".⁸⁰⁵ Thus, the Panel correctly determined that it was not required to consider whether the European Communities had established the existence of third-country markets in the 100-200 seat and 300-400 seat LCA markets.

351. With regard to the United States' claim that the Panel failed to identify specifically the particular third-country markets in which it had found displacement and impedance had occurred, the European Union responds with similar arguments to those it makes in relation to the United States' appeal of the Panel's finding of significant lost sales. The European Union asserts that panels are not required to identify, address, or discuss specifically individual third-country markets in order to make a finding of displacement or impedance. The Panel properly framed the issue before it as "*whether, based on evidence of sales occurring in those countries, {it was} satisfied that there has been displacement and impedance of imports or exports within the meaning of Article 6.3(a) and 6.3(b), respectively in any of the three LCA product markets in the particular country market*".⁸⁰⁶ With respect to the 100-200 seat and 300-400 seat LCA markets, the Panel made its findings of displacement and impedance for EC exports "from third country markets in that product market".⁸⁰⁷ Accordingly, the Panel's ultimate displacement and impedance findings are directly linked to, and follow from, its broader causation findings involving the effects of the FSC/ETI subsidies and the B&O tax rate reductions.

352. The European Union moreover argues that, because it "presented its displacement or impedance case as being linked to, and dependent on, Airbus' lost sales"⁸⁰⁸, there was no need for the Panel to take an additional step and identify the specific third-country markets where displacement or impedance would automatically flow from the existence of a lost sale in the global market. The Panel properly explained that its displacement and impedance findings were based on "strategic" (or "significant") sales campaigns⁸⁰⁹, and that it was within its discretion to find that, in strategic sales campaigns, the availability of an additional pricing advantage from the tied tax subsidies to Boeing resulted in lost sales and, consequently, in displacement or impedance in third-country markets. The Panel's displacement and impedance findings are also fully supported by that evidence. Thus, in the European Union's view, the Panel's overall causation analysis was supported by a considerable evidentiary basis and provided a logical and legally sound causation analysis linking: (i) the pricing

⁸⁰⁵European Union's appellee's submission, para. 676.

⁸⁰⁶European Union's appellee's submission, para. 682 (quoting Panel Report, para. 7.1674). (emphasis added by the European Union)

⁸⁰⁷Panel Report, para. 7.1823.

⁸⁰⁸European Union's appellee's submission, para. 684. (footnote omitted)

⁸⁰⁹European Union's appellee's submission, para. 685 (quoting Panel Report, paras. 7.1820, 7.1822, and 7.1823).

advantage provided by the tax subsidies; (ii) lower prices being offered in strategic sales campaigns; (iii) sales being lost by Airbus in such strategic sales campaigns as a result of price concessions; and (iv) the resulting displacement or impedance of market share in the particular third-country markets where the lost sale took place.

353. The European Union considers that the Panel's unitary causation analysis also provided a basis for the Panel to have refrained from making specific third-country market findings. In addition, because the conditions of competition in each of the sales campaigns presented by the European Communities involved a particular airline from an individual third-country market, this meant that, when Boeing secured some sales through the pricing advantages of the tax subsidies, this necessarily resulted in its duopoly competitor, Airbus, losing market share in the corresponding third-country market. Given those particular conditions of competition, a subsidized sale would always result in displacement or impedance in the related third-country market under a unitary analysis. The European Union considers that the United States' arguments "ignore the logical and necessary connection between *every* lost sale and the existence of displacement or impedance in the particular third-country market linked to that sale".⁸¹⁰ The European Union adds that, even if the Panel were required to identify individual lost sales, the Panel cited the sales campaign evidence introduced by the European Communities, and confirmed that its assessment of the European Communities' serious prejudice claim was based on all of the evidence before it.

354. With regard to the United States' claim under Article 12.7 of the DSU, the European Union refers to its arguments made in the context of the lost sales discussion. Consistent with guidance by the Appellate Body, the Panel set out the necessary findings of fact, the applicability of relevant provisions, and the basic rationale behind its findings. Articles 5 and 6.3(c) of the *SCM Agreement* do not require panels to identify specifically each third-country market in which displacement or impedance occurs. In the European Union's view, there is no reason to find that the Panel failed to meet the requirements of Article 12.7 of the DSU.

355. The European Union further maintains that the United States' arguments regarding particular findings of the Panel also fail. The European Union observes that, although it made no deliveries of the 737 during the reference period, Boeing seized 100% of the market in 2007. Because the Panel confirmed that it would not limit the temporal scope of the evidence that it considered in undertaking its serious prejudice analysis, the evidence in its totality supported a finding of displacement. In addition, although the fact that there were no A340 deliveries during the reference period in New Zealand may not have supported a finding of displacement, the European Union argues that it

⁸¹⁰European Union's appellee's submission, para. 699. (original emphasis)

still provided ample evidence in support of a finding of impedance. The European Union also argues that Airbus had a 100% market share between 2001 and 2002 in Hong Kong, China and that the fact that there were no Airbus deliveries between 2004 and 2006 therefore does not undermine the Panel's findings of displacement and impedance with respect to that market. Finally, although the Boeing 737 aircraft may not have been delivered to a leasing company in Singapore during the reference period, the aircraft were delivered, and hence displaced or impeded sales of the A320 in other third-country markets.

356. Accordingly, the European Union asserts that the Panel properly found that the FSC/ETI subsidies and the B&O tax rate reductions caused adverse effects within the meaning of Article 6.3(b) and (c) of the *SCM Agreement* in the 100-200 seat and 300-400 seat LCA markets, and requests the Appellate Body to uphold the Panel's finding.

E. *Arguments of the Third Participants*

1. Australia

(a) Financial contribution

(i) *Scope of Article 1.1(a)(1) of the SCM Agreement*

357. Australia disagrees with the Panel's finding that transactions properly characterized as "purchases of services" fall outside the scope of Article 1.1(a)(1) of the *SCM Agreement*. In Australia's view, a purchase of services that relates to a particular *good* would fall within the scope of Article 1.1(a)(1). Australia's interpretation is based on the facts that: (i) the term "financial contribution" has a broad meaning; (ii) the omission of text is not necessarily dispositive; and (iii) the *SCM Agreement* disciplines subsidies to goods, including a range of activities related to production of those goods (for example, the kinds of assistance for research activities covered by the now-expired Article 8 of the *SCM Agreement*).⁸¹¹

358. First, Australia notes that the concept of "financial contribution" has been interpreted broadly in previous WTO disputes.⁸¹² The panel in *US – Export Restraints* stated that subparagraphs (i) to (iii) of Article 1.1(a)(1) encompass the transfer of economic resources from a government to a private entity "by directly providing something of value—either money, goods, or services—to a

⁸¹¹See Australia's third participant's submission, paras. 3-19.

⁸¹²Australia's third participant's submission, para. 10 (referring to Appellate Body Report, *US – Softwood Lumber IV*, para. 52).

private entity".⁸¹³ In a similar vein, the panel in *US – Softwood Lumber III* described subparagraphs (i) to (iv) as covering "a wide variety of circumstances"⁸¹⁴ in which a financial contribution can exist, and explained that the provision of goods and services covers "the *full spectrum* of in-kind transfers the government may undertake by providing resources to an enterprise".⁸¹⁵ Accordingly, the term "purchase of goods" could be considered "an example of the 'multiple government actions' that fall within the 'categories of behaviour' in subparagraph (iii)"⁸¹⁶, and "purchase of services" (while not expressly identified) could be considered to fall within this category of behaviour. Lastly, Australia notes that the Panel relied on the removal of the words "purchases of services" from the final text of the *SCM Agreement* in support for its finding. However, the language "purchases goods or services" was introduced in the third draft of Article 1.1(a)(1)(iii), whereas earlier drafts contained no reference to such language.⁸¹⁷ Therefore, the proper question "is not why the final version of the *SCM Agreement* contains no explicit reference to services in subparagraph (iii) but rather why the 'purchase of goods' text was included".⁸¹⁸

359. Second, Australia is of the view that meaning should not necessarily be attributed to the absence of text, especially when doing so would be contrary to the object and purpose of the *SCM Agreement* and would enable Members to circumvent their obligations. In this regard, Australia points to the Appellate Body's statement in *Canada – Autos* that "omissions in different contexts may have different meanings, and omission, in and of itself, is not necessarily dispositive".⁸¹⁹

360. Third, Australia submits that relevant guidance can be extracted from now-expired Article 8 of the *SCM Agreement*. When Article 8.2(a) deemed assistance for research activities to be a non-actionable subsidy, it was necessarily presupposing that government actions related to services could constitute a financial contribution and could confer a benefit. Therefore, Australia argues, the *SCM Agreement* is "intended to capture transactions related to goods, which could *include* actions

⁸¹³Panel Report, *US – Export Restraints*, para. 8.73.

⁸¹⁴Panel Report, *US – Softwood Lumber III*, para. 7.24.

⁸¹⁵Australia's third participant's submission, para. 12 (quoting Panel Report, *US – Softwood Lumber III*, para. 7.28). (emphasis added by Australia)

⁸¹⁶Australia's third participant's submission, para. 13 (quoting Panel Report, *US – Export Restraints*, para. 8.54). (emphasis omitted)

⁸¹⁷Australia's third participant's submission, para. 14 (referring to Panel Report, para. 7.962; and GATT Documents MTN.GNG/NG10/W/38 (18 July 1990), MTN.GNG/NG10/W/38/Rev.1 (4 September 1990), and MTN.GNG/NG10/W/38/Rev.2 (2 November 1990).

⁸¹⁸Australia's third participant's submission, para. 14.

⁸¹⁹Appellate Body Report, *Canada – Autos*, para. 138.

related to services"⁸²⁰, and Article 1 of the *SCM Agreement* "should not be read as *necessarily* excluding government actions related to services".⁸²¹

361. Australia further contends that whether a particular government action can be characterized as a particular type of transaction is irrelevant to the question of whether it constitutes a financial contribution under Article 1.1(a)(1). Rather, the focus should be on the "nature"⁸²² of the government action. To support its view, Australia refers to the Appellate Body's statement in *US – Softwood Lumber IV* that "{a}n evaluation of the existence of a financial contribution involves consideration of the nature of the transaction through which something of economic value is transferred by a government".⁸²³ Australia disagrees with the Panel's finding that "properly characterised purchases of services"⁸²⁴ are excluded from the scope of Article 1.1(a)(1) of the *SCM Agreement*.

362. Australia criticizes the Panel for importing considerations of "benefit" into the analysis of whether a government action constitutes a financial contribution. There is nothing in the text or context of the *SCM Agreement* to support the view that a financial contribution must be "*principally* for the benefit"⁸²⁵ of the recipient. The implication of the Panel's approach is that "financial contributions that confer *a* benefit on the recipient, ... but not necessarily the '*principal* benefit', do not meet the definition of a subsidy under Article 1.1 of the *SCM Agreement*."⁸²⁶ Australia further submits that the benefit or use of the service provided, although necessary, is not sufficient to determine whether a purchase of services is "principally for the benefit" of the purchaser or of the service provider. Other relevant factors—such as the amount of remuneration provided in exchange for the service—should be considered in order to assess which party is the "principal beneficiary".⁸²⁷ Moreover, the Panel's "principally for the benefit" test did not "*explicitly* consider whether the benefit conferred by a purchase of services relates to, or passes through to, the production of goods", but rather "*implicitly*" touched on the question of whether the aeronautics R&D contracts relate to Boeing's production of LCA.⁸²⁸ Since a "purchase of services" exclusively directed at a service *per se* would not be covered by the *SCM Agreement*, Australia is of the view that, in evaluating whether such

⁸²⁰ Australia's third participant's submission, para. 18. (original emphasis)

⁸²¹ Australia's third participant's submission, para. 19. (original emphasis)

⁸²² Australia's third participant's submission, para. 20. (underlining omitted)

⁸²³ Appellate Body Report, *US – Softwood Lumber IV*, para. 52.

⁸²⁴ Australia's third participant's submission, para. 22 (referring to Panel Report, para. 7.970).

⁸²⁵ Australia's third participant's submission, para. 29. (original emphasis)

⁸²⁶ Australia's third participant's submission, para. 31. (original emphasis)

⁸²⁷ Australia's third participant's submission, paras. 34 and 35.

⁸²⁸ Australia's third participant's submission, para. 37. (original emphasis)

a purchase principally benefits a recipient, it would be important to "critically examine"⁸²⁹ whether and to what extent the benefit relates to a particular good.

363. Australia acknowledges that, having found that purchases of services are excluded from Article 1.1(a)(1) of the *SCM Agreement*, the Panel needed to "limit its finding" to only those transactions "*properly characterised*"⁸³⁰ as purchases of services so as to avoid creating loopholes in the coverage of the Agreement. However, had the Panel focused its analysis on the nature of the government action involved in the aeronautics R&D contracts and whether this fell within the meaning of "financial contribution" for purposes of Article 1.1(a)(1), it would have been able to undertake the separate analysis of whether such an action confers a benefit under Article 1.1(b).

(ii) *B&O tax rate reduction*

364. With respect to the Washington State B&O tax rate reduction, Australia notes that it appears that the United States provided no evidence that the range of tax rates for the 36 categories of business activities, and more specifically the tax rate reduction for aircraft manufacturing, was in fact intended to address the effects of "pyramiding".⁸³¹ Rather, the evidence that was before the Panel indicates that the purpose of the tax rate reduction is in fact to encourage the continued presence of the aerospace industry in Washington State. In the absence of evidence establishing a common rationale for the different tax rates, there was no basis for the Panel to find that the income generated by aircraft manufacturing is "legitimately comparable" to the income generated by the 36 categories of business activities "taken together".⁸³² Likewise, the United States failed to provide any evidence of the tax rates that apply to "business activities of a *similar* complexity to/stage in the production process as aircraft manufacturing".⁸³³ Thus, the United States did not provide a "defined, normative benchmark"⁸³⁴ as an alternative to the general B&O tax rates against which the Panel could compare the revenue raised and the revenue that would have otherwise been raised.

365. Australia is of the view that, in these circumstances, the Panel correctly found that the "defined, normative benchmark" was the general rate of taxation applicable to manufacturing activities in Washington State, and that the B&O tax rate reduction in respect of aircraft manufacturers was a "preferential rate"⁸³⁵ that constituted the foregoing of revenue that was otherwise

⁸²⁹ Australia's third participant's submission, para. 38.

⁸³⁰ Australia's third participant's submission, para. 26. (original emphasis)

⁸³¹ Australia's third participant's submission, para. 51.

⁸³² Australia's third participant's submission, para. 52.

⁸³³ Australia's third participant's submission, para. 53. (original emphasis)

⁸³⁴ Australia's third participant's submission, para. 53.

⁸³⁵ Australia's third participant's submission, para. 56.

due. Australia thus shares the Panel's view that "it is not difficult to identify a general rule of taxation and exceptions to it ... {and} a 'but for' test can be applied".⁸³⁶

(b) Specificity

(i) *NASA/USDOD allocation of patent rights*

366. Australia disagrees with the European Union that the Panel erred in the interpretation and application of Article 2.1 of the *SCM Agreement* by having regard to the US Government's general policy with respect to patent rights. Australia notes that a proper interpretation of "granting authority" is not necessarily restricted to the specific entity that directly provides the subsidy under consideration. Further, the context of Article 2.1(a) clearly establishes that the provision is concerned with determining the specificity of a particular measure, the focus being, according to WTO jurisprudence, on whether a subsidy is sufficiently broadly available throughout an economy so as not to be "specific". Having regard to all relevant factors that may assist in determining whether a subsidy is specific "*fosters*, rather than frustrates, the object and purpose of the *SCM Agreement*".⁸³⁷ In the circumstances of this case, the United States' general policy of granting all contractors patent rights over any invention they produce under federally funded R&D contracts was directly relevant to the Panel's determination of whether the patent right provisions of the NASA and USDOD contracts and agreements with Boeing are "specific".

367. In addition, Australia considers that, having reached the preliminary conclusion that the NASA and USDOD patent waivers were not specific within the meaning of Article 2.1(a) of the *SCM Agreement*, the Panel should have further considered whether the patent waivers nevertheless fell within the scope of Article 2.1(c) of the *SCM Agreement*. In Australia's view, the fact that the European Union had presented arguments under Article 2.1(c) "provided the Panel with a '{reason}' to believe that the subsidy may in fact be specific", notwithstanding that the patent 'waivers' were apparently widely available".⁸³⁸

(ii) *City of Wichita IRBs*

368. With respect to the City of Wichita IRBs, Australia agrees with the Panel that there are two factors that together constitute the "second ratio"⁸³⁹ for determining whether a recipient of a subsidy has received a "disproportionately large amount" of the subsidy. These are, first, the relevant

⁸³⁶Panel Report, para. 7.133.

⁸³⁷Australia's third participant's submission, para. 71. (original emphasis)

⁸³⁸Australia's third participant's submission, para. 79.

⁸³⁹Panel Report, para. 7.759.

"baseline" group (which the Panel considered to be all other entities in the Wichita manufacturing sector⁸⁴⁰) and, second, the relevant "indicator" (which the Panel considered to be Boeing's proportion of employment within the Wichita manufacturing sector⁸⁴¹). Australia further submits that Boeing's and Spirit's relative shares of employment within the Wichita manufacturing sector was not an appropriate measure for determining whether the amount of the subsidy received by Boeing and Spirit was disproportionate under Article 2.1(c) of the *SCM Agreement*. The LCA industry is capital-intensive, and the use of employee levels alone as the relevant indicator therefore skews the analysis towards a finding of disproportionality. Instead of this mechanistic approach, there should be consideration of all relevant factors that indicate a subsidy recipient's share of economic activity within the relevant jurisdiction, including the recipient's share of employment, output, and revenue. In Australia's view, "such an analysis would more accurately determine a recipient's 'place' within the relevant economy and would therefore provide a more appropriate measure for determining disproportionality".⁸⁴²

(c) Adverse effects

(i) *Causation*

369. At the oral hearing, Australia expressed two concerns with respect to the United States' argument that a proper counterfactual would have considered that, in the absence of the subsidies, Boeing would have funded the research itself. First, such an argument detracts from the proper focus of adjudicating claims under Articles 5 and 6.3 of the *SCM Agreement*, which is on whether or not a subsidy has caused adverse effects to the interests of another Member. In Australia's view, the analysis does not require consideration of the effect that a hypothetical factor may have had in the place of the subsidy, and it is incorrect to conclude that such speculation displaces a finding that the subsidy in fact has caused the alleged market phenomena. Second, the United States misconstrues the proper role and scope of a counterfactual analysis. Australia considers that the only relevant hypothetical factor in a counterfactual analysis is the assumption that the subsidy was not granted and, therefore, a panel should examine what the market would have looked like in the absence of the subsidy, holding all else equal.

⁸⁴⁰ Australia's third participant's submission, para. 87.

⁸⁴¹ Australia's third participant's submission, para. 88 (quoting Panel Report, para. 7.769).

⁸⁴² Australia's third participant's submission, para. 95.

(ii) *Collective assessment of the subsidies and their effects*

370. Australia urges the Appellate Body to consider carefully whether, in the particular circumstances of this dispute, the Panel was or was not *required* to aggregate the effects of the aeronautics R&D subsidies with the effects of the B&O tax rate reductions, as well as whether the effects of the remaining subsidies could be found to complement and supplement the effects of the tied tax subsidies, notwithstanding that the Panel was unable to establish the requisite causal link between the remaining subsidies and Boeing's pricing of its LCA. Australia recalls that, before the Panel, it expressed the view that, while an assessment of the cumulative effects of subsidies may be relevant, this should be done only where appropriate for a particular adverse effects claim, ensuring that an appropriate nexus exists between the subsidies, based on the nature of those subsidies, to warrant their aggregation.⁸⁴³

The Aeronautics R&D subsidies and the B&O tax rate reduction

371. With respect to the Panel's decision not to aggregate the "technology effects" of the subsidies benefiting the 787 with the "price effects" of the subsidies benefiting that same Boeing aircraft family, Australia does not agree with the European Union that a proper interpretation of Articles 5 and 6.3 of the *SCM Agreement* leads to the conclusion that aggregation is required in this dispute. Although these provisions do not differentiate between different subsidies that operate through distinct causal mechanisms, neither do they indicate that it is impermissible to do so. Referring to the approach of the Appellate Body in *EC and certain member States – Large Civil Aircraft* and to the discretion enjoyed by panels to determine on a case-specific basis whether the effects of subsidies should be aggregated, Australia contends that, for the Panel to have erred in declining to aggregate the technology effects and the price effects, the European Union would need to have established that, having regard to each of the three criteria identified by the Appellate Body—that is: (i) the nature, design, and operation of the subsidies at issue; (ii) the alleged market phenomena; and (iii) the extent to which the subsidies are provided in relation to a particular product or products—the two groups of subsidies should have been aggregated.⁸⁴⁴

⁸⁴³ Australia's third participant's submission, para. 104 (referring to Australia's written submission to the Panel, para. 66).

⁸⁴⁴ Australia's third participant's submission, paras. 108 and 109 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376).

372. Australia also points to the approach of the panel in *US – Upland Cotton*, which was endorsed by the Appellate Body in that dispute.⁸⁴⁵ Australia emphasizes that the panel in that case did not suggest that subsidies *should* be aggregated in particular circumstances, but instead considered that a textual interpretation of Articles 5 and 6.3(c) of the *SCM Agreement* *permits* an integrated examination of the effects of various subsidies, and "a panel 'may legitimately treat them as a "subsidy" and group them and their effects together' ... 'to the extent a sufficient nexus with these exists among the subsidies at issue *so that their effects manifest themselves collectively*'".⁸⁴⁶ Accordingly, it is not only the existence of some nexus between the subsidy, the subsidized product, and the effects-based variable under consideration that is relevant: the panel must also consider whether such a nexus is sufficiently close so that it can be said that the effects of the subsidies manifest themselves collectively.

The tied tax subsidies and the remaining subsidies

373. Australia observes that the same approach should be applied in reviewing the Panel's decision not to aggregate the effects of the tied tax subsidies with the effects of the remaining subsidies, and in assessing whether a sufficient nexus exists between the particular subsidy, each of the Boeing aircraft alleged to have benefited from the subsidy, and the prices obtained for that aircraft by Boeing. The Panel found that the remaining subsidies "are not directly related to Boeing's production or sale of LCA".⁸⁴⁷ In this regard, Australia notes that, in order to show that the nexus between the tied tax subsidies and the remaining subsidies is "sufficiently close that their *effects manifest themselves collectively*"⁸⁴⁸, the Panel needed to be satisfied that the remaining subsidies, like the tied tax subsidies, enabled Boeing to lower its prices by increasing Boeing's profits from LCA sales.

374. Australia understands that, in accordance with the Appellate Body's reasoning in *EC and certain member States – Large Civil Aircraft*, it is appropriate to assess whether the remaining subsidies complemented and supplemented the effects of the tied tax subsidies, as long as a genuine causal link can be found between each of the remaining subsidies and the relevant market phenomenon.⁸⁴⁹ Australia recalls the Appellate Body's finding that the panel lacked a sufficient basis

⁸⁴⁵ Australia's third participant's submission, para. 111 (referring to Panel Report, *US – Upland Cotton*, para. 7.1192; and Appellate Body Report, *US – Upland Cotton*, para. 484).

⁸⁴⁶ Australia's third participant's submission, paras. 111 and 112 (quoting Panel Report, *US – Upland Cotton*, para. 7.1192). (emphasis added by Australia)

⁸⁴⁷ Panel Report, para. 7.1827.

⁸⁴⁸ Australia's third participant's submission, para. 118. (original emphasis)

⁸⁴⁹ Australia's third participant's submission, para. 121 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1370 and 1378).

to conclude that the R&D subsidies in that case "complemented and supplemented" the "product effect" of the LA/MSF subsidies.⁸⁵⁰

375. Australia asserts that it may be difficult to show that the nexus between these two groups of subsidies is sufficiently close that their *effects manifest themselves collectively*, or that the remaining subsidies complemented and supplemented the effects of the tied tax subsidies so as to increase the profitability of LCA sales and enable Boeing to price its LCA at a level that would not otherwise have been commercially justified. For Australia, this is because the Panel was unable to find the requisite causal link between the remaining subsidies and the serious prejudice alleged to have occurred, given that the remaining subsidies were not linked to the production of particular LCA, and given also the small total amount of the remaining subsidies.

2. Brazil

(a) Annex V to the *SCM Agreement*

376. Brazil submits that the Panel erroneously applied a "formalistic approach"⁸⁵¹ when concluding that the failure of the DSB to initiate an Annex V procedure and to designate a facilitator precluded the Panel from making any findings of violation of Annex V or from drawing adverse inferences from an alleged refusal to cooperate in the information-gathering process. The text of paragraph 1 of Annex V "clearly imposes a cooperation obligation on Members" that applies irrespective of any action of the DSB, and thus provided an "independent basis" for determining whether the United States had complied with its obligations under the *SCM Agreement*.⁸⁵² In addition, the "overarching obligation"⁸⁵³ under paragraph 1 of Annex V requires cooperation in the organization of an Annex V procedure as outlined in paragraphs 1 through 4 of Annex V.

377. In Brazil's view, paragraph 2 of Annex V to the *SCM Agreement* is clear and requires the DSB to initiate the procedure upon request. By using the term "shall", the drafters clearly intended the initiation of Annex V procedures to be mandatory upon such request. Brazil highlights the "clear textual parallel"⁸⁵⁴ between the wording of paragraph 1 of Annex V and the provisions concerning the establishment of panels (Article 6.1 of the DSU) and the adoption of panel reports (Article 16.4 of the DSU). Pursuant to these provisions, once a request has been made, a panel shall be established, a report shall be adopted, and, under Annex V, an information-gathering procedure "shall" be initiated.

⁸⁵⁰Australia's third participant's submission, para. 124 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1407).

⁸⁵¹Brazil's third participant's submission, para. 14.

⁸⁵²Brazil's third participant's submission, para. 15.

⁸⁵³Brazil's third participant's submission, para. 16.

⁸⁵⁴Brazil's third participant's submission, para. 19.

However, the DSB may decide by consensus not to establish a panel or not to adopt a report. Annex V does not even allow for that option. In that sense, it is an automatic process. Interpreting the relevant provisions as allowing the subsidizing Member to block unilaterally the initiation of an Annex V procedure would contradict the text and undermine the ability of Members to bring complaints under the *SCM Agreement*, in particular in cases where much of the evidence relating to subsidization rests with the government of the subsidizing Member.

378. Brazil considers that the Panel's conclusion that the DSB had not initiated the information-gathering process foreseen in paragraph 2 of Annex V was correct; however, this does not mean that the Panel "was impotent in the face of such a failure to cooperate".⁸⁵⁵ In accordance with Article 11 of the DSU, the function of a panel is "to assist the DSB in discharging its responsibilities under the covered Agreements". As an "assistant" to the DSB, the Panel should have interpreted the obligations of Members under Annex V so as to clarify matters for the future. Therefore, the Panel should have issued a preliminary ruling urging the United States to cooperate and, given its non-cooperation, the Panel should have made a finding that it would draw adverse inferences. In this regard, Brazil points out that a panel may apply adverse inferences in the event of lack of cooperation generally without relying on paragraphs 6 and 7 of Annex V to the *SCM Agreement*.

(b) Financial contribution

(i) *Scope of Article 1.1(a)(1) of the SCM Agreement*

379. At the oral hearing, Brazil argued that the Panel erred by finding that transactions properly characterized as "purchases of services" are excluded from the scope of Article 1.1(a)(1) of the *SCM Agreement*. The *SCM Agreement* applies only to subsidies for goods and goods producers, not to subsidies for services or service providers. However, where there is a transfer of money that directly benefits a product or a producer of goods (regardless of whether it occurs in the context of the purchase of a service), there is no reason to exclude it from the subsidies disciplines of the *SCM Agreement*. This holds true even if the service is genuinely purchased by and for the benefit of the government. Brazil cautioned that the test employed by the Panel does not close the large loophole created by the exclusion of purchases of services from the scope of the *SCM Agreement*, and further stated that the general category of a "direct transfer of funds" already covers payments made in the context of a service contract that benefits a particular goods producer.

⁸⁵⁵Brazil's third participant's submission, para. 20.

(c) Specificity

(i) *City of Wichita IRBs*

380. With respect to the City of Wichita IRBs, Brazil noted at the oral hearing that the Panel correctly compared the amount of subsidy granted to Boeing and Spirit with the relevant importance of the companies in the economy as a whole. What is "disproportionate" under Article 2.1(c) of the *SCM Agreement* depends on the importance of the recipient companies in the economy, and not, as argued by the United States, on the importance of these companies in comparison with other subsidy recipients. The "predominant use" factor in Article 2.1(c) is the criterion that is concerned with intra-subsidy comparisons. Although employment is an acceptable indicator, the factors to be considered in determining the importance of certain enterprises in a country's economy are to be determined on a case-by-case basis. Some of the problems identified by the Panel when addressing specificity could have been avoided had the Panel employed a more integrated approach to Article 2.1. A proper specificity analysis, as the Appellate Body has noted, must allow for the concurrent application of the principles set out in Article 2.1 to the various legal and factual aspects of a subsidy in a given case.⁸⁵⁶ In Brazil's view, Article 2.1 of the *SCM Agreement* must be interpreted in a holistic manner, taking account of the specific facts of each case that determine which factors may or may not be revealing of the *de facto* specific nature of a subsidy.

(d) Adverse effects

(i) *Technology effects of the aeronautics R&D subsidies*

381. Brazil takes no view on whether the Panel's chosen methodology for its causation analysis was correct. Brazil's arguments relate to the necessity of conducting a counterfactual analysis once a panel has made certain findings. Specifically, Brazil argues that, if a panel determines that certain subsidies, like R&D subsidies, have created a competitive advantage by significantly contributing to the development of a new aircraft model that would not have been developed in the same timeframe and for the same low cost "but for" the subsidies, "no further counterfactual analysis is required".⁸⁵⁷ A "qualitative assessment" of the actual effect of the subsidy suffices to establish a "genuine and substantial relationship of cause and effect".⁸⁵⁸ Moreover, a "but for" approach does not require the development of detailed alternative realities, but seeks to determine whether the same or similar effects would also have occurred absent the subsidies and keeping all other factors equal. Brazil therefore agrees with the European Union that "{a} 'but for' analysis can be performed *quantitatively*,

⁸⁵⁶See Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 371.

⁸⁵⁷Brazil's third participant's submission, para. 47.

⁸⁵⁸Brazil's third participant's submission, para. 51.

... or conducted in a *qualitative* manner" and that the Panel, "within the bounds of its discretion", chose the latter route.⁸⁵⁹

(ii) *Price effects of the tied tax subsidies*

382. Brazil considers that, although counterfactuals may be useful tools to determine whether a genuine and substantial relationship of cause and effect exists, nothing in the text of the *SCM Agreement* requires the use of economic models or the "detailed construction of an alternative reality".⁸⁶⁰ Once the market has been properly determined in assessing the price effects of subsidies, it suffices for a panel to examine general price trends and market share trends in order to establish whether the subsidies cause market impedance, lost sales, or price suppression. Although it refrains from expressing a view as to whether the Panel's ultimate conclusions are sufficiently supported by the facts in this dispute, Brazil agrees with the European Union that "{a} 'but for' analysis can be performed *quantitatively*, using formal modelling techniques, or conducted in a *qualitative* manner".⁸⁶¹ The Panel chose the latter route, and this choice was within the bounds of its discretion. In Brazil's view, the *SCM Agreement* does not, and should not, be interpreted so as to require a complainant to use economic models or methodologies tracing cash flows in a company's financial statements in order to demonstrate causation.

383. Brazil asserts that the Panel correctly concluded that the trade-distorting nature of prohibited export subsidies is an important factor supporting a conclusion of adverse effects, absent reliable evidence to the contrary. When subsidies are found to affect directly the price of the product and are found to be contingent on exportation and thus inherently trade distorting, it is legitimate to consider that such subsidies have caused sales and price-related adverse effects. The Panel did not apply a presumption that the export subsidies caused the adverse effects found to exist. Instead, the Panel first looked at the operation of the subsidies and the manner in which they were directly tied to sales and prices of Boeing LCA. It then looked at the trade-distorting nature of the subsidies that were found to be prohibited export subsidies. Even though the particular impact of export subsidies on trade may depend on many factors, export subsidies are designed to affect trade and, by their nature are likely to affect adversely competitors and thus to cause adverse effects on the market. Brazil considers that it was therefore appropriate for the Panel to give considerable weight to the trade distorting nature of these subsidies.

⁸⁵⁹European Union's appellee's submission, para. 492. (original emphasis; footnote omitted)

⁸⁶⁰Brazil's third participant's submission, para. 41.

⁸⁶¹European Union's appellee's submission, para. 492. (original emphasis; footnote omitted)

(iii) *Collective assessment of the subsidies and their effects*

384. Brazil submits that, in a proper serious prejudice analysis under Article 6.3 of the *SCM Agreement*, the effects of subsidies can be assessed in a cumulative manner as long as they manifest themselves collectively, in the sense that they have a sufficient nexus with the product and the specific effects-related variable, irrespective of the "causal mechanism" through which they cause this effect.⁸⁶²

385. In Brazil's view, the Panel erroneously concluded that it could cumulatively assess the effects of subsidies only when the subsidies operate on the basis of the same causal mechanism. Brazil stresses that the *SCM Agreement* requires an assessment of the effects of "the subsidy" and not of each separate subsidy measure in isolation. Accordingly, Brazil requests the Appellate Body to clarify that there was no basis for the Panel's additional "causal mechanism" test, and that the approach of the panel in *US – Upland Cotton* is an appropriate basis for conducting a cumulative assessment of the effects of subsidies in a serious prejudice analysis. Under this approach, the effects of subsidies should, if requested by the complainant, be assessed in a cumulative manner as long as they manifest themselves collectively, in the sense that they have a sufficient nexus with the product and the specific effects-related variable. The likely effects of a subsidy are to be discerned by examining the nature, structure, design, and operation of the subsidy. Brazil cautions that there exists a risk of underestimating the joint effect of subsidies if the Panel's additional "causal mechanism" test is accepted, and shares the European Union's concern over the manner in which the Panel artificially distinguished the effects of the aeronautics R&D subsidies for the Boeing 787 model from those of the tax subsidies benefiting the 787, as both were acknowledged to have a similar effect on prices and sales of Airbus.

386. Brazil takes issue with the Panel's view that differences in the type of subsidies and the allegedly different way in which they impact on the subsidized product implies that there is a difference in the "nature"⁸⁶³ of the subsidies that would prevent a cumulative assessment of their effects. The relevant question was the particular relationship of the subsidy with the product and with the effects-related variable. In this dispute, both the aeronautics R&D subsidies and the tax subsidies benefit a specific product model, the Boeing 787, and both types of subsidies have a direct impact on Boeing's costs and thus on LCA prices and sales. Even if a sales-related tax credit may have a more direct and immediate link with prices than an R&D subsidy, the existence of an established nexus between both sets of the subsidies and the effects-related variable means that their cumulative

⁸⁶²Brazil's third participant's submission, para. 28.

⁸⁶³Brazil's third participant's submission, para. 34.

assessment is permitted—in fact required, if the complainant so requests—in order to reflect properly the effects of the subsidy. Brazil agrees with the European Union that the discretion that a panel enjoys in adopting a methodology is "not unlimited"⁸⁶⁴, and emphasizes the case-specific nature of the relevant analysis.

387. Brazil distinguishes, in this regard, the situation in this dispute from the situation in *US – Upland Cotton*. In the context of that dispute, where the question was whether the subsidies impacted world market prices, it may have been appropriate to examine price-contingent and non-price-contingent subsidies separately. But when the claim is, as in this case, a more general one of lost sales and market displacement or impedance through the presence of a technologically advanced product at a low price that would not have been present in the market absent the subsidies, it is appropriate to examine all subsidies that impact on the production, sale, and price of the specific product in an aggregate manner.

3. Canada

(a) *Annex V to the SCM Agreement*

388. At the oral hearing, Canada stated its view that the Panel was correct to limit its finding to whether the Annex V procedure had been initiated, and not on how the procedure is to be initiated. According to Canada, panel and Appellate Body proceedings are not the proper fora to discuss how the DSB is to initiate an Annex V procedure: this discussion should take place within the DSB itself.

(b) *Financial contribution*

(i) *Scope of Article 1.1(a)(1) of the SCM Agreement*

389. At the oral hearing, Canada agreed with the Panel's conclusion that transactions properly characterized as "purchases of services" are excluded from the scope of Article 1.1(a)(1) of the *SCM Agreement*. Article 1.1(a)(1) sets out an exhaustive list of government practices that may constitute a "financial contribution", and the omission of "purchase of services" must be given some meaning, especially taking into account that the term was expressly included in earlier negotiating drafts of this provision. The proper characterization of a transaction is a question of fact that must be assessed on a case-by-case basis. In Canada's view, the Panel's approach in this case afforded the flexibility required to identify transactions that take the form of services contracts, but are more accurately characterized as one of the other categories of "financial contributions" listed in Article 1.1(a)(1).

⁸⁶⁴European Union's appellee's submission, para. 725.

(c) Specificity

(i) *B&O tax rate reduction*

390. At the oral hearing, Canada expressed its view that, in conducting its specificity analysis under Article 2.1(a) of the *SCM Agreement*, the Panel properly examined the full context in which the Washington State B&O tax rate reduction was provided in order to determine whether they formed part of a larger programme. The requirement to consider the full context is found in the analytical framework, containing a number of principles, set out in Article 2.1. With respect to Article 2.1(a), it is only by examining the totality of the larger policy and legal framework that a panel can properly determine whether access to a subsidy is limited by the granting authority, or the legislation pursuant to which it operates. Likewise, under Article 2.1(b), the requirement to consider "objective criteria or conditions" implies that a panel should determine whether the subsidy at issue is provided pursuant to a subsidy programme. As for Article 2.1(c), Canada noted that this provision expressly refers to the *subsidy programme* for purposes of *de facto* specificity.

(ii) *NASA/USDOD allocation of patent rights*

391. As regards the Panel's analysis of the allocation of patent rights under NASA/USDOD contracts and agreements, Canada is of the view that the assessment of which government entity is the "granting authority" for purposes of Article 2 of the *SCM Agreement* must begin with a correct identification of the subsidy at issue. Under the chapeau of Article 2.1, the "subsidy" is the "starting point"⁸⁶⁵ for the analysis of specificity. After fully assessing all the relevant facts surrounding the granting of a subsidy, and hence properly identifying the subsidy in question, a panel may find that the subsidy is provided pursuant to a broader programme. The panel must then assess the limitations on access and use of the subsidy programme as a whole in order to determine whether the subsidy is "specific". In such cases, Canada submits, the result of the analysis of the limitations of the subsidy programme should be the same irrespective of whether the "granting authority" is considered to be the government as a whole or the particular administrative agency within that government.

(iii) *City of Wichita IRBs*

392. With respect to the City of Wichita IRBs, Canada argues that the Panel erred in adopting an approach that compares a given recipient's portion of the subsidy against the baseline of its relative economic importance in the economy as a whole. In Canada's view, "such an approach would always

⁸⁶⁵Canada's third participant's submission, para. 40.

allow disproportionality, and by extension, specificity to be found".⁸⁶⁶ Instead, the Panel should have compared Boeing's and Spirit's shares of the total subsidy programme with some measure of their relative economic importance among the subsidy recipients.

393. Canada further submits that there are deficiencies resulting from the Panel's approach, which would not arise if a baseline containing data regarding only the subsidy recipients were adopted. Although a focus on the subsidy recipients may not indicate disproportionality where each recipient receives a share of the subsidy proportionate to its economic importance relative to other recipients, these amounts may be disproportionate under the Panel's approach. The Panel sought to overcome these deficiencies by requiring a "significant" disparity between the ratios it compared. However, Canada argues, this simply created further problems by providing no guidance about how to determine whether a given disparity is "significant".

(d) Adverse effects

(i) *Technology effects of the aeronautics R&D subsidies*

394. Canada submits that the Panel did not make a proper assessment of whether Boeing: (i) would have been willing to fund the R&D conducted through the aeronautics R&D subsidies in the absence of the subsidies; (ii) had the financial capacity to fund the R&D without the subsidies; and (iii) could have conducted the R&D at issue within the same timeframe in the absence of the subsidies.⁸⁶⁷ In Canada's view, as a result of these analytical deficiencies in its counterfactual analysis, the Panel improperly applied Articles 5(c) and 6.3 of the *SCM Agreement* and violated Article 11 of the DSU.⁸⁶⁸

395. First, Canada recalls the Panel's statement that "NASA's role in aeronautical research has been explained precisely on the basis of, among other things, the large disincentives for private sector investment in long term, high risk aeronautical R&D".⁸⁶⁹ This statement directly contradicts the Panel's subsequent observation that "the nature of this kind of subsidy is that it is intended to multiply the benefit from a given expenditure".⁸⁷⁰ While the first statement suggests that an investor would receive limited direct benefits from investing its own funds in the type of R&D that was conducted by Boeing using the aeronautics R&D subsidies, the subsequent observation implies that the investor would capture the benefits of such an investment and that those benefits would be a multiple of the

⁸⁶⁶Canada's third participant's submission, para. 44.

⁸⁶⁷Canada's third participant's submission, para. 11.

⁸⁶⁸Canada's third participant's submission, para. 24.

⁸⁶⁹Panel Report, para. 7.1759.

⁸⁷⁰Panel Report, para. 7.1760.

amount invested. The Panel, therefore, failed to resolve the inconsistency in its reasoning and consequently failed to determine properly whether Boeing would have been willing, absent the subsidies, to use its own resources in the R&D that it conducted using the aeronautics R&D subsidies.

396. Second, Canada contends that the Panel improperly assessed whether Boeing had the financial capacity to fund the R&D without the subsidies. Canada notes that the Panel "seem{ed} to discount its own observation that the amount of the R&D subsidies is not significant as compared to Boeing's financial resources and {R&D} expenditures"⁸⁷¹ when it stated that "this sort of numerical comparison presupposes that the effects of the R&D subsidies can essentially be reduced to their cash value, a proposition that we do not accept".⁸⁷² However, this statement concerns "the *effects* of the R&D subsidies, not their *amount*".⁸⁷³ Moreover, the multiplied benefit that may result from R&D expenditures does not increase the cost to Boeing of that R&D, and therefore "does not say anything about Boeing's capacity to fund it itself".⁸⁷⁴

397. Third, Canada asserts that the Panel failed to provide a reasoned and adequate explanation for its conclusion that "Boeing could not have conducted the {R&D} at issue *within the same time frame* in the absence of the subsidies".⁸⁷⁵ Such a conclusion is not apparent in the light of the following: (i) the research conducted with R&D subsidies was necessary for the launch of the 787, as found by the Panel⁸⁷⁶; (ii) it was established that Boeing wanted to launch the 787 at the time it did⁸⁷⁷; and (iii) it can be assumed, as the Panel seems to have done, that Boeing had the financial means to conduct the necessary R&D.

(ii) *Price effects of the tied tax subsidies*

398. Canada asserts that the Panel conducted an improper counterfactual analysis when finding serious prejudice due to price effects. The Panel did not appropriately consider the magnitude of the tax subsidies and their impact, and that vitiated the Panel's entire causation analysis. The evidence put forward by both the United States and the European Communities indicates that the amount of annual subsidies during the reference period never exceeded 1 per cent of annual orders or sales revenue. However, that evidence seems entirely at odds with the Panel's conclusion that the subsidies enabled Boeing to lower its prices "beyond the level that would otherwise have been economically

⁸⁷¹Canada's third participant's submission, para. 17.

⁸⁷²Panel Report, para. 7.1760.

⁸⁷³Canada's third participant's submission, para. 18. (original emphasis)

⁸⁷⁴Canada's third participant's submission, para. 18.

⁸⁷⁵Canada's third participant's submission, para. 21. (original emphasis)

⁸⁷⁶Canada's third participant's submission, para. 21 (referring to Panel Report, para. 7.1775).

⁸⁷⁷Canada's third participant's submission, para. 21 (referring to Panel Report, para. 7.1774 and footnote 3704 thereto).

justifiable".⁸⁷⁸ The fact that the Panel was unable to determine with mathematical certitude the precise degree to which the subsidies had affected Boeing's pricing did not excuse the Panel from its responsibility to establish clearly a causal link before finding serious prejudice. Despite saying that it would resort to "commonsense reasoning" and "the drawing of inferences"⁸⁷⁹, the Panel failed, even on a qualitative basis, to consider properly the magnitude of the tax subsidies and thus to establish a causal link between those subsidies and Boeing's ability to lower its prices.

(iii) *Collective assessment of the subsidies and their effects*

399. At the oral hearing, Canada recalled that, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body indicated that, once a genuine and substantial relationship of cause and effect has been established between one subsidy and a listed market phenomenon, there need only be a genuine causal link between the second subsidy and serious prejudice. It is not clear, however, whether that link should be between the effects of the second subsidy and the effects of the first subsidy (such as the launch of a new product), or between the second subsidy and a listed market phenomenon (such as price suppression). In Canada's view, the first interpretation is preferred. Since the Panel properly concluded that there was no genuine causal link between the B&O tax rate reductions and the launch of the 787 in 2004, the Panel was justified in excluding the B&O tax rate reductions from its serious prejudice finding as regards the aeronautics R&D subsidies. However, in Canada's opinion, the Panel failed to analyze properly whether there was a genuine causal link between the effects of the remaining subsidies and the effects of the tied tax subsidies.

4. China

(a) *Annex V to the SCM Agreement*

400. China agrees with the Panel that the initiation of an Annex V procedure does not "occur automatically"⁸⁸⁰ upon request in the absence of any action taken by the DSB to initiate the procedure. Paragraph 2 of Annex V makes clear that it is the DSB that must initiate the procedure and designate a representative to facilitate the information-gathering process. China, however, does not express a view as to whether an Annex V procedure is initiated by the DSB by negative or positive consensus.

⁸⁷⁸Panel Report, para. 7.1818.

⁸⁷⁹Panel Report, para. 7.1820.

⁸⁸⁰China's third participant's submission, para. 4.

(b) Specificity

(i) *NASA/USDOD allocation of patent rights*

401. China submits that, if multiple pieces of legislation are applicable to an alleged subsidy, the broader legislation should be considered for the purpose of the *de jure* specificity analysis under Article 2.1(a) of the *SCM Agreement*. There may well be cases where legislation provides a broadly available measure, and agency-specific regulations implement the broader legislation. Nothing in Article 2.1(a) precludes a panel from considering the broader legislation since it is part of "the legislation pursuant to which the granting authority operates".⁸⁸¹ China also believes that problems may arise if a specific regulation is analyzed in isolation from the broader legislation, because determinations of specificity will vary in respect of the same regime depending on how the legislation is structured.

(ii) *City of Wichita IRBs*

402. As regards the City of Wichita IRBs, China submits that an effective disproportionality comparison must be based on appropriate standards, which may include sales, output, investment, and employment. China maintains that "the appropriate standards for each case may vary", and that it is likely that "more than one standard should be considered in a single case".⁸⁸² In this case, China disagrees with the benchmark advocated by the European Union, and considers that it "may result in a finding of disproportionality where a subsidy is sufficiently and broadly available throughout an economy".⁸⁸³ The term "disproportionately large amounts" must be read in the context of the entire analytical framework of subparagraphs (a) through (c) of Article 2.1 of the *SCM Agreement*. The European Union's approach would nullify Article 2.1(b) by favouring a finding of specificity even when objective criteria or conditions are applied. China asserts that the Panel's "significant disparity"⁸⁸⁴ standard cannot resolve such a contradiction. By contrast, the approach advocated by Australia before the Panel could properly serve as the basis for the disproportionality analysis.⁸⁸⁵

403. China considers that, irrespective of the standard and baseline chosen, the two circumstantial factors identified in the third sentence of Article 2.1(c)—namely, the extent of diversification of economic activities and the length of time during which the subsidy programme has been in operation—are critical to a disproportionality analysis, and therefore *must* be taken into account. In

⁸⁸¹China's third participant's submission, para. 6.

⁸⁸²China's third participant's submission, para. 10.

⁸⁸³China's third participant's submission, para. 12.

⁸⁸⁴China's third participant's submission, para. 16.

⁸⁸⁵China's third participant's submission, paras. 13-15.

addition to these two factors, other factors may need to be considered in certain circumstances. For example, if the number of employees is selected as the benchmark indicator, the labour intensiveness of the relevant industry should also be taken into account in a disproportionality analysis.

(c) Adverse effects

404. At the oral hearing, China noted that, in line with the Appellate Body's approach in *US – Upland Cotton*, the Panel should have addressed the magnitude of the subsidy when evaluating whether it caused serious prejudice. The term "significant" in Article 6.3(c) of the *SCM Agreement* likewise implies an obligation for a panel to consider the magnitude of the subject subsidy programme. Therefore, although China did not have a view as to whether, in this case, a subsidy of approximately 1 per cent of the sales is enough to cause serious prejudice to Airbus, it did assert that the magnitude of the tax subsidies needed to be addressed and considered by the Panel when analyzing whether such subsidies have caused serious prejudice.

5. Japan

(a) Specificity

(i) *NASA/USDOD allocation of patent rights*

405. At the oral hearing, Japan disagreed with the European Union's contention that the Panel erred when finding that the allocation of patent rights under NASA/USDOD contracts and agreements is not "specific" within the meaning of Article 2.1 of the *SCM Agreement*. Japan sees no reason why a Member "as a whole" should be necessarily excluded from the scope of a "granting authority". Such an approach risks limiting the scope of "granting authority" to only the immediate entity granting the subsidy, and runs counter to the broader objective of the *SCM Agreement* to identify and discipline subsidization as it arises at each and every stage of government. Furthermore, the Panel correctly determined that the legislation pursuant to which the granting authority operates extends beyond NASA and USDOD internal regulations to the level of executive and federal laws and regulations.⁸⁸⁶ In this regard, Japan recalled that the Appellate Body in *US – Anti-Dumping and Countervailing Duties* endorsed that panel's specificity analysis based on the totality of the evidence. Japan also noted that the European Union's concerns that the usage of "policy statements" would circumvent

⁸⁸⁶Japan's oral statement at the oral hearing (referring to Panel Report, para. 7.1293).

disciplines of the *SCM Agreement* overlooks the possibility that the subsidy may still be found *de facto* "specific".⁸⁸⁷

(b) Adverse effects

(i) *Technology effects of the aeronautics R&D subsidies*

406. Japan first recalls that an evaluation of the nature, design, and operation of a subsidy is "critical"⁸⁸⁸ towards establishing a "genuine and substantial relationship of cause and effect" between subsidization and alleged serious prejudice. Japan expresses concern in this regard about the manner in which the Panel framed its adverse effects analysis of the aeronautics R&D subsidies—that is, by focusing "narrowly" on the conceptual issue of whether or not, "but for" the subsidies, Boeing would have been able to launch the 787 within the same timeframe that it did.⁸⁸⁹ As a result, the Panel ignored the "nature" of R&D subsidies, which "normally help recipients achieve their full potential competitiveness" rather than "enable them to gain artificial price advantages".⁸⁹⁰ According to Japan, "it was by no means established in the Panel proceedings that Boeing had in fact charged a lower price than it would have"⁸⁹¹ absent the aeronautics R&D subsidies.

407. Second, assuming *arguendo* that the aeronautics R&D subsidies can cause "serious prejudice" to a WTO Member's trade interests, Japan submits that it is "unclear"⁸⁹² what exact portion of an R&D subsidy effectively passes through the production cycle of a Boeing LCA and causes the serious prejudice phenomena alleged by the European Communities. Had the Panel meaningfully engaged in the non-attribution arguments put forward by the United States, it would not have found a "genuine relationship of cause and effect" between the aeronautics R&D subsidies and the alleged technology effects.⁸⁹³ In Japan's view, the Panel's approach "risks wrongfully criticizing WTO Members for the productivity of their successful enterprises".⁸⁹⁴

408. Japan notes that the permissive wording of Article 6.3 of the *SCM Agreement* ("serious prejudice ... may arise") suggests that the effects of subsidies with a non-trade distortive nature, design, and operation could be excluded from the assessment of serious prejudice. Japan urges the

⁸⁸⁷Japan's oral statement at the oral hearing (referring to European Union's appellant's submission, para. 76).

⁸⁸⁸Japan's third participant's submission, para. 55.

⁸⁸⁹Japan's third participant's submission, para. 56.

⁸⁹⁰Japans' third participant's submission, para. 57.

⁸⁹¹Japan's third participant's submission, para. 58.

⁸⁹²Japan's third participant's submission, para. 71.

⁸⁹³Japans' third participant's submission, para. 72 (referring to United States' other appellant's submission, paras. 202, 222, 215, 229, and 236).

⁸⁹⁴Japan's third participant's submission, para. 73.

Appellate Body to exercise caution in determining whether such subsidies are inconsistent with the *SCM Agreement* due to their incidental price effects, particularly in situations where the subsidies, in the long run, will lead to the development of safer technologies and, ultimately, the optimal use of world resources.

(ii) *Price effects of the tied tax subsidies*

409. Japan maintains that the Panel failed to draw any meaningful link between the relevant tax subsidies and their alleged price-suppressive effects. While recognizing that the particularities of this case may have prevented the Panel from constructing a counterfactual scenario to evaluate the impact of the subsidies, Japan considers that the Panel could and should have provided a convincing indication of the degree of significant price suppression in the affected LCA markets. In addition, if the Panel presumed that the FSC/ETI subsidies cause serious prejudice because they are prohibited export subsidies, then Japan agrees with the United States that this was an impermissible "shortcut"⁸⁹⁵ by the Panel that is not supported by either the text or structure of the *SCM Agreement*.

410. According to Japan, a proper causal relationship cannot be established on the basis of the nature of the subsidies, the possibility of price and sales fluctuations, economic assumptions, and policy statements by public officials. Despite the challenges involved in conducting a price effects analysis, the Panel erred by not indicating the degree or magnitude of the price-suppressive effects, or providing a more tangible indication of the meaning of the qualifier "significant" in this case. The Panel relied too heavily on "commonsense" in concluding that increased sales to Boeing translated to lost or "significantly suppressed" sales for Airbus, without tying the "significance" of the effect of the subsidies to any indicative numerical threshold.⁸⁹⁶ The nature of global LCA markets does not justify the lack of any finding on the degree of price suppression in the markets. Japan expresses support for the United States' argument that the tax subsidies were "too small relative to Boeing's order revenues to have affected Boeing's pricing to a degree that would lead to it winning sales that it would not have won"⁸⁹⁷ absent the subsidies.

⁸⁹⁵Japan's third participant's submission, para. 82 (referring to United States' other appellant's submission, paras. 338 ff).

⁸⁹⁶Japan's third participant's submission, para. 86.

⁸⁹⁷Panel Report, para. 7.1814 (referring to United States' first written submission to the Panel, para. 815).

(iii) *Collective assessment of the subsidies and their effects*

411. Japan underscores the importance of the nature of a subsidy for the determination of whether the effects of various types of subsidies can be aggregated in a serious prejudice analysis. Japan expresses concern that the approach to aggregation advanced by the European Union would result in a dilution of the "genuine and substantial relationship" causal standard, and to a potentially infinite range of subsidies being too easily found to have caused "serious prejudice".

412. For Japan, the nature of a subsidy is fundamental in evaluating whether a subsidy is capable of causing the alleged serious prejudice phenomena and in determining whether the effects of different subsidies should be assessed on a cumulative basis. Prior panels have referred to the need to establish a "sufficient nexus" between the subsidized product and the alleged effects, or to ensure that the subsidies at issue "complemented and supplemented" another category of subsidies found to have caused a relevant effect when the subsidies at issue had a genuine causal connection with such an effect.⁸⁹⁸ Both standards are articulations of the same overarching principle, that panels must establish a "genuine causal connection" between the particular subsidized product and the relevant effects-related variable. Thus, the Panel in this case was under an obligation to ensure that the alleged serious prejudice "result{ed} from a chain of causation that is linked to the impugned subsidy"⁸⁹⁹ in respect of the tied tax subsidies, the aeronautics R&D subsidies, and the remaining subsidies. Japan considers that the Panel discharged this obligation correctly in some respects, but failed to conduct a proper causal analysis in others.

413. Japan asserts that the Panel was correct to decide not to aggregate the effects of the aeronautics R&D subsidies and the tax subsidies, given the Panel's finding that these subsidies operate through entirely distinct causal mechanisms. Japan disagrees with the European Union's argument that a panel "must assess—quantitatively or qualitatively—whether the collective competitive impact of the different (groups of) subsidies at issue amounts to adverse effects"⁹⁰⁰, and is concerned that an endorsement by the Appellate Body of this position would result in the aggregation of the effects of subsidies that are fundamentally different in nature, and in the near-automatic inference of a causal link between different subsidies and an alleged "serious prejudice" phenomenon.

⁸⁹⁸Respectively, Panel Report, *US – Upland Cotton*, para. 7.1192 and Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1956.

⁸⁹⁹Japan's third participant's submission, para. 17 (quoting Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 372).

⁹⁰⁰Japan's third participant's submission, para. 22 (quoting European Union's appellant's submission, para. 202).

414. Japan disagrees with the European Union's understanding of previous WTO rulings on the issue of aggregation. It notes that the panel in *US – Upland Cotton* explicitly stated that, in the light of the facts and circumstances of a given case, an integrated examination of the effects of any subsidies is permissible only when there is a "sufficient nexus" between the subsidized product and the particular effects-related variable under examination.⁹⁰¹ That panel added that it did not understand the panel in *Indonesia – Autos* to have suggested that the effects of all challenged subsidies in existence more or less contemporaneously and with any connection whatsoever with a subsidized product *must* be aggregated in a serious prejudice analysis.⁹⁰² Moreover, the Appellate Body in *US – Upland Cotton* did not, as the European Union claims, suggest that it was important to aggregate the effects of the price-contingent and the non-price-contingent subsidies. Rather, the Appellate Body merely reiterated that the particular facts and circumstances of the case determine whether there is a "sufficient nexus" with the subsidized product and the effects-related variable being examined, and stressed that "the nature of the subsidy plays an important role in any analysis of whether the effect of the subsidy is significant price suppression".⁹⁰³

415. Japan further notes that, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body allowed for the possibility of aggregation insofar as there is a "genuine causal connection" between the subsidies and the alleged serious prejudice, and that the subsidies complement and supplement the effect of other subsidies for the product. Japan also points out that all of the subsidies that were aggregated in that dispute were considered to have the same effects—effects that were analogous to the "technology effects" claimed by the European Communities in this dispute. Indeed, before the Panel, the European Communities premised its arguments on the differences in the nature and effect of the subsidies, arguing that the tax subsidies provide Boeing "with the ability to charge very low prices", whereas the aeronautics R&D subsidies "helped Boeing develop, launch and produce a technologically-advanced 200-300 seat LCA much more quickly than it could have on its own".⁹⁰⁴ Furthermore, the Panel made factual findings that the aeronautics R&D subsidies have "technology effects", whereas the tax subsidies have only "price effects". Given these findings on the different nature and effects of the aeronautics R&D subsidies and the tax subsidies, Japan submits that the Panel correctly determined that the effects of these two groups of subsidies cannot be aggregated.

⁹⁰¹Japan's third participant's submission, para. 26 (referring to Panel Report, *US – Upland Cotton*, para. 7.1192 and footnote 1308 thereto).

⁹⁰²Japan's third participant's submission, para. 26 (referring to Panel Report, *US – Upland Cotton*, footnote 1308 to para. 7.1192, in turn referring to Panel Report, *Indonesia – Autos*, para. 14.206).

⁹⁰³Japan's third participant's submission, para. 28 (quoting Appellate Body Report, *US – Upland Cotton*, para. 450). (emphasis added by Japan)

⁹⁰⁴Japan's third participant's submission, para. 31 (quoting Panel Report, para. 7.1697).

416. Japan observes that the issue of the aggregation of the effects of the tied tax subsidies and the effects of the remaining subsidies is very different from the issue of the aggregation of the effects of the aeronautics R&D subsidies with the effects of the tax subsidies. The reason for this is that the European Communities argued that both the remaining subsidies and the tied tax subsidies contribute to "price effects". Japan invites the Appellate Body to re-examine carefully, in accordance with the approach taken in *EC and certain member States – Large Civil Aircraft*, whether there is a "genuine causal connection" between the effects of the remaining subsidies and the price effects caused by the tied tax subsidies. In doing so, the Appellate Body should take account of the following three points.

417. First, any subsidy has, by nature, the effect of lowering the prices of the subsidized products, indirectly or directly, to a greater or lesser extent. The Appellate Body's refusal in *US – Upland Cotton* to reverse the panel's finding that the effects of the non-price-contingent subsidies could not be aggregated with the price-contingent subsidies should be understood as a rejection of the proposition that "price effects" alone are sufficient to satisfy the requirement of a "genuine causal connection" or a "sufficient nexus" between the subsidy at issue and the particular effects-related variable. Second, the Appellate Body has repeatedly emphasized, and both the parties and the Panel in this dispute recognized, the importance of the nature of the subsidies for the analysis of causation. Third, Japan contrasts the strict requirement for aggregation advocated by the European Union in the *EC and certain member States – Large Civil Aircraft* dispute (only subsidies that were "necessary" to enable the launch of a particular product could be aggregated with other subsidies enabling or facilitating such a product launch) with the European Union's position in this dispute, which "seeks to effectively reduce the standard for aggregating the effects of various subsidies to the lowest common denominator, *i.e.* price".⁹⁰⁵ Noting that the European Union seems to have "dramatically shifted gears on the issue of aggregation"⁹⁰⁶, Japan submits that neither extreme reflects the proper standard, namely, that the effects of different subsidies may be aggregated when they both involve a "genuine and substantial relationship of cause and effect", as demonstrated through a rigorous examination of the nature, design, and operation of the subsidies at issue in a given dispute.

⁹⁰⁵Japan's third participant's submission, para. 52 (referring to Panel Report, para. 7.1697).

⁹⁰⁶Japan's third participant's submission, para. 53.

6. Korea

(a) Annex V to the *SCM Agreement*

418. Although Korea does not express a view as to how an information-gathering procedure under Annex V to the *SCM Agreement* must be initiated, it makes two observations regarding the claim presented by the European Union. First, Korea considers that a determination of lack of cooperation should be made "with reality and practicality in mind".⁹⁰⁷ Paragraph 8 of Annex V requires a panel to consider "the reasonableness of any requests for information and the efforts made by parties to comply with these requests in a cooperative and timely manner". In Korea's view, this means that the determination of non-cooperation cannot be made in a "vacuum".⁹⁰⁸ The *SCM Agreement* "does not provide a *carte blanche*"⁹⁰⁹ to a panel whenever it encounters less than optimal information from a responding Member. Korea also considers that it may be unrealistic for a party to pose hundreds of questions and make hundreds of requests and expect the other party to respond and provide information in due course. In sum, Korea agrees with the Panel's conclusion that it did not need to rule on the question of whether the United States cooperated with the Annex V procedure to resolve the substantive questions before it.⁹¹⁰

419. Second, Korea contends that the provisions in Annex V should not be interpreted to mean that a panel or a facilitator somehow "effectively carries the burden of proof for the complainant".⁹¹¹ Although Annex V provides an important tool for developing information concerning serious prejudice, it is the complaining Member that must provide the legal and factual bases for the claims it makes. Annex V should not be construed "to lighten the burden of proof for the complainant".⁹¹² Otherwise, Korea cautions, a panel proceeding may become a "fishing expedition in which the claimant brings a case first and then develops the factual and legal bases of the case as it goes along".⁹¹³

420. At the oral hearing, Korea expressed the view that the initiation of an Annex V procedure and the appointment of a DSB representative as facilitator require at least some positive action on the part of the DSB. In this vein, and setting aside the controversy between negative and positive consensus, Korea submits that the absence of any action on the part of the DSB to initiate the Annex V procedure would lead to the only plausible conclusion that the procedure was never initiated. Korea adds that an

⁹⁰⁷Korea's third participant's submission, para. 26.

⁹⁰⁸Korea's third participant's submission, para. 26.

⁹⁰⁹Korea's third participant's submission, para. 28.

⁹¹⁰Korea's third participant's submission, para. 29 (referring to Panel Report, para. 7.38).

⁹¹¹Korea's third participant's submission, para. 32.

⁹¹²Korea's third participant's submission, para. 35.

⁹¹³Korea's third participant's submission, para. 36.

Annex V procedure does not have the formalistic status of the panel procedure and, thus, it does not seem proper to transfer the rules found in the panel procedure to the fact-gathering process.

(b) Specificity

(i) *NASA/USDOD allocation of patent rights*

421. At the oral hearing, Korea argued that the mere fact that a programme is administered by an agency, in and of itself, does not necessarily mean that the specificity test should be conducted at the agency level. It is not uncommon for governmental programmes to have multiple agencies implementing the governmental scheme adopted at the national level. Article 2 of the *SCM Agreement* requires an inquiry into the genuine nature of the subsidy programme at issue. In this regard, the way in which a particular programme actually operates in the country at issue is perhaps a critical criterion that should guide a panel's specificity analysis. The evidence on the record in this case seems to support the conclusion that the US patent allocation programme is administered at the national level and, therefore, the Panel's finding is correct in the circumstances of this case. Korea further notes that the Panel's conclusions regarding the operation of the programme arguably constitute a factual finding that was within the bounds of the Panel's discretion.

(c) Adverse effects

(i) *Technology effects of the aeronautics R&D subsidies*

422. Korea shares the view of the United States that the causal relationship between the aeronautics R&D programmes at issue and the alleged market phenomenon must be confirmed to exist, and that the relationship should rise to "the level of a genuine and substantial relationship of cause and effect".⁹¹⁴ The mere existence of causal relationship is not sufficient. The relationship must be "direct rather than remote, and the impact should be substantial rather than incidental".⁹¹⁵

423. Korea asserts that R&D programmes play a central role in the economic development and/or academic enhancement of many Members, and are therefore likely to be closely related to the pursuit of legitimate public policies. The dividing line between a government's legitimate function and R&D subsidies that may be WTO-inconsistent is often not entirely clear. In this regard, Korea points out that the Doha Development Agenda includes the resurrection of non-actionable subsidies, including R&D programmes. Korea recognizes that sometimes R&D programmes constitute subsidies that fall

⁹¹⁴Korea's third participant's submission, para. 22 (quoting United States' other appellant's submission, para. 217).

⁹¹⁵Korea's third participant's submission, para. 22.

within Articles 1 and 2 of the *SCM Agreement*. Nevertheless, it considers that genuine R&D programmes deserve and require careful scrutiny by the reviewing panel and the Appellate Body.

(ii) *Collective assessment of the subsidies and their effects*

424. At the oral hearing, Korea stated its view that, in an adverse effects analysis, it is not appropriate to aggregate the effects of two subsidies that have caused different effects and which do not share a close nexus in terms of their effects. The Panel's decision not to aggregate the effect of the B&O tax rate reduction and the effects of the aeronautics R&D subsidies is consistent with its finding that these subsidies are distinct and separate in terms of their effects, as they operate through entirely distinct causal mechanisms.

III. Issues Raised in This Appeal

425. The following issues are raised by the European Union in its appeal:

- (a) Whether the Panel erred in denying the European Communities' request for certain preliminary rulings with respect to the absence of an information-gathering procedure under Annex V to the *SCM Agreement* in this dispute, and, if so, whether the Appellate Body should rule on how the DSB is to initiate such procedures, and should make findings in connection with the alleged non-cooperation of the United States in the information-gathering procedure, and the United States' alleged withholding of information from the European Communities and the Panel;
- (b) Whether the Panel erred in finding that transactions that are properly characterized as "purchases of services" are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement*;
- (c) Whether, on the assumption that the allocation of patent rights under NASA and USDOD R&D procurement contracts and agreements constitutes a subsidy, the Panel erred in finding that such allocation is not specific within the meaning of Article 2 of the *SCM Agreement*;
- (d) Whether the Panel erred in its interpretation and application of Articles 5(c) and 6.3 of the *SCM Agreement* by:
 - (i) failing to assess collectively the effects of the B&O tax rate reductions and the effects of the NASA and USDOD aeronautics R&D subsidies in the 200-300 seat LCA market; and

- (ii) failing to assess collectively the effects of the tied tax subsidies (the FSC/ETI subsidies and the B&O tax rate reductions) and the effects of the eight remaining subsidies in the 100-200 seat and the 300-400 seat LCA markets; and
- (e) Whether, in finding that there was insufficient evidence on the record of the effects of the USDOD assistance instruments funded by the 21 USDOD RDT&E programmes other than the ManTech and DUS&T programmes, and in failing to take account of the effects of those 21 programmes in its adverse effects analysis, the Panel failed to make an objective assessment of the matter as required under Article 11 of the DSU.

426. The following issues are raised by the United States in its other appeal:

- (a) With respect to the NASA R&D measures:
 - (i) whether, in the application of its test for determining whether a transaction constitutes a purchase of services, the Panel erred in finding that the payments provided to Boeing pursuant to the NASA R&D procurement contracts at issue constitute direct transfers of funds, and thus financial contributions, within the meaning of Article 1.1(a)(1)(i) of the *SCM Agreement*; and whether, in so proceeding, the Panel failed to make an objective assessment of the matter as required under Article 11 of the DSU;
 - (ii) whether the Panel erred in finding that the access to facilities, equipment, and employees provided to Boeing under the NASA R&D procurement contracts at issue constitutes a provision of goods or services, and thus a financial contribution, within the meaning of Article 1.1(a)(1)(iii) of the *SCM Agreement*;
 - (iii) whether the Panel erred in finding that the payments and access to facilities, equipment, and employees provided to Boeing under the NASA R&D procurement contracts at issue conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*; and
 - (iv) whether, by not excluding \$280 million of payments for research that NASA had determined was unrelated to the European Communities' claims from its valuation of benefit, the Panel erred in its application of Article 1.1(b) of the *SCM Agreement*;

- (b) With respect to the USDOD R&D measures:
- (i) whether, in the application of its test for determining whether a transaction constitutes a purchase of services, the Panel erred in finding that the payments provided to Boeing pursuant to the USDOD RDT&E assistance instruments at issue constitute direct transfers of funds, and thus financial contributions, within the meaning of Article 1.1(a)(1)(i) of the *SCM Agreement*;
 - (ii) whether the Panel erred in finding that the access to facilities provided to Boeing under the USDOD RDT&E assistance instruments at issue constitutes a provision of goods or services, and thus a financial contribution, within the meaning of Article 1.1(a)(1)(iii) of the *SCM Agreement*;
 - (iii) whether the Panel erred in finding that the payments and access to facilities provided to Boeing under the USDOD RDT&E assistance instruments conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*; and
 - (iv) whether the Panel failed to make an objective assessment of the matter, as required under Article 11 of the DSU, when it stated in paragraph 7.1205 of its Report that it did "not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA";
- (c) With respect to the Washington State B&O tax rate reduction:
- (i) whether the Panel erred in finding that this tax rate reduction constitutes the foregoing of government revenue otherwise due, and thus a financial contribution, within the meaning of Article 1.1(a)(1)(ii) of the *SCM Agreement*; and
 - (ii) whether the Panel erred in finding that this tax rate reduction is specific within the meaning of Article 2.1(a) of the *SCM Agreement*;
- (d) Whether the Panel erred in finding that tax abatements associated with industrial revenue bonds granted by the City of Wichita are specific within the meaning of Article 2.1(c) of the *SCM Agreement*;

- (e) Whether the Panel erred in finding that the NASA and USDOD aeronautics R&D subsidies caused, through their technology effects, serious prejudice to the interests of the European Communities, within the meaning of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*, in the 200-300 seat LCA market in the form of significant price suppression, significant lost sales, and a threat of displacement and impedance of exports of Airbus LCA in third-country markets. In particular:
- (i) whether the Panel erred in its interpretation and application of these provisions by:
- finding that the NASA and USDOD aeronautics R&D subsidies contributed in a "genuine and substantial" way to Boeing's development of technologies for the Boeing 787 by 2004;
 - failing to conduct a proper counterfactual analysis and finding that, absent the NASA and USDOD subsidies, Boeing would not have developed the technologies for the Boeing 787 by 2004 and Airbus would not have suffered a threat of displacement and impedance, significant lost sales, and significant price suppression;
 - "double-counting" lost sales, and failing to conduct a proper non-attribution analysis, with respect to its finding of significant lost sales;
 - failing to establish the existence of relevant third-country markets with respect to its finding of threat of displacement and impedance; and
 - failing to conduct a proper price suppression analysis with respect to the A330, the Original A350, and the Airbus 200-300 seat LCA market; and
- (ii) whether in referring, in paragraph 7.1772 of the Panel Report, to "the importance of the knowledge and experience that Boeing obtained pursuant to the aeronautics R&D subsidies as an integrator of the various technologies", the Panel failed to make an objective assessment of the matter as required under Article 11 of the DSU; and

- (f) Whether the Panel erred in finding that the FSC/ETI subsidies and the B&O tax rate reductions caused, through their price effects, serious prejudice to the interests of the European Communities, within the meaning of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*, in the 100-200 seat and 300-400 seat LCA markets in the form of significant price suppression, significant lost sales, and displacement and impedance of exports of Airbus LCA in third-country markets. In particular:
- (i) whether the Panel erred in its interpretation and application of Articles 5(c) and 6.3(b) and (c) by:
- relying on a presumption that prohibited subsidies cause serious prejudice;
 - failing to assess properly the magnitude of the subsidies;
 - failing to conduct a proper counterfactual analysis;
 - failing to assess other factors potentially causing serious prejudice;
 - failing to consider price trend data with respect to its finding of significant price suppression;
 - failing to identify sales with respect to its finding of significant lost sales; and
 - failing to establish and identify relevant third-country markets with respect to its finding of displacement and impedance; and
- (ii) whether, in failing to identify either the sales campaigns in which the FSC/ETI subsidies and B&O tax rate reductions caused significant lost sales or the third-country markets in which those subsidies caused displacement and impedance, the Panel failed to set out the basic rationale behind its finding as required under Article 12.7 of the DSU.

IV. The Measures at Issue

A. Introduction

427. This dispute concerns a challenge brought by the European Communities against a broad array of subsidies allegedly provided by the United States to The Boeing Company in relation to the manufacture of large civil aircraft ("LCA"). In particular, the European Communities challenged subsidies allegedly provided by the US Federal Government; the States of Washington, Kansas, and Illinois; the counties of Snohomish (Washington) and Cook (Illinois); and the cities of Everett (Washington), Wichita (Kansas), and Chicago (Illinois).

428. The European Communities claimed before the Panel that each challenged measure is a specific subsidy within the meaning of Articles 1 and 2 of the *SCM Agreement*, and that the United States, through the use of these subsidies, has caused adverse effects to the European Communities' interests within the meaning of Articles 5 and 6 of the *SCM Agreement*. In addition, the European Communities claimed that some of the Washington State tax incentives and the Foreign Sales Corporation ("FSC")/extraterritorial income ("ETI") tax exemptions are prohibited export subsidies within the meaning of Article 3 of the *SCM Agreement*.

429. Because of the large number of claims made and measures challenged, and in order to provide some background to and context for our findings in this appeal, we consider it useful to provide an overview of the measures at issue in this appeal. For a more detailed account of the measures at issue, direct reference should be had to the Panel Report.

B. US Federal Government Measures

430. Before the Panel, the European Communities challenged certain support for aeronautics research and development ("R&D") provided to Boeing by the US National Aeronautics and Space Administration ("NASA"), the US Department of Defence ("USDOD"), and the US Department of Commerce ("USDOC"), as well as certain support for training provided by the US Department of Labor ("USDOL"). The Panel found that the payments provided to Boeing by the USDOC constituted subsidies within the meaning of Article 1.1 of the *SCM Agreement*.⁹¹⁶ Nevertheless, the Panel concluded that the European Communities had failed to demonstrate that these subsidies were specific within the meaning of Article 2 of the *SCM Agreement*.⁹¹⁷ Similarly, the Panel found that the training funds provided by the USDOL were a subsidy, but that the European Communities had not

⁹¹⁶Panel Report, para. 7.1230.

⁹¹⁷Panel Report, paras. 7.1256 and 7.1257.

established that such subsidy was specific within the meaning of Article 2 of the *SCM Agreement*.⁹¹⁸ Neither participant has appealed the Panel's findings with respect to the support provided by either the USDOC or the USDOL, and thus the USDOC's and USDOL's programmes are not further addressed in this Report. Before the Panel, the European Communities also challenged funds provided by both NASA and the USDOD to reimburse Boeing for independent research and development ("IR&D") expenditures and bid and proposal ("B&P") costs. The Panel found that the European Communities had failed to establish the existence of such measures.⁹¹⁹ This finding has not been appealed, and we therefore do not further discuss these measures.

431. We describe below the NASA and USDOD measures that are at issue in this appeal. We also address the allocation of patent rights under the NASA and USDOD measures and the tax exemptions under the FSC and successor legislation, which are also implicated in this appeal.

1. Aeronautics R&D Measures

(a) NASA

432. The Panel understood that the measures challenged by the European Communities are "payments" and "free access to NASA facilities, equipment and employees" that NASA provided to Boeing through R&D contracts and agreements⁹²⁰ entered into with Boeing under the following eight aeronautics R&D programmes: (i) Advanced Composites Technology ("ACT"); (ii) High Speed Research ("HSR"); (iii) Advanced Subsonic Technology ("AST"); (iv) High Performance Computing and Communications ("HPCC"); (v) Aviation Safety ("AS"); (vi) Quiet Aircraft Technology ("QAT"); (vii) Vehicle Systems ("VS"); and (viii) Research and Technology Base ("R&T Base").⁹²¹

⁹¹⁸Panel Report, paras. 7.1374 and 7.1375.

⁹¹⁹Panel Report, paras. 7.1352 and 7.1353.

⁹²⁰With respect to payments, the European Communities noted that "NASA ... generally provide{s} funding for LCA-related R&D through what {it} call{s} 'contracts,' but what are in reality grants to Boeing/{McDonnell Douglas} for LCA-related R&D expenses". With respect to access to facilities, equipment, and employees, the European Communities submitted that "NASA provides these 'goods and services' in conjunction with the various contractual instruments (i.e. *Space Act Agreements* and other *contracts*) it enters into with Boeing under the eight NASA aeronautics R&D programs challenged in this dispute". (Panel Report, footnote 2406 to para. 7.944 (quoting European Communities' first written submission to the Panel, para. 457; and European Communities' response to Panel Question 148, para. 171, respectively) (emphasis added))

⁹²¹Panel Report, para. 7.944 (referring to European Communities' first written submission to the Panel, para. 476).

433. The Panel further observed that the R&D contracts and agreements entered into between NASA and Boeing under these eight programmes fall into two categories. The first category is "procurement contracts"⁹²², which, under US law and regulations, are used "only where the 'principal purpose' of the activity is the 'acquisition of goods or services' for the 'direct benefit or use' of the U.S. Government".⁹²³ The second category is instruments undertaken by NASA pursuant to its authority under the National Aeronautics and Space Act of 1958⁹²⁴ (the "Space Act"), which authorizes NASA "to enter into and perform such contracts, leases, and cooperative agreements or other transactions as may be necessary in the conduct of its work".⁹²⁵ The Panel referred to agreements between NASA and Boeing undertaken pursuant to this authority as "Space Act Agreements".⁹²⁶

434. The Panel concluded that the payments and access to facilities, equipment, and employees that NASA provided to Boeing through the eight aeronautics R&D programmes at issue constitute specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*.⁹²⁷ The Panel estimated the total amount of the subsidies over the 1989-2006 period to be \$2.6 billion, of which \$1.05 billion corresponds to payments under R&D contracts, and \$1.55 billion corresponds to access to facilities, equipment, and employees under R&D contracts and agreements.⁹²⁸

⁹²²The Panel noted that the majority of the transactions between NASA and Boeing under the eight aeronautics R&D programmes at issue are "procurement contracts". However, in a few cases, the transactions between NASA and Boeing under these programmes have been in the form of what are termed "assistance instruments" under US law, and more specifically "cooperative agreements". (Panel Report, footnote 2408 to para. 7.945 (referring to Panel Exhibit US-1245, containing a list of NASA contracts with Boeing))

⁹²³Panel Report, para. 7.945.

⁹²⁴*Supra*, footnote 46.

⁹²⁵The NASA policy regarding the Space Act Agreements is set out in NASA Policy Directive 1050.1H (Panel Exhibit US-108). The Space Act authorizes NASA "to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution". The term "Space Act Agreements" refers to agreements that NASA enters into pursuant to the "other transactions" authority provided by the Space Act. NASA's policy directive governing Space Act Agreements explains:

Under its Space Act authority, NASA has entered into a great number of agreements with diverse groups of people and organizations, both in the private and public sector, *in order to meet wide-ranging NASA mission and program requirements and objectives*. It is NASA's policy to utilize the broad authority granted to the Agency in the Space Act to further the Agency's missions.

(Panel Report, footnote 2410 to para. 7.945 (emphasis added by the Panel))

⁹²⁶Panel Report, para. 7.976. The European Communities did not challenge the supply of goods and services under the Space Act Agreements to the extent that Boeing paid cash in exchange for those goods and services. (*Ibid.*, footnote 2624 to para. 7.1082)

⁹²⁷Panel Report, para. 7.1110.

⁹²⁸Panel Report, para. 7.1109.

(b) USDOD

435. The European Communities also challenged funding and access to facilities provided by the USDOD to Boeing to perform R&D related to "dual-use" technologies—that is, research applicable to both military and commercial aircraft—through contracts and other instruments under the USDOD Research, Development, Test, and Evaluation Program (the "RDT&E programme").

436. The Panel explained that the scope of the European Communities' challenge was "relatively narrow in several respects".⁹²⁹ First, it noted that the European Communities did not challenge the RDT&E programme "as a whole", but rather challenged "only certain funding" provided to Boeing under the 23 USDOD RDT&E programmes⁹³⁰ at issue and, within these programmes, only the subset of funding that was, in the European Communities' view, related to dual-use technologies.⁹³¹ Second, the Panel observed that the European Communities' challenge was limited to the *payments* that the USDOD provided to Boeing for the purpose of performing R&D and did not include the USDOD's *purchase* of military aircraft from Boeing.⁹³² Finally, the Panel pointed out that, as with the NASA aeronautics R&D measures, the European Communities challenged both USDOD payments and access to facilities under the 23 USDOD RDT&E programmes. However, the Panel observed that, whereas the European Communities' panel request refers, in the case of NASA, to access to "facilities, equipment and employees", in the case of the USDOD, it refers only to access to "facilities".⁹³³

⁹²⁹Panel Report, para. 7.1116.

⁹³⁰In particular, the European Communities challenged funding pursuant to 13 "general aircraft" programmes and 10 "military aircraft" programmes. (Panel Report, footnote 2660 to para. 7.1114)

⁹³¹Panel Report, para. 7.1117.

⁹³²Panel Report, para. 7.1118. The Panel stated that "the European Communities' claim {was} clearly limited to payments ... provided to Boeing—as distinguished from a broader challenge to the {US}DOD {RDT&E} programmes *per se*, and as distinguished from a challenge to a subsidy provided to a broader industry, e.g. the U.S. military aircraft industry." (*Ibid.*, para. 7.1119 (original underlining))

⁹³³Panel Report, para. 7.1120.

437. The Panel distinguished two types of arrangements between the USDOD and Boeing.⁹³⁴ Like NASA, the USDOD entered into "procurement contracts" with Boeing.⁹³⁵ The other category of instruments was referred to by the Panel as "assistance instruments"⁹³⁶, which comprised "cooperative agreements"⁹³⁷, "technology investment agreements"⁹³⁸, and "certain other transactions".⁹³⁹ The Panel noted that, under US law, "assistance" is defined as "{t}he transfer of a thing of value to a recipient to carry out a public purpose of support or stimulation authorized by a law of the United States".⁹⁴⁰

438. The Panel concluded that payments and access to USDOD facilities provided to Boeing under USDOD procurement contracts are not financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*.⁹⁴¹ However, the Panel found that the payments and access to USDOD facilities provided to Boeing under USDOD assistance instruments through the 23 aeronautics

⁹³⁴Panel Report, para. 7.1140. The general statutory authority for all R&D activities engaged by the USDOD by "contract", "grant", or "cooperative agreement" is found in *United States Code*, Title 10, section 2358(a) (Panel Exhibit US-1205), which provides:

The Secretary of Defense or the Secretary of a military department may engage in basic research, applied research, advanced research, and development projects that--

(1) are necessary to the responsibilities of such Secretary's department in the field of research and development; and

(2) either--

(A) relate to weapon systems and other military needs; or

(B) are of potential interest to the Department of Defense.

⁹³⁵Panel Report, para. 7.1142. See *United States Code of Federal Regulations*, Title 32, section 21.605 (Acquisition): "The acquiring (by purchase, lease, or barter) of property or services for the *direct benefit or use* of the United States Government ... In accordance with 31 U.S.C. 6303, *procurement contracts* are the appropriate legal instruments for acquiring such property or services." (emphasis added by the Panel) See also *United States Code of Federal Regulations*, Title 32, section 21.670 (Procurement contract) (Panel Exhibit US-22).

⁹³⁶Panel Report, para. 7.1142. See *United States Code of Federal Regulations*, Title 32, section 21.615 (Assistance) (Panel Exhibit US-22): "The *transfer of a thing of value* to a recipient to carry out a public purpose of support or stimulation authorized by a law of the United States ... *Grants, cooperative agreements, and technology investment agreements* are examples of legal instruments used to provide assistance." (emphasis added by the Panel)

⁹³⁷Panel Report, para. 7.1142. See *United States Code of Federal Regulations*, Title 32, section 21.640 (Cooperative agreement) (Panel Exhibit US-22): "A legal instrument which, consistent with 31 U.S.C. 6305, is used to enter into the *same kind of relationship as a grant* ..., except that substantial involvement is expected between the Department of Defense and the recipient when carrying out the activity contemplated by the cooperative agreement." (emphasis added by the Panel)

⁹³⁸*United States Code of Federal Regulations*, Title 32, part 37 is entitled "Technology investment agreements". Section 37.205 provides that a technology investment agreement may be used where the "grants officer" concludes: "... that the *principal purpose* of the project is stimulation or support of research (*i.e., assistance*), rather than *acquiring goods or services for the benefit* of the Government (*i.e., acquisition*)". (Panel Report, para. 7.1143 (emphasis added by the Panel))

⁹³⁹The Panel noted the United States' explanation that *United States Code*, Title 10, section 2371 is the authority for R&D projects using "other transactions", that is, transactions other than contracts, cooperative agreements, and grants. (Panel Report, footnote 2698 to para. 7.1140)

⁹⁴⁰Panel Report, para. 7.1142 (quoting *United States Code of Federal Regulations*, Title 32, section 21.615 (Panel Exhibit US-22)).

⁹⁴¹Panel Report, para. 7.1171.

RDT&E programmes constitute specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*.⁹⁴²

439. The European Communities estimated that the amount of subsidy provided by the USDOD to Boeing's LCA division was \$2.4 billion.⁹⁴³ The Panel did not accept the European Communities' estimate because it was based on a methodology and analysis that did not distinguish payments and access to facilities provided to Boeing under procurement contracts from payments and access to facilities provided to Boeing through assistance instruments.⁹⁴⁴ Nor did the Panel accept the United States' estimate that the total amount of any USDOD subsidy to Boeing for dual-use R&D was significantly less than \$308 million.⁹⁴⁵ Ultimately, however, the Panel was unable to arrive at its own estimate of the amount of the subsidy provided to Boeing under the relevant USDOD assistance instruments.⁹⁴⁶

2. Allocation of Patent Rights

440. The European Communities also challenged the allocation of intellectual property rights under procurement contracts and agreements entered into between NASA/USDOD and Boeing for aeronautics R&D.⁹⁴⁷

441. US patent rights generally authorize the patent holder, during the term of the patent, to prevent all other entities from exploiting the technologies covered by the patent, and allow the patent holder to license the technology to others in exchange for compensation. Specifically, a US patent accords the right to "exclude others from making, using, offering for sale, or selling" the invention in the United States or from "importing" the invention into the United States, for a specific period of time (a minimum of 20 years from the date of application).⁹⁴⁸

442. Prior to 1980, the US Government had a general policy of assuming all rights to patents over inventions developed by contractors under federally funded R&D contracts (and then granting non-exclusive licenses to any applicant, including the contractor, who wished to use the subject

⁹⁴²Panel Report, paras. 7.1196-7.1198.

⁹⁴³Panel Report, para. 7.1199.

⁹⁴⁴Panel Report, para. 7.1206.

⁹⁴⁵Panel Report, paras. 7.1200, 7.1205, 7.1209, and 7.1210.

⁹⁴⁶Panel Report, para. 7.1210.

⁹⁴⁷The European Communities additionally challenged the allocation of data rights and trade secrets. However, this appeal concerns only the allocation of patent rights.

⁹⁴⁸Panel Report, para. 7.1285 (referring to European Communities' first written submission to the Panel, para. 812, in turn quoting *United States Code*, Title 35, section 154(a)(2) (Panel Exhibit EC-562) and section 271(a) (Panel Exhibit EC-563)).

invention).⁹⁴⁹ In 1980, the US Government changed its policy so that government contractors obtained ownership of patents over any invention that they developed with federal funding under R&D contracts (with the government receiving a limited "government use" license to use the subject invention without having to pay the contractor royalties). Originally, the new policy applied only to non-profit organizations and small business firms. The policy was subsequently extended to all government contractors, regardless of size and profit/non-profit status⁹⁵⁰, and implemented through a number of different legal instruments.

443. The Panel identified the following five US legal instruments as relevant⁹⁵¹:

- (i) the Patent and Trademark Law Amendments Act of 1980⁹⁵² (the "Bayh-Dole Act");
- (ii) a 1983 Presidential Memorandum to the heads of Executive departments and agencies (entitled "Government Patent Policy") that extended the scope of the policy enacted under the Bayh-Dole Act to encompass all government contractors, regardless of size and profit/non-profit status⁹⁵³ (the "1983 Presidential Memorandum");
- (iii) a 1987 Executive Order (entitled "Facilitating Access to Science and Technology") into which the terms of the 1983 Presidential Memorandum were eventually incorporated⁹⁵⁴ (the "1987 Executive Order");
- (iv) the corresponding general federal regulations implementing the Bayh-Dole Act, the 1983 Presidential Memorandum, and the 1987 Executive Order (Title 48, Subpart 27.3, entitled "Patent Rights Under Government Contracts")⁹⁵⁵; and
- (v) the NASA-specific federal regulations (entitled "Patents and Other Intellectual Property Rights", with Subpart 1 entitled "Patent Waiver Regulations").⁹⁵⁶

⁹⁴⁹Panel Report, para. 7.1277 (referring to European Communities' first written submission to the Panel, para. 806; and United States' first written submission to the Panel, para. 314).

⁹⁵⁰Panel Report, para. 7.1277.

⁹⁵¹Panel Report, para. 7.1278.

⁹⁵²*Supra*, footnote 243.

⁹⁵³*Supra*, footnote 244.

⁹⁵⁴*Supra*, footnote 245.

⁹⁵⁵*United States Code of Federal Regulations*, Title 48, sections 27.300-27.306 (Panel Exhibit EC-559).

⁹⁵⁶*United States Code of Federal Regulations*, Title 14, Part 1245 (Panel Exhibit EC-572).

444. Under this policy, the US Government receives "a nonexclusive, nontransferable, irrevocable paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world".⁹⁵⁷ The US Government also obtains certain "march-in" rights, which empower the relevant federal agency to compel the contractor, in certain limited circumstances, to grant a license to applicants on reasonable terms, or to grant the license itself. No US Government department or agency has ever exercised these march-in rights for any patent under any contract.⁹⁵⁸

445. The Space Act provides that any invention developed pursuant to a contract with NASA "shall be the exclusive property of the United States, and if such invention is patentable a patent therefore shall be issued to the United States", unless waived by NASA.⁹⁵⁹ To comply with the 1983 Presidential Memorandum, NASA formulated regulations under which it generally waives its patent rights to large companies, such as Boeing, for inventions developed pursuant to NASA-funded research.⁹⁶⁰ NASA waives such rights in order to, in part, "promote early utilization, expeditious development and continued availability of {the} new technology for commercial purposes".⁹⁶¹ The NASA patent waiver regulations permit requests for waivers at two points in time: (i) in advance of the invention, as to any and all inventions made under a contract; and (ii) after reporting an invention, subsequent to the invention being developed.⁹⁶²

446. Unlike NASA, the USDOD does not have its own detailed regulations regarding patent allocation. Instead, the USDOD generally relies on the relevant portion of the Bayh-Dole Act and the 1983 Presidential Memorandum⁹⁶³, as well as the corresponding general federal regulations

⁹⁵⁷Panel Report, para. 7.1286 (referring to European Communities' first written submission to the Panel, para. 813, in turn quoting *United States Code*, Title 35, section 202(c)(4) (Panel Exhibit EC-558) and *United States Code of Federal Regulations*, Title 48, section 27.302(c) (Panel Exhibit EC-559)).

⁹⁵⁸Panel Report, para. 7.1286.

⁹⁵⁹Panel Report, para. 7.1287 (referring to *United States Code*, Title 42, section 2457(a) (Panel Exhibit EC-571)).

⁹⁶⁰Panel Report, para. 7.1287 (referring to *United States Code of Federal Regulations*, Title 14, sections 1245.100-1245.103 (Panel Exhibit EC-572)). The regulations do not apply to small business firms or non-profit organizations, which are governed by the US patent law provisions. (*Ibid.*, footnote 2913 to para. 7.1287 (referring to *United States Code*, Title 35, sections 200-212 (Panel Exhibit EC-558)) See also, *United States Code of Federal Regulations*, Title 14, section 1245.101 (Panel Exhibit EC-572)).

⁹⁶¹Panel Report, para. 7.1287 (referring to *United States Code of Federal Regulations*, Title 14, section 1245.103(a) (Panel Exhibit EC-572)). The patent rights waived by NASA pursuant to their regulations are not unlimited, as NASA retains the right to use the patented technology for itself, or to issue compulsory licenses through "march-in" rights. (*Ibid.*, footnote 2914 to para. 7.1287)

⁹⁶²Panel Report, para. 7.1287 (referring to *United States Code of Federal Regulations*, Title 14, sections 1245.104 and 1245.105 (Panel Exhibit EC-572)).

⁹⁶³See Panel Report, para. 7.1291. The US patent law provisions regarding "patent rights in inventions made with federal assistance", codified at *United States Code*, Title 35, sections 200-212, apply to any "Federal agency". (*United States Code*, Title 35, section 201(a) (Panel Exhibit EC-558)) "Federal agency" is defined as "any executive agency as defined in section 105 of title 5, and the military departments as defined by section 102 of title 5". (*Ibid.*) In turn, section 102 of Title 5 provides that the military departments consist of the Army, Navy, and Air Force. (*United States Code*, Title 5, section 102 (Panel Exhibit EC-581))

implementing these instruments.⁹⁶⁴ This aspect of US law, along with the terms of the 1983 Presidential Memorandum, is generally implemented by the USDOD by incorporating certain clauses into R&D contracts.⁹⁶⁵

3. FSC/ETI and Successor Legislation

447. The European Communities challenged the tax exemption enjoyed by Boeing in relation to certain income under the FSC legislation and under successor legislation, namely: the FSC Repeal and Extraterritorial Income Exclusion Act of 2000⁹⁶⁶ (the "ETI Act"); the American Jobs Creation Act of 2004⁹⁶⁷ (the "AJCA"); and the Tax Increase Prevention and Reconciliation Act of 2005⁹⁶⁸ (the "TIPRA").⁹⁶⁹ These tax exemptions were the subject of a previous WTO dispute between the European Communities and the United States, which included two compliance proceedings.⁹⁷⁰ The tax exemption under the FSC legislation, and the exclusion of certain income under the ETI Act, which replaced the FSC regime, were found to be export subsidies prohibited under Articles 3.1(a) and 3.2 of the *SCM Agreement*.⁹⁷¹

⁹⁶⁴See Panel Report, para. 7.1291 (referring to *United States Code of Federal Regulations*, Title 48, sections 27.300-27.306 (Panel Exhibit EC-559)). These provisions, which are part of the Federal Acquisition Regulation ("FAR") System, apply to "all executive agencies", which is defined to include the USDOD. (*United States Code of Federal Regulations*, Title 48, section 1.101 (purpose of FAR) (Panel Exhibit EC-582); *United States Code of Federal Regulations*, Title 48, section 2.101 (defining "executive agency") (Panel Exhibit EC-583))

⁹⁶⁵Panel Report, para. 7.1292. The Panel noted that, in R&D contracts with medium or large businesses, the USDOD uses the standard clause provided in section 52.227-12 of the FAR. (*Ibid.*)

⁹⁶⁶*Supra*, footnote 18, item (ii).

⁹⁶⁷*Supra*, footnote 18, item (iii).

⁹⁶⁸*Supra*, footnote 18, item (iv). Although its title refers to 2005, the legislation was enacted on 17 May 2006.

⁹⁶⁹See Request for the Establishment of a Panel by the European Communities, originally circulated as document WT/DS317/5 (amended by WT/DS353/2/Corr.1, WT/DS317/5/Add.1/Corr.1), para. 6.

⁹⁷⁰The Panel recalled the findings made by the panels and the Appellate Body in *US – FSC*, *US – FSC (Article 21.5 – EC)*, and *US – FSC (Article 21.5 – EC II)* with respect to, for instance, the existence of a subsidy under Article 1 of the *SCM Agreement*. (Panel Report, para. 7.1401)

⁹⁷¹The Panel in this case referred to the previous WTO dispute settlement proceedings and also found that the FSC/ETI subsidies constituted export subsidies. (Panel Report, paras. 7.1452 and 7.1463) However, the Panel refrained from making recommendations that the US Government "withdraw" these export subsidies, pursuant to Article 4.7 of *SCM Agreement*, on the ground that "the FSC/ETI measure in force at the time of the Panel's establishment ha{d} been substantially changed during the course of the {Panel} proceedings and indeed it appear{ed} that the measure {was} no longer in force with respect to Boeing". The Panel considered it "well established in WTO dispute settlement practice that when a measure has expired, it is appropriate for a panel to refrain from making a recommendation with respect to such a measure". In any event, the Panel reasoned that "to the extent that FSC/ETI tax benefits remained applicable to Boeing at the time of the establishment of this Panel ... the panel and Appellate Body reports in *US – FSC (Article 21.5 – EC II)* concluded that the recommendation made by the panel in *US – FSC* remained operative". (*Ibid.*, para. 8.6; see also para. 8.7)

448. The United States did not dispute that the FSC/ETI tax exemptions were specific subsidies.⁹⁷² Moreover, the United States accepted the European Communities' estimate that the amount of the subsidy to Boeing's LCA division from 1989 through 2006 in the form of FSC/ETI tax breaks was \$2.199 billion.⁹⁷³ The issue in contention was whether Boeing would continue to receive FSC/ETI benefits after 2006.⁹⁷⁴ The Panel considered the evidence submitted by the parties to determine whether Boeing would continue to receive FSC/ETI benefits after 2006.⁹⁷⁵ Ultimately, the Panel did not consider it necessary to make a finding on this issue because the European Communities "ha{d} not adequately explained how such a finding {was} relevant to the Panel's evaluation of the European Communities' claims of present serious prejudice and threat of serious prejudice or to its claim of the existence of prohibited subsidies".⁹⁷⁶

449. The following paragraphs provide an overview of the four pieces of US legislation at issue.

(a) Provisions of the US Internal Revenue Code relating to FSCs⁹⁷⁷

450. An FSC was a corporation created, organized, and maintained in a qualified foreign country or country under US possession outside the customs territory of the United States under the specific requirements of sections 921-927 of the US Internal Revenue Code (the "IRC").⁹⁷⁸ An FSC obtained a US tax exemption on a portion of its "foreign trade income". In addition to this exemption, the FSC measure also allowed the US parent companies of FSCs to defer paying taxes on certain "foreign trade income" that would normally be subject to immediate taxation and to avoid paying taxes on dividends received from their FSCs related to "foreign trade income".⁹⁷⁹ The FSC measure was found by the panel and the Appellate Body in *US – FSC* to be an export subsidy inconsistent with the United States' obligations under Articles 3.1(a) and 3.2 of the *SCM Agreement*, and under Articles 8 and 10.1 of the *Agreement on Agriculture*.⁹⁸⁰

⁹⁷²Panel Report, para. 7.1392 (referring to United States' first written submission to the Panel, para. 422).

⁹⁷³Panel Report, paras. 7.1412 and 7.1418.

⁹⁷⁴Panel Report, para. 7.1413.

⁹⁷⁵Panel Report, paras. 7.1421-7.1426.

⁹⁷⁶Panel Report, para. 7.1427.

⁹⁷⁷The European Communities submitted that "the 'primary' legal provisions constituting the FSC measure are sections 245(c), 921 through 927, and 951(e) of the United States Internal Revenue Code". (European Communities' first written submission to the Panel, footnote 1615 to para. 923) A detailed description of the FSC provisions is contained in Panel Report, *US – FSC*, paras. 2.1-2.8 and 7.95-7.97, and Appellate Body Report, *US – FSC*, paras. 11-18.

⁹⁷⁸Panel Report, para. 7.1379 (referring to *United States Code*, Title 26 (Internal Revenue Code), sections 921-927 (Panel Exhibit EC-623)).

⁹⁷⁹Panel Report, para. 7.1379.

⁹⁸⁰Panel Report, *US – FSC*, para. 8.1(a) and (b); Appellate Body Report, *US – FSC*, paras. 177(a) and 178.

(b) FSC Repeal and Extraterritorial Income Exclusion Act of 2000

451. On 15 November 2000, the United States enacted the ETI Act⁹⁸¹ in response to the findings made with respect to the FSC provisions by the panel and the Appellate Body in *US – FSC*.⁹⁸² First, the ETI Act specified that, in general, the amendments made by the Act "shall apply to transactions after September 30, 2000".⁹⁸³ In addition, no new FSCs could be created after that date. However, in the case of an FSC in existence on 30 September 2000, section 5(c)(1) of the ETI Act provided that the amendments made by the Act did not apply to certain transactions.⁹⁸⁴ Second, the ETI Act allowed for the exclusion from taxation of income involving "qualifying foreign trade property".⁹⁸⁵

452. The compliance panel in *US – FSC (Article 21.5 – EC)* found that the ETI Act was inconsistent with the United States' WTO obligations and that the United States had not fully withdrawn the subsidies found, in the original proceedings, to be prohibited export subsidies. The panel concluded that the United States, therefore, had failed to implement fully the recommendations and rulings of the DSB made pursuant to Article 4.7 of the *SCM Agreement*.⁹⁸⁶ The Appellate Body upheld the panel's findings.⁹⁸⁷

(c) American Jobs Creation Act of 2004

453. On 22 October 2004, the United States enacted the AJCA in response to the findings made by the compliance panel and the Appellate Body in *US – FSC (Article 21.5 – EC)*. Section 101 of the AJCA repealed the provisions in section 114 of the IRC relating to the exclusion from income taxation of ETI. However, a "transitional rule for 2005 and 2006" in section 101(d) of the AJCA allowed US taxpayers to claim 80% of ETI tax benefits with respect to certain transactions in 2005 and to claim 60% of ETI tax benefits with respect to certain transactions in 2006. In addition to this

⁹⁸¹Panel Report, para. 7.1380 and footnote 3035 thereto. See ETI Act, *supra*, footnote 18, item (ii). A detailed description of the provisions of this Act is contained in Panel Report, *US – FSC (Article 21.5 – EC)*, paras. 2.1-2.8 and Appellate Body Report, *US – FSC (Article 21.5 – EC)*, paras. 15-25.

⁹⁸²Panel Report, *US – FSC*, para. 8.1(a) and (b); Appellate Body Report, *US – FSC*, paras. 177(a) and 178.

⁹⁸³Panel Report, para. 7.1381.

⁹⁸⁴Any transaction in the ordinary course of trade or business involving an FSC that occurred: (i) before 1 January 2002; or (ii) after 31 December 2001, pursuant to a binding contract between the FSC (or any related person) and any unrelated person that was in effect on 30 September 2000. (Panel Report, para. 7.1381)

⁹⁸⁵At least two requirements, under the ETI Act, had to be satisfied in order for a taxpayer to qualify for the exclusion from taxation: (i) that a good produced within or outside the United States be held primarily for sale, lease, or rental, in the ordinary course of trade or business for direct use, consumption, or disposition outside the United States; and (ii) that no more than 50% of the fair market value of such property be attributable to articles manufactured, produced, grown, or extracted outside the United States, and direct costs for labour performed outside the United States. (Panel Report, para. 7.1383)

⁹⁸⁶Panel Report, *US – FSC (Article 21.5 – EC)*, para. 9.1.

⁹⁸⁷Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 257.

time-limited transitional rule, the AJCA indefinitely grandfathered the ETI scheme in respect of certain transactions.

454. The second compliance panel in *US – FSC (Article 21.5 – EC II)* determined that Article 101(d) and (f) of the AJCA maintained ETI benefits throughout 2005 and 2006 (albeit at reduced percentages), and indefinitely (in the case of certain transactions). The panel further noted the indefinite grandfathering of the original FSC subsidies for certain transactions through the continued operation of section 5 of the ETI Act.⁹⁸⁸ The panel concluded that the United States continued to fail to implement fully the operative DSB recommendations and rulings to withdraw the prohibited subsidies and to bring its measures into conformity with its obligations under the relevant covered agreements.⁹⁸⁹ The panel's findings were also upheld on appeal.⁹⁹⁰

(d) Tax Increase Prevention and Reconciliation Act of 2005

455. On 17 May 2006, the United States enacted the TIPRA in response to the findings of the second compliance panel and the Appellate Body in *US – FSC (Article 21.5 – EC II)*. Section 513 of the TIPRA is entitled "Repeal of FSC/ETI Binding Contract Relief". Section 513(a) of the TIPRA (FSC provisions) repealed section 5(c)(1)(B) of the ETI Act, which allowed for the continuation of FSC benefits in respect of transactions occurring pursuant to a binding contract in effect on 30 September 2000. Section 513(b) of the TIPRA (ETI provisions) repealed section 101(f) of the AJCA, which allowed for the continuation of ETI tax benefits in respect of transactions occurring pursuant to a binding contract in effect on 17 September 2003. Section 513(c) of the TIPRA provides that "{t}he amendments made by this section shall apply to taxable years beginning after the date of the enactment of this Act".⁹⁹¹

⁹⁸⁸Panel Report, *US – FSC (Article 21.5 – EC II)*, paras. 7.60 and 7.61.

⁹⁸⁹Panel Report, *US – FSC (Article 21.5 – EC II)*, para. 8.1.

⁹⁹⁰Appellate Body Report, *US – FSC (Article 21.5 – EC II)*, para. 100.

⁹⁹¹Panel Report, para. 7.1385.

C. *State and Local Measures*

1. State of Washington

(a) Measures under House Bill 2294

456. In 2003, the State of Washington legislature approved a package of tax incentives pursuant to Washington State House Bill 2294, entitled "An Act Related to Retaining and Attracting the Aerospace Industry to Washington State"⁹⁹² ("House Bill 2294").⁹⁹³ House Bill 2294 includes five tax measures that the European Communities challenged before the Panel as subsidies to Boeing's LCA division that cause adverse effects and are also prohibited under the *SCM Agreement*.⁹⁹⁴ The five measures are:

- (i) a business and occupation ("B&O") tax rate reduction;
- (ii) B&O tax credits for preproduction development, computer software and hardware, and property taxes;
- (iii) sales and use tax exemptions for computers, and construction services and equipment;
- (iv) leasehold excise tax exemptions; and
- (v) property tax exemptions.

457. The Panel observed that Boeing had never claimed the sales and use tax exemptions for construction services and equipment. In addition, it noted that Boeing had not claimed the leasehold excise tax exemptions and the property tax exemptions, and, in fact, Boeing had taken steps that suggested it would not claim these exemptions.⁹⁹⁵ In these circumstances, the Panel found that there was no financial contribution to Boeing in relation to these three measures.⁹⁹⁶ This finding has not been appealed and, consequently, the description below focuses on the Washington State B&O tax rate reduction; the B&O tax credits for preproduction development, computer software and hardware, and property taxes; and the sales and use tax exemptions for computers.

⁹⁹²*Supra*, footnote 6.

⁹⁹³Panel Report, para. 7.41 (referring to House Bill 2294, preamble).

⁹⁹⁴Panel Report, para. 7.42 (referring to European Communities' first written submission to the Panel, para. 69).

⁹⁹⁵Panel Report, para. 7.151.

⁹⁹⁶Panel Report, para. 7.151.

(i) *Washington State B&O tax rate reduction*

458. The B&O tax is Washington State's primary business tax.⁹⁹⁷ It is a tax on the "gross receipts of all businesses operating in Washington State, as a measure of the privilege of engaging in business".⁹⁹⁸ The Panel noted that "gross receipts" refers to the gross proceeds of sales, the gross income of a business, or the value of products, depending upon which is applicable. It further noted that taxpayers are taxed based on the activities in which they engage in the State of Washington, such as manufacturing, wholesaling, retailing, or the provision of services.⁹⁹⁹

459. House Bill 2294 includes a reduction in the B&O tax rate for manufacturers of commercial airplanes or components for such airplanes. The bill provides for such reduction to occur in two stages: from a tax rate of 0.484% (or 0.471% in the case of retail sales) to 0.4235% as of 1 October 2005¹⁰⁰⁰; and then to 0.2904% as of 1 July 2007 or as of the commencement of final assembly¹⁰⁰¹ of a "super-efficient" airplane, whichever is later.¹⁰⁰² The taxation reduction applies until 2024 unless the final assembly of a super-efficient aircraft had not commenced by 31 December 2007, in which case the tax rate reverts to 0.484% for manufacturing and wholesaling activities, and 0.471% for retailing activities.¹⁰⁰³ Given that final assembly of the Boeing 787, which was agreed by the European Communities and the United States to meet the definition of a "super-efficient airplane", commenced in Washington in the first half of 2007, the reduced taxation rate will continue until 2024.¹⁰⁰⁴

460. The Panel concluded that the Washington State B&O tax reduction is a specific subsidy within the meaning of Articles 1 and 2 of the *SCM Agreement*, and estimated the amount of this subsidy to Boeing's LCA division to be \$13.8 million.¹⁰⁰⁵

⁹⁹⁷Panel Report, para. 7.47 (referring to Final Bill Report, House Bill 2294, C1L03E2, undated (Panel Exhibit EC-90)).

⁹⁹⁸Panel Report, para. 7.47 (quoting Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179)).

⁹⁹⁹Panel Report, para. 7.47 (referring to United States' first written submission to the Panel, para. 429).

¹⁰⁰⁰Panel Report, para. 7.48.

¹⁰⁰¹"Final assembly" is defined to mean the activity of assembling an airplane from component parts necessary for its mechanical operation such that the finished commercial airplane is ready to be delivered to the ultimate consumer. (Panel Report, para. 7.48)

¹⁰⁰²Panel Report, para. 7.48 (referring to House Bill 2294, sections 3(13) and 4(13)); European Communities' first written submission to the Panel, para. 106; and United States' first written submission to the Panel, para. 438).

¹⁰⁰³Panel Report, para. 7.48 (referring to House Bill 2294, sections 3(13) and 4(13)); European Communities' first written submission to the Panel, para. 106; and United States' first written submission to the Panel, para. 438).

¹⁰⁰⁴Panel Report, para. 7.48.

¹⁰⁰⁵Panel Report, para. 7.302.

(ii) *Washington State B&O tax credits for preproduction development, computer software and hardware, and property taxes*

461. House Bill 2294 also includes three B&O tax credits relating to certain preproduction development expenditures, computer software and hardware, and property taxes.¹⁰⁰⁶ First, it provides for a B&O tax credit for preproduction development to any "manufacturer or processor for hire of commercial airplanes, or components of such airplanes" for its expenditure on certain aeronautics-related research, design, and engineering activities performed in the development of a product.¹⁰⁰⁷

462. Second, a B&O tax credit is granted for computer software and hardware to any "manufacturer of commercial airplanes" for its expenditures, between 1 July 1995 and 1 July 2003, on design and preproduction development computer software and hardware used primarily for the digital design and development of commercial airplanes.¹⁰⁰⁸

463. Third, House Bill 2294 grants a B&O tax credit for property taxes where the tax credit is equal to the state and local property taxes paid on certain property used in the manufacture of commercial airplanes or components for such airplanes.¹⁰⁰⁹

464. The Panel concluded that the B&O tax credits for preproduction development, computer software and hardware, and property taxes are specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*, and estimated the amount of these subsidies to Boeing's LCA division to be collectively \$42.4 million.¹⁰¹⁰

(iii) *Washington State sales and use tax exemptions for computer software, hardware, and peripherals*

465. In addition to the B&O tax, the State of Washington has a retail sales tax and a use tax. The retail sales tax is a tax on the sale of tangible personal property and certain services. The use tax is due on the value of tangible personal property and certain services on which the retail sales tax has

¹⁰⁰⁶Panel Report, para. 7.50.

¹⁰⁰⁷Panel Report, para. 7.51. The credit is equal to 1.5% of qualifying preproduction development expenditure. It can be claimed after 1 July 2005, although credits earned prior to this date can be accrued and carried forward. The credit expires on 1 July 2024. (*Ibid.*)

¹⁰⁰⁸The credit is equal to 8.44% of the purchase price of the property. (Panel Report, para. 7.53)

¹⁰⁰⁹The three types of qualifying property taxes are: (i) taxes on new buildings, and the land upon which the buildings are located, used in manufacturing airplanes and components; (ii) taxes on increases in the assessed value of a building, used in manufacturing aircraft or components, due to renovation or expansion of the building; and (iii) taxes on certain machinery and equipment used in manufacturing commercial airplanes or their components. (Panel Report, para. 7.55)

¹⁰¹⁰Panel Report, para. 7.302.

not been paid.¹⁰¹¹ House Bill 2294 introduced two exemptions to these taxes, namely, an exemption relating to computer hardware, software, and peripherals and an exemption relating to certain construction services and equipment.¹⁰¹²

466. The Panel concluded that the sales and use tax exemptions for computer hardware, software, and peripherals are a specific subsidy within the meaning of Articles 1 and 2 of the *SCM Agreement*, and estimated the amount of this subsidy to Boeing's LCA division to be \$8.3 million.¹⁰¹³

(b) City of Everett local B&O tax rate reduction

467. The City of Everett imposes a B&O tax similar in nature to the one imposed at the state level. It is a tax on gross revenues, which in the case of manufacturing is generally treated as the value of products manufactured, and in the case of retailing or wholesaling as the gross proceeds of sales. It applies to all business activities occurring within the limits of the City of Everett.¹⁰¹⁴

468. The Panel found that Boeing was the only company in the City of Everett that could qualify under the threshold required to receive the B&O tax rate reduction.¹⁰¹⁵ Thus, the Panel concluded that the City of Everett B&O tax rate reduction is a specific subsidy within the meaning of Articles 1 and 2 of the *SCM Agreement*, and estimated the amount of the subsidy to Boeing's LCA division through 2006 to be \$2.2 million.¹⁰¹⁶

¹⁰¹¹Panel Report, para. 7.57.

¹⁰¹²Panel Report, para. 7.58.

¹⁰¹³Panel Report, para. 7.302.

¹⁰¹⁴Panel Report, para. 7.306.

¹⁰¹⁵See *Everett Municipal Code* (2004), chapter 3.24 (Panel Exhibit EC-104). Prior to 2004, the City of Everett B&O tax was imposed at a rate of 0.1%. In 2004, the City of Everett passed Ordinance 2759-04. The Ordinance amends chapter 3.24 of the *Everett Municipal Code*. The result of the amendment is that the 0.1% B&O tax rate "upon every person engaging within the city in business as a manufacturer" is reduced to 0.025% for manufacturers exceeding a minimum threshold of value of production in the City of Everett. Only Boeing met the \$6 billion threshold required to benefit from the tax reduction. After Boeing, the second largest manufacturer in the City generated \$1.12 billion in revenue and no other manufacturer surpassed \$1 billion. (Panel Report, paras. 7.342 and 7.344)

¹⁰¹⁶Panel Report, paras. 7.346 and 7.354.

(c) Project Olympus Master Site Agreement

469. The *Project Olympus Master Site Development and Location Agreement between the Boeing Company and the State of Washington*¹⁰¹⁷ (the "MSA") was concluded on 19 December 2003.¹⁰¹⁸ The Panel observed that "Project Olympus" means "a fully operational state-of-the art facility for, initially, the assembly of the 7E7 Aircraft, together with all related utilities and transportation improvements and facilities necessary and appurtenant thereto to be located on or connected to the Facilities Site, including any off-site improvements and facilities".¹⁰¹⁹ The European Communities challenged eight measures referred to in the MSA.¹⁰²⁰ Only one of these measures—the job training incentives—was found to be a specific subsidy by the Panel.¹⁰²¹

470. The job training incentives consisted of a workforce development programme and an Employment Resource Center provided for in the MSA. The Panel noted that approximately \$14 million was allocated by the State of Washington, under the MSA, for the workforce development programme from 1 July 2003 through 30 June 2007.¹⁰²² As for the Employment Resource Center, the State decided not to construct a new facility, but rather leased the facility at a cost of \$956,400 per year.¹⁰²³ The Employment Resource Center became operational on 1 August 2006.¹⁰²⁴

¹⁰¹⁷*Supra*, footnote 8.

¹⁰¹⁸Panel Report, para. 7.355. Article 1.2 of the MSA provides:

This Agreement is intended to legally bind the parties, subject only to the granting, adoption or enactment of the respective resolutions, ordinances, legislative amendments and similar authorizations that may be required to provide any Commitments. This Agreement sets forth the terms and conditions under which Boeing intends to locate the Facilities and operations related to Project Olympus in the State and the covenants, representations and warranties in connection therewith.

(Panel Report, para. 7.355 (quoting MSA, Article 1.2))

¹⁰¹⁹Panel Report, para. 7.356 (quoting MSA, Article. 1.3).

¹⁰²⁰The eight measures are listed in paragraph 7.357 of the Panel Report.

¹⁰²¹Panel Report, paras. 7.644 and 7.645.

¹⁰²²Panel Report, para. 7.584 (referring to exhibits to the MSA (Panel Exhibit EC-59), Exhibit D-2). From these funds, \$4.4 million were provided to Accenture LLP to develop the workforce development programme that would operate out of the Employment Resource Center by 30 June 2006. (*Ibid.*, para. 7.570)

¹⁰²³Panel Report, para. 7.587 (referring to Employment Resource Center Lease (August 2005) (Panel Exhibit US-239), p. 3).

¹⁰²⁴Panel Report, para. 7.571. The MSA provides for Boeing to enjoy exclusive use of the facilities for a period of five years. (*Ibid.*, para. 7.592)

471. The Panel found that the workforce development programme and the Employment Resource Center are specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*.¹⁰²⁵ It estimated the amount of these subsidies to Boeing's LCA division during the period 1989-2006 to be \$11 million.¹⁰²⁶

2. Wichita (Kansas) Industrial Revenue Bonds¹⁰²⁷

472. Industrial revenue bonds ("IRBs") are issued by cities and counties in Kansas State, on behalf of private entities, in order to assist in raising revenue to fund the purchase, construction, or improvement of various types of industrial and commercial property (the "project property").¹⁰²⁸ IRBs are generally issued in the following steps. The city or county acts as the issuer of the bonds. The issuer sells the bonds to the general public, or bondholders, through an underwriter or private placement, in exchange for proceeds that will be used to acquire or enhance the project property. The issuer serves as a passive conduit whose role is simply to lend its status as a municipal corporation to the transaction. The private entity, on behalf of which the IRBs are issued, acts as the lessee or tenant. The lessee conveys the project property to the issuer for the term of the IRBs, and the issuer leases the project property back to the lessee for the length of that term. The lessee makes rent payments that

¹⁰²⁵Panel Report, para. 7.594.

¹⁰²⁶Panel Report, para. 7.597. This amount corresponds to \$10.5 million for the workforce development programme and \$478,200 reflecting the cost of the lease of the Employment Resource Center for the second half of 2006. (*Ibid.*, para. 7.595)

¹⁰²⁷Before the Panel, the European Communities also challenged a tranche of bonds issued by the Kansas Development Finance Authority to fund the development by Spirit of parts for the Boeing 787. The Panel found that the European Communities had failed to demonstrate that the benefit of subsidies to be received by Spirit passed through to Boeing at the time of sale of Boeing Wichita. (Panel Report, paras. 7.889 and 7.890) This finding has not been appealed and thus we do not further discuss this measure.

¹⁰²⁸Panel Report, para. 7.651. Cities in Kansas issue IRBs pursuant to the *Kansas Statutes Annotated*, sections 12-1740 ff. Section 12-1741 of the *Kansas Statutes Annotated* provides:

{A}ny city shall have the power to issue bonds, the proceeds of which shall be used for the purpose of paying all or part of the cost of purchasing, acquiring, constructing, reconstructing, improving, equipping, furnishing, repairing, enlarging or remodeling facilities for agricultural, commercial, hospital, industrial, natural resources, recreational development and manufacturing purposes. Any city shall also have the power to enter into leases or lease purchase agreements by ordinance with any person, firm or corporation for the facilities.

(*Ibid.*, para. 7.652 (referring to and quoting *Kansas Statutes Annotated*, sections 12-1740 ff (2001) (Panel Exhibit EC-167))

are sufficient to pay the principal and interest on the IRBs to the bondholders.¹⁰²⁹ Finally, a bank acts as the trustee on behalf of the bondholders.¹⁰³⁰

473. The European Communities alleged that the advantages for a private entity of having IRBs issued on its behalf include: (i) the ability to borrow funds at lower than market interest rates, due to tax-exempt interest; (ii) property tax abatements for up to 10 years on project property; and (iii) sales tax exemptions on project property and services acquired with the proceeds of IRBs.¹⁰³¹

474. Boeing Commercial Airplanes, Wichita Division, produced commercial airplanes and their components in Wichita, Kansas, for over 70 years. On 16 June 2005, Boeing sold its Wichita facilities to another company, now Spirit AeroSystems ("Spirit"). For these two companies, the IRB scheme operated in a different manner. Most notably, rather than being purchased by the public, the IRBs issued on behalf of Boeing or Spirit were purchased by these companies themselves¹⁰³², resulting in a cash flow, from Boeing (or Spirit) to the City of Wichita to purchase the IRBs, and from the City of Wichita back to Boeing (or Spirit) to fund the development of project property.¹⁰³³ As Boeing or Spirit owns the IRBs, any principal or interest payments are payments that are ultimately transferred to themselves. Boeing and Spirit do not use the IRBs to finance the development of property, but rather, to take advantage of the property and the sales tax exemptions referred to above.¹⁰³⁴ According to the European Communities, the City of Wichita issued IRBs on behalf of Boeing every year since 1979.¹⁰³⁵

475. The Panel found the tax benefits to Boeing arising from the issuance of IRBs to be a specific subsidy within the meaning of Articles 1 and 2 of the *SCM Agreement*. The value of this subsidy for Boeing's LCA division was estimated by the Panel to be \$475.8 million.¹⁰³⁶

¹⁰²⁹City of Wichita IRB Overview: "Industrial Revenue Bond Issuance in the State of Kansas" (Panel Exhibit EC-741).

¹⁰³⁰The trustee: (i) holds and disburses the bond proceeds to the lessee to pay for the project property being acquired or enhanced; (ii) receives rent payments from the lessee; (iii) disburses principal and interest payments to the bondholders; and (iv) acts on behalf of bondholders to exercise remedies in the event of defaults. (City of Wichita IRB Overview: "Industrial Revenue Bond Issuance in the State of Kansas" (Panel Exhibit EC-741))

¹⁰³¹Panel Report, para. 7.656 (referring to European Communities' first written submission to the Panel, para. 298).

¹⁰³²Panel Report, para. 7.658 (referring to European Communities' first written submission to the Panel, Annex A (Background on Wichita Industrial Revenue Bonds), para. 19).

¹⁰³³Panel Report, para. 7.658 (referring to European Communities' first written submission to the Panel, Annex A (Background on Wichita Industrial Revenue Bonds), para. 22).

¹⁰³⁴Panel Report, para. 7.658 (referring to European Communities' first written submission to the Panel, para. 312). The European Communities did not challenge any other aspects of the IRB transactions. (*Ibid.* (referring to European Communities' first written submission to the Panel, para. 318))

¹⁰³⁵Panel Report, para. 7.660.

¹⁰³⁶Panel Report, para. 7.819.

3. State of Illinois

476. Finally, the European Communities challenged four separate incentives that the State of Illinois, Cook County, and the City of Chicago provided to Boeing in consideration for Boeing's decision to relocate its corporate headquarters from Seattle to Chicago in 2001. The first three incentives are derived from the Corporate Headquarters Relocation Act of 2001¹⁰³⁷ (the "CHRA"). The CHRA was adopted by the Illinois State legislature on 1 August 2001, approximately one month before Boeing relocated its headquarters to Chicago. It granted both the City of Chicago and Cook County, as taxing districts, the authority to abate or refund certain property taxes, as long as such property tax abatements/refunds were approved by 1 August 2006.¹⁰³⁸ The CHRA indicates that its purpose is to encourage the relocation of the international headquarters of large, multinational corporations to a location within Illinois "through the use of incentives ... that would otherwise not be available through existing incentives programs".¹⁰³⁹ Boeing made use of all of these incentives under the CHRA.¹⁰⁴⁰

477. In addition to the three incentives provided under the CHRA, the City of Chicago also agreed to pay \$1 million to retire the lease of the previous tenant of Boeing's new corporate headquarters building. The City made the payment in order to enable Boeing to move into its new office space by September 2001. On 10 May 2001, immediately after the City of Chicago agreed to the \$1 million payment, the landlord and Boeing executed a 15-year lease agreement.¹⁰⁴¹

478. The Panel found that the four incentives provided to Boeing in consideration for Boeing's decision to relocate its corporate headquarters to Chicago constitute a specific subsidy within the meaning of Articles 1 and 2 of the *SCM Agreement*, and estimated the amount of the subsidy provided to Boeing's LCA division to be approximately \$11 million over the 2002-2006 period.

¹⁰³⁷*Supra*, footnote 41.

¹⁰³⁸See *Illinois Compiled Statutes Annotated*, chapter 35, section 200/18-165(a)(8) (Panel Exhibit EC-225).

¹⁰³⁹Panel Report, para. 7.897 (quoting CHRA, section 5).

¹⁰⁴⁰Panel Report, para. 7.898.

¹⁰⁴¹Panel Report, para. 7.902. The City of Chicago made the actual payment on 15 January 2003 pursuant to the Lease Termination Compensation Agreement between 100 North Riverside, LLC, and the City of Chicago (Panel Exhibit EC-217). This Agreement notes that the City of Chicago made the payment in order to "induce the Landlord to consent to the termination of Morton's {the previous tenant's} long-term, above market lease". This served to "make floors 25-28 available to Boeing and finalize the Boeing relocation". (Panel Report, para. 7.902 (quoting Panel Exhibit EC-217, p. 2))

479. All the measures found by the Panel to constitute specific subsidies within the meaning of Articles 1 and 2 of the *SCM Agreement*, as well as their estimated amounts, are set out in Table 1.

Table 1. Amount of subsidies to Boeing's LCA division over the period 1989-2006

Government or government agency	Measures found to constitute specific subsidies within the meaning of Articles 1 and 2 of the <i>SCM Agreement</i>	Amount of subsidy
NASA	<ul style="list-style-type: none"> - payments made to Boeing pursuant to procurement contracts entered into under the eight aeronautics R&D programmes at issue - access to government facilities, equipment, and employees provided to Boeing pursuant to procurement contracts and Space Act Agreements entered into under the eight aeronautics R&D programmes at issue 	\$2.6 billion
USDOD	<ul style="list-style-type: none"> - payments made to Boeing pursuant to assistance instruments entered into under the RDT&E programmes at issue - access to government facilities provided to Boeing pursuant to assistance instruments entered into under the RDT&E programmes at issue 	unclear ¹⁰⁴²
FSC/ETI	<ul style="list-style-type: none"> - the tax exemptions and tax exclusions provided to Boeing under FSC/ETI legislation, including the transition and grandfather provisions of the ETI Act and the AJCA 	\$2.2 billion ¹⁰⁴³
State of Washington and municipalities therein	<ul style="list-style-type: none"> - B&O tax rate reduction provided for in House Bill 2294 - B&O tax credits for preproduction development, computer software and hardware, and property taxes provided for in House Bill 2294 - sales and use tax exemptions for computer hardware, peripherals, and software provided for in House Bill 2294 - City of Everett B&O tax rate reduction - workforce development programme and Employment Resource Center 	\$77.7 million
City of Wichita, Kansas	<ul style="list-style-type: none"> - property and sales tax abatements provided to Boeing pursuant to IRBs issued by the State of Kansas and municipalities therein 	\$476 million
State of Illinois and municipalities therein	<ul style="list-style-type: none"> - reimbursement of a portion of Boeing's relocation expenses provided for in the CHRA - 15-year Economic Development for a Growing Economy ("EDGE") tax credits provided for in the CHRA - abatement or refund of a portion of Boeing's property taxes provided for in the CHRA - payment to retire the lease of the previous tenant of Boeing's new corporate headquarters building 	\$11 million
Total		at least \$5.3 billion

Source: Table at Panel Report, para. 7.1433.

¹⁰⁴²As noted *supra*, para. 439, the Panel rejected the estimates submitted by both the European Communities (\$2.4 billion) and the United States (less than \$308 million), but was unable to arrive at its own estimate.

¹⁰⁴³The European Communities submitted the following data on the amount of FSC/ETI subsidies provided to Boeing's LCA division during the period 1989 to 2006: 1989–\$58 million; 1990–\$96 million; 1991–\$77 million; 1992–\$94 million; 1993–\$64 million; 1994–\$68 million; 1995–\$74 million; 1996–\$95 million; 1997–\$68 million; 1998–\$115 million; 1999–\$206 million; 2000–\$266 million; 2001–\$197 million; 2002–\$179 million; 2003–\$107 million; 2004–\$153 million; 2005–\$142 million; and 2006–\$140 million (estimated). (International Trade Resources LLC, "FSC/ETI Tax Benefits Provided to U.S. Large Civil Aircraft Producers" (December 2006) (Panel Exhibit EC-12)) The Panel noted that the United States had "indicated that it {was} not disput{ing} the estimate by the European Communities of FSC/ETI benefits related to large civil aircraft during the period 1989-2006". (Panel Report, para. 7.1418)

V. Procedures under Annex V to the *SCM Agreement*

A. Introduction

480. On appeal, the European Union challenges a preliminary ruling made by the Panel¹⁰⁴⁴ with respect to the absence, in this dispute¹⁰⁴⁵, of a procedure pursuant to Annex V to the *SCM Agreement*. Annex V, entitled "Procedures for Developing Information Concerning Serious Prejudice", provides for an information-gathering procedure to be conducted in disputes where it is claimed that a Member has, through subsidization, caused adverse effects in the form of serious prejudice to the interests of another Member. Such process is to be initiated by the DSB and facilitated by a representative of the DSB. It is to be carried out within 60 days of establishment of the panel and is intended to facilitate the panel's subsequent review of the dispute.

481. We begin in section B by outlining the preliminary procedural issue raised by the European Communities at the outset of the Panel proceedings, and the Panel's disposition of it. We then set out in section C an overview of the claims and arguments on appeal. Our analysis is set out in section D, and is divided into two main parts: (i) the European Union's request for reversal of certain statements and findings by the Panel set forth in paragraph 7.22 of its Report; and (ii) the European Union's request for completion of the analysis, including its request that we make four specific findings, as well as two additional requests relating to the alleged withholding of information by the United States and its alleged non-cooperation in the Annex V procedure. Our conclusions are set out in section E.

B. *The Panel's Preliminary Ruling*

482. The Panel in this dispute was established on 17 February 2006. In its request for the establishment of a panel, the European Communities requested that the DSB initiate a procedure for developing information concerning serious prejudice under Annex V to the *SCM Agreement* and designate Mr. Mateo Diego-Fernández as its representative for the purpose of facilitating such procedure.¹⁰⁴⁶ At the DSB meeting at which the Panel was established, as well as at four subsequent DSB meetings in March, April, and May of that year, the European Communities sought initiation of

¹⁰⁴⁴The Panel's preliminary rulings are reproduced in paragraphs 7.19-7.24 of the Panel Report. On appeal, the European Union's challenge relates to the ruling set out in paragraphs 7.20-7.23.

¹⁰⁴⁵When referring to "this dispute", we are referring to DS353. However, as explained further below, the DS number 353 was not initially attributed to this dispute. Rather, the DS353 number was assigned only on 4 December 2006, that is, several months *after* the establishment and composition of the Panel. At the time of establishment and composition of the Panel, the dispute bore the DS number 317. The evolution of DS317 and DS353 is discussed *infra*, paras. 537-539.

¹⁰⁴⁶Panel Report, para. 1.7.

an Annex V procedure.¹⁰⁴⁷ At those meetings, the United States made statements indicating that it could not agree to the proposed initiation of an Annex V procedure, and the European Communities made statements expressing the view that the DSB must initiate such a procedure upon request, unless there is a consensus *not* to do so.¹⁰⁴⁸ At each meeting, the DSB "took note" of the statements made.¹⁰⁴⁹ No Annex V procedure ensued.

483. On 24 November 2006, two days after the Panel had been composed¹⁰⁵⁰, the European Communities submitted a request for preliminary rulings concerning the gathering of information in connection with its claims of serious prejudice.¹⁰⁵¹ The European Communities requested, *inter alia*, that the Panel rule that an Annex V procedure had been initiated, that a facilitator had been effectively designated, and that the United States was under an obligation to cooperate and answer the questions that had been put to it in a letter from the European Communities to the facilitator dated 23 May 2006.¹⁰⁵² The European Communities' request included extensive argumentation in support of several propositions, including that "the initiation of a procedure within the meaning of Annex V, paragraph 2 *SCM Agreement* is not a DSB 'decision' to be adopted by consensus, but rather a DSB 'action' that is automatically taken upon request, or at least taken unless there is a negative consensus not to take the action".¹⁰⁵³ The European Communities requested, alternatively, that the Panel exercise its powers under Article 13 of the DSU and request the United States to provide certain information.¹⁰⁵⁴

¹⁰⁴⁷WT/DSB/M/205, paras. 69 and 72; WT/DSB/M/206, paras. 11-13 and 19-20; WT/DSB/M/207, paras. 92 and 93; WT/DSB/M/210, para. 99-101; WT/DSB/M/212, paras. 64-67.

¹⁰⁴⁸See *infra*, para. 538.

¹⁰⁴⁹WT/DSB/M/205, para. 76; WT/DSB/M/206, para. 26; WT/DSB/M/207, para. 101; WT/DSB/M/210, para. 104; WT/DSB/M/212, para. 71.

¹⁰⁵⁰The Panel was composed on 22 November 2006. (Panel Report, para. 1.5)

¹⁰⁵¹Request for preliminary rulings by the European Communities, 24 November 2006 ("European Communities' request for preliminary rulings").

¹⁰⁵²European Communities' request for preliminary rulings, para. 58. As explained *infra*, footnote 1142, after failing to obtain a DSB decision to initiate an Annex V procedure, the European Communities sought to have the Annex V facilitator in the DS316 (*EC and certain member States – Large Civil Aircraft*) and DS317 disputes conduct an Annex V procedure in this dispute.

¹⁰⁵³European Communities' request for preliminary rulings, para. 29.

¹⁰⁵⁴European Communities' request for preliminary rulings, para. 58.

484. On 22 March 2007, the United States submitted its response to the European Communities' request for preliminary rulings.¹⁰⁵⁵ The United States argued that the Panel lacked the authority to rule on the conduct, duties, and procedures of the DSB, that the European Communities' negative consensus arguments were not supported by the covered agreements, and that an exhaustive Annex V procedure had already been undertaken.¹⁰⁵⁶ Further, the United States argued that it would be inappropriate at that juncture for the Panel to seek information, and also that it is for a panel and not the requesting party to determine if seeking information is necessary and appropriate.¹⁰⁵⁷

485. On 30 July 2007, the Panel issued a Preliminary Ruling denying all of the requests that had been made by the European Communities. The Panel observed that "it may well be" that the initiation of an Annex V procedure does not require a decision by positive consensus.¹⁰⁵⁸ However, based on its understanding of the phrase "the DSB shall, upon request, initiate the procedure" in paragraph 2 of Annex V, the Panel opined that "some form of action is required on the part of the DSB".¹⁰⁵⁹ Because the Panel found it "clear from the minutes of the DSB meetings where this matter was discussed that the DSB never took any action to initiate an Annex V procedure, or to designate a DSB representative pursuant to paragraph 4 of Annex V", the Panel considered that it was "unable to rule that an Annex V procedure was initiated in this dispute".¹⁰⁶⁰ Accordingly, the Panel denied the European Communities' request that it rule that an Annex V procedure had been initiated, as well as several additional requests that the Panel considered to be dependent on a ruling that such initiation had occurred.¹⁰⁶¹ The Panel also denied the alternative request made by the European Communities to

¹⁰⁵⁵United States' response dated 22 March 2007 to the European Communities' request for preliminary rulings. 22 March 2007 was also the due date for the European Communities' first written submission to the Panel. The Panel also received letters from Canada and Brazil commenting on the European Communities' request. Both third parties took the position that the initiation of an Annex V procedure is automatic and that the DSB must launch such a procedure at the request of the complaining party. Brazil acknowledged that, at that stage in the proceedings, no Annex V procedure could occur "absent subsequent developments before the DSB or agreement of the parties to initiate a full Annex V procedure for DS353", but at the same time emphasized the unlimited nature of a panel's authority under Article 13 of the DSU to seek and obtain information from the parties to a dispute, as well as a panel's discretion to draw adverse inferences. (Comments of Brazil dated 21 December 2006 on the European Communities' request for preliminary rulings, paras. 6 and 7) Canada stressed that "the appropriate forum to judge the actions or inactions of the DSB is the DSB itself", and that "the Panel has no jurisdiction to do so". Canada also considered it "premature" for the Panel to exercise its authority under Article 13 of the DSU prior to the exchange of the first written submissions of the parties. (Comments of Canada dated 1 December 2006 on the European Communities' request for preliminary rulings, p. 2)

¹⁰⁵⁶The United States was referring to the Annex V procedure conducted in DS317, *US – Large Civil Aircraft*. The relationship between DS317 and this dispute (DS353) is discussed *infra*, paras. 537-539.

¹⁰⁵⁷Panel Report, footnote 1026 to para. 7.22.

¹⁰⁵⁸Panel Report, para. 7.21.

¹⁰⁵⁹Panel Report, para. 7.21.

¹⁰⁶⁰Panel Report, para. 7.20.

¹⁰⁶¹See Panel Report, para. 7.22 (quoting European Communities' request for preliminary rulings, para. 58). The relevant portion of this paragraph is set out, *infra*, para. 487.

"exercise its discretion under Article 13 of the DSU to seek information from the United States prior to having carefully reviewed the parties' first written submissions".¹⁰⁶²

486. Two days after the Panel issued its Preliminary Ruling, the European Communities sent another letter to the Panel highlighting that, in its Ruling, the Panel had twice stated that "it may well be" that the initiation of an Annex V procedure is not a "decision" that is subject to positive consensus within the meaning of Article 2.4 of the DSU¹⁰⁶³, and requesting the Panel to clarify how such a decision is to be taken. On 30 August 2007, the Panel declined this request based on its view that it was being asked "to offer guidance on an issue that would not affect the resolution of this dispute".¹⁰⁶⁴ The Panel noted that Article IX of the *WTO Agreement* provides that the Ministerial Conference and the General Council have the exclusive authority to adopt interpretations of the covered agreements.

C. *Overview of the Claims and Arguments on Appeal*

487. In its appeal of this preliminary issue, the European Union makes a number of requests. First, the European Union requests that we reverse the first and last sentences in paragraph 7.22 of the Panel Report, which reproduces paragraph 4 of the Panel's Preliminary Ruling. Paragraph 7.22 reads as follows:

We therefore deny the European Communities' request that the Panel "rule that the Annex V procedure requested by the European Communities at the DSB meeting of 21 April 2006 and confirmed at the DSB meeting of 17 May 2006 has been initiated". The European Communities further requested that the Panel: (i) "rule that the United States is under an obligation to cooperate and answer the questions that have been put to it in the European Communities' letter to the Facilitator dated 23 May 2006"; (ii) "rule that Mr. Mateo Diego-Fernández was effectively designated as a facilitator in that procedure, and in the event that the Panel does not make this ruling, nevertheless to provide the relief set forth in the preceding and following points"; and (iii) "adopt such working procedures that would allow the completion of the Annex V

¹⁰⁶²Panel Report, para. 7.23. The Panel was of the view that "a panel will usually not be in the position to determine what information is 'necessary and appropriate', and will therefore usually not be in a position to exercise its authority under Article 13 of the DSU to request information 'the panel considers necessary and appropriate', prior to having carefully reviewed the parties' first written submissions." (*Ibid.*) The Panel also referred to "the particular circumstances and procedural history of this dispute", and added that it did "not consider it necessary or appropriate to use its discretion under Article 13 of the DSU to remedy the parties' inability to reach agreement on the initiation of an Annex V procedure, or to remedy the parties' inability to reach agreement on a means for transferring the information obtained during the DS317 Annex V procedure to the present Panel". (*Ibid.*)

¹⁰⁶³Letter from the European Communities to the Panel dated 2 August 2007 (quoting Panel's Preliminary Ruling of 30 July 2007, para. 3).

¹⁰⁶⁴Letter from the Panel to the parties dated 30 August 2007 responding to the European Communities' request of 2 August 2007.

procedure in due time before the deadline for the filing of the European Communities' first written submission". These additional requests are necessarily dependant upon the Panel ruling that the Annex V procedure was initiated. *We therefore deny these requests as well.* (footnotes omitted; emphasis added)

488. The European Union further requests us to complete the analysis and make the following four findings¹⁰⁶⁵:

- (i) that the initiation of an Annex V procedure is an action by negative consensus or is automatic;
- (ii) that, as a matter of law, all of the conditions for the initiation of an Annex V procedure were fulfilled in this dispute and such procedure was initiated and/or is deemed to have been initiated and/or should have been initiated;
- (iii) that, in refusing to cooperate in the information-gathering process, the United States failed to comply with its obligation under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*; and
- (iv) that, pursuant to paragraphs 6 to 9 of Annex V to the *SCM Agreement*, the European Union was entitled to present its serious prejudice case based on the evidence available to it; the Panel was entitled to complete the record as necessary relying on best information otherwise available; and the Panel was entitled to draw adverse inferences.

489. In addition, and "independently" from these requests, the European Union requests us to "constantly bear in mind the circumstances of this case", notably that "the United States has chosen to withhold information from the European Union and the Panel" and that the United States' "refusal to co-operate in the Annex V procedure colours the entire dispute".¹⁰⁶⁶ This means, according to the European Union, that: (i) with respect to the United States' appeal, "the United States cannot now reasonably criticise the Panel for its assessment of the facts or for the reasonable drawing of factual inferences where the United States itself is responsible for depriving the Panel of information"; and (ii) with respect to the European Union's appeal, "{i}n case of doubt or evidentiary conflict or equipoise, the Appellate Body should rule in favour of the European Union".¹⁰⁶⁷

¹⁰⁶⁵European Union's appellant's submission, para. 52.

¹⁰⁶⁶European Union's appellant's submission, para. 53.

¹⁰⁶⁷European Union's appellant's submission, para. 53.

490. The United States requests that we reject this ground of the European Union's appeal. According to the United States, the Panel correctly found that "initiation of an Annex V information-gathering procedure requires an affirmative act or decision by the DSB, irrespective of whether by positive or negative consensus", and that "the DSB took no such step".¹⁰⁶⁸ Should we uphold these findings then, submits the United States, we need proceed no further with our analysis. In the event that we nonetheless decide to address the additional issues raised and requests made by the European Union, the United States submits that: (i) both the initiation of an Annex V procedure and the designation of a facilitator require a positive consensus of the DSB; (ii) the Panel did not have the authority to rule that an Annex V procedure had been initiated, that the DSB had appointed a facilitator, or that the United States had an obligation to answer the European Union's questions; (iii) there is no legal authority for the Appellate Body to take adverse inferences against the United States in the circumstances of this dispute; and (iv) the findings requested by the European Union are improper.

491. The United States asserts that the requests and arguments made by the European Union fail to identify many relevant facts. The United States highlights, for example, the Annex V process that was conducted in 2005, during which its officials "spent thousands of hours collecting and assembling more than 40,000 pages of documents".¹⁰⁶⁹ The United States adds that the DSB representative in that Annex V procedure made no finding that the United States had failed to cooperate in those proceedings.¹⁰⁷⁰ Furthermore, in this dispute, "the Panel vigorously exercised its right to request further information from the parties"¹⁰⁷¹, and the United States "responded fully and completely to every request for information made by the Panel"¹⁰⁷², including by providing "voluminous responses" to the three sets of questions that the Panel posed to the parties.¹⁰⁷³ The United States adds that, throughout the proceedings, it relied in good faith on: the lack of a decision by the DSB to initiate an Annex V procedure; Mr. Diego-Fernández' conclusion that he could not agree to the European Communities' request that he serve as DSB representative¹⁰⁷⁴; and the Panel's preliminary ruling and ultimate finding that no such procedure had been initiated.

¹⁰⁶⁸United States' appellee's submission, para. 52.

¹⁰⁶⁹United States' appellee's submission, para. 30.

¹⁰⁷⁰For an explanation of the Annex V procedure conducted in 2005 in *US – Large Civil Aircraft* (DS317), see *infra*, paras. 537-539.

¹⁰⁷¹United States' appellee's submission, para. 38.

¹⁰⁷²United States' appellee's submission, para. 111.

¹⁰⁷³United States' appellee's submission, para. 38.

¹⁰⁷⁴See *infra*, footnote 1142.

D. *Evaluation of the European Union's Claim of Error on Appeal*

1. The European Union's Request for Reversal of the Panel's Findings in Paragraph 7.22 of the Panel Report

492. The European Union seeks to have us reverse the statements in the first and last sentences of paragraph 7.22 of the Panel Report on the grounds that the Panel failed to make an objective assessment of the matter within the meaning of Article 11 of the DSU, and/or falsely exercised judicial economy, and/or erred in the interpretation and application of Article 7.4 and Annex V, paragraph 2, first sentence, to the *SCM Agreement*.¹⁰⁷⁵

493. We understand the European Union to challenge the analytical approach adopted by the Panel and, in particular, its determination that all of the requests made by the European Communities had to be rejected because, as a factual matter, there was an absence of any action by the DSB with respect to an Annex V procedure. The European Union asserts that the Panel "simply avoided ruling on the legal question at the root of the dispute".¹⁰⁷⁶ Although "the Panel appears to have accepted, at least by implication, that it had an implied or inherent power, and in fact an obligation, to rule on the matter"¹⁰⁷⁷, instead of doing so, it "erroneously re-state{d} *part* of the EU complaint as a request for a ruling on a narrow *factual* proposition: that the DSB has initiated an Annex V procedure by action by negative consensus"¹⁰⁷⁸, and then rejected that factual proposition. Such reasoning is, in the view of the European Union, "circular and unreasonable", since it "is exactly the absence of an Annex V procedure about which the European Union was complaining; and yet for the Panel that absence becomes the very justification for rejecting the EU request".¹⁰⁷⁹

494. In response, the United States observes that the European Union's arguments do not address the substance of the Panel's findings, and submits that the Panel correctly understood the request for preliminary rulings as a "request to 'rule' on the 'factual proposition' that a particular event occurred at two DSB meetings".¹⁰⁸⁰ The Panel found, based on a proper understanding of the DSU, that the initiation of an Annex V procedure requires an affirmative act or decision by the DSB. Whether such initiation is by negative or positive consensus is "beside the point".¹⁰⁸¹ This is because the Panel found that no formal step to initiate an Annex V procedure had been taken by the DSB.

¹⁰⁷⁵European Union's appellant's submission, para. 51.

¹⁰⁷⁶European Union's appellant's submission, para. 48.

¹⁰⁷⁷European Union's appellant's submission, para. 49.

¹⁰⁷⁸European Union's appellant's submission, para. 50. (original emphasis)

¹⁰⁷⁹European Union's appellant's submission, para. 50.

¹⁰⁸⁰United States' appellee's submission, para. 50.

¹⁰⁸¹United States' appellee's submission, para. 49.

495. We begin by observing that, as the Panel reflected, in its request for preliminary rulings the European Communities asked the Panel:

... to rule that the Annex V procedure requested by the EC at the DSB meeting of 21 April 2006 and confirmed at the DSB meeting of 17 May 2006 *has been initiated*{.}¹⁰⁸² (emphasis added)

496. This request was, however, but one part of a lengthy communication from the European Communities. At the outset of its request for preliminary rulings, the European Communities underscored the "key legal issue hereby put before this Panel", namely, "the procedure to be followed when 'the DSB shall, upon request, initiate the procedure'¹⁰⁸³ provided for in Annex V, paragraph 2, first sentence, to the *SCM Agreement*. The European Communities then set out, over several pages, its arguments, including its interpretation of various provisions of the DSU and the *SCM Agreement*, in support of its view that "the initiation of a procedure within the meaning of Annex V, paragraph 2 *SCM Agreement* is not a DSB 'decision' to be adopted by consensus, but rather a DSB 'action' that is automatically taken upon request, or at least taken unless there is negative consensus not to take the action".¹⁰⁸⁴ This analysis was further buttressed by considerations of object and purpose, including the following arguments:

The Annex V process is a necessary corollary and integral part of the establishment of a Panel in a dispute settlement proceeding which, through the establishment of a panel, is launched by a negative consensus. Any attempt to make this fact-finding procedure specifically designed for serious prejudice cases subject to a veto of the defending party would severely limit the ability of a complaining party to successfully bring a serious prejudice case. The overall balance and effectiveness of the *SCM Agreement* would be severely hampered with far-reaching systemic implications. The complainants must have a tool to prepare their serious prejudice case by obtaining the necessary information before their submissions have to be made to a panel.¹⁰⁸⁵

497. The Panel, however, did not engage with these arguments. Rather, the Panel's disposition of the issue put before it by the European Communities rested entirely upon its perfunctory examination of a single phrase within paragraph 2 of Annex V to the *SCM Agreement*, together with its factual finding that the DSB had taken no action in connection with Annex V in this dispute.

¹⁰⁸²European Communities' request for preliminary rulings, para. 58 (reproduced at Panel Report, para. 7.22). See also *ibid.*, para. 44.

¹⁰⁸³European Communities' request for preliminary rulings, para. 9.

¹⁰⁸⁴European Communities' request for preliminary rulings, para. 29.

¹⁰⁸⁵European Communities' request for preliminary rulings, para. 34.

498. In its brief appraisal of paragraph 2 of Annex V, the Panel focused solely on the phrase "the DSB shall, upon request, initiate the procedure" and, in particular, on the meaning of the verb "initiate".¹⁰⁸⁶ The Panel did not consider the significance of the other language set out in that provision, including the explicit cross-reference to Article 7.4 of the *SCM Agreement*. Nor did the Panel identify or analyze any relevant context. Although the Panel asserted that accepting the interpretation of paragraph 2 of Annex V put forward by the European Communities "would effectively remove the DSB from having any role in the initiation of an Annex V procedure" and "could have far-reaching and potentially surprising systemic consequences that would be inconsistent with the object and purpose of providing 'security and predictability' to the multilateral trading system", the Panel did not identify what those systemic consequences might be or why they would be inconsistent with the objectives of the WTO dispute settlement system.¹⁰⁸⁷ The only other step in the Panel's reasoning consisted of its review of the minutes of the relevant DSB meetings, en route to its determination that it was "clear" from such minutes that the DSB did not take any action to initiate an information-gathering procedure.¹⁰⁸⁸

499. We consider that, in seeking to reduce the issue put before it by the European Communities to the factual issue of whether the DSB had taken action to initiate an Annex V procedure, the Panel effectively refused to tackle the issue of law raised. The Panel's partial interpretation of one of the provisions at issue did not address the key legal submissions advanced by the European Communities. For example, in explaining why it was "not convinced"¹⁰⁸⁹ by the European Communities' argument, the Panel twice made the rather cryptic observation that "it may well be that the initiation of an Annex V procedure is not ... subject to consensus."¹⁰⁹⁰ In so stating, the Panel appears to have considered that the issue of how an Annex V procedure is initiated by the DSB was not germane to the issue that it had to decide. We have some difficulty accepting that this was the case. The Panel also made the rather sweeping observation that accepting the position of the European Communities would "effectively remove the DSB from having any role in the initiation of an Annex V

¹⁰⁸⁶The Panel observed that the verb "initiate" means "{b}egin, introduce, set going, originate" (Panel Report, para. 7.21 (quoting *Shorter Oxford English Dictionary*, 5th edn, W.R. Trumble, A. Stevenson (eds) (Oxford University Press, 2002), Vol. 1, p. 1377) and considered that "{t}he ordinary meaning of the term 'initiate', used in the immediate context of a positive duty formulated in the active voice (the DSB shall ... initiate)", implies that some form of action is required on the part of the DSB." (*Ibid.*, para. 7.21)

¹⁰⁸⁷Panel Report, para. 7.21.

¹⁰⁸⁸Panel Report, para. 7.20.

¹⁰⁸⁹Panel Report, para. 7.21. The European Communities contended that "the initiation of a procedure within the meaning of Annex V, paragraph 2 *SCM Agreement* is ... a DSB 'action' that is automatically taken upon request, or at least taken unless there is negative consensus not to take the action." (European Communities' request for preliminary rulings, para. 29)

¹⁰⁹⁰Panel Report, para. 7.21, third and final sentences.

procedure"¹⁰⁹¹, even though the European Communities' arguments clearly did envisage a role for the DSB in such initiation.

500. Taken as a whole, the Panel's findings and statements in paragraphs 7.21 and 7.22 of its Report do not adequately resolve the legal issues presented. The question before the Panel was not limited to *whether* an Annex V procedure had been initiated; rather, the Panel was asked to rule on *how* the relevant provisions of the covered agreements provide for an Annex V procedure to be initiated. The Panel did not provide an answer to that question in its truncated analysis of paragraph 2 of Annex V. By refusing to undertake a more comprehensive analysis of the legal issue of how the DSB is to initiate an Annex V procedure, the Panel deprived Members of the benefit of a "a clear enunciation of the relevant WTO law" and failed to advance a key objective of WTO dispute settlement, namely, the resolution of disputes "in a manner that preserves the rights and obligations of WTO Members and clarifies existing provisions of the covered agreements in accordance with the customary rules of interpretation of public international law".¹⁰⁹² We also recall that, when a panel's findings provide "only a partial resolution of the matter at issue", this amounts to "false judicial economy" and an error of law.¹⁰⁹³

501. For these reasons, we *find* that the Panel erred, in the first and last sentences of paragraph 7.22 of the Panel Report, reproducing paragraph 4 of its Preliminary Ruling, in denying the various requests made by the European Communities with respect to an Annex V procedure.

502. In so ruling, we are not asked to, and we do not, disturb the Panel's factual finding, in paragraph 7.20 of the Panel Report, that "the DSB never took any action to initiate an Annex V procedure" in this dispute. We are also mindful that it is not for panels, or the Appellate Body, to review DSB actions in a particular dispute or to direct that specific actions be taken. At the same time, however, the DSU stipulates that panels and the Appellate Body are to clarify relevant provisions of the covered agreements in accordance with the customary rules of interpretation of public international law in such a way as to preserve the rights and obligations of Members and contribute to the security and predictability of the multilateral trading system, consistently with the objective of securing a positive solution to individual disputes. The DSU does not identify specific provisions of the covered agreements, or particular obligations thereunder, that are exempt from or not susceptible of interpretation by panels or the Appellate Body. To the extent that they are at issue in a specific dispute, even provisions relating to the functioning of the DSB or the dispute settlement

¹⁰⁹¹ Panel Report, para. 7.21.

¹⁰⁹² Appellate Body Report, *China – Publications and Audiovisual Products*, para. 213 (referring to Article 3.2 of the DSU).

¹⁰⁹³ Appellate Body Report, *Australia – Salmon*, para. 223; see also paras. 224-226.

process itself are properly the subject of interpretation by panels and the Appellate Body, as the content of such provisions also affects the rights and obligations of WTO Members. Moreover, and as explained further below, the conduct of an Annex V information-gathering procedure bears a direct relationship to a panel's discharge of its adjudicative function in a dispute involving allegations of serious prejudice.

2. The European Union's Request for Completion of the Analysis

503. Having found that the Panel erred in denying the European Communities' request for preliminary rulings in connection with an Annex V procedure, we turn to the European Union's request for completion of the analysis. We recall that the European Union requests us to make four specific findings¹⁰⁹⁴, each of which is "a separate and independent matter" and not dependent on any other requested finding.¹⁰⁹⁵ We address these in turn below.

(a) Interpretation of relevant provisions of the *SCM Agreement* and the DSU

504. The first issue that the European Union seeks to have us decide is how an Annex V procedure is initiated. According to the European Union, this is "a pure question of legal interpretation", namely, whether an information-gathering procedure under Annex V to the *SCM Agreement* is initiated, upon request, by negative consensus and/or automatically (as the European Union submits), or through a DSB decision by consensus (as the United States submits).¹⁰⁹⁶

505. The European Union submits that, when the terms of the treaty are properly interpreted, in accordance with the *Vienna Convention*, and all relevant interpretative elements are taken into account, it is clear that the initiation of an information-gathering procedure within the meaning of Annex V, paragraph 2 to the *SCM Agreement* is not a DSB decision to be adopted by positive consensus, but a DSB action that is taken by negative consensus or automatically.¹⁰⁹⁷ The European Union emphasizes the mandatory language "the DSB shall" in the first sentence of paragraph 2 of Annex V, as well as the significance of the express cross-reference to Article 7.4 of the *SCM Agreement* in that sentence. These considerations, together with various other elements of the text, context, and object and purpose, do not support a conclusion that the treaty negotiators would have *obliged* the DSB to act, and yet at the same time provided the defending Member in a dispute

¹⁰⁹⁴See *supra*, para. 488.

¹⁰⁹⁵European Union's appellant's submission, footnote 65 to para. 52.

¹⁰⁹⁶European Union's appellant's submission, para. 9. In footnote 11 to paragraph 9, the European Union clarifies that, when it says "by negative consensus", it means "in effect and/or alternatively, automatically".

¹⁰⁹⁷European Union's appellant's submission, paras. 9, 10, and 43.

with the means to frustrate such action. Rather, initiation of an information-gathering procedure is closely bound to the establishment of a panel in a serious prejudice dispute, and conditional only on a request being made by the interested Member.¹⁰⁹⁸ The European Union adds that the overall balance and effectiveness of the *SCM Agreement* would be compromised if the conduct of an Annex V fact-finding procedure, specifically designed for serious prejudice cases, were to be subject to a veto of a responding party. In addition, the European Union further submits that its interpretation is confirmed by the preparatory work and/or the circumstances of conclusion of the treaty.

506. The United States, in contrast, submits that both the initiation of an Annex V procedure and the designation of a facilitator require a positive consensus of the DSB. Neither can occur without the DSB reaching a "decision", which is defined as "the action of coming to a determination or resolution with regard to any point or course of action; a resolution or conclusion arrived at".¹⁰⁹⁹ Article 2.4 of the DSU and footnote 3 to Article IX:1 of the *WTO Agreement* establish a general rule requiring positive consensus for DSB decisions. According to the United States, there can be no deviation from this general rule in the absence of an express indication, in the very text of a provision assigning a responsibility to the DSB, that a different decision-making rule applies.¹¹⁰⁰ Because paragraph 2 of Annex V does not expressly provide otherwise, the United States asserts, the initiation of an Annex V procedure must be a decision subject to the general rule of consensus.¹¹⁰¹

507. Several of the third participants also express views on this issue. For Brazil, paragraph 2 of Annex V to the *SCM Agreement* establishes an automatic process that requires the DSB to initiate the procedure whenever it is so requested, and does not permit the DSB to decide not to do so even through negative consensus. According to Brazil, the DSB has no choice to make in respect of the functions assigned to it and hence no new decision or approval by consensus is required. Rather, the WTO membership already consented to the performance of these functions by the DSB by accepting an agreement that assigns an obligation to the DSB. Brazil adds that interpreting the relevant provisions as allowing the subsidizing Member to block unilaterally the initiation of an Annex V procedure would contradict the text of those provisions and undermine the ability of Members to bring complaints under the *SCM Agreement*, particularly in cases where much of the evidence relating to subsidization rests with the government of the subsidizing Member. In Canada's view, the Panel

¹⁰⁹⁸European Union's appellant's submission, para. 34.

¹⁰⁹⁹United States' appellee's submission, para. 54 (quoting *The New Shorter Oxford English Dictionary*, 4th edn, L. Brown (ed.) (Clarendon Press, 1993), Vol. 1, p. 608).

¹¹⁰⁰The United States points out that this is the case in Articles 6.1, 16.4, 17.14, 22.6, and 22.7 of the DSU, and the corresponding provisions of the *SCM Agreement*, which identify circumstances in which the DSB is to operate pursuant to a rule of "negative consensus", namely, when it establishes panels, adopts panel and Appellate Body reports, and authorizes countermeasures or the suspension of concessions. (United States' appellee's submission, para. 55)

¹¹⁰¹United States' appellee's submission, para. 55.

was correct to limit its finding to whether the Annex V procedure had been initiated and not to make findings on how the procedure is to be initiated. Canada does not consider that panel and Appellate Body proceedings are the proper fora to discuss how the DSB is to initiate an Annex V procedure. Rather, such discussions should take place within the DSB itself. China agrees with the Panel that it is the DSB that must initiate an Annex V procedure, and that this does not "occur automatically"¹¹⁰² upon request, in the absence of any action by the DSB. Korea also supports the Panel's view that the relevant provisions of Annex V and the DSU mean that the initiation of the Annex V proceeding requires some positive action by the DSB.

508. Before turning to the specific interpretative issue raised, we wish to identify briefly the broader scheme within which it is situated. Part III of the *SCM Agreement* defines the circumstances in which a Member's use of subsidies is actionable, including when such subsidies cause adverse effects in the form of serious prejudice to another Member's interests. Article 7 sets out the remedies that may be obtained in such circumstances, including, in paragraph 4, the right to obtain the establishment of a panel by the DSB by negative consensus in the event that consultations do not yield a positive solution to the dispute.¹¹⁰³ Article 6 of the *SCM Agreement* defines "serious prejudice" and refers, on two occasions, to Annex V.¹¹⁰⁴ Annex V to the *SCM Agreement* is entitled "Procedures for Developing Information Concerning Serious Prejudice", and contains nine paragraphs outlining an information-gathering procedure to be used in WTO disputes where the complaining party alleges that

¹¹⁰²China's third participant's submission, para. 4.

¹¹⁰³Article 7.4 of the *SCM Agreement* provides:

If consultations do not result in a mutually agreed solution within 60 days, any Member party to such consultations may refer the matter to the DSB for the establishment of a panel, unless the DSB decides by consensus not to establish a panel. The composition of the panel and its terms of reference shall be established within 15 days from the date when it is established. (footnote omitted)

¹¹⁰⁴Paragraphs 6 and 8 of Article 6 of the *SCM Agreement* provide:

6. Each Member in the market of which serious prejudice is alleged to have arisen shall, subject to the provisions of paragraph 3 of Annex V, make available to the parties to a dispute arising under Article 7, and to the panel established pursuant to paragraph 4 of Article 7, all relevant information that can be obtained as to the changes in market shares of the parties to the dispute as well as concerning prices of the products involved.

8. In the absence of circumstances referred to in paragraph 7, the existence of serious prejudice should be determined on the basis of the information submitted to or obtained by the panel, including information submitted in accordance with the provisions of Annex V.

another Member's subsidization has caused serious prejudice to its interests. The provisions of Annex V refer three times to Article 7.4 of the *SCM Agreement*.¹¹⁰⁵

509. All of Annex V, together with, *inter alia*, Articles 6.6, 7.4, 7.5, and 7.6 of the *SCM Agreement*, are listed as special or additional rules and procedures under Appendix 2 to the DSU. We recall in this connection that, pursuant to Article 1.2 of the DSU, the provisions of both the *SCM Agreement* and the DSU apply in the context of a dispute involving allegations of actionable subsidies causing serious prejudice, except that, to the extent that there is a conflict, those provisions of the *SCM Agreement* identified in Appendix 2 to the DSU prevail, including over Article 2.4 of the DSU.¹¹⁰⁶

510. Returning to the specific question raised by the European Union on appeal, we observe that the only direct reference to the initiation of an Annex V procedure is found in the second paragraph of Annex V. The first sentence of that provision uses mandatory language to charge the DSB with responsibility for initiating an information-gathering procedure, in the following terms:

In cases where matters are referred to the DSB under paragraph 4 of Article 7, the DSB shall, upon request, initiate the procedure to obtain such information from the government of the subsidizing Member as necessary to establish the existence and amount of subsidization, the value of total sales of the subsidized firms, as well as information necessary to analyze the adverse effects caused by the subsidized product.⁶⁶

⁶⁶In cases where the existence of serious prejudice has to be demonstrated.

¹¹⁰⁵Paragraph 1 of Annex V provides:

Every Member shall cooperate in the development of evidence to be examined by a panel in procedures under paragraphs 4 through 6 of Article 7. The parties to the dispute and any third-country Member concerned shall notify to the DSB, as soon as the provisions of paragraph 4 of Article 7 have been invoked, the organization responsible for administration of this provision within its territory and the procedures to be used to comply with requests for information.

In addition to the reference to establishment of a panel in the first sentence of the second paragraph of Annex V (reproduced *infra*, para. 510), the first sentence of paragraph 5 of Annex V stipulates that "{t}he information-gathering process ... shall be completed within 60 days of the date on which the matter has been referred to the DSB under paragraph 4 of Article 7."

¹¹⁰⁶See Appellate Body Report, *Guatemala – Cement I*, para. 65; and Appellate Body Report, *US – FSC*, para. 159. Article 30 of the *SCM Agreement* reinforces this overall structure by providing that:

{t}he provisions of Articles XXII and XXIII of GATT 1994 as elaborated and applied by the Dispute Settlement Understanding shall apply to consultations and the settlement of disputes under this Agreement, except as otherwise specifically provided herein.

511. The DSB's obligation to initiate under paragraph 2 of Annex V is expressly subject to two conditions. First, there must be a request by a WTO Member for initiation of an Annex V procedure.¹¹⁰⁷ Second, the relevant matter must be "referred to the DSB under paragraph 4 of Article 7". Article 7.4 of the *SCM Agreement* supplies the legal basis for the DSB's establishment of a panel in disputes involving claims brought under Part III of the *SCM Agreement*. In other words, the text of the first sentence of paragraph 2 of Annex V itself makes the DSB's establishment of a panel the second condition for initiation of an Annex V procedure. Accordingly, we read the first sentence of paragraph 2 of Annex V to mean that, when a request by a Member for an Annex V procedure is made and a panel established, the DSB is required to discharge a specific function, namely, to initiate that Annex V procedure. This straightforward and specific administrative action is a procedural incident of the DSB's decision to establish a panel when the initiation of an Annex V procedure has been requested. As such, this function that the DSB is required to carry out contrasts with other responsibilities assigned to the DSB that have a more deliberative nature, and which require the DSB to discuss and to make a choice among multiple courses of action.

512. Other provisions of Annex V also reinforce the importance of the establishment of the panel to an Annex V procedure. For example, the duty of Members to cooperate in the gathering of information is, under paragraph 1 of Annex V, activated as soon as a complainant has invoked Article 7.4 and sought establishment of a panel. The time-limit within which an information-gathering procedure must be completed is, as set out in paragraph 5 of Annex V, fixed by reference to the date of establishment of the panel. These provisions, too, affirm the link between establishment of a panel and the initiation of an Annex V procedure, underline the primacy of Article 7.4, and suggest that the mandatory functions assigned to the DSB under paragraph 2 of Annex V are executory, in the sense that the obligation is both triggered by and discharged upon establishment of a panel, provided that a request for initiation of an Annex V procedure has been made by a Member.

513. Both the title of Annex V ("Procedures for Developing Information Concerning Serious Prejudice") and Articles 6.6 and 6.8 of the *SCM Agreement* make clear that Annex V is a procedure to be used when a complainant alleges that another Member's subsidization has caused serious prejudice to its commercial interests. Disputes involving claims of serious prejudice are characterized by the need for a complainant to adduce extensive evidence of the market effects of the challenged subsidies, including in third-country markets, as well as by the fact that much of the information relating to the

¹¹⁰⁷We note in this regard that complaining Members that have sought initiation of an Annex V procedure have always included that request in their requests for establishment of a panel. In addition to the request for establishment of a panel in this dispute, see the panel requests in *Indonesia – Autos* (WT/DS54/6, complaint by the European Communities; WT/DS59/6, complaint by the United States); *US – Upland Cotton* (WT/DS267/7); *Korea – Commercial Vessels* (WT/DS273/2; WT/DS273/3); *EC and certain member States – Large Civil Aircraft* (WT/DS316/2); and *US – Large Civil Aircraft* (WT/DS317/2).

subsidization in question will be within the sole control of the government of the responding Member or found only in the territories of third-country markets in which the subsidized products are sold. Recognition of the challenges that such types of disputes present for a complainant is evident in the design and structure of Articles 6 and 7 of the *SCM Agreement*, as well as the entirety of Annex V.

514. Annex V and Article 6.6 of the *SCM Agreement* prominently and unambiguously require cooperation from all WTO Members that may be involved in a serious prejudice dispute. The first paragraph of Annex V imposes mandatory duties of cooperation on the parties to such dispute, as well as upon all WTO Members whose markets may be relevant to the issues in dispute.¹¹⁰⁸ Article 6.6 of the *SCM Agreement* likewise mandates cooperation with respect to a specific type of information by providing that each Member in whose market serious prejudice is alleged to have occurred shall make available to the parties to the dispute and to the panel "all relevant information" relating to prices and changes in market share.

515. The provisions of Annex V also convey the importance of the time at which and within which an Annex V procedure is to be conducted. Paragraph 5 stipulates that the information-gathering procedure should be completed within 60 days of the date of establishment of the panel, and paragraph 4 of Annex V refers to "the timely development of the information necessary". The latter paragraph also refers to the "*subsequent* multilateral review of the dispute", thereby making clear that the information-gathering is meant to be completed *prior to* the panel's substantive consideration of the matter.¹¹⁰⁹

516. Modalities for the information-gathering process, as well as how the results of the process are to be used in the panel proceedings, are also provided for. Paragraphs 5 through 9 prescribe a time period for completion of this process and address the transfer of information by the DSB representative to the panel, the use by the panel of such information, and the steps to be taken by the panel and the complainant in the event of non-cooperation in the information-gathering process by the responding Member. Article 6.8 of the *SCM Agreement* specifies that the existence of serious

¹¹⁰⁸Specifically, "{e}very Member shall cooperate in the development of evidence to be examined by a panel in procedures under paragraphs 4 through 6 of Article 7". Paragraph 1 of Annex V also imposes a concrete obligation on each party to the dispute and any third-country Member concerned to notify the DSB of the organization within its territory that will handle requests for information upon establishment of a panel.

¹¹⁰⁹Emphasis added. Paragraph 4 of Annex V provides:

The DSB shall designate a representative to serve the function of facilitating the information-gathering process. The sole purpose of the representative shall be to ensure the timely development of the information necessary to facilitate expeditious subsequent multilateral review of the dispute. In particular, the representative may suggest ways to most efficiently solicit necessary information as well as encourage the cooperation of the parties.

prejudice should be determined by a panel on the basis of the information submitted to or obtained by it, "including information submitted in accordance with the provisions of Annex V".

517. In this way, Annex V sets out a comprehensive scheme designed to collect the kind of information that will need to be relied upon by the parties involved in a serious prejudice dispute. This scheme aims to foster the cooperative exchange of information at the earliest possible opportunity, and thereby to contribute to the prompt resolution of these particularly complex disputes.¹¹¹⁰ A cornerstone of the scheme is the obligation to cooperate that the first paragraph of Annex V and Article 6.6 of the *SCM Agreement* place on all Members. This obligation is given teeth through paragraphs 6 through 9 of Annex V, which put responding parties on notice of the potential consequences that may flow from non-cooperation. The provisions of Annex V, together with Articles 6.6, 6.8, and 7.4 of the *SCM Agreement*, reflect Members' recognition of the practical realities of serious prejudice disputes, and their intention to create a process to flow into, supplement, and largely precede a panel's substantive adjudication of such disputes, without materially delaying or impinging upon the substance of their adjudication.¹¹¹¹

518. By imposing an obligation to cooperate in the gathering of information, together with sanctions for non-cooperation, Annex V seeks to ensure that a complaining party is afforded access to information critical to its claims, and that such Member is not hampered, in the subsequent panel proceedings, in the event of a responding party's non-cooperation in an Annex V procedure. Thus, paragraph 6 enables a complaining party to present its case based on the evidence available to it (together with evidence of non-cooperation in the Annex V procedure), and enables a panel to complete the record by relying on the best information otherwise available. Paragraph 7 of Annex V affirmatively directs a panel to draw adverse inferences from "instances of non-cooperation" by a party, and paragraph 8 makes clear that whether a party has been uncooperative is to be determined by the panel, taking into account the advice of the facilitator "as to the reasonableness of any requests for information and the efforts made by parties to comply with these requests in a cooperative and timely manner". Paragraph 9 explicitly confirms that a panel's right to seek additional information is not curtailed by the fact that an Annex V procedure was conducted, while at the same time cautioning panels not to give a party that engaged in "unreasonable non-cooperation" in the Annex V procedure a

¹¹¹⁰In our view, the conduct of an Annex V procedure not only contributes to better adjudication of a dispute, it also enhances the scope for settlement of the dispute without adjudication, consistent with Members' preference, as expressed in Article 3.7 of the DSU, for mutually agreed solutions to disputes. This is because the full and early exchange of information provides parties with a better understanding of the complexities of the dispute and of the merits of their respective claims and defences.

¹¹¹¹Paragraph 9 of Annex V makes clear that the completion of an Annex V procedure does not circumscribe a panel's fact-finding authority in the related panel proceedings, and that a panel remains able to seek information "which was not adequately sought or developed during that process" when it deems such information "essential to a proper resolution to the dispute".

fresh opportunity to adduce information favourable to its position when that information was not provided in the Annex V procedure.

519. At the same time, Annex V limits the scope for a complainant to abuse an information-gathering procedure or transform it into an open-ended and unduly burdensome fishing expedition. Several aspects of the design of the Annex V procedure indicate that a complaining party is required to be disciplined and focused in the information that it seeks. In particular: (i) the process is to be completed within a maximum of 60 days (paragraph 5); (ii) the information to be sought from the subsidizing Member is not *any* information, but rather "such information ... as *necessary* to establish the existence and amount of subsidization, the value of total sales of the subsidized firms, as well as information necessary to analyze the adverse effects caused by the subsidized product" (paragraph 2)¹¹¹²; and (iii) the reference in paragraph 8 of Annex V to the facilitator's advice as to "the reasonableness of any requests for information" suggests that requests for information made by a party in an Annex V procedure must be reasonable. Furthermore, footnote 67 to paragraph 2 of Annex V stipulates that the process "shall take into account the need to protect information which is by nature confidential or which is provided on a confidential basis by any Member involved in this process".¹¹¹³ Finally, Annex V does not relieve a complaining party of its burden of proof. Whether or not an Annex V procedure has taken place, every complaining Member must identify specific evidence and put forward legal arguments sufficient to demonstrate the alleged inconsistency of a measure with a relevant obligation.¹¹¹⁴ Annex V seeks, rather, to ensure that a Member is not prevented from gaining access to the information that it considers necessary to its *prima facie* case.

¹¹¹²Emphasis added.

¹¹¹³Annex V also imposes limits on the information to be supplied by third country Members. For example, the information to be supplied is information "which is not otherwise reasonably available from the complaining Member or the subsidizing Member", and the procedure should be "administered in such a way as not to impose an unreasonable burden on the third-country Member" (paragraph 3). Paragraph 5 of Annex V also sets out an illustrative list of the type of information that is to be collected in the course of the procedure and transmitted to the panel (see, in particular, third and fourth sentences).

¹¹¹⁴Appellate Body Report, *US – Wool Shirts and Blouses*, p. 16, DSR 1997:I, 323, at 335. As the Appellate Body stated in *US – Gambling*:

A complaining party may not simply submit evidence and expect the panel to divine from it a claim of WTO-inconsistency. Nor may a complaining party simply allege facts without relating them to its legal arguments.

(Appellate Body Report, *US – Gambling*, para. 140 (footnote omitted)) The same holds true with respect to information and evidence that has entered the panel record via transmission by a facilitator following an Annex V procedure. It is for the parties, not the panel, to make out their respective claims and defences, including through reliance upon, as they see fit, the information collected in an Annex V procedure. See also Appellate Body Report, *Japan – Agricultural Products II*, para. 129; Appellate Body Report, *Canada – Aircraft*, para. 193; and Panel Report, *Korea – Commercial Vessels*, para. 7.516.

520. Overall, the structure of the information-gathering mechanism set out in Annex V and Articles 6.6 and 6.8 of the *SCM Agreement* seems to us to reinforce the vital role that the information-gathering procedure plays in the context of a dispute involving an allegation of serious prejudice. An interpretation of paragraph 2 of Annex V that would enable a responding Member to frustrate that role by preventing the DSB from initiating such a procedure would be at odds with WTO Members' manifest intention to promote the early and targeted collection of information pertinent to the parties' subsequent presentation of their cases to the panel, as well as with the duty of cooperation to which such a responding Member is subject.

521. We note that the role of the DSB in connection with Annex V procedures is set out not only in paragraph 2, but also in paragraph 4 of Annex V. Paragraph 4 requires the DSB to designate a representative (commonly referred to as a "facilitator") in connection with the information-gathering process.¹¹¹⁵ The United States relies upon this provision in support of its position that the initiation by the DSB of an Annex V procedure is by positive consensus. For the United States, the similarity in the language used in these two provisions shows that the DSB is to take both actions in the same way, and that can only be through consensus. The United States argues that, when both of these provisions are considered together with the overall structure of Annex V, it is clear that the European Union's interpretation of paragraph 2 of Annex V would be "unworkable".¹¹¹⁶ Nonetheless, we are not persuaded that this is so. It is true that the language of paragraph 2 of Annex V ("the DSB shall, upon request, initiate the procedure") is similar to that of paragraph 4 ("the DSB shall designate a representative") in that both impose mandatory obligations on the DSB. We are not asked to and need not, in this dispute, rule on the process to be followed by the DSB in appointing an Annex V facilitator. The DSB is the body responsible for administering the dispute settlement rules and procedures, and the Chairman of the DSB serves as the representative of the DSB within the WTO. It seems to us that, as the representative of the DSB, the Chairman is in principle responsible for discharging the function of facilitating an Annex V procedure until such time as that function is delegated through the DSB's designation of another individual as a facilitator pursuant to paragraph 4 of Annex V.

522. Additional relevant context, in our view, is found in Article 1.2 of the DSU, which deals with the special or additional dispute settlement rules found in other agreements (including Annex V and Article 7.4 of the *SCM Agreement*). The last sentence of Article 1.2 stipulates that, in the event of a conflict between the DSU and the special or additional rules and procedures listed in Appendix 2 to the DSU:

¹¹¹⁵Paragraph 4 of Annex V is set out *supra*, footnote 1109.

¹¹¹⁶United States' appellee's submission, para. 59.

{t}he Chairman shall be guided by the principle that special or additional rules and procedures *should be used where possible*, and the rules and procedures set out in this Understanding should be used to the extent necessary to avoid conflict. (emphasis added)

This provision expresses Members' preference for the use of the special or additional rules and procedures. Such preference is logical given that the special or additional rules listed in Appendix 2 were crafted by the negotiators of each individual agreement with a view to the particular characteristics of disputes that might arise under such agreement and, in the case of the *SCM Agreement*, under each Part of that Agreement.

523. In contrast, if a positive consensus rule were to apply to the initiation of an Annex V procedure, as the United States contends, this would mean that an Annex V procedure cannot be initiated whenever there is a formal objection by a single WTO Member. This would enable individual Members to prevent the use of this detailed, carefully tailored mechanism for gathering necessary information, even though the DSB's initiation of such information-gathering procedures and Members' duty to cooperate in them are both expressed as mandatory. Furthermore, if initiation required positive consensus, two consequences could flow for which there may be no remedy in the panel proceedings. First, the parties to the dispute could be denied access to critical information from third-country Members if those Members choose not to become third parties in the dispute. Second, if the objection to the initiation of the Annex V procedure comes from a WTO Member other than the responding party or a concerned third-country Member, there may be no basis upon which the Panel could, pursuant to paragraphs 6 and 7 of Annex V, allow the complainant to rely upon best available evidence and/or draw adverse inferences based on the conduct of the respondent.¹¹¹⁷

524. We are of the view that, taken together, the above considerations make clear that the first sentence of paragraph 2 of Annex V to the *SCM Agreement* must be understood as requiring the DSB to take action, and that such action occurs automatically when there is a request for initiation of an Annex V procedure and the DSB establishes a panel.¹¹¹⁸ This provision does not conflict with Article 2.4 of the DSU; rather, it establishes the conditions which, when satisfied, necessarily result in the initiation of an Annex V procedure by the DSB.

¹¹¹⁷Of course, irrespective of whether an Annex V procedure was initiated or conducted, a panel would always have the authority, during the panel proceedings, to seek additional information pursuant to Article 13 of the DSU, and to draw adverse inferences from a party's failure to produce requested information.

¹¹¹⁸One Member of the Division wishes to qualify this understanding of paragraph 2 of Annex V to the *SCM Agreement*. In the opinion of this Member, to initiate an Annex V procedure, an act of the DSB is required. The DSB's initiation of an Annex V procedure in the manner described above can occur only when the complaining Member's request for an Annex V procedure forms an integral part of that Member's request for the establishment of a panel.

(i) *Additional considerations pursuant to Article 32 of the Vienna Convention*

525. The European Union also relies on the negotiating history of the *SCM Agreement* as additional confirmation for its understanding of the Annex V procedure, as well as relevant context found elsewhere in the *SCM Agreement*. The European Union emphasizes that Annex V originated in a proposal made by the United States, and asserts that, from the first time this proposal was incorporated in the draft text of the Agreement, it was "clear" that "the Annex V procedure was tied-to the panel request, in the sense that the same procedures would apply", and that "when the reference to negative consensus was subsequently added to Article 7.4 of the *SCM Agreement* it was well understood that the linked Annex V procedure would follow the same procedure".¹¹¹⁹

526. We recall that, under Article 32 of the *Vienna Convention*, preparatory work and the circumstances of a treaty's conclusion are relevant to confirm the interpretation reached under Article 31. In our view, while the negotiating history of the *SCM Agreement* supplies little concrete insight as to how Members intended the Annex V procedure to be initiated, it does confirm our understanding of the reasons why Members considered such a procedure to be a key part of serious prejudice disputes.

527. The first two Chairman's drafts of the *SCM Agreement* did not contain any precursor to Annex V. On 5 October 1990, the United States submitted a "Proposal for Improvement in Procedures for Dealing with Adverse Effects in the Home Market of the Subsidizing Country and in Third-Country Markets".¹¹²⁰ This proposal referred to a provision in the existing draft text imposing an obligation on all Members in whose market adverse effects are alleged to arise, to provide "all relevant information that can be obtained as to the changes in market shares of the disputing parties as well as concerning prices of the products involved"¹¹²¹, and expressed concern about the absence of "an information-gathering mechanism or a means for assuring the co-operation of the party in possession of information necessary to demonstrate adverse effects".¹¹²² The United States emphasized the challenges facing a complainant trying to prepare an adequate case given its dependence upon the cooperation of the subsidizing country or third countries, and stressed that the "problem of developing a proper case is especially acute where third-countries are involved because the information necessary to show adverse effects caused by subsidized products is not necessarily

¹¹¹⁹European Union's appellant's submission, para. 45.

¹¹²⁰MTN.GNG/NG10/W/40.

¹¹²¹MTN.GNG/NG10/W/38/Rev.1. This provision eventually became, with some modifications, the current Article 6.6 of the *SCM Agreement*.

¹¹²²MTN.GNG/NG10/W/40, p. 2.

within the reach of the complaining party".¹¹²³ The United States explained that it was proposing an information-gathering procedure "in order to improve the multilateral rules and procedures for demonstrating adverse effects required to show serious prejudice, and for enhancing the credibility of the remedies in this area", and added that its proposal "should especially enhance the ability of countries with the most limited national resources in preparing cases to bring to multilateral dispute settlement".¹¹²⁴ The next draft text circulated by the Chairman, on 2 November 1990, contained several modifications that appeared to be based on the United States' proposal, including a first version of Annex V.¹¹²⁵

528. With respect to the remedies for actionable subsidies, all of the drafts circulated by the Chairman contained the same provisions—namely, Articles 7.4 and 7.5.¹¹²⁶ These were the predecessors of the provisions of the *SCM Agreement* bearing the same Article number, but differed from them in two main respects. First, Articles 7.4 and 7.5 of the drafts provided for the matter to be referred to, and reviewed by, the Committee on Subsidies and Countervailing Measures (the "Subsidies Committee"), rather than the DSB. Second, Articles 7.4 and 7.5 of the drafts did not mention establishment or composition of a panel or the establishment of its terms of reference and, in particular, did not refer to the establishment of a panel by negative consensus.

529. The negotiations on dispute settlement were conducted simultaneously with the negotiations on subsidies and countervailing duties, but by a separate negotiating group. In his 21 September 1990 draft text, the Chairman of the Negotiating Group on Dispute Settlement incorporated a "negative consensus" approach in two of four possible decision-making options for adopting panel reports.¹¹²⁷ The Chairman's revised draft of 19 October 1990 still contained options, but came closer to endorsing a negative consensus rule¹¹²⁸, and also introduced the same options with respect to other aspects of the panel process, such as the establishment of panels. Subsequently, the negative consensus rule for the establishment of panels, the adoption of panel/Appellate Body reports, and the authorization of suspension of concessions formed part of the agreement on dispute settlement included as part of the

¹¹²³MTN.GNG/NG10/W/40, p. 2.

¹¹²⁴MTN.GNG/NG10/W/40, p. 3.

¹¹²⁵MTN.GNG/NG10/W/38/Rev.2. The provision that would eventually become Article 6.8 of the *SCM Agreement* was also added to this draft text for the first time.

¹¹²⁶The four Chairman's draft texts contained the following:

7.4 If a mutually acceptable solution has not been reached within sixty days of the request for consultations, any signatory party to such consultations may refer the matter to the Committee.

7.5 The Committee shall, upon request, review the matter referred to it and shall present its conclusions within 120 days.

(MTN.GNG/NG10/W/38, and Rev.1, Rev.2, and Rev.3)

¹¹²⁷Draft Text on Dispute Settlement, 21 September 1990, MTN.GNG/NG13/W/45, p. 2.

¹¹²⁸Chairman's Text on Dispute Settlement, 19 October 1990, p. 9.

"Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations" at the Brussels 1990 Ministerial Conference.¹¹²⁹

530. Thus, the negotiating history of the *SCM Agreement* reveals that, at the time that Annex V was introduced into the text of what would become the *SCM Agreement*, the draft provided that the Subsidies Committee was to have responsibility both for adjudicating allegations of serious prejudice, as well as for the initiation of an Annex V procedure. No express provision was made as to how such initiation was to occur. At that time, the concurrent negotiations on dispute settlement were moving towards acceptance of a negative consensus rule for the establishment of panels, adoption of reports, and authorization of suspension of concessions. The draft *SCM Agreement* was subsequently modified as part of the process of harmonizing all of the Uruguay Round agreements to bring them into line with the single undertaking and the unified system of dispute settlement, and the express reference to the establishment of a panel by negative consensus was added to Article 7.4.

(ii) *Summary of interpretative considerations*

531. We have considered the meaning of the obligation that paragraph 2 of Annex V imposes on the DSB, namely, that "the DSB shall, upon request, initiate" an information-gathering procedure in disputes involving claims of serious prejudice. For the reasons set out above, we have reached the view that the text and context of paragraph 2 of Annex V, together with the object and purpose of the WTO dispute settlement system as reflected in the DSU and the *SCM Agreement*, support an understanding of this provision as imposing an obligation on the DSB to initiate an Annex V procedure upon request, and that such DSB action occurs automatically when there is a request for initiation of an Annex V procedure and the DSB establishes a panel.¹¹³⁰

532. The first sentence of paragraph 2 of Annex V, along with other provisions of Annex V, refers directly to the establishment of a panel pursuant to Article 7.4 of the *SCM Agreement*. Provided that a request for initiation of an Annex V procedure has been made, the DSB's initiation of such a procedure is a procedural incident of the establishment of a panel in serious prejudice cases. The function assigned to the DSB under paragraph 2 of Annex V is executory in nature, and is automatically discharged by it once the two specified conditions precedent are satisfied. This interpretation of paragraph 2 of Annex V also finds support in the structure of the information-

¹¹²⁹MTN.TNC/W/35/Rev.1/3.

¹¹³⁰One Member of the Division wishes to qualify this understanding of paragraph 2 of Annex V to the *SCM Agreement*. In the opinion of this Member, to initiate an Annex V procedure, an act of the DSB is required. The DSB's initiation of an Annex V procedure in the manner described above can occur only when the complaining Member's request for an Annex V procedure forms an integral part of that Member's request for the establishment of a panel.

gathering mechanism set out in Annex V and Articles 6.6 and 6.8 of the *SCM Agreement*, and in Members' expressed preference, as set out in Article 1.2 of the DSU, for the use of the special or additional dispute settlement rules set out in the *SCM Agreement* and listed in Appendix 2 to the DSU.

533. In contrast, an interpretation of paragraph 2 of Annex V that would enable a single WTO Member to frustrate the important role that an information-gathering procedure plays in serious prejudice disputes by preventing the DSB from initiating such a procedure would be at odds with WTO Members' clear intention to promote the early and targeted collection of information pertinent to the parties' subsequent presentation of their cases to the panel, and with the obligation to cooperate in the collection of information in serious prejudice disputes imposed on all Members under paragraph 1 of Annex V and Article 6.6 of the *SCM Agreement*. Such an interpretation would also hamper the collection of information from third-country WTO Members and delay until the stage of panel proceedings the collection of necessary information. The initiation and conduct of Annex V procedures have important consequences for the ability of parties to a dispute to present their case, and for panels and the Appellate Body to fulfil their respective roles in complex serious prejudice disputes under the *SCM Agreement*. Annex V procedures are key to affording parties early access to critical information, which may in turn serve as the foundation upon which those parties will construct their arguments and seek to satisfy their evidentiary burden. Moreover, the initiation and conduct of such procedures are key to the ability of panels to make findings of fact that have a sufficient evidentiary basis or to draw negative inferences from instances of non-cooperation.

- (b) The European Union's remaining requests for completion of the analysis

534. We turn now to the European Union's remaining three requests for completion of the analysis, namely, that we find that: (i) as a matter of law, all of the conditions for the initiation of an Annex V procedure were fulfilled in this dispute and such procedure was initiated, and/or is deemed to have been initiated, and/or should have been initiated; (ii) in refusing to cooperate in the information-gathering process, the United States failed to comply with its obligations under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*; and (iii) the European Communities was entitled to present its serious prejudice case based on the evidence available to it, the Panel was entitled to complete the record as necessary relying on best information otherwise available, and the Panel was entitled to draw adverse inferences.

535. With respect to the first of these requests by the European Union, we recall that, in our interpretation of paragraph 2 of Annex V above, we identified the two conditions that must be satisfied in order to trigger the initiation of an Annex V procedure, namely, a request for initiation by a Member, and the DSB's establishment of a panel. In this dispute, the Panel made an explicit finding that no Annex V procedure had been initiated by the DSB.¹¹³¹ Even if this finding rested upon a mistaken and incomplete interpretation of paragraph 2 of Annex V, it is uncontested that no Annex V procedure was carried out as a consequence of the requests made by the European Communities in 2007 and the establishment of the Panel in that same year. More than five years later, we do not see how the findings that the European Union seeks to have us make, on appeal, would contribute to resolving the dispute at this stage. Accordingly, it is unnecessary for us to make a ruling on whether the conditions for the initiation of an Annex V procedure were fulfilled.

536. Turning to the European Union's other requests, we consider that these raise a number of associated issues that flow from the *sui generis* circumstances of this dispute and that have been largely unexplored by the participants. To illustrate why this is so, it is necessary to outline briefly the procedural history of this dispute as well as the dispute that carries the DS number 317.

537. This dispute, which carries the DS number 353, is at least to some extent the progeny of an earlier dispute that bore the DS number 317: *US – Large Civil Aircraft*.¹¹³² In 2005, an Annex V procedure was initiated and completed in that DS317 proceeding¹¹³³, but both at the time of establishment of that panel and throughout the Annex V procedure the United States took the position that the European Communities' panel request improperly included 13 measures that had not been included in its original consultations request. For this reason, during the Annex V procedure, the United States refused to respond to questions relating to those 13 measures. It is nevertheless uncontested that the United States did respond to other questions, and that a voluminous record was transmitted from the facilitator to the DS317 panel. Due to the inability of the participants to agree on

¹¹³¹Panel Report, para. 7.20.

¹¹³²See Panel Report, footnote 2 to para. 1.1.

¹¹³³Simultaneous Annex V procedures were initiated by the DSB and conducted by the same facilitator for DS317 and for DS316 (*EC and certain member States – Large Civil Aircraft*).

the modalities for the transfer of that record¹¹³⁴, however, the information gathered in the DS317 Annex V procedure does not form part of the record in this dispute, and we have no way of knowing what it contains.

538. In the light of the position adopted by the United States in the DS317 Annex V procedure, the European Communities submitted an expanded second request for consultations just before establishment of the panel¹¹³⁵, as well as an expanded second request for establishment of a panel in DS317 just as the Annex V procedure was coming to a close.¹¹³⁶ A second panel was established by the DSB shortly thereafter, on 17 February 2006.¹¹³⁷ At that time, the dispute still bore the DS number 317. The European Communities' second request for establishment of a panel contained a request that the DSB initiate an Annex V procedure, and the European Communities sought initiation of an Annex V procedure at the DSB meeting at which the second panel was established, as well as at four subsequent DSB meetings during the spring of 2006.¹¹³⁸ Each time, the United States opposed initiation. The main reasons given by the United States for its inability to agree to an Annex V procedure were: that an Annex V procedure had already been completed in DS317; that the United States had cooperated extensively in that first Annex V procedure; and that the European Communities was unilaterally seeking to re-open that burdensome procedure or obtain a

¹¹³⁴Panel Report, paras. 7.19 and 7.23. We note that, on 14 January 2007, at the Panel's prompting, the United States submitted in writing a proposal to make available to the Panel the materials submitted during the DS317 Annex V procedure, via a DSB decision requesting the facilitator to transmit the materials to the Panel. In responding to this proposal, by letter dated 17 January 2007, the European Communities contended that the proposal represented "only a partial solution to its request", given the United States' refusal to answer certain questions in that procedure as well as the fact that "the information produced in case DS317 has become to a significant extent outdated by lapse of time." The European Communities added that it saw "no legal or practical necessity to make the transfer of documents dependent on a decision of the DSB" since the parties "do not need permission from the DSB to allow their own documents and submissions to be communicated to the Panel in this case." In a subsequent letter, dated 7 February 2007, the European Communities stated that "it does accept the US proposal as a partial solution to its preliminary ruling request", but added that it had not reached any agreement with the United States on the implementation of the proposal. The European Communities reiterated that there was no legal or practical necessity for a DSB decision, in particular because the European Communities was not seeking to use the information submitted by third-country WTO Members to the facilitator. The United States reacted to the European Communities in a subsequent letter to the Panel, dated 20 February 2007, in which it characterized the European Communities "alternative proposal" as a proposal "for an unbalanced process that would deprive the Panel of access to information from third-country Members or the work of the Facilitator" and summarized the benefits of its own proposal. The United States added that "the EC proposal is to grant the EC an unwarranted new Annex V process" and that, since "the EC made this request even before presenting a single argument or piece of evidence, it cannot possibly have established a *prima facie* case. Therefore, it is difficult to conceive of the EC's proposal as anything but an effort to have the Panel make the EC's case for it".

¹¹³⁵Originally circulated as document WT/DS317/1/Add.1, and amended by WT/DS353/1, WT/DS317/1/Add.2. See Panel Report, para. 1.1 and footnote 2 thereto, and Annex A.

¹¹³⁶Originally circulated as document WT/DS317/5, amended by WT/DS353/2, WT/DS317/5/Add.1, and corrected by WT/DS353/2/Corr.1, WT/DS317/5/Add.1/Corr.1. See Panel Report, para. 1.2 and footnote 3 thereto, and Annex B (Request for the Establishment of a Panel by the European Communities).

¹¹³⁷WT/DSB/M/205, para. 73.

¹¹³⁸WT/DSB/M/205, paras. 69 and 72; WT/DSB/M/206, paras. 11-13 and 19-20; WT/DSB/M/207, paras. 92 and 93; WT/DSB/M/210, para. 99-101; WT/DSB/M/212, paras. 64-67.

second procedure because it was dissatisfied with the results.¹¹³⁹ The United States further expressed the view that, while the *SCM Agreement* and the DSU do not require a procedural agreement between the parties to commence Annex V procedures for the first time, such an agreement is necessary "when the Annex V request cover{s} measures that ha{ve} already been subject to a completed Annex V process" and that a responding party cannot "be subject to an endless cycle of burdensome Annex V processes" simply because a complainant has added "some new measures to a panel request".¹¹⁴⁰ Although the European Communities argued that initiation should occur by negative consensus, this view does not appear to have been shared by the DSB Chairman at that time. Accordingly, at the first four meetings where the DSB considered the European Communities' request, the DSB "took note" of the statements made, but took no decision.¹¹⁴¹ At the DSB meeting of 17 May 2006, the Chairman proposed, and the DSB agreed, to take note of the statements made and to suspend consideration of this item pending consultations on a way forward.¹¹⁴²

539. At all of the DSB meetings where the European Communities requested initiation of an Annex V procedure, the request was made in respect of the dispute that carried the DS317 number. Only subsequently—and retroactively—was the DS353 number attributed to this dispute, and the words "Second Complaint" added to the title of DS353.¹¹⁴³ On 4 December 2006, the DS353 number was added to the previously circulated second request for consultations and second request for the establishment of a panel, which had originally been circulated bearing the DS317 number alone.¹¹⁴⁴ There is no explanation in the record as to why this occurred, and the participants were unable to provide us with one at the oral hearing.

¹¹³⁹See, for example, WT/DSB/M/206, paras. 14-18; and WT/DSB/M/207, paras. 94-97.

¹¹⁴⁰See WT/DSB/M/206, paras. 15 and 18.

¹¹⁴¹WT/DSB/M/205, paras. 75 and 76; WT/DSB/M/206, para. 26; WT/DSB/M/207, para. 101; WT/DSB/M/210, para. 104.

¹¹⁴²WT/DSB/M/212, paras. 70 and 71. The minutes of that meeting record that, on 23 May 2006, the Chairman sent a fax to delegations informing them that, "following consultations between the parties to the dispute, an agreement had been reached that it was not necessary to revert to this matter and that the consideration of this agenda item did not need to be suspended". (*Ibid.*, footnote 2 to para. 70) The same day, the European Communities sent a letter to the facilitator in the completed DS316 and DS317 Annex V procedures and asked him to pose 343 questions to the United States. (Letter from the European Communities to Mr. Mateo Diego-Fernández, dated 23 May 2006, attaching questions for the United States (Panel Exhibit EC-1)) By letter of 6 June 2006, Mr. Diego-Fernández declined to serve as a DSB representative pursuant to Annex V or to pose these questions to the United States, noting that there had been no DSB consensus to initiate a new Annex V procedure. (Letter from Mr. Mateo Diego-Fernández to the European Communities, dated 6 June 2006 (Panel Exhibit EC-2))

¹¹⁴³See WT/DS353/1, WT/DS317/1/Add.2; and WT/DS353/2, WT/DS317/5/Add.1, corrected by WT/DS353/2/Corr.1, WT/DS317/5/Add.1/Corr.1.

¹¹⁴⁴See WT/DS353/2, WT/DS317/5/Add.1, corrected by WT/DS353/2/Corr.1, WT/DS317/5/Add.1/Corr.1.

540. Taking account of this procedural history, it seems to us that any assessment of the European Union's allegations that the United States failed to comply with its obligations under the first sentence of paragraph 1 of Annex V to *SCM Agreement*, or of the consequences that should, according to paragraphs 6 to 9 of Annex V to the *SCM Agreement*, flow from any such failure, would likely require consideration of a number of thorny issues. These include: (i) the relationship between the proceedings in DS317 and the proceedings in this dispute; (ii) the relationship, if any, between the Annex V procedure in DS317 and the absence of an Annex V procedure in this dispute; (iii) the facts concerning the extent of the United States' participation in the Annex V procedure in DS317 and the relevance and role, if any, of information collected in that information-gathering process in this dispute; (iv) the relevance, in assessing the United States' cooperation, of the fact that both the DSB Chairman and the individual who the European Communities sought to have facilitate the Annex V procedure considered that positive consensus was required to initiate such a procedure; and (v) the relevance, if any, of the fact that, ultimately, the European Communities' request for initiation of an Annex V procedure appears to have been removed from the agenda of the DSB through a consensus joined in by the European Communities itself.

541. In the particular circumstances of this proceeding, it is not evident to us that the relevant facts are sufficiently clear or uncontested, or that the complex legal issues have been sufficiently explored by the participants to permit us to accede to the European Union's requests. Indeed, the facts and circumstances of this dispute and of DS317 are complicated, highly case-specific, and decidedly unclear. Neither participant has provided us with a full accounting of its understanding of the facts, and, in any event, these facts appear to be contested. Moreover, each participant appears to us to have adopted positions over the course of these two dispute settlement proceedings that are, at least to some degree, internally contradictory in the way that they approach the issue of the relationship between the two disputes. The United States, for example, indicated at the oral hearing that it accepts that DS317 and DS353 are separate disputes. At the time that the European Communities sought initiation of an Annex V procedure in this dispute, however, the United States objected mainly on the basis that Annex V provides no right to "resume", "re-open", or to "seek a second Annex V process".¹¹⁴⁵ Such arguments suggest that, at least at that time, the United States held the view that there was but a single

¹¹⁴⁵See WT/DSB/M/207, paras. 94, 95, and 97; WT/DSB/M/206, paras. 18 and 25; and WT/DSB/M/205, para. 71.

dispute.¹¹⁴⁶ Furthermore, we have difficulty understanding why, if the United States accepts that these disputes are to be treated as separate, it considers that its participation in the Annex V procedure in DS317 is relevant to assessing whether it complied with its obligations under paragraph 1 of Annex V in this dispute.

542. We also fail to see how we can answer questions relating to the extent of the United States' cooperation in the abstract or for the entire dispute. Whether there has been a failure to cooperate or a refusal to submit essential information, and whether there is a resulting need to use adverse inferences, are questions that usually refer to specific claims, measures, or pieces of evidence. Yet, the European Union has not provided us with such details in connection with its requests that we find that the United States failed to comply with its obligations under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*, and that the Panel was entitled to rely on best information otherwise available, and to draw adverse inferences in accordance with the provisions of paragraphs 6 and 7 of Annex V. We also note the United States' argument that it cannot be deemed to have been uncooperative when both the DSB and the facilitator in the DS317 Annex V procedure appear to have shared its view that the initiation of an Annex V procedure occurs by positive consensus.

543. In this dispute, the Panel made no specific findings of "non-cooperation" on the part of the United States, and the uncertain nature of the facts surrounding the alleged non-cooperation on the part of the United States means that we have no basis for making any such finding on appeal. The only thing that can be said with some degree of confidence is that there appears to have been little cooperation between the parties before the Panel on any of the issues relating to Annex V. This is regrettable, particularly in the light of the cooperative attitude that is called for both under Annex V and, more generally, pursuant to Article 3.10 of the DSU.

544. For these reasons, we make no finding as to whether the United States failed to comply with its obligation under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*, or whether the European Communities was entitled to present its serious prejudice case based on the evidence

¹¹⁴⁶We also note that the United States has, including in its submissions on appeal, invoked its participation in the Annex V procedures in DS317 as a justification for not agreeing to any Annex V procedure in this dispute. The United States acknowledges, however, that in the DS317 Annex V procedure, it refused to answer any questions with respect to measures that it unilaterally deemed to be outside that panel's terms of reference. At least some of those measures were within the terms of reference of this Panel, but the absence of an Annex V procedure in this dispute meant that no information relating to them could be gathered in such a procedure. For its part, the European Union insists that the United States' non-cooperation in this dispute prevented any Annex V procedure from being initiated, and in doing so fails to acknowledge any degree of cooperation during the Annex V procedure in DS317. Moreover, the European Communities appears to have resisted efforts by the Panel and the proposal by the United States to enter the (apparently sizeable) record from the DS317 Annex V procedure into the Panel record in this dispute.

available to it, or whether the Panel was entitled to rely on best information available or to draw adverse inferences.

(c) The European Union's additional requests

545. In addition, and "independently" from the above requests to complete the analysis, the European Union requests us to "constantly bear in mind the circumstances of this case", notably "that the United States has chosen to withhold information from the European Union and the Panel" and that the United States' "refusal to co-operate in the Annex V procedure colours the entire dispute".¹¹⁴⁷ This means, according to the European Union, that: (i) with respect to the United States' appeal, "the United States cannot now reasonably criticise the Panel for its assessment of the facts or for the reasonable drawing of factual inferences where the United States itself is responsible for depriving the Panel of information"; and (ii) with respect to the European Union's appeal, "in case of doubt or evidentiary conflict or equipoise, the Appellate Body should rule in favour of the European Union".¹¹⁴⁸

546. The United States asserts that there is no legal authority for us to draw adverse inferences against the United States in the circumstances of this dispute, and that the rulings requested by the European Union are improper.

547. We begin by noting that we have some difficulty understanding precisely what the European Union's additional requests seek to have us do, and how they square with our mandate under Article 17.6 of the DSU. Starting with the first request, we understand the European Union's contention that the United States should be precluded, on appeal, from challenging the Panel's assessment of the facts to amount to an argument that the United States should be barred in these appellate proceedings from raising a claim under Article 11 of the DSU with respect to the Panel's assessment of the facts in this dispute. Whether or not such an approach would be appropriate is a moot point since, in any event, we reject the two claims of error that the United States has raised under this provision.¹¹⁴⁹

548. With respect to the European Union's second additional request, we have some doubts as to whether it is appropriate given that it is not the mandate of the Appellate Body to resolve instances of "evidentiary conflict or equipoise". In any event, we do not see that this request is sufficiently supported to allow us to make the requested finding. To the extent that the European Union is asking us to draw adverse inferences, we would have expected it to have provided us with a more precise

¹¹⁴⁷European Union's appellant's submission, para. 53.

¹¹⁴⁸European Union's appellant's submission, para. 53.

¹¹⁴⁹See *infra*, paras. 723 and 996.

indication of the areas in which the factual record is incomplete, how the lack of information relates to the United States' alleged non-cooperation, and the specific inferences that it is requesting us to draw. This is because, as a general matter, the need to and justification for drawing adverse inferences relates to particular instances of non-cooperation or withholding of evidence and is context-specific.¹¹⁵⁰ We are not convinced that the provisions of Annex V, and, in particular its paragraph 7, means, as the European Union's broad request implies, that any non-cooperation in an Annex V procedure requires the drawing of adverse inferences against the non-cooperative party on all factual issues. Rather, the drawing of such inferences should at least to some extent involve consideration of the connection between the non-cooperation and the relevant issue, as well as of other evidence available on the record. Although the European Union has not, in its appeal related to Annex V to the *SCM Agreement*, provided us with sufficiently specific arguments or information regarding the precise rulings or findings it seeks from us, we note that it has in other sections of its arguments raised instances of alleged non-cooperation relating to the evidentiary basis for specific Panel findings challenged on appeal, and we address those elsewhere in this Report.¹¹⁵¹

E. *Conclusion*

549. In the reasoning set out above, we have found that the Panel erred, in the first and last sentences of paragraph 7.22 of the Panel Report, reproducing paragraph 4 of its Preliminary Ruling, in denying the various requests made by the European Communities with respect to an Annex V procedure, because the Panel's denial of those requests rested upon an inadequate legal foundation and an incomplete interpretation of the relevant legal provision.¹¹⁵² In our consideration of the European Union's various requests for completion of the analysis and for additional findings, we have interpreted paragraph 2 of Annex V to the *SCM Agreement* to mean that the DSB's initiation of an information-gathering procedure in a serious prejudice dispute occurs automatically provided that a request for such a procedure has been made and a panel established.¹¹⁵³ We have declined to find that all of the conditions for the initiation of an Annex V procedure were fulfilled in this dispute, and have made no finding as to whether the United States failed to comply with its obligations under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*; whether the European Communities was entitled to present its serious prejudice case based on the evidence available to it; whether the Panel

¹¹⁵⁰See, albeit outside the context of Annex V of the *SCM Agreement*, Appellate Body Report, *US – Wheat Gluten*, para. 174.

¹¹⁵¹See section X.C of this Report.

¹¹⁵²*Supra*, para. 501.

¹¹⁵³One Member of the Division wishes to qualify this understanding of paragraph 2 of Annex V to the *SCM Agreement*. In the opinion of this Member, to initiate an Annex V procedure, an act of the DSB is required. The DSB's initiation of an Annex V procedure in the manner described above can occur only when the complaining Member's request for an Annex V procedure forms an integral part of that Member's request for the establishment of a panel.

was entitled to complete the record as necessary relying on best information otherwise available; or whether the Panel was entitled to draw adverse inferences.

VI. NASA Procurement Contracts and USDOD Assistance Instruments

A. *Financial Contribution*

1. Introduction

550. The issues raised in this part of the appeal concern both the Panel's interpretation and application of Article 1.1(a)(1) of the *SCM Agreement*. We note that, in its analysis of whether the NASA and USDOD measures challenged by the European Communities constitute financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*, the Panel began by focusing on the interpretative issue of whether measures that are properly characterized as "purchases of services" are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement* and, therefore, do not qualify as financial contributions by means of a "direct transfer of funds".¹¹⁵⁴

551. After determining that Article 1.1(a)(1)(i) does not include within its scope measures that are "properly characterized"¹¹⁵⁵ as purchases of services, the Panel proceeded to consider whether the NASA and USDOD measures at issue qualify as such. For this purpose, the Panel developed and applied a test that it derived from Article 1.1(a)(1).¹¹⁵⁶ According to the Panel, whether or not the NASA and USDOD measures could be properly characterized as purchases of services depends on the nature of the work that Boeing was required to perform pursuant to them and, more specifically, whether that research was "principally for {Boeing's} own benefit and use, or whether it was principally for the benefit and use of the U.S. Government (or unrelated third parties)".¹¹⁵⁷

552. Having applied its purchase of services test to five categories of evidence¹¹⁵⁸, the Panel concluded that the NASA procurement contracts and USDOD assistance instruments could not be properly characterized as such. By contrast, it found that the USDOD procurement contracts did qualify as purchases of services. For measures that qualified as purchases of services under its test—that is, the USDOD procurement contracts¹¹⁵⁹—the Panel excluded them from further consideration based on its interpretation of Article 1.1(a)(1), whereby such measures are not financial contributions. By contrast, where the measures did not qualify as purchases of services under the test—the NASA

¹¹⁵⁴Panel Report, para. 7.953.

¹¹⁵⁵Panel Report, para. 7.970. (original emphasis)

¹¹⁵⁶Panel Report, paras. 7.977, 7.978, 7.1136, and 7.1137.

¹¹⁵⁷Panel Report, paras. 7.978 and 7.1137.

¹¹⁵⁸See *infra*, para. 567.

¹¹⁵⁹Panel Report, para. 7.1171.

procurement contracts and USDOD assistance instruments—the Panel treated the payments made by NASA and the USDOD to Boeing pursuant to those contracts and instruments as direct transfers of funds within the meaning of Article 1.1(a)(1)(i).¹¹⁶⁰ Furthermore, it determined that the access to NASA facilities, equipment, and employees provided to Boeing pursuant to the NASA contracts, and the access to USDOD facilities pursuant to the USDOD assistance instruments, constitute the provision of goods and services under Article 1.1(a)(1)(iii).¹¹⁶¹ Having found these measures to be financial contributions, the Panel then proceeded with the remaining analysis under the relevant provisions of the *SCM Agreement*.

553. The participants appeal the Panel's interpretation of Article 1.1(a)(1) and its application to the facts of this dispute. The European Union seeks reversal or modification of the Panel's interpretation that measures properly characterized as purchases of services are excluded from the scope of Article 1.1(a)(1) of the *SCM Agreement*.¹¹⁶² The United States does not appeal the Panel's interpretation; rather, it challenges various findings of the Panel that derive from the application of its purchases of services test to the NASA and USDOD measures at issue. In particular, the United States requests reversal of the Panel's finding that the NASA procurement contracts and USDOD assistance instruments do not constitute purchases of services and, consequently, its finding that these measures involve payments that are direct transfers of funds within the meaning of Article 1.1(a)(1)(i), as well as the Panel's finding that the other support¹¹⁶³ provided to Boeing constitutes the provision of goods and services within the meaning of Article 1.1(a)(1)(iii).

554. We begin by providing an overview of the relevant findings of the Panel, after which we assess the merits of the arguments of the participants on appeal.

2. The Panel's Findings

555. In its first written submission to the Panel, the European Communities asserted that the direct funding accruing to Boeing and the other support provided under the NASA and USDOD R&D programmes constitute a financial contribution through a direct transfer of funds under

¹¹⁶⁰Panel Report, paras. 7.1027 and 7.1171.

¹¹⁶¹Panel Report, paras. 7.1027 and 7.1171.

¹¹⁶²European Union's appellant's submission, para. 127. The European Union does not seek reversal of the Panel's *application* of its interpretation to the NASA and USDOD measures at issue. Rather, the European Union argues that, if the Appellate Body were to reverse the Panel's legal interpretation of Article 1.1(a)(1), as it requests on appeal, that reversal would render moot the United States' appeal related to the Panel's findings that the payments and access to NASA facilities, equipment, and employees and access to USDOD facilities, provided through the NASA and USDOD aeronautics R&D programmes, are financial contributions. (European Union's appellee's submission, paras. 28 and 112)

¹¹⁶³We use the term "other support" as shorthand for access to NASA facilities, equipment, and employees and access to USDOD facilities.

Article 1.1(a)(1)(i) and the provision of goods and services under Article 1.1(a)(1)(iii) of the *SCM Agreement*.¹¹⁶⁴ In response, the United States argued that the funding and other support were provided pursuant to transactions that qualify as purchases of services.¹¹⁶⁵ According to the United States, purchases of services do not qualify as financial contributions within the meaning of Article 1.1(a)(1).¹¹⁶⁶ The United States supported its argument by reference to the context of Article 1.1(a)(1)(i) and the negotiating history of the *SCM Agreement*.¹¹⁶⁷ The European Communities countered that an analysis of Article 1.1(a)(1) provides no basis for an exclusion of a category of transactions referred to as "purchases of services" that otherwise fit into any of the other categories of financial contributions listed in that provision, and that the interpretation advanced by the United States creates an enormous "loophole"¹¹⁶⁸ in the *SCM Agreement* that would allow Members to frustrate its object and purpose.

(a) The Panel's interpretation of Article 1.1(a)(1)(i) of the *SCM Agreement*

556. In addressing the parties' arguments, the Panel noted that the legal issue raised was "whether transactions properly characterized as purchases of services are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement*".¹¹⁶⁹ For purposes of answering this question, the Panel explained that it would engage the rules of interpretation provided in Articles 31 and 32 of the *Vienna Convention*.¹¹⁷⁰

557. Beginning with the ordinary meaning of the phrase "a government practice involves a direct transfer of funds" in Article 1.1(a)(1)(i) of the *SCM Agreement*, the Panel remarked that this phrase, "read in isolation", might be "broad enough" to cover purchases of services.¹¹⁷¹ The Panel reached this conclusion for four reasons. First, nothing in the dictionary definitions of the terms in this phrase suggests that transactions properly characterized as purchases of services fall outside their scope, because "the definition of 'transfer' is a 'conveyance from one person to another', and the definition of

¹¹⁶⁴Panel Report, paras. 7.971, 7.972, 7.1125, and 7.1126.

¹¹⁶⁵Panel Report, paras. 7.975 and 7.1130-7.1133.

¹¹⁶⁶Panel Report, para. 7.950.

¹¹⁶⁷Panel Report, para. 7.950 (referring to United States' first written submission to the Panel, paras. 48 and 218; and United States' responses and/or comments on the European Communities' responses to Panel Questions 15, 17, and 113-120).

¹¹⁶⁸Panel Report, para. 7.949 (referring to European Communities' second written submission to the Panel, paras. 349-364; and European Communities' responses to Panel Questions 15, 17, and 113-120).

¹¹⁶⁹Panel Report, para. 7.953.

¹¹⁷⁰Panel Report, para. 7.953. The Panel noted that no prior panel or Appellate Body report has dealt with this issue. Nor is there a "subsequent agreement" or "subsequent practice" within the meaning of Article 31(3)(a) or (b) of the *Vienna Convention* that could provide guidance on the interpretative questions raised. (*Ibid.*)

¹¹⁷¹Panel Report, para. 7.954.

'funds' is 'a stock or sum of money, *esp.* one set apart for a particular purpose' or 'financial resources'".¹¹⁷² Second, there is "no qualifying or limiting language"¹¹⁷³ in the text of Article 1.1(a)(1)(i). Third, one example of a direct transfer of funds given in Article 1.1(a)(1)(i) is an equity infusion, which refers to "a situation in which the government 'purchases' something (i.e. shares in a company)".¹¹⁷⁴ Fourth, previous panels and the Appellate Body have not given a restrictive interpretation to these terms.¹¹⁷⁵

558. The Panel thereafter turned to the immediate context provided by Articles 1.1(a)(1)(iii) and 14(d) of the *SCM Agreement*. Both provisions refer to a government's *provision* of goods or services (other than general infrastructure), or *purchase* of goods. In the light of the "glaring difference"¹¹⁷⁶ between the first and second sub-clauses of Article 1.1(a)(1)(iii), the Panel considered that the drafters intended to exclude purchases of *services* from the definition of Article 1.1(a)(1) of the *SCM Agreement*. Since Article 1.1(a)(1) sets out an "exhaustive, closed list" of the types of transactions that constitute financial contributions under the *SCM Agreement*, the omission of the words "or services" in connection with a government's purchase reinforced the implication of an intention by Members to exclude purchases of services from the definition of "financial contribution" in Article 1.1(a)(1).¹¹⁷⁷ The Panel was concerned that the European Communities' attempt to include purchases of services, whether under Article 1.1(a)(1)(i) or another subparagraph of Article 1.1(a)(1), would "necessarily mean that transactions involving purchases of goods must also be covered by those same other sub-paragraphs and elements".¹¹⁷⁸ For the Panel, this would render the term "purchases goods" in Article 1.1(a)(1)(iii) "redundant and inutile", because the scope and

¹¹⁷²Panel Report, para. 7.954 and footnotes 2421 and 2422 thereto (quoting *Shorter Oxford English Dictionary*, L. Brown (ed.) (Clarendon Press, 2002), Vol. 2, p. 3367 and Vol. 1, p. 1042, respectively). The Panel also referred to *Webster's Online Dictionary*, which defines "transfer" to mean the conveyance of right, title, or property, either real or personal, from one person to another, whether by sale, by gift, or otherwise; and defines "funds" to mean, among other things, "{a}ssets in the form of money" and "{a} reserve of money set aside for some purpose". (*Ibid.*)

¹¹⁷³Panel Report, para. 7.954.

¹¹⁷⁴Panel Report, para. 7.954. Here, the Panel quoted a finding of the panel in *EC – Countervailing Measures on DRAM Chips* that:

Article 1.1(a)(1)(i) of the *SCM Agreement* provides that there is a financial contribution where a government practice involves a direct transfer of funds, such as in the case of a grant, loan and equity infusion for example. *The purchase of corporate bonds* is such a direct transfer of funds, and therefore constitutes a financial contribution.

(Panel Report, footnote 2423 to para. 7.954 (quoting Panel Report, *EC – Countervailing Measures on DRAM Chips*, para. 7.92 (emphasis added by the Panel))

¹¹⁷⁵Panel Report, para. 7.954 (referring to Appellate Body Report, *Japan – DRAMs (Korea)*, para. 250).

¹¹⁷⁶Panel Report, para. 7.955.

¹¹⁷⁷Panel Report, para. 7.955. The Panel also explained that the omission of purchases of "services" from Article 14(d) meant that "there is no standard for determining whether purchases of 'services' provide a 'benefit' under Article 1.1(b)". (See *ibid.*, footnote 2428 thereto)

¹¹⁷⁸Panel Report, para. 7.956.

coverage of Article 1.1(a)(1) would be "precisely the same" as if "purchases {of} goods" had not been expressly provided for under Article 1.1(a)(1)(iii).¹¹⁷⁹

559. Next, the Panel considered the context provided by (now lapsed) Article 8.2(a) of the *SCM Agreement*, which stated that "the following subsidies shall be non-actionable" and then proceeded to list, as the first of such non-actionable subsidies, "assistance for research activities conducted by firms or by higher education or research establishments on a contract basis with firms if {certain conditions are met}". For the Panel, the terms of Article 8.2(a) did not give rise to a "necessary implication" that government purchases of R&D services were subsidies within the meaning of the *SCM Agreement*. Moreover, a government could provide "assistance" for research activities conducted by firms through means other than the purchase of R&D services.¹¹⁸⁰

560. In its consideration of the object and purpose of the *SCM Agreement*, the Panel addressed a circumvention argument by the European Communities, Brazil, and Australia according to which "excluding purchases of services from the scope of Article 1.1(a)(1) 'would run counter to the overall object and purpose of the *SCM Agreement*' by creating 'an enormous loophole in the coverage of the *SCM Agreement* and provide WTO Members with a roadmap for distorting trade in goods through "service contracts" with their goods producers'."¹¹⁸¹ The Panel remarked that, if a finding that purchases of services are excluded from the scope of the *SCM Agreement* necessarily led to the manifestly absurd result that a Member could turn a grant into an excluded purchase of services simply by "labelling"¹¹⁸² the transaction a "contract" or "purchase of services", then such an interpretation would indeed run counter to the object and purpose of the *SCM Agreement*. However, the Panel was of the view that WTO panels and national investigating authorities are in a position to "detect"¹¹⁸³ transactions that are not properly characterized as purchases of services.

561. In order "{t}o confirm the meaning that arises from the application of Article 31 of the Vienna Convention"¹¹⁸⁴, the Panel turned to supplementary means of interpretation under Article 32 of the *Vienna Convention*. For the Panel, the preparatory work of Article 1.1(a)(1)(iii) and Article 14(d) of the *SCM Agreement* reveals that a reference to governmental "purchases of services" originally appeared in, and was subsequently removed from, the text of both of these provisions in the

¹¹⁷⁹Panel Report, para. 7.956.

¹¹⁸⁰Panel Report, para. 7.958.

¹¹⁸¹Panel Report, para. 7.960 (referring to European Communities' response to Panel Question 15(a), para. 51; Brazil's third party submission to the Panel, para. 10; and Australia's oral statement at the Panel meeting with the third parties, para. 6).

¹¹⁸²Panel Report, para. 7.960 (quoting European Communities' second written submission to the Panel, para. 358).

¹¹⁸³Panel Report, para. 7.960.

¹¹⁸⁴Panel Report, para. 7.961.

final draft of the Agreement. This confirms that Members purposely excluded purchases of services from the scope of Article 1.1(a)(1).¹¹⁸⁵ Moreover, the arguments of the European Communities did not provide a "plausible explanation"¹¹⁸⁶ as to why purchases of services had been removed from Article 1.1(a)(1)(iii) and Article 14(d) of the *SCM Agreement*.

562. Finally, the "circumstances of {the} conclusion"¹¹⁸⁷ of the *SCM Agreement* suggest that the drafters of Article 1 of the *SCM Agreement* would have understood the consequences of removing the reference to "purchases of services" in Article 1. Such circumstances included both pre-existing GATT disciplines regarding government procurement, relevant dispute settlement proceedings that were decided under those disciplines¹¹⁸⁸, as well as negotiations that were underway to establish new disciplines regarding government procurement, including government procurement in respect of services.¹¹⁸⁹ The Panel also referred to parallel negotiations that were taking place under the *General Agreement on Trade in Services*.¹¹⁹⁰ For the Panel, rather than illustrating that the drafters excluded purchases of services because such a reference would be "superfluous" or that such transactions would be understood to be implicitly covered, the historical background reveals a "deliberate choice" by Members to exclude purchases of services from Article 1.1(a)(1).¹¹⁹¹

563. On the basis of the foregoing, the Panel concluded that transactions properly characterized as purchases of services are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement*.¹¹⁹²

(b) The Panel's assessment of the NASA measures

564. Having concluded that purchases of services are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement*, the Panel turned to consider whether the payments and access provided to Boeing under the NASA contracts could be properly characterized as purchases of services.

565. The Panel commenced its analysis by referring to the Appellate Body's statement in *US – Softwood Lumber IV* that "{a}n evaluation of the existence of a financial contribution involves

¹¹⁸⁵Panel Report, para. 7.962.

¹¹⁸⁶Panel Report, para. 7.963.

¹¹⁸⁷Panel Report, footnote 2444 to para. 7.964 (referring to Appellate Body Report, *EC – Computer Equipment*, para. 86). In accordance with that Appellate Body report, the Panel understood this to include an examination into the historical background against which the treaty was negotiated.

¹¹⁸⁸The Panel referred to two such GATT cases: *US – Sonar Mapping and Norway – Trondheim Toll Ring*. (Panel Report, para. 7.966)

¹¹⁸⁹Panel Report, paras. 7.964-7.968.

¹¹⁹⁰Panel Report, para. 7.968 (referring to Articles XIII:2 and XV of the *General Agreement on Trade in Services*).

¹¹⁹¹Panel Report, para. 7.969.

¹¹⁹²Panel Report, para. 7.970.

consideration of the *nature of the transaction* through which something of economic value is transferred by a government".¹¹⁹³ The Panel found that a determination of whether a transaction is a purchase of services depends on:

... the nature of the work that Boeing was required to perform under the contracts, and more specifically, whether the R&D that Boeing was required to conduct was principally for its own benefit and use, or whether it was principally for the benefit and use of the U.S. Government (or unrelated third parties).¹¹⁹⁴ (emphasis omitted)

566. The Panel explained the basis for its test as follows. First, the R&D contracts with Boeing should be characterized based on their terms (and the core term of these contracts is the work that Boeing was required to perform). Second, inherent in the ordinary meaning of the concept of a "service" is that the work performed be for the benefit and use of the entity funding the R&D (or unrelated third parties).¹¹⁹⁵ Third, the Panel's test was "broadly consistent"¹¹⁹⁶ with the arguments of the parties and third parties in this case. Finally, the test was consistent with prior GATT panel reports that examined the question of whether a transaction was properly characterized as "government procurement".¹¹⁹⁷

¹¹⁹³Panel Report, para. 7.977 (quoting Appellate Body Report, *US – Softwood Lumber IV*, para. 52). (emphasis added by the Panel)

¹¹⁹⁴Panel Report, para. 7.978.

¹¹⁹⁵The Panel defined "service" to mean: "An act of helping or benefiting *another* ... The action of serving, helping, or benefiting *another*; behaviour conducive to the welfare or advantage of *another*". (Panel Report, footnote 2469 to para. 7.978 (quoting *Shorter Oxford English Dictionary*, 5th edn, W.R. Trumble, A. Stevenson (eds) (Oxford University Press, 2002), Vol. 2, p. 2768) (emphasis added by the Panel))

¹¹⁹⁶Panel Report, para. 7.978. The Panel noted definitions of "service" provided by the European Communities and Canada. In particular, the European Communities had argued that whether or not a transaction is properly characterized as a purchase of services depends on, *inter alia*, whether "the ultimate purpose of the transaction would need to be the acquisition of a service for the direct benefit and own use of the government". Canada had noted that, in general terms, "a service is the performance of duties or work for someone else", such that the relevant question is whether the government has "procured the performance of duties or work for itself or anyone else (other than the service seller)". (*Ibid.*, footnote 2470 to para. 7.978 (referring to European Communities' response to Panel Question 15(b), para. 55; and Canada's response to Panel Question 5(c) to the third parties, paras. 4-7))

¹¹⁹⁷Panel Report, para. 7.978 (referring to GATT Panel Report, *US – Sonar Mapping*, paras. 4.7 and 4.10; and GATT Panel Report, *Norway – Trondheim Toll Ring*, paras. 4.8-4.13). The Panel noted that, in *US – Sonar Mapping*, the panel had stated that, "{w}hile not intending to offer a definition of government procurement within the meaning of Article I:1(a) {of the Tokyo Round Agreement on Government Procurement}, the Panel felt that in considering the facts of any particular case the following characteristics, none of which alone could be decisive, provide guidance as to whether a transaction should be regarded as government procurement within the meaning of Article I:1(a): payment by government, *governmental use of or benefit from the product*, government possession and government control over the obtaining of the product" (para. 4.7). The panel concluded that, in that case, the government agency would "*enjoy the benefits* of the system's purchase—Antarctic research and the preparation of seabed maps—which were clearly *for government purposes*, and the Government can thus be regarded as the *ultimate beneficiary* of the system" (para. 4.10). (Panel Report, footnote 2471 to para. 7.978 (emphasis added by the Panel))

567. The Panel thereafter turned to the kinds of evidence it considered would "shed light" on the nature of the R&D activities required of Boeing under the contracts, and in turn the issue of whether a transaction was a purchase of services.¹¹⁹⁸ In particular, it explained that it would consider the following five categories of evidence: (i) the legislation authorizing the R&D programmes at issue; (ii) the types of instruments entered into between NASA and Boeing; (iii) whether NASA has any demonstrable use for the R&D performed under the programmes; (iv) the allocation of intellectual property rights under the transactions at issue; and (v) whether the transactions have the typical elements of a purchase of services.¹¹⁹⁹

568. The Panel turned first to NASA's statutory basis for performing aeronautical research. The Panel noted all of the objectives set out in NASA's statute, but highlighted the following ones: (i) "improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles"; (ii) "{t}he preservation of the role of the United States as a leader in aeronautical and space science and technology"; and (iii) "{t}he preservation of the United States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes".¹²⁰⁰ Second, the Panel considered the type of instruments entered into between NASA and Boeing. The Panel observed that attaching the label "procurement contracts" rather than "assistance instruments" to the instruments did not "shed very much light on the nature of the transactions".¹²⁰¹

569. Third, the Panel considered whether "NASA has any demonstrable use for the R&D performed under the eight aeronautics programmes at issue".¹²⁰² The Panel considered a variety of evidence including statements by NASA and Boeing officials and staff¹²⁰³, as well as NASA documents¹²⁰⁴ and budgetary and other documentation detailing the objectives for each of the eight NASA R&D programmes at issue.¹²⁰⁵ The Panel determined that the principle purpose of NASA's

¹¹⁹⁸Panel Report, para. 7.979. The Panel explained that it would review "all of the evidence" regarding the terms and surrounding context of NASA's aeronautics R&D contracts with Boeing. This would not preclude, for example, the "formal" features of the transactions or evidence of the "purpose and motives" of the programmes. The Panel did not consider these elements "extraneous" features divorced from the "terms" of the transactions; rather, they could be central to understanding the core term of the transaction. (*Ibid.* (emphasis omitted))

¹¹⁹⁹Panel Report, para. 7.980.

¹²⁰⁰Panel Report, para. 7.982 (quoting National Aeronautics and Space Act of 1958, Public Law No. 85-568, as amended (Panel Exhibit EC-286), pp. 2-3). (emphasis omitted) The Panel also noted that NASA must, in order to carry out the objectives of the Space Act, "provide for the widest practicable and *appropriate* dissemination of information concerning its activities and the results thereof". (Panel Report, para. 7.983 (quoting Space Act, section 203(a)) (emphasis added by the Panel))

¹²⁰¹Panel Report, para. 7.984.

¹²⁰²Panel Report, para. 7.985.

¹²⁰³Panel Report, paras. 7.986-7.992.

¹²⁰⁴Panel Report, paras. 7.993 and 7.998.

¹²⁰⁵Panel Report, paras. 7.999-7.1023.

aeronautics R&D in general, and the eight programmes in particular, was "to transfer technology to U.S. industry with a view to improving U.S. competitiveness vis-à-vis foreign competitors".¹²⁰⁶ Fourth, the Panel considered the allocation of intellectual property rights in the NASA R&D contracts. It found that Boeing was not obligated to pay royalties to NASA for any commercial rewards resulting from the exploitation of patents rights over inventions conceived in the course of the research.¹²⁰⁷ Moreover, the Panel noted that some of the NASA contracts included limitations¹²⁰⁸ on the government's rights over data developed as part of the research efforts.

570. Finally, the Panel considered whether the NASA R&D contracts "involve the typical elements of a purchase of services".¹²⁰⁹ The Panel noted that "a number" of NASA R&D contracts did not provide any fee or profit to Boeing for performing the work "because of NASA's determination that Boeing stood to benefit commercially from the R&D that it performed under the contract".¹²¹⁰

571. The Panel ultimately held that:

{t}he evidence relating to NASA aeronautics R&D ... leads to the conclusion that the work that Boeing performed under its aeronautics R&D contracts with NASA was principally for its own benefit or use, rather than for the benefit or use of the U.S. Government (or unrelated third parties). While NASA's aeronautics R&D contracts take the form of a governmental procurement of services, the totality of the evidence before the Panel leads to the conclusion that the substance of these transactions cannot properly be characterized as a "purchase of services" for the purpose of Article 1.1(a)(1) of the SCM Agreement.¹²¹¹ (footnotes omitted)

572. Accordingly, the Panel concluded that:

... the payments made to Boeing under these contracts are covered by Article 1.1(a)(1)(i) of the SCM Agreement as a direct transfer of funds. The Panel further {found} that the access to NASA facilities, equipment and employees provided to Boeing through the R&D contracts and agreements at issue constitutes a provision of goods or services within the meaning of Article 1.1(a)(1)(iii) of the SCM Agreement.¹²¹² (footnote omitted)

¹²⁰⁶Panel Report, para. 7.985.

¹²⁰⁷Panel Report, para. 7.1024.

¹²⁰⁸Panel Report, para. 7.1024. The limitations are known as "Limited Exclusive Rights Data" ("LERD") clauses.

¹²⁰⁹Panel Report, para. 7.1026.

¹²¹⁰Panel Report, para. 7.1026.

¹²¹¹Panel Report, para. 7.1027.

¹²¹²Panel Report, para. 7.1027. The Panel did not accept that the payments to Boeing are outright "grants". (*Ibid.*, footnote 2552 thereto)

(c) The Panel's assessment of the USDOD measures

573. In evaluating the payments and access to facilities provided to Boeing under the USDOD contracts and assistance instruments, the Panel once again first considered the evidence based on the five categories it had identified with respect to the NASA measures.¹²¹³ The Panel began by considering the legislation authorizing the programmes and transactions at issue. The Panel noted that the USDOD is given authority to fund certain kinds of R&D through "contracts", "cooperative agreements", "grants", and "other transactions". The Panel also highlighted that, in accordance with specific legislation, any R&D funded must be of "potential interest" to the USDOD, and that special and additional rules apply to funding provided through "cooperative agreements", as distinct from "contracts".¹²¹⁴

574. Second, with respect to the types of instruments entered into between Boeing and the USDOD, the Panel referred to the USDOD Grant and Agreement Regulations (*United States Code of Federal Regulations*, Title 32, Sub-chapter C (Parts 21 to 37)). The Panel noted that these regulations made a distinction between, on the one hand, "procurement contracts" and, on the other hand, "assistance" and "other nonprocurement instruments" (which comprise "grants", "cooperative agreements", "technology investment agreements", and "other transactions"). Whereas "procurement contracts" are appropriate where the "principal purpose" of the instrument is the acquisition of property or services for the direct benefit or use of the federal government, under the "assistance instruments" the principal purpose is "assistance", defined as the "transfer of a thing of value to a recipient to carry out a public purpose of support or stimulation".¹²¹⁵

¹²¹³See *supra*, para. 567.

¹²¹⁴Panel Report, paras. 7.1140 and 7.1141 (referring to *United States Code*, Title 10 (Armed Forces), Sub-Part A (General Military Law), Part IV (Service, Supply and Procurement), chapter 139 (Research and Development), section 2358(a)-(d) (Panel Exhibit US-1205)).

¹²¹⁵*United States Code of Federal Regulations*, Title 35, section 21.615. See Panel Report, paras. 7.1141-7.1146. The Panel referred to some of the cooperative agreements that had been submitted to it by the European Communities, which provided: "the principal purpose of this agreement is for the government to support and stimulate the recipient to provide reasonable efforts in advanced research and technology development and not for the acquisition of property or services for the direct benefit or use of the government". (*Ibid.*, para. 7.1145 (referring to Cooperative Agreement between the U.S. Air Force et al. and McDonnell Douglas Corporation, No. F33615-95-2-5019, 1 February 1995 (Panel Exhibit EC-512); and Cooperative Agreement between the U.S. Air Force et al. and McDonnell Douglas Corporation, No. F33615-96-2-5051, 16 November 1995 (Panel Exhibit EC-513)) The Panel also noted that all of the "assistance instruments" submitted by the European Communities in this dispute used the terminology of "Grants Officer" and "Grants Administration Office", and refer to the other party as the "recipient", and not as a "contractor". (*Ibid.*, para. 7.1146)

575. Third, the Panel examined whether the USDOD had any "demonstrable use" for R&D performed under the 23 USDOD RDT&E programmes at issue.¹²¹⁶ The Panel noted that "{g}enerally, the purpose of these programmes was to conduct R&D aimed at designing more advanced weapons or other defense systems or to reduce the cost of such systems".¹²¹⁷ Nonetheless, the Panel observed that two of the USDOD programmes at issue (Dual Use Science and Technology ("DUS&T") and Manufacturing Technology ("ManTech")) "had the explicit objective of developing 'dual use' R&D", and that those two programmes were funded through assistance instruments.¹²¹⁸

576. Fourth, the Panel considered how intellectual property rights are allocated under USDOD contracts and assistance instruments. The Panel noted that, "{w}hile the allocation of patents is uniform across all U.S. government R&D contracts and agreements, the allocation of 'data rights' differs (depending on the extent to which there is cost-sharing.)"¹²¹⁹ The Panel explained that, whereas any data delivered under an R&D procurement contract funded solely by the government is "unlimited rights data", in the case of assistance instruments, the government acquires only "limited rights" data, meaning that it can release or disclose the data outside the government only for government purposes.¹²²⁰

577. Finally, the Panel examined whether the transactions "involve the typical elements of a purchase of services".¹²²¹ In this regard, the Panel pointed out that the R&D procurement contracts differ from the R&D assistance instruments with regard to the payment of a fee or profit. While the USDOD R&D assistance instruments do not provide for any fee or profit, all of the procurement contracts submitted to the Panel appear to provide for the payment of a fee.¹²²²

578. On the basis of the foregoing, the Panel concluded that the USDOD assistance instruments are not properly characterized as purchases of services, but that the USDOD procurement contracts are.¹²²³ The Panel noted that the distinction between the procurement contracts and assistance

¹²¹⁶Panel Report, paras. 7.1147 and 7.1148. The Panel referred in particular to the purpose of the programmes as reflected in the "Mission Description" statement contained in the RDT&E programme budgets. (*Ibid.*, para. 7.1147)

¹²¹⁷Panel Report, para. 7.1147.

¹²¹⁸Panel Report, para. 7.1148.

¹²¹⁹Panel Report, para. 7.1149.

¹²²⁰Panel Report, paras. 7.1149 and 7.1150. (emphasis omitted) The Panel added that the government "may, however, 'use, modify, release, reproduce, perform, display, or disclose' such jointly-funded data 'within the government without restriction'". (*Ibid.*, footnote 2723 to para. 7.1150 (referring to *United States Code of Federal Regulations*, Title 48, section 227.7103-4(a)(1) (Panel Exhibit EC-590)))

¹²²¹Panel Report, para. 7.1151.

¹²²²Panel Report, para. 7.1151.

¹²²³Panel Report, para. 7.1153.

instruments "is not one of the Panel's own making"¹²²⁴ but, rather, had been drawn to the Panel's attention by the United States.¹²²⁵

579. In closing, the Panel addressed some of the specific arguments advanced by the parties with respect to the characterization of the USDOD measures.¹²²⁶ The Panel rejected various arguments put forward by the United States in support of its proposition that the assistance instruments are properly characterized as purchases of services.¹²²⁷ The Panel stated that it was not persuaded by the United States' arguments that the technologies developed under the USDOD R&D programmes are neither "technologically applicable" to commercial aircraft (because of the different missions and cost-sensitivities of military and commercial aircraft), nor "legally applicable" to commercial aircraft (because of Boeing's decision to ensure that the 787 is International Traffic in Arms Regulations ("ITAR")-free).¹²²⁸ The Panel also rejected the United States' assertion that the ITAR make it "effectively impossible" for Boeing to utilize any of the R&D performed under USDOD R&D procurement contracts and assistance instruments towards LCA.¹²²⁹

580. The Panel then turned to arguments by the European Communities that the USDOD R&D procurement contracts are not purchases of services. The Panel rejected a number of the European Communities' arguments, namely: that USDOD R&D contracts are not purchases of services because they "relate to {US}DOD's purchase of goods" (that is, the military aircraft and other defence systems that the USDOD ultimately procures¹²³⁰); that there is a "degree of artificiality" in how the USDOD finances R&D because, instead of paying one purchase price for its goods, the USDOD pays for R&D through its RDT&E budget and then pays for acquisition costs through its procurement budget¹²³¹; that USDOD R&D contracts are not properly characterized as purchases of

¹²²⁴Panel Report, para. 7.1153.

¹²²⁵Panel Report, para. 7.1153 (referring to United States' first written submission to the Panel, footnote 75 to para. 90). The Panel noted that, while the European Communities had argued that consideration of the types of instrument is "too formalistic" to guide the analysis, the United States had asserted that, under US law, the type of instrument will determine which contract clauses are available. (*Ibid.* (referring to United States' comments on the European Communities' response to Panel Question 19, para. 75))

¹²²⁶Panel Report, paras. 7.1154-7.1170.

¹²²⁷Panel Report, para. 7.1157 (referring to United States' first written submission to the Panel, para. 92). In particular, the United States highlighted that assistance instruments: (i) typically committed Boeing to a coordinated research and development programme in accordance with a detailed statement of work; (ii) set a schedule for performance of research, and tied payments to completion of the requisite tasks; and (iii) specified that costs would be governed by the same rules applicable to contracts, and that Boeing would provide a final report, as well as quarterly reports and reports upon the achievement of certain milestones. (*Ibid.*, para. 7.1155)

¹²²⁸Panel Report, para. 7.1158.

¹²²⁹Panel Report, para. 7.1160.

¹²³⁰Panel Report, para. 7.1162 (quoting and referring to European Communities' second written submission to the Panel, para. 454).

¹²³¹Panel Report, para. 7.1163 (referring to European Communities' second written submission to the Panel, paras. 475 and 476).

services because the USDOD conveys monetary resources to Boeing for the purpose of conducting dual-use R&D¹²³²; that the USDOD R&D contracts at issue do not contain the "typical elements of a purchase"¹²³³; that the contracts are not purchases of services because Boeing does not offer such R&D services to anyone else but NASA and the USDOD¹²³⁴; that the USDOD contracts are not purchases of services because they do not exclusively affect trade in services¹²³⁵; and, finally, that the USDOD procurement contracts are not purchases of services because they help Boeing develop technology that it utilizes towards its LCA.¹²³⁶

581. On the basis of the above, the Panel concluded with respect to the USDOD R&D procurement contracts as follows:

The evidence relating to {US}DOD aeronautics R&D ... leads to the conclusion that the work that Boeing performed under its aeronautics R&D contracts with {US}DOD was principally for the benefit and use of {US}DOD, and is therefore properly characterized as a "purchase of services". Therefore, the Panel finds that the payments and access to facilities provided to Boeing under {US}DOD contracts are not financial contributions within the meaning of Article 1.1(a)(1).¹²³⁷

582. However, with respect to the USDOD R&D assistance instruments, the Panel concluded that:

... the evidence demonstrates that the work Boeing performed under its aeronautics R&D "assistance instruments" with {US}DOD was principally for the benefit and use of Boeing itself. Accordingly, the Panel concludes that {US}DOD's R&D agreements (i.e. "assistance instruments") with Boeing are not properly characterized as "purchases of services". Therefore, the Panel finds that the payments made to Boeing under these agreements are covered by Article 1.1(a)(1)(i) of the SCM Agreement as a direct transfer of funds. The Panel further finds that the access to {US}DOD facilities provided to Boeing under these agreements constitutes a provision of goods or services within the meaning of Article 1.1(a)(1)(iii) of the SCM Agreement.¹²³⁸ (footnote omitted)

¹²³²Panel Report, para. 7.1165 (referring to European Communities' second written submission to the Panel, para. 453).

¹²³³Panel Report, para. 7.1166 (referring to European Communities' response to Panel Question 15(c); and European Communities' comments on the United States' response to Panel Question 20(a), para. 75).

¹²³⁴Panel Report, para. 7.1167.

¹²³⁵Panel Report, para. 7.1168 (referring to European Communities' response to Panel Question 15(c), para. 66).

¹²³⁶Panel Report, para. 7.1170.

¹²³⁷Panel Report, para. 7.1171.

¹²³⁸Panel Report, para. 7.1171.

3. The Panel's General Approach

583. The European Union and the United States frame their respective appeals on the basis of the inquiry entered into by the Panel, namely, whether purchases of services are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement* and, if so, whether the challenged measures can be properly characterized as purchases of services. On appeal, therefore, both participants take as a given the terms upon which the Panel engaged in the analysis of the matter before it.

584. We note that the characterization of the measures challenged by the European Communities was heavily contested from the outset of this dispute. In its first written submission to the Panel, the European Communities characterized the payments made to Boeing under the challenged NASA and USDOD measures as direct transfers of funds falling within the scope of Article 1.1(a)(1)(i) of the *SCM Agreement*.¹²³⁹ The European Communities also claimed that the other support provided under the measures constitutes the provision of goods and services under Article 1.1(a)(1)(iii).¹²⁴⁰ The United States responded that the measures pursuant to which these payments and other support were provided are properly characterized as purchases of services, a category of transactions that the United States claimed to be excluded from the scope of Article 1.1(a)(1)(i).¹²⁴¹

585. The Panel was therefore confronted with contrasting characterizations of the NASA and USDOD measures before it. However, instead of first resolving the dispute over the proper characterization of the measures, the Panel embarked on an interpretative exercise based on the assumption that the measures are purchases of services. Only after it had completed its interpretative exercise on the basis of that assumption did the Panel return to the question of what was the proper characterization of the measures at issue. This seems an odd approach. It would seem more logical to determine first the issue of the proper characterization of the measures at issue and, once the measures

¹²³⁹See, for instance, European Communities' first written submission to the Panel, paras. 524, 650, and 762; and European Communities' second written submission to the Panel, paras. 332-334 and 362.

¹²⁴⁰See European Communities' first written submission to the Panel, paras. 524-650 and 762; and European Communities' second written submission to the Panel, paras. 335 and 398.

¹²⁴¹See, for instance, United States' first written submission to the Panel, paras. 41-48.

have been properly determined, to examine the question of whether such types of measures fall within the scope of Article 1.1(a)(1) of the *SCM Agreement*.¹²⁴²

586. The Appellate Body has said that a "panel must thoroughly scrutinize the measure before it, both in its design and in its operation, and identify its principal characteristics"¹²⁴³, and that, "{i}n making its objective assessment of the applicability of specific provisions of the covered agreements to a measure properly before it, a panel must identify *all* relevant characteristics of the measure, and recognize which features are the most central to that measure itself, and which are to be accorded the most significance for purposes of characterizing the relevant {measure} and, thereby, properly determining the discipline(s) to which it is subject under the covered agreements".¹²⁴⁴ The Appellate Body has therefore clarified that a proper determination of which provision of the WTO agreements applies to a given measure must be grounded in a proper understanding of the measure's relevant characteristics. In this regard, we note that the classification of a transaction under municipal law is not "determinative"¹²⁴⁵ of whether that measure can be characterized as a financial contribution under Article 1.1(a)(1) of the *SCM Agreement*. Moreover, the Appellate Body has "reviewed the meaning of a Member's municipal law, on its face, to determine whether the legal characterization by the panel was in error, in particular when the claim before the panel concerned whether a specific instrument of municipal law was, as such, inconsistent with a Member's obligations".¹²⁴⁶

¹²⁴²In their arguments to the Panel, the parties seemed to accept that, in its assessment of the type of financial contribution, the Panel was required to determine the nature of the measures before it. The European Communities stated that:

{w}ith regard to financial contribution, the European Communities and the United States both agree that "the substance of the transaction must guide the analysis of whether it provides a financial contribution and, if so, what kind". The European Communities has explained that a substantive examination of the NASA and {US}DOD contracts at issue shows that they result in direct transfers of funds and provisions of goods and services, since they convey economic resources to Boeing.

(European Communities' oral statement at the second Panel meeting, para. 46 (quoting United States' comments on the European Communities' response to Panel Question 20, para. 76) (footnotes omitted))

¹²⁴³Appellate Body Reports, *China – Auto Parts*, para. 171.

¹²⁴⁴Appellate Body Reports, *China – Auto Parts*, para. 171. (original emphasis)

¹²⁴⁵See Appellate Body Report, *US – Softwood Lumber IV*, para. 56.

¹²⁴⁶Appellate Body Reports, *China – Auto Parts*, para. 225 (referring to Appellate Body Report, *US – Section 211 Appropriations Act*, para. 106).

587. We note that the Panel in this dispute did not ultimately arrive at a definitive characterization of the NASA procurement contracts and USDOD assistance instruments. According to the Panel, these measures are not purchases of services, nor grants.¹²⁴⁷ However, having rejected the characterization advocated by each party, the Panel never provided a definitive view on what it considered to be the correct characterization of these measures. Instead, the Panel arrived at the conclusion that the payments and other support are financial contributions by exclusion. This conclusion seems to have proceeded mechanically from the Panel's conclusion that the NASA procurement contracts and USDOD assistance instruments *are not* purchases of services. The reason why one conclusion—that the relevant measures are direct transfers of funds—follows mechanically from the other—that the same measures are not purchases of services—is not explained by the Panel.

588. The other curious feature about the Panel's approach is that it framed its inquiry as one seeking to determine whether a category of measures not expressly mentioned (purchases of services) is "excluded" from the scope of Article 1.1(a)(1) of the *SCM Agreement*. It is not clear to us why, in the face of arguments by the European Communities that the payments under the contracts fall *within* the scope of Article 1.1(a)(1)(i) because they are grants—a category of financial contributions expressly mentioned in that provision—the Panel started from the premise that it was required to determine whether purchases of services—a category that is *not* mentioned in that provision—are excluded from its scope.

589. We consider that the Panel should first have examined the measures to determine their relevant characteristics, and then considered whether, in the light of a proper interpretation of Article 1.1(a)(1), these measures, properly characterized, fall within the scope of that provision. Given that the Panel failed to undertake a proper analysis of the characterization of the measures at issue, we begin, in subsection 4, with an examination of the measures before us on appeal—that is, the NASA procurement contracts and the USDOD assistance instruments—in order to determine what are their relevant characteristics. Next, in subsection 5, we consider the terms and scope of Article 1.1(a)(1) of the *SCM Agreement*. Finally, in subsection 6, we determine whether, in the light of their relevant characteristics, the NASA procurement contracts and USDOD assistance instruments fall within any of the four categories of financial contributions covered by Article 1.1(a)(1) of the *SCM Agreement*.

¹²⁴⁷See, respectively, Panel Report, paras. 7.1027 and 7.1171; and para. 7.1100, footnote 2552 to para. 7.1027, and footnote 2757 to para. 7.1171.

590. We note that the conclusion as to the proper characterization of the measures may have consequences for the scope of our inquiry. For instance, if we were to find that the measures are of a type that fall within the scope of Article 1.1, there would be no reason for us to examine whether purchases of services fall within the scope of Article 1.1(a)(1) of the *SCM Agreement*. Whether or not purchases of services are covered by Article 1.1(a)(1) would be irrelevant to the question of whether the measures before us—the NASA procurement contracts and USDOD assistance instruments—constitute financial contributions. This would render moot the European Union's appeal of the Panel's interpretation that purchases of services are excluded from the scope of Article 1.1(a)(1)(i). It would also render moot the United States' appeal of the Panel's application of the test it developed for determining whether the measures could be properly characterized as purchases of services.

591. Before proceeding further, we wish to make a general remark about the Panel's test for determining whether the measures could properly be characterized as purchases of services. As it turns out, the Panel's test is of limited relevance to us given the analytical approach that we have adopted. We also recognize that neither participant directly challenged on appeal the test developed by the Panel to determine whether the measures could properly be characterized as purchases of services. Nevertheless, we wish to note some concerns that we have with the Panel's test. We have difficulty understanding the legal basis of the test, which does not appear to us to be grounded in the terms of Article 1.1(a)(1) of the *SCM Agreement*. Moreover, formulated as it is, requiring an inquiry into the degree to which either party (Boeing, or the government/unrelated third parties) derives a disproportionate "benefit" from the transaction, we fear that the test risks conflating the financial contribution and benefit elements of a subsidy analysis.¹²⁴⁸ Finally, the Panel's use of the term "benefit" in its "principally for the benefit and use" test is somewhat misleading, as this term has a particular legal meaning under Article 1.1(b) of the *SCM Agreement*.

¹²⁴⁸We are cognizant of prior findings of the Appellate Body that these two inquiries should be kept distinct. (See Appellate Body Report, *Brazil – Aircraft*, para. 157)

4. What is the Proper Characterization of the NASA/USDOD Measures at Issue?

592. We turn to the measures before us on appeal, namely, the NASA procurement contracts and USDOD assistance instruments.

(a) NASA procurement contracts

593. The US legislative and regulatory framework indicates that procurement contracts are the instruments used when the US Government intends to make a purchase.¹²⁴⁹ The label given to an instrument under municipal law, however, is not dispositive and cannot be the end of our analysis, as the United States acknowledged before the Panel.¹²⁵⁰ Thus, we continue our assessment by looking at the other characteristics of the measures.

594. The United States argued that, under the procurement contracts, NASA paid Boeing to conduct research services.¹²⁵¹ There is no dispute that NASA made payments to Boeing under the procurement contracts; however, NASA did more than pay Boeing to conduct R&D. The transactions are composite in the sense that they involve a combination of elements. Some of the transactions also involved NASA providing Boeing with access to its equipment, facilities, and employees to undertake the research project. For example, pursuant to contract NAS1-20546, NASA was required to make available to McDonnell Douglas a single-needle computer-controlled stitching machine and a multi-needle stitching machine.¹²⁵² Under contract NAS1-20553, NASA was required

¹²⁴⁹Under US law, "procurement contracts are the appropriate legal instruments for acquiring ... property or services". *United States Code of Federal Regulations*, Title 48, section 21.605 defines "acquisition" as:

{t}he acquiring (by purchase, lease, or barter) of property or services for the direct benefit or use of the United States Government (see more detailed definition at 48 CFR 2.101). In accordance with 31 USC, 6303, procurement contracts are the appropriate legal instruments for acquiring such property or services.

Title 48, section 35.003 (Panel Exhibit US-23) elaborates on the requirement that a contract be used for acquisitions:

(a) *Use of contracts*. Contracts shall be used only when the principal purpose is the acquisition of supplies or services for the direct benefit or use of the Federal Government. Grants or cooperative agreements should be used when the principal purpose of the transaction is to stimulate or support research and development for another public purpose.

¹²⁵⁰Panel Report, para. 7.1131.

¹²⁵¹Panel Report, para. 7.975.

¹²⁵²Award contract between NASA and McDonnell Douglas Corporation, No. NAS1-20546, 18 September 1995 (Panel Exhibit EC-324). The United States did not contest that the two machines were provided by NASA. Instead, the United States argued that "the machines were not provided as distinct government action, but rather as an integral element of the terms of the contract for purchases of services between NASA and McDonnell Douglas". (United States' first written submission to the Panel, footnote 333 to para. 231)

to provide Boeing with a resin transfer moulding ("RTM") tool, a winding mandrel tool, a large cure tool, and an RTM and braiding tool, among others.¹²⁵³ Contract NAS1-97040 commits NASA to supply Boeing with phased array hardware, fan rig test hardware, transducers, instrumentation adaptors, anemometry sensors, and additional fan rig hardware.¹²⁵⁴ The Panel record also indicates that some of the contracts awarded to Boeing under the ACT programme provided for research teams that included NASA employees.¹²⁵⁵

595. The Panel attributed considerable importance to the access to facilities, equipment, and employees provided by NASA and concluded that the value of such access was significantly higher than the value of the payments. The Panel estimated the value of the payments to be \$1.05 billion, while the access to equipment, facilities, and employees was estimated to have a value of \$1.55 billion.¹²⁵⁶ Thus, under the measures at issue, NASA provides Boeing with funding and also with access to its facilities, equipment, and employees, while Boeing contributes the labour of its own employees as well as the use of its own facilities. Therefore, in addition to the funding provided by NASA, the transactions involve NASA and Boeing pooling non-monetary resources and employees. Another relevant feature is that the subjects to be researched are often determined in a collaborative arrangement between NASA and the US aeronautics industry. As noted in more detail below, this was an aspect of the measures highlighted by the Panel in its analysis of serious prejudice.¹²⁵⁷

596. It is clear from the NASA procurement contracts and the arguments put forward by the United States that scientific and technical information, discoveries, and data are among the expected outcomes of the research jointly undertaken by Boeing and NASA. The scientific and technical information may be gathered in reports, the discoveries may be patentable, and the data may also be subject to certain intellectual property protection and to non-disclosure requirements. Boeing and NASA have different rights over the use of the results of the research. Both Boeing and NASA receive access to the scientific information gathered as part of the research. Title to any invention

¹²⁵³Award contract between NASA and Boeing Commercial Airplane Group, No. NAS1-20553, 25 September 1995 (Panel Exhibit EC-334).

¹²⁵⁴Award contract between NASA and Boeing Commercial Airplane Group, No. NAS1-97040, 10 January 1997 (Panel Exhibit US-421).

¹²⁵⁵See Panel Report, para. 7.1711 and footnotes 3602-3605 thereto.

¹²⁵⁶Panel Report, para. 7.1109. The United States has appealed the Panel's finding as to the total value of the access to facilities, equipment, and employees provided by NASA to Boeing. The United States' appeal is directed at the Panel's estimate of the payments made by NASA to Boeing, which was then used to estimate the value of the access to facilities, equipment, and employees. As the Panel noted, even using the United States' estimate of the payments provided by NASA to Boeing (\$775 million), the value of the access to facilities, equipment, and employees would be \$1.17 billion. (*Ibid.*, para. 7.1099) We recognize that this figure may include access to facilities, equipment, and employees provided under Space Act Agreements and not procurement contracts. Nevertheless, the United States seemed to indicate before the Panel that the value of goods and services provided under the Space Act Agreements was approximately \$88 million. (*Ibid.*, para. 7.1092)

¹²⁵⁷See *infra*, para. 610.

discovered as part of the research will belong to Boeing under NASA's waiver provisions.¹²⁵⁸ The US Government (of which NASA is a part) receives a royalty-free, government use/purpose license to use the subject invention.¹²⁵⁹ Under this arrangement, Boeing is not required to pay any royalties to NASA for any resulting commercial rewards.¹²⁶⁰ Boeing obtains rights over the data developed in the course of performing research, while the US Government receives a royalty-free, "unlimited rights" license to use, for government purposes, any data produced by the contractor in the course of performing research funded by NASA.¹²⁶¹ Some of the contracts contain "Limited Exclusive Rights Data" ("LERD") clauses, which limit the otherwise "unlimited rights" that the US Government would normally have in the data developed in the course of the contracted research. As the Panel explained, these LERD clauses grant Boeing exclusive rights to exploit critical technologies developed under certain NASA contracts for at least five years from the date the data is reported. The Panel further explained that "the NASA R&D contracts that contained LERD clauses involved 'joint funding situation{s}', i.e. contractors were 'contributing a significant amount of their own resources to contract research efforts'".¹²⁶² Hence, looking at the output side of the transactions, we do not see a straightforward exchange of monetary resources for some kind of non-monetary consideration. Instead, the fruits of the research are shared between Boeing and NASA. The fact that the results of the research may be shared asymmetrically does not alter the conclusion that the research is a collaborative arrangement.

597. In summary, we see these transactions as involving the provision of funds from NASA and a pooling of non-monetary resources (such as access to equipment, facilities, and employees) on the input side.¹²⁶³ As explained above, they also involve some sharing of the fruits of the research on the output side. The transactions are collaborative arrangements that are composite in nature in that they involve various elements that are interlinked. The arrangements are akin to a species of joint venture.

598. Several of the statements by NASA officials quoted by the Panel emphasize the partnership between NASA and the US aerospace industry.¹²⁶⁴ While we do not think that it would be appropriate to place too much emphasis on these statements—given that NASA officials would have had an incentive to overstate the cooperation in order to justify obtaining funding for NASA—they

¹²⁵⁸See Panel Report, paras. 7.1288-7.1290; see also para. 7.1024.

¹²⁵⁹Panel Report, para. 7.1024.

¹²⁶⁰Panel Report, para. 7.1024.

¹²⁶¹Panel Report, para. 7.1024.

¹²⁶²Panel Report, para. 7.1024.

¹²⁶³As noted *supra*, para. 596, it would appear that Boeing contributed its own funds to some of the research projects.

¹²⁶⁴See *infra*, para. 610.

nevertheless lend further support to the conclusion that the transactions between Boeing and NASA are comprised of a number of elements and are collaborative in nature.

599. For example, the Panel quotes the response of NASA's Administrator to a question from the US Senate Committee on Commerce, Science and Transportation, in which he states:

NASA generally performs its research in cooperation with the aeronautics industry, thereby providing some direct mechanisms for technology transfer. However, we are stepping up our efforts to increase and improve industry involvement both in planning and implementing our programs. Additionally, much of the Aeronautics investment, beginning in FY 1994, is aimed at developing technologies to a more advanced stage, reducing the risks sufficiently for industry commercialization. Industry's partnership in the NASA program should allow manufacturers to easily continue the technology development through commercialization, as desired. Furthermore, the natural advantage U.S. industry is afforded through direct partnership in the NASA technology development program will be supported by NASA contracts and cooperative agreements
...¹²⁶⁵

We note that, in the statement quoted above, NASA's Administrator asserts that the "direct partnership" between NASA and the US aerospace industry is supported by both NASA *contracts* and cooperative agreements.

600. In another statement quoted by the Panel, the NASA Administrator downplays the importance of the funding provided by NASA and instead highlights the importance of the partnership:

{I}f the Europeans are going to make small, marginal improvements with what we're saying here, we'll whip them. Money is not the magic ingredient. The partnership is. It is absolutely clear.¹²⁶⁶

601. Having reviewed the NASA procurement contracts, we turn next to the USDOD assistance instruments.

¹²⁶⁵Panel Report, para. 7.988 (quoting Competitiveness of the Aerospace Industry Hearing on S. 419 before the US Senate Committee on Commerce, Science, and Transportation, 103rd Congress, first session (19 May 1993) (Panel Exhibit EC-273), p. 81).

¹²⁶⁶Panel Report, para. 7.987 (quoting statement by NASA Administrator Dan Goldin in testimony to Congress at the 24 April 2001 Senate Hearing on Science, Technology and Space of the Committee on Commerce, Science and Transportation, FDCH Political Transcripts (Panel Exhibit EC-292), p. 13).

(b) USDOD assistance instruments

602. The USDOD assistance instruments before us include cooperative agreements and technology investment agreements, both of which are considered instruments used to provide "assistance" under the US federal regulations. They also include certain "other transactions" entered into by the USDOD under section 2371 of Title 10 of the *United States Code*. These are transactions other than contracts, cooperative agreements, and grants that may be entered into to carry out basic, applied, and advanced research projects.

603. The Panel noted that US law draws a distinction between "assistance" and "acquisition". "Assistance" is defined as follows:

§ 21.615 Assistance

The transfer of a thing of value to a recipient to carry out a public purpose of support or stimulation authorized by a law of the United States (see 31 USC 6101(3)). Grants, cooperative agreements, and technology investment agreements are examples of legal instruments used to provide assistance.

By contrast, "acquisition" is defined as:

{t}he acquiring (by purchase, lease, or barter) of property or services for the direct benefit or use of the United States Government (see more detailed definition at 48 CFR 2.101). In accordance with 31 USC 6303, procurement contracts are the appropriate legal instruments for acquiring such property or services.¹²⁶⁷

604. The first thing that strikes us as we review the USDOD transactions is that the definition of "assistance" in the federal regulations has language that is similar to that in Article 1.1(a)(1)(i) of the *SCM Agreement*. Like Article 1.1(a)(1)(i), the definition of "assistance" refers to a "transfer" from the government to an enterprise. It also brings to mind the Appellate Body's statement that the "evaluation of the existence of a financial contribution involves consideration of the nature of the transaction through which something of economic value is transferred by a government".¹²⁶⁸ Nevertheless, as we have stated above, the particular label that a transaction receives under municipal law is not determinative, and we must thus examine the principal characteristics of the measures before us. As we did with the NASA procurement contracts, we will look at the input and output sides of the transactions under the USDOD assistance instruments.

¹²⁶⁷ *United States Code of Federal Regulations*, Title 32, section 21.605.

¹²⁶⁸ Appellate Body Report, *US – Softwood Lumber IV*, para. 52.

605. A second feature about the assistance instruments that stands out is that both the USDOD and Boeing contribute financial resources to the research project. This is a feature that the United States has emphasized in its appeal of the Panel's findings of benefit.¹²⁶⁹ Our review of the assistance instruments on record confirms that they commit Boeing to contribute financial resources to the project, although, in all cases, the USDOD funds at least 50% of the costs. In other words, the assistance instruments provide for the joint funding of the research projects.

606. A further feature to note is the degree of USDOD involvement that is called for under the cooperative agreements, one of the instruments that the Panel included among the assistance instruments. The United States itself distinguished the cooperative agreements from grants by noting that "the government will have 'substantial involvement' in the work done under a cooperative agreement, including collaboration, participation, or intervention".¹²⁷⁰

607. Moreover, as with the NASA procurement contracts, the USDOD provides more than funding for the projects. The USDOD also provides Boeing with access to its facilities under some of the assistance instruments.¹²⁷¹ In addition, as the Panel noted in its analysis of serious prejudice, the subjects to be researched are often decided in collaboration between the USDOD and Boeing.¹²⁷² Thus, from the funding perspective, the measures involve a pooling of monetary and non-monetary resources.

608. Turning to the outputs expected from the transactions, we note that the situation is similar to that under the NASA procurement contracts. Scientific information is shared between the parties. Boeing obtains title to any inventions and the US Government receives a royalty-free government use/purpose licence to use the invention.¹²⁷³ Boeing also obtains rights over the data.¹²⁷⁴ For its part, the US Government obtains only "limited rights" over the data. These rights are more limited in the case of the assistance instruments than the NASA procurement contracts because Boeing co-funds the research under the USDOD assistance instruments. The Panel explained that, in such cases, the government generally "may release or disclose the data outside the government *only* for government

¹²⁶⁹United States' other appellant's submission, para. 119.

¹²⁷⁰United States' response to Panel Question 20(a), para. 45 (quoting *United States Code of Federal Regulations*, Title 32, section 22.215(a)(2) (Panel Exhibit US-1214)).

¹²⁷¹Panel Report, para. 7.1171.

¹²⁷²See *infra*, para. 610.

¹²⁷³Panel Report, para. 7.1149.

¹²⁷⁴The Panel noted that, "{a}s a general rule, contractors own all technical data (i.e. data rights) produced with U.S. government funding, and may use these for their own commercial purposes". (Panel Report, para. 7.1296)

purposes (government purpose rights)".¹²⁷⁵ It further noted that "the term for these 'government purpose rights' is negotiable, with five years being the baseline, subject to negotiation between the parties".¹²⁷⁶ Therefore, from the perspective of the outputs, these measures involve a sharing of the fruits of the research.

609. Accordingly, the transactions under the USDOD assistance instruments are composite in that they involve a combination of funding and access to facilities. They are collaborative in nature, as they involve the USDOD and Boeing pooling monetary and non-monetary resources on the input side and some sharing of the fruits of the research on the output side. Indeed, before the Panel, the United States described the assistance instruments as transactions in which the "{US}DOD and the contractor *both* put forward resources to achieve a common goal for the benefit of both".¹²⁷⁷ As we have noted earlier, these are not the usual characteristics of a purchase transaction. Rather, these features resemble a joint venture arrangement.

- (c) The Panel's description of the transactions in its analysis of serious prejudice

610. Although the Panel did not focus in its assessment of financial contribution on the composite nature of the measures and the collaborative relationship between NASA/USDOD and Boeing, the Panel did highlight these features in the section of its Report that addresses the European Communities' claims of serious prejudice. The Panel stated that the aeronautics R&D subsidies operated as "collaborative research projects".¹²⁷⁸ This collaboration was evident, according to the Panel, in how the research priorities were determined. For example, the Panel found that "the evidence shows that the R&D was often undertaken at the behest of and in close collaboration with the U.S. industry".¹²⁷⁹ It further found that "the focus of the research under the aeronautics R&D programmes on areas of primary strategic importance to the U.S. civil aircraft industry is hardly surprising given that the definition of the scope and programme of research was arrived at in collaboration with industry."¹²⁸⁰ The Panel also referred to "Boeing's collaboration with NASA in

¹²⁷⁵Panel Report, para. 7.1150 (quoting *United States Code of Federal Regulations*, Title 48, section 227.7103-4(a)(1) (Panel Exhibit EC-590)). (emphasis added by the Panel) The Panel clarified, however, that the government may "use, modify, release, reproduce, perform, display or disclose" such jointly-funded data "within the Government without restriction". (*Ibid.*, footnote 2723 to para. 7.1150 (quoting *United States Code of Federal Regulations*, Title 48, section 227.7103-4(a)(1)))

¹²⁷⁶Panel Report, para. 7.1150 (quoting *United States Code of Federal Regulations*, Title 48, section 227.7103-5(b)(2) (Panel Exhibit EC-590)).

¹²⁷⁷United States' first written submission to the Panel, para. 97. (original emphasis)

¹²⁷⁸Panel Report, para. 7.1746.

¹²⁷⁹Panel Report, para. 7.1709.

¹²⁸⁰Panel Report, para. 7.1745.

specifying and planning the research tasks that it would undertake for NASA".¹²⁸¹ As regards the USDOD's ManTech and DUS&T programmes, the Panel observed that these programmes "envisage collaboration with industry in developing technologies, including cost reduction processes and practices that have application in the civil sector".¹²⁸² Furthermore, the Panel made findings as to the various components and collaborative nature of the learning process. The Panel found that "the evidence before {it was} consistent with a pattern whereby the technology concepts studied under the NASA R&D subsidies and the technologies applied to the 787 are essentially part of the same process in which solutions to technological problems are developed (through a collective exercise of progressive learning through trial and error involving largely the same teams of people over an extended period of time)."¹²⁸³ The Panel again pointed to the collaborative nature of the arrangements between Boeing and NASA/USDOD in the conclusion of its analysis of the operation of the aeronautics R&D subsidies:

For the reasons set forth above, we would characterize the NASA R&D subsidies as strategically-focused R&D programmes with a significant and pervasive commercial dimension, *undertaken in collaboration* with U.S. industry to provide competitive advantages to U.S. industry by funding research into high risk, high pay-off research of the sort that individual companies are unlikely to fund on their own. The {US}DOD R&D subsidies funded through the ManTech and DUS&T programmes under {US}DOD's RDT&E Program are focused on pursuing "dual use" technologies through *collaborative efforts* with U.S. industry.¹²⁸⁴ (emphasis added)

Hence, the Panel's discussion of the collaborative relationship between Boeing, on the one hand, and NASA/USDOD, on the other hand, is consistent with our assessment of the principal characteristics and the composite nature of the transactions undertaken pursuant to the NASA procurement contracts and pursuant to the USDOD assistance instruments.

(d) Summary of the main characteristics of the measures

611. We have carefully scrutinized the transactions under the NASA procurement contracts and under the USDOD assistance instruments and have been able to identify their principal characteristics. The transactions are composed of the following elements. The NASA procurement contracts and USDOD assistance instruments involve the commitment of resources from both parties. In the case of the NASA procurement contracts, NASA commits to provide financial resources and contributes the use of its facilities, equipment, and employees, while Boeing contributes the work of its scientists and

¹²⁸¹ Panel Report, para. 7.1746.

¹²⁸² Panel Report, para. 7.1740.

¹²⁸³ Panel Report, para. 7.1750.

¹²⁸⁴ Panel Report, para. 7.1764.

engineers.¹²⁸⁵ Under the USDOD assistance instruments, the USDOD commits to provide financial resources and access to its facilities, and Boeing contributes the work of its scientists and engineers, as well as its own financial resources. Thus, both types of instruments involve monetary and non-monetary contributions. Moreover, the subjects to be researched are often determined collaboratively between NASA/USDOD and Boeing. The fruits of the research are shared between Boeing and NASA or Boeing and the USDOD. Boeing obtains title to inventions and rights to the data that allow use for commercial purposes, while the US Government obtains a royalty-free licence to use the technology or data for government purposes only. Accordingly, the transactions under the NASA procurement contracts and under the USDOD assistance instruments are akin to a species of joint venture.

5. The Types of Financial Contributions Covered by Article 1.1(a)(1) of the SCM Agreement

612. We turn now to Article 1.1(a)(1) of the *SCM Agreement*, which provides:

Definition of a Subsidy

1.1 For the purpose of this Agreement, a subsidy shall be deemed to exist if:

(a)(1) there is a financial contribution by a government or any public body within the territory of a Member (referred to in this Agreement as "government"), i.e. where:

(i) a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees);

(ii) government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits);

(iii) a government provides goods or services other than general infrastructure, or purchases goods;

(iv) a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments{.}

¹²⁸⁵As noted *supra*, para. 596, it would appear that Boeing contributed financial resources to some of the research projects.

613. Beginning with the general architecture and structure of the provision, we note that Article 1.1(a)(1) defines and identifies the government conduct that constitutes a financial contribution for purposes of the *SCM Agreement*. Subparagraphs (i)-(iv) exhaust the types of government conduct deemed to constitute a financial contribution. This is because the introductory chapeau to the subparagraphs states that "there is a financial contribution by a government ..., i.e. *where*:". ¹²⁸⁶ Some of the categories of conduct—for instance those specified in subparagraphs (i) and (ii)—are described in general terms with illustrative examples that provide an indication of the common features that characterize the conduct referred to more generally. Article 1.1(a)(1), however, does not explicitly spell out the intended relationship between the constituent subparagraphs. ¹²⁸⁷ Finally, the subparagraphs focus primarily on the action taken by the government or a public body.

614. Subparagraph (i) of Article 1.1(a)(1) identifies, as one type of financial contribution, a government practice involving "a direct transfer of funds". It indicates action involving the conveyance of funds from the government to the recipient. The Appellate Body has endorsed a meaning of "funds" that includes not only money, but also financial resources and other financial claims more generally. ¹²⁸⁸ The direct transfer of funds in subparagraph (i) therefore captures conduct on the part of the government by which money, financial resources, and/or financial claims are made available to a recipient.

615. Article 1.1(a)(1)(i) lists in brackets examples of direct transfers of funds ("e.g. grants, loans, and equity infusion"). As the Appellate Body has confirmed, the fact that the words "grants, loans, and equity infusion" are preceded by the abbreviation "e.g.", indicates that they are cited as examples of transactions falling within the scope of Article 1.1(a)(1)(i). ¹²⁸⁹ These examples, which are illustrative, do not exhaust the class of conduct captured by subparagraph (i). The inclusion of specific examples nevertheless provides an indication of the types of transactions intended to be covered by the more general reference to "direct transfer of funds". ¹²⁹⁰ Indeed, in *Japan – DRAMs (Korea)*, the Appellate Body found that transactions that are similar to those expressly listed in

¹²⁸⁶Emphasis added. Neither participant disputed this interpretation of Article 1.1(a)(1) at the oral hearing.

¹²⁸⁷The structure of that provision does not expressly preclude that a transaction could be covered by more than one subparagraph. There is, for example, no "or" included between the subparagraphs.

¹²⁸⁸See Appellate Body Report, *Japan – DRAMs (Korea)*, para. 250.

¹²⁸⁹Appellate Body Report, *Japan – DRAMs (Korea)*, para. 251.

¹²⁹⁰At the oral hearing, the United States referred to the Latin canon of construction, "*ejusdem generis*", which provides that, when a general word or phrase follows a list of specific persons or things, the general word or phrase will be interpreted to include only persons or things of the same type as those listed. (*Black's Law Dictionary*, 7th edn (West Group, 1999), p. 535) In our view, the doctrine would equally apply to situations where the general word or phrase precedes the specified list.

subparagraph (i)—in that case, debt forgiveness, the extension of a loan maturity, and debt-to-equity swaps—are also covered by that provision.¹²⁹¹

616. Turning to the first example—a "grant"—we note that, in such a transaction, money or money's worth is given to a recipient, normally without an obligation or expectation that anything will be provided to the grantor in return.¹²⁹² "Loans" and "equity infusions" are characterized by reciprocity. With a loan, the lender lends money or money's worth on the basis that the principal, along with interest as may be agreed, is repaid. Under a loan, the lender will usually earn a return on the amount borrowed. In the case of an equity infusion, a government's provision of capital to a recipient is made in return for the acquisition of shares. The provider of the capital thereby makes an investment in the recipient enterprise¹²⁹³ and will be entitled to the dividends or any capital gains attributable to that investment. The returns on the investment will depend on the success of the recipient enterprise. At the time the government provides the capital, it does not know how the recipient enterprise will perform. The equity investor enjoys a return on its capital to the extent the enterprise succeeds, and suffers losses in capital to the extent it fails.

617. It is clear from the examples in subparagraph (i) that a direct transfer of funds will normally involve financing by the government to the recipient. In some instances, as in the case of grants, the conveyance of funds will not involve a reciprocal obligation on the part of the recipient. In other cases, such as loans and equity infusions, the recipient assumes obligations to the government in exchange for the funds provided.¹²⁹⁴ Thus, the provision of funding may amount to a donation or may involve reciprocal rights and obligations.

618. We turn now to subparagraph (iii) of Article 1.1(a)(1), which identifies another type of financial contribution. That subparagraph contemplates two distinct types of transaction: the first is where a government "provides goods or services other than general infrastructure"; and the second relates to situations in which a government "purchases goods" from an enterprise. In the case of the provision of goods or services, subparagraph (iii) does not specify whether the goods or services are

¹²⁹¹Appellate Body Report, *Japan – DRAMs (Korea)*, paras. 251 and 252.

¹²⁹²Grants can take many forms. Some conditional grants, for example, require the recipient to use the funds for a specific purpose. Other conditional grants may require a recipient to itself raise part of the funds needed for a project.

¹²⁹³This notion of an investment through an equity infusion is reinforced by Article 14(a) of the *SCM Agreement*, which expressly provides that the determination of whether an equity infusion confers a benefit must be made based on whether the "investment decision" is *inconsistent* with the "usual investment practice" of private investors in the territory of the Member.

¹²⁹⁴The fact that there is an element of reciprocity in some of the transactions listed as examples in subparagraph (i) does not mean that what is provided to the government by the recipient in return for the funds must be equivalent to the value of the funds. That issue becomes relevant in the subsequent assessment of benefit under Article 1.1(b) of the *SCM Agreement*.

provided gratuitously or in exchange for money or other goods or services. Thus, the provision of goods or services may include transactions in which the recipient is not required to make any form of payment, as well as transactions in which the recipient pays for the goods or services. Therefore, what is captured in the first sub-clause of subparagraph (iii), as well as in subparagraph (i), is a government's provision of goods or services, or of funds, irrespective of whether this is done gratuitously or in exchange for consideration. The difference between the two types of government conduct, however, lies in what is being transferred by the government. Under subparagraph (i), the government transfers financial resources, while under subparagraph (iii) (first sub-clause), the government provides a good or service.

619. With respect to the second sub-clause of subparagraph (iii)—where a government "purchases goods"—we note that the goods are provided *to* the government by the recipient, in contrast to the first sub-clause of that paragraph, where the goods are provided *by* the government. There are two additional differences between the first and second sub-clauses of subparagraph (iii). The second sub-clause uses the term "purchase", which is usually understood to mean that the person or entity providing the goods will receive some consideration in return. The other difference is that, in contrast to the first sub-clause that addresses the provision of goods *and services*, the second sub-clause refers only to purchases of "goods", and not of "services".¹²⁹⁵

620. The Panel in this dispute interpreted the omission of the term "services" from the second sub-clause of subparagraph (iii) as an indication that the drafters of the *SCM Agreement* did not intend measures constituting government purchases of services to be covered as financial contributions under Article 1.1(a)(1)(i).¹²⁹⁶ This interpretative issue does not need to be resolved by us because it is not relevant for purposes of resolving the dispute before us, that is, whether the NASA procurement contracts and USDOD assistance instruments, which we have found to resemble joint ventures, constitute financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*.¹²⁹⁷ We therefore *declare* the Panel's interpretation that "transactions properly characterized as purchases

¹²⁹⁵"Goods" are tangible items. They are often contrasted against "services", which are intangible. There are a number of distinctions usually drawn between services and goods. As opposed to goods, typical features of services include their immaterial, invisible, intangible, non-storable, and transitory nature. Services are usually produced and consumed simultaneously, while goods are not. However, it may be difficult to separate goods from services, for instance where services are an input or processing step in the production of goods.

¹²⁹⁶See Panel Report, paras. 7.955, 7.969, and 7.970.

¹²⁹⁷The Appellate Body proceeded in a similar manner in *US – Upland Cotton* with respect to the interpretation of Article 6.3(d) of the *SCM Agreement*.

of services are excluded from the scope of Article 1.1(a)(1)(i) of the SCM Agreement"¹²⁹⁸ to be moot and of no legal effect.

6. Do the NASA and USDOD Measures Raised on Appeal Constitute Financial Contributions within the Meaning of Article 1.1(a)(1) of the SCM Agreement?

621. Having identified the principal characteristics of the measures before us and interpreted the relevant provisions of Article 1.1(a)(1), we must now determine whether the measures fall under one of the subparagraphs of Article 1.1(a)(1) of the *SCM Agreement*. We begin with subparagraph (i), which we recall refers to "a government practice {that} involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees)". As we have noted above, the examples listed in subparagraph (i) provide an indication of the types of transactions intended to be covered by the more general reference to "direct transfer of funds".

622. With respect to the examples in Article 1.1(a)(1)(i), we observe several similarities between the collaborative undertakings that are the NASA/USDOD measures before us and equity infusions. We recall that, in the case of an equity infusion, a government's provision of capital to a recipient is made in return for the acquisition of shares. The provider of the capital thereby makes an investment in the recipient enterprise, and will be entitled to the dividends or any capital gains attributable to that investment. The return of the investment will depend on the success of the recipient enterprise. At the time the government provides the capital, it does not know how the recipient enterprise will perform. The equity investor enjoys a return on its capital to the extent the enterprise succeeds, and suffers losses in capital to the extent it fails. This type of transaction can be replicated through other arrangements, such as by means of a joint venture.

623. Like equity investors, NASA and the USDOD provide funding. This funding is provided in the expectation of some kind of return. In the case of NASA and USDOD funding to Boeing, the return is not financial, but rather takes the form of scientific and technical information, discoveries, and data expected to result from the research performed. Again, like equity investors, NASA and the USDOD have no certainty at the time they commit the funding that the research will be successful. Success will depend on whether any inventions are discovered and the usefulness of the data

¹²⁹⁸Panel Report, para. 7.970. (emphasis omitted) Our findings of financial contributions regarding the payments and other support provided under the NASA procurement contracts and USDOD assistance instruments are based on the particular characteristics of those measures. We also declare moot the Panel's finding, in paragraph 7.1171 of its Report, that the USDOD procurement contracts are properly characterized as "purchases of services" and thus are not financial contributions under Article 1.1(a)(1). However, as neither participant has requested us to do so, we do not complete the analysis regarding the USDOD procurement contracts at issue in this dispute.

collected, as well as the scientific and technical information produced. NASA's and the USDOD's risks are limited to the amount of money they contribute and the opportunity cost of the other support they provide to the project, much like an equity investor. And like some equity investors, NASA and the USDOD contribute to the project by providing access to facilities, equipment, and employees.

624. In sum, the particular characteristics of the NASA procurement contracts and USDOD assistance instruments before us are such that, in our view, they are most appropriately characterized as being akin to a species of joint venture. Furthermore, these joint venture arrangements between NASA/USDOD and Boeing have characteristics analogous to equity infusions, one of the examples of financial contributions included in Article 1.1(a)(1)(i) of the *SCM Agreement*. We recall that, under subparagraph (i), there is a financial contribution where "a government practice involves a direct transfer of funds". Several examples of direct transfers of funds are provided. These examples are not exhaustive. Where, as here, there are measures that have sufficient characteristics in common with one of the examples in subparagraph (i), this commonality indicates to us that the measures fall within the concept of "direct transfers of funds" in Article 1.1(a)(1)(i). We have identified two contributions by NASA and the USDOD under the respective joint ventures. Both NASA and the USDOD provided payments to Boeing to undertake the research. These payments constitute a direct transfer of funds within the meaning of Article 1.1(a)(1)(i). In addition, Boeing was given access to NASA facilities, equipment, and employees and to USDOD facilities, which constitute the provision of goods or services within the meaning of Article 1.1(a)(1)(iii) of the *SCM Agreement*.

625. For these reasons, we *find* that the payments and access to facilities, equipment, and employees provided to Boeing under the NASA procurement contracts at issue constitute financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*. We similarly *find* that the payments and access to facilities provided to Boeing under the USDOD assistance instruments at issue also constitute financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*.¹²⁹⁹ We further recall that we have declared the Panel's interpretation that

¹²⁹⁹We note that the United States raised a claim under Article 11 of the DSU concerning the Panel's assessment of whether the NASA procurement contracts were purchases of services. As explained above, the Panel undertook this assessment on the basis of its "principal beneficiary and user" test. In its appellant's submission, the United States also suggests that the Panel's finding of financial contribution relating to the access to facilities, equipment, and employees under the NASA procurement contracts did not comply with the requirements of Article 12.7 of the DSU because it "would appear" that the Panel failed to set out its findings of fact or the basic rationale behind its finding. (United States' other appellant's submission, para. 38) However, the only argument that the United States makes in support of its Article 12.7 allegation is that the Panel's finding as to the access to facilities, equipment, and employees is dependent on the finding that the NASA procurement contracts were not purchases of services. Because we have not adopted the Panel's "principal beneficiary and user" test, nor its conclusions as to whether the NASA procurement contracts are purchases of services, there is no basis to address the claim of the United States under Article 11 or its fleeting allegation under Article 12.7 of the DSU.

transactions properly characterized as purchases of services are excluded from the scope of Article 1.1(a)(1)(i) of the *SCM Agreement* to be moot and of no legal effect.

B. *Benefit*

626. We turn to the United States' appeal of the Panel's findings that the NASA and USDOD measures found to be financial contributions conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*.¹³⁰⁰ The Panel's findings are summarized in subsection 1. We review the Panel's assessment of benefit in subsection 2.

1. The Panel's Findings

(a) NASA

627. The Panel began its analysis by recalling that, within the meaning of Article 1.1(b) of the *SCM Agreement*, a financial contribution confers a benefit if the terms of the financial contribution are more favourable than the terms available to the recipient in the market.¹³⁰¹ Accordingly, the Panel stated that it was necessary to compare the terms of NASA's financial contributions with the terms of a market transaction in order to determine whether a benefit was conferred on Boeing.

628. The Panel also recalled that, in its analysis of the existence of a financial contribution, it had already concluded that NASA had made payments to Boeing and granted Boeing access to NASA facilities, equipment, and employees "*on the condition that Boeing perform aeronautics R&D work that is principally for Boeing's own benefit and use*, rather than principally for the benefit or use of the U.S. Government (or unrelated third parties)".¹³⁰² This was, according to the Panel, "the core 'term'" upon which the financial contributions were provided.¹³⁰³ The Panel additionally noted that, with

¹³⁰⁰In its Notice of Other Appeal, the United States indicated that it appeals the Panel's finding of benefit concerning both the NASA procurement contracts and Space Act Agreements. However, the United States' appeal of the finding of benefit with respect to the NASA measures is merely consequential to its appeal of the Panel's finding of financial contribution and that appeal is limited to the NASA procurement contracts. The United States does not appeal the Panel's finding of financial contribution concerning the Space Act Agreements challenged by the European Communities. In fact, the Panel noted that during the Panel proceedings the United States had "accept{ed} that the provision of (access to) facilities, equipment and employees provided to Boeing through the Space Act Agreements at issue constitutes a provision of goods or services within the meaning of Article 1.1(a)(1)(iii) of the *SCM Agreement*". (Panel Report, para. 7.976) In the light of the above, we limit our review of the Panel's finding of benefit relating to the NASA measures to the NASA procurement contracts and do not further address the NASA Space Act Agreements in this section of our Report.

¹³⁰¹Panel Report, para. 7.1037 (referring to paras. 7.30 and 7.31).

¹³⁰²Panel Report, para. 7.1038. (original emphasis)

¹³⁰³Panel Report, para. 7.1038. In this regard, the Panel referred to its previous conclusion that "a transaction in which the work performed is principally for the benefit and use of the 'seller' cannot properly be characterized as a 'purchase of services'." (*Ibid.*)

respect to the financial contributions received by Boeing under the NASA R&D programmes, both parties agreed that "the relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D".¹³⁰⁴

629. Taking this into consideration, the Panel believed that no private entity acting pursuant to commercial considerations would provide payments and access to its facilities and personnel to another commercial entity on the condition that the other entity perform R&D activities principally for the benefit and use of that other entity.¹³⁰⁵ The Panel considered that, "at a minimum, it would be expected that some form of royalties or repayment would be required in the event that financial contributions were provided on such terms."¹³⁰⁶ Accordingly, the Panel found that the European Communities did not need to present evidence of the terms and conditions of specific market-based R&D financing "in order to establish, at least on a prima facie basis, that these NASA transactions conferred a benefit upon Boeing".¹³⁰⁷ In the Panel's view, it was for the United States to rebut this *prima facie* case by means of identifying examples of transactions in which commercial entities have paid other commercial entities to perform R&D principally for the latter's benefit and use. The Panel observed that the United States failed to provide any evidence in this regard.

630. The Panel therefore concluded that the financial contributions provided to Boeing under the aeronautics R&D contracts and agreements with NASA conferred a benefit within the meaning of Article 1.1(b) of the *SCM Agreement*.¹³⁰⁸

(b) USDOD

631. The Panel's reasoning with respect to the payments and other support provided to Boeing under the USDOD assistance instruments was very similar to that for the NASA measures. The Panel recalled that it is well established that, within the meaning of Article 1.1(b) of the *SCM Agreement*, a financial contribution confers a benefit if the terms of the financial contribution are more favourable than the terms available to the recipient in the market.¹³⁰⁹ Accordingly, the Panel said that it was necessary to compare the terms of the USDOD's financial contributions with the terms of a market transaction in order to determine whether a benefit was conferred on Boeing.

¹³⁰⁴Panel Report, para. 7.1039 (quoting European Communities' response to Panel Question 21, para. 76; and referring to United States' response to Panel Question 136, para. 85).

¹³⁰⁵Panel Report, para. 7.1039.

¹³⁰⁶Panel Report, para. 7.1039.

¹³⁰⁷Panel Report, para. 7.1039.

¹³⁰⁸Panel Report, para. 7.1040.

¹³⁰⁹Panel Report, para. 7.1182 (referring to paras. 7.30 and 7.31, in turn referring to Appellate Body Report, *Canada – Aircraft*, para. 157; and Panel Report, *US – Upland Cotton*, para. 7.1142).

632. The Panel further recalled that, in its analysis of the existence of a financial contribution, it had already concluded that the USDOD had made payments to Boeing and granted Boeing access to USDOD facilities "*on the condition that Boeing perform aeronautics R&D work that is principally for Boeing's own benefit and use, rather than principally for the benefit or use of the U.S. Government (or unrelated third parties)*".¹³¹⁰ This was, in the Panel's view, "the core 'term'" upon which the financial contributions were provided.¹³¹¹ The Panel noted that both parties agreed that, regarding the financial contributions that Boeing received under the USDOD R&D programmes, "the relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D".¹³¹²

633. Taking this into consideration, the Panel believed that no private entity acting pursuant to commercial considerations would provide payments and access to its facilities to another commercial entity on the condition that the other entity perform R&D activities principally for the benefit and use of that other entity.¹³¹³ The Panel again considered that, "{a}t a minimum, it is to be expected that some form of royalties or repayment would be required in the event that financial contributions were provided on such terms."¹³¹⁴ In the light of this, the Panel found that the European Communities did not have to present evidence of the terms and conditions of specific market-based R&D financing "in order to establish, at least on a prima facie basis, that these {US}DOD transactions conferred a benefit upon Boeing".¹³¹⁵ In the Panel's view, it was rather for the United States to rebut this *prima facie* case by means of identifying examples of transactions in which commercial entities have paid other commercial entities to perform R&D principally for the latter's benefit and use. However, the United States failed to provide any evidence in this respect.

634. Accordingly, the Panel found that the financial contributions provided to Boeing under the USDOD aeronautics R&D assistance instruments conferred a benefit within the meaning of Article 1.1(b) of the *SCM Agreement*.¹³¹⁶

¹³¹⁰Panel Report, para. 7.1183. (original emphasis)

¹³¹¹Panel Report, para. 7.1183. In this respect, the Panel referred to its previous conclusion that "a transaction in which the work performed is principally for the benefit and use of the 'seller' cannot properly be characterized as a 'purchase of services'." (*Ibid.*)

¹³¹²Panel Report, para. 7.1184 (quoting European Communities' response to Panel Question 21, para. 76; and referring to United States' response to Panel Question 136, para. 85).

¹³¹³Panel Report, para. 7.1184.

¹³¹⁴Panel Report, para. 7.1184.

¹³¹⁵Panel Report, para. 7.1184.

¹³¹⁶Panel Report, para. 7.1185.

2. Did the Panel Err in Determining Benefit?

635. In order to constitute a subsidy for purposes of the *SCM Agreement*, a financial contribution must confer a benefit within the meaning of Article 1.1(b). The Appellate Body has explained that:

... the word "benefit", as used in Article 1.1(b), implies some kind of comparison. This must be so, for there can be no "benefit" to the recipient unless the "financial contribution" makes the recipient "better off" than it would otherwise have been, absent that contribution. In our view, the marketplace provides an appropriate basis for comparison in determining whether a "benefit" has been "conferred", because the trade-distorting potential of a "financial contribution" can be identified by determining whether the recipient has received a "financial contribution" on terms more favourable than those available to the recipient in the market.¹³¹⁷

636. The Appellate Body provided further clarification of the concept of "benefit" in *EC and certain member States – Large Civil Aircraft*. In that appeal, the Appellate Body approached the enquiry of benefit as one that is financial in nature and in which the behaviour of the grantor and recipient of the alleged subsidy at issue are assessed against the behaviour of commercial actors in the market.¹³¹⁸ The Appellate Body also explained that the assessment of benefit must examine the terms and conditions of the challenged transaction at the time it is made and compare them to the terms and conditions that would have been offered in the market at that time.¹³¹⁹

637. The United States appeals the Panel's finding of benefit with respect to both the NASA and USDOD measures. As regards the NASA measures, the United States submits that the Panel's finding that research under the NASA R&D contracts was "principally for Boeing's own benefit and use"¹³²⁰ was the sole justification for the finding that the NASA aeronautics R&D programmes conferred a benefit.¹³²¹ In the United States' view, since the former finding is erroneous, the latter finding of existence of a benefit is equally erroneous. With respect to the USDOD measures, the United States argues that the Panel erred because it failed to consider that Boeing funded part of the costs of the research undertaken pursuant to the assistance instruments.¹³²²

¹³¹⁷Appellate Body Report, *Canada – Aircraft*, para. 157.

¹³¹⁸Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 706 and 836.

¹³¹⁹Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 838. This means that "the determination of benefit under Article 1.1(b) of the *SCM Agreement* is an *ex ante* analysis that does not depend on how the particular financial contribution actually performed after it was granted." (*Ibid.*, para. 706)

¹³²⁰Panel Report, para. 7.1038. (emphasis omitted)

¹³²¹United States' other appellant's submission, paras. 64 and 65 (referring to Panel Report, paras. 7.1038 and 7.1039).

¹³²²United States' other appellant's submission, para. 116.

638. The European Union asserts that the United States fails to identify any errors in the Panel's evaluation of the existence of financial contributions, either with respect to the application of Article 1.1(a)(1) of the *SCM Agreement* or the consistency of the Panel's assessment with Article 11 of the DSU. Consequently, in view of the fact that "the US Article 1.1(b) appeal is entirely based on its Article 1.1(a)(1) appeal"¹³²³, it is the European Union's view that the United States' appeal under Article 1.1(b) must likewise fail. In addition, the European Union states that, in its financial contribution analysis, the Panel properly characterized the USDOD's R&D assistance instruments as transactions "principally for Boeing's own benefit and use" without "some form of royalties or repayment", and, accordingly, the Panel's conclusion that a benefit exists based on this characterization was also proper.¹³²⁴ The European Union points out that the United States has provided no information as to the actual results of the R&D funded by the USDOD assistance instruments, or on how the income generated from those results may translate into payments from Boeing to the USDOD for the contributions made by the USDOD towards that R&D.¹³²⁵

639. At the outset of its analysis, the Panel observed that "{a} financial contribution confers a benefit within the meaning of Article 1.1(b) of the *SCM Agreement* if the terms of the financial contribution are more favourable than the terms available to the recipient in the market."¹³²⁶ According to the Panel, this meant that:

... in order to determine whether NASA's {and the USDOD's} financial contributions to Boeing confer a benefit upon Boeing within the meaning of Article 1.1(b), the Panel must begin by recalling what the *terms* of those financial contributions are. Only then can the Panel proceed to compare *those* terms with the terms of a market transaction.¹³²⁷ (original emphasis)

640. After recalling some of its findings concerning the terms of the transactions, the Panel further elaborated on what it considered to be the relevant legal question. The Panel described the question as follows:

In this case, both parties agree that, with regard to the financial contributions that Boeing receives under the NASA R&D programmes {and under the USDOD programmes}, "the relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D". The question, then, is whether, in a commercial transaction, one entity

¹³²³European Union's appellee's submission, para. 93.

¹³²⁴European Union's appellee's submission, para. 172 (quoting Panel Report, paras. 7.1183 and 7.1184, and referring to para. 7.1185).

¹³²⁵European Union's appellee's submission, para. 175.

¹³²⁶Panel Report, para. 7.1037 (footnote omitted); see also para. 7.1182.

¹³²⁷Panel Report, para. 7.1037; see also para. 7.1182.

would pay another entity to conduct R&D on these same terms, i.e. on the term that the entity receiving the financial contributions conducts R&D that is principally for the benefit and use of the entity receiving the payment.¹³²⁸ (footnote omitted)

641. The Panel's benefit test is closely related to the test that the Panel had developed in its assessment of financial contribution to determine whether the NASA and USDOD measures could be characterized as purchases of services.¹³²⁹ Both the test for purchases of services and for benefit revolve around the question of which party to the transaction derives the "principal benefit and use" from the research. We see several problems with the Panel's approach. First, as we have noted earlier, it risks conflating what are two separate elements of the definition of "subsidy" in Article 1.1 of the *SCM Agreement*. Under the approach adopted by the Panel, a determination that a transaction is not a purchase of services—because the R&D is principally for the benefit of the commissioned party rather than the commissioning government—makes the determination of benefit almost a foregone conclusion.¹³³⁰ A further problem with the Panel's test is that the identification of the principal user or beneficiary of the research, on the basis of the five factors relied on by the Panel, does not capture the relevant inquiry under Article 1.1(b), which involves a consideration as to whether the measure is consistent with a market benchmark.¹³³¹ Where a panel is confronted with a measure in which both the government and the commissioned firm have provided funding or made other contributions, and the results of their investments are shared between them, it may consider the relationship between what they have contributed and how the results thereof are shared. But the distribution of the returns under particular NASA procurement contracts and USDOD assistance instruments does not indicate by itself what the distribution of those returns would be in the market.

¹³²⁸Panel Report, para. 7.1039; see also para. 7.1184.

¹³²⁹Panel Report, para. 7.978. In its analysis of whether the NASA and USDOD measures constituted financial contributions, the Panel said that whether a transaction could properly be characterized as a purchase of service turned on "*whether the R&D that Boeing was required to conduct was principally for its own benefit and use, or whether it was principally for the benefit and use of the U.S. Government (or unrelated third parties)*." (*Ibid.* (original emphasis))

¹³³⁰It would appear that when the Panel referred to the "principal benefit and use" of the research, in the context of its purchases of services test, it was using the term "benefit" in the generic sense, that is, generally connoting value received. Given that the term "benefit" is used as a legal concept with a distinct meaning in Article 1.1(b) of the *SCM Agreement*, the Panel should have avoided using the term generically in its test.

¹³³¹We note that the thrust of the United States' appeal is that the Panel's findings relating to the NASA procurement contracts is focused exclusively on the finding that the research conducted by Boeing under those contracts was principally for the benefit of Boeing. (United States' other appellant's submission, para. 65) We have reversed the Panel's finding of financial contribution, but nevertheless found that the payments and other support provided under the NASA procurement contracts constitute financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*. Our finding that the NASA procurement contracts conferred a benefit is not based on the Panel's financial contribution finding, or on the Panel's conclusion that Boeing was the principal beneficiary and user of the research conducted under the NASA procurement contracts.

642. Second, we have difficulties with the Panel's reasoning about the market benchmark. With respect to both the NASA procurement contracts and the USDOD assistance instruments, the Panel stated its view that "no commercial entity, i.e. no private entity acting pursuant to commercial considerations, would provide payments (and access to its facilities and personnel) to another commercial entity on the condition that the other entity perform R&D activities principally for the benefit and use of that other entity."¹³³² The Panel added that "{a}t a minimum, it is to be expected that some form of royalties or repayment would be required in the event that financial contributions were provided on such terms."¹³³³ The Panel's finding as to the behaviour of a market actor was based exclusively on the Panel's own view of how a commercial actor would behave and its inferences as to what a rational investor would do. The Panel did not indicate what evidence there was on the record to sustain its view that a private entity acting pursuant to commercial considerations would not provide payments (and access to its facilities and/or personnel) to another commercial entity where this other entity performs R&D activities principally for its own benefit and use, and that, at a minimum, it would be expected that some form of royalties or repayment would be required.¹³³⁴

643. It is possible that the Panel believed that its view represented common sense, or its own conception of economic rationality. If this were indeed the case, we would nevertheless consider the Panel's approach unsatisfactory. We do not believe that panels can base determinations as to what would occur in the marketplace only on their own intuition of what rational economic actors would do. We recognize that a panel confronted with a measure of the kind at issue here may have intuitions as to the consistency of the measure with the market, based on economic theory.¹³³⁵ However, we would expect that in such circumstances the panel would at least explain the economic rationale or theory that supports its intuition. The Panel in this case did not do so. More importantly, we are of the view that a panel should test its intuitions empirically, especially where the parties have submitted evidence as to how market actors behave. Indeed, in this case, both the European Communities and the United States submitted evidence as to how research transactions between two market actors are structured.¹³³⁶ Yet, while the Panel referenced some of that evidence in its summary of the parties' arguments, it did not discuss this evidence in its reasoning.

¹³³²Panel Report, paras. 7.1039 (NASA) and 7.1184 (USDOD).

¹³³³Panel Report, paras. 7.1039 (NASA) and 7.1184 (USDOD).

¹³³⁴In paragraph 41 of its additional memorandum following the first session of the oral hearing, the United States argues that the Panel erred by "providing no support for its assertion that no market actor would enter into the theoretical transaction".

¹³³⁵The United States observes that, "if a Panel finds that a financial contribution is economically irrational, it may, absent evidence to the contrary, conclude that the transaction confers a benefit." (United States' other appellant's submission, para. 121)

¹³³⁶This evidence is discussed *infra*, paras. 650-660.

644. During the interim review stage, the European Communities went so far as to urge the Panel to address this evidence, and the Panel still refused to do so. The European Communities requested that the Panel note that the European Communities "did, in fact, present such benchmark evidence".¹³³⁷ The European Communities suggested that the Panel add a footnote to its Report that would read: "Although it was not necessary for the European Communities to present benchmark evidence, it did supply such evidence to the Panel (e.g. The Declaration of Regina Dieu (Exhibit EC-1178))".¹³³⁸ The Panel declined the request because it considered the change "unnecessary", given that the European Communities' arguments regarding the Regina Dieu Declaration were already reflected in the summary of its arguments (current paragraph 7.1030).¹³³⁹ We do not see the basis upon which the Panel considered that it could arrive at a finding as to what would occur in the market based merely on its own views, while failing to engage with the evidence about the market that was submitted by the European Communities and the United States. We believe that, to the contrary, the Panel could not have arrived at a conclusion as to whether a benefit was conferred within the meaning of Article 1.1(b) without empirically testing the views that it had about the market on the basis of the evidence submitted by the parties pertinent to relevant market benchmarks.¹³⁴⁰

645. Linked to the above discussion, we have further difficulties with the Panel's treatment of the evidence. As noted in the excerpt quoted above, the Panel stated that "it was not necessary for the European Communities to present benchmark evidence of the terms and conditions of specific market-based R&D financing in order to establish, at least on a *prima facie* basis, that these NASA transactions conferred a benefit upon Boeing."¹³⁴¹ The Panel did not explain how it reached the conclusion that the European Communities had established a *prima facie* case that the transaction would not take place in the market (for example, by referring to evidence on record of what was the prevailing commercial practice or otherwise reflects a market behaviour). Furthermore, as noted

¹³³⁷Panel Report, para. 6.53.

¹³³⁸Panel Report, para. 6.53.

¹³³⁹Panel Report, para. 6.55. The United States objected to the European Communities' request, arguing:

The United States submits that the Interim Report already reflects the full argument and evidence submitted by the European Communities, including a reference to the Declaration of Regina Dieu, in paragraph 7.1029. As this evidence played no role in the Panel's findings, the United States does not consider that an additional reference to Ms. Dieu, as requested by the European Communities, is either necessary or appropriate. Moreover, the particular text proposed by the European Communities would suggest that the Panel had found that the evidence submitted by the European Communities constituted a "benchmark". The United States submits that the Panel made no such finding.

(*Ibid.*, para. 6.54 (footnote omitted))

¹³⁴⁰See Appellate Body Report, *Canada – Aircraft*, para. 157.

¹³⁴¹Panel Report, paras. 7.1039 and 7.1184.

above, the Panel explained that "it would fall upon the United States, if it wished to rebut this *prima facie* case, to identify examples of transactions in which commercial entities have paid other commercial entities to perform R&D on these terms, i.e. to perform R&D that is principally for the benefit or use of the entity receiving the funding."¹³⁴² The Panel added that "the United States has not provided any evidence or examples of commercial transactions in which one entity pays another entity to conduct R&D that is principally for the benefit and use of the entity receiving the funding."¹³⁴³ However, like the European Communities, the United States had provided evidence of market transactions. The United States certainly had the burden of demonstrating any factual assertions that it had made and to rebut a *prima facie* case. Yet, the Panel's reasoning does not reveal that the Panel engaged with the evidence submitted by the parties, and does not spell out the evidentiary basis for its conclusion that a benefit had been conferred.

646. In addition to the concerns we have expressed above about the Panel's approach, we are not persuaded that, *a priori*, it can be excluded that two market actors would enter into a transaction with each other in circumstances where the returns are unequally distributed between them. Transactions between market actors may take place even when the returns earned by each party are asymmetric, as long as both parties earn a reasonable return on the investment.¹³⁴⁴ Thus, it may not always be the case that a market actor would refuse to enter into a R&D project if the fruits of the research (which provide a reasonable return on the investment) are not distributed between the parties in an exact proportion to their contributions to the project. In general, how the costs and revenues are divided between the parties to a transaction will depend on, among other things, the bargaining strength of the parties and the alternatives available to the parties in the event that the transaction were not to proceed. A market actor could accept a situation where it contributes half of the cost but obtains less than half of the returns, because the alternatives available to that actor would be worse.¹³⁴⁵ In sum, there is no presumption as to whether the returns on an investment in the market are evenly distributed.

647. We have explained earlier that the assessment of benefit requires a comparison with a market benchmark. Our discussion above has identified several flaws in the Panel's approach and in its reasoning concerning the market benchmark. These flaws mean that the Panel did not make a proper comparison of the terms of the NASA procurement contracts and the USDOD assistance instruments

¹³⁴²Panel Report, paras. 7.1039 and 7.1184.

¹³⁴³Panel Report, paras. 7.1039 and 7.1184.

¹³⁴⁴See J. Watson, *Strategy*, 2nd edn (W.W. Norton & Company, 2007), pp. 203-228; and R. Serrano, "Bargaining", in *The New Palgrave Dictionary of Economics*, 2nd edn, S.N. Durlauf and L.E. Blume (eds) (Palgrave Macmillan, 2008).

¹³⁴⁵In some circumstances, the alternative could be that the project is not pursued at all and thus there would be no fruits from the collaboration to share.

with the terms of a market transaction as required under Article 1.1(b).¹³⁴⁶ In the light of this, the Panel's reasoning as to whether the payments and support provided to Boeing under the NASA procurement contracts and the USDOD assistance instruments conferred a benefit within the meaning of Article 1.1(b) of the *SCM Agreement* cannot be sustained.

648. The European Union requests that, if we find that we must "identify a market benchmark", we do so based on the uncontested evidence on record.¹³⁴⁷ It submits that, on the basis of this evidence, "the Appellate Body can easily find that the NASA R&D contracts and {US}DOD assistance instruments confer benefits on Boeing, as those NASA and {US}DOD transactions (unlike the EU benchmarks) are for the principal benefit and use of the recipient of the funds (i.e., Boeing), and do not require transferring the proceeds of this benefit back to NASA and {US}DOD through, e.g., royalties or repayment."¹³⁴⁸

649. We have found above that the Panel's approach and reasoning were not based on a proper market benchmark. Before the Panel, the European Communities and the United States had submitted evidence and exchanged arguments on the proper market benchmark.¹³⁴⁹ In the past, the Appellate Body has been able to complete the analysis where there were sufficient factual findings by the panel or undisputed facts on the record to enable it to do so.¹³⁵⁰

650. The European Communities argued before the Panel that, in a commercial transaction, one entity will pay another entity to conduct R&D only if it can obtain the full rights to the resulting technology.¹³⁵¹ In support of this argument, the European Communities submitted a declaration by one of Airbus' attorneys, which states:

When Airbus fully funds R&D, or purchases engineering product design work from a supplier, Airbus exclusively and solely owns all foreground intellectual property ("FIP"). FIP is defined in our agreements as "any and all Intellectual Property generated or acquired by a Party in connection with and during the performance of any Order under (the) Agreement".¹³⁵²

¹³⁴⁶See Appellate Body Report, *Canada – Aircraft*, para. 157.

¹³⁴⁷European Union's additional memorandum following the first session of the oral hearing, para. 42.

¹³⁴⁸European Union's additional memorandum following the first session of the oral hearing, para. 42.

¹³⁴⁹See Panel Report, paras. 7.1030, 7.1031, 7.1036, and 7.1176.

¹³⁵⁰See Appellate Body Report, *US – Section 211 Appropriations Act*, para. 352.

¹³⁵¹Panel Report, paras. 7.1030 and 7.1176.

¹³⁵²Declaration of Regina Dieu, 8 November 2007 (Panel Exhibit EC-1178), para. 4.

651. In addition, the European Communities submitted a contract concluded by Boeing with the National Institute for Aviation Research at Wichita State University.¹³⁵³ This contract includes the following clauses concerning ownership rights over technical work product, inventions and patents, and works of authorship and copyrights:

Note Number 009 (Ownership of Intellectual Property)

A. Technical Work Product. All technical work product, including, but not limited to ideas, information, data, documents, drawings, software, designs, specifications, and processes produced by or for Seller, either alone or with others, in the course of or as a result of any work performed by or for Seller which is covered by this contract will be the exclusive property of Boeing and be delivered to Boeing promptly upon request.

B. Inventions and Patents. All inventions conceived, developed, or first reduced to practice by or for Seller, either alone or with others, in the course of or as a result of any work performed by or for Seller which is covered by this contract, and any patents based upon such inventions (both domestic and foreign), will be the exclusive property of Boeing. ...

C. Works of Authorship and Copyrights. All works of authorship (including, but not limited to, documents, drawings, software, photographs, video tapes, sound recordings and images) created by or for Seller, either alone or with others, in the course of or as a result of any work performed by or for Seller which is covered by the contract, together with all copyrights subsisting therein, will be the sole property of Boeing. ...¹³⁵⁴

652. The European Communities also referred to an article on intellectual property rights and stem cell research¹³⁵⁵, an Article on collaborative research¹³⁵⁶, and a training course of the World Intellectual Property Organization ("WIPO").¹³⁵⁷ Referring to the article on stem cell research, the

¹³⁵³The European Communities subsequently submitted four contracts between "commercial for-profit entities" and entities other than Airbus and Boeing. According to the European Communities, in these contracts, title to the intellectual property was allocated to the firm commissioning the research. (See European Communities' response to Panel Question 323; and the following four Panel Exhibits: Contract Number SHB 98001 of 31 January 1998 between SPACEHAB, Inc. and RSC-Energia (Panel Exhibit EC-1415); Development and Supply Agreement of 1 October 1997 between Thermage, Inc. and Stellartech Research Corporation (Panel Exhibit EC-1416); Development Agreement of 27 July 1998 between Cox Interactive Media, Inc. and LookSmart, Ltd. (Panel Exhibit EC-417); and Development Agreement of 25 April 1994 between Applied Analytical Industries, Inc., and GenerEst, Inc. (Panel Exhibit EC-1418))

¹³⁵⁴Contract between Boeing Commercial Airplane Group Wichita Division and Wichita State University, Contract No. 000051728, 4 November 2002 (Panel Exhibit EC-1231).

¹³⁵⁵S.M. O'Connor, "Intellectual Property Rights and Stem Cell Research: Who Owns the Medical Breakthroughs?" (2005) 39 *New England Law Review* 665 (Panel Exhibit EC-1212), p. 669.

¹³⁵⁶R. Cooper Dreyfuss, "Collaborative Research: Conflicts on Authorship, Ownership and Accountability" (2000) 53 *Vanderbilt Law Review* 1161 (Panel Exhibit EC-1228), p. 1212.

¹³⁵⁷WIPO-MOST, "Intermediate Training Course on Practical Intellectual Property Issues in Business", 13 November 2003 (Panel Exhibit EC-1229), pp. 42-43.

European Communities noted that, "in a commercial transaction, one entity will pay another entity to conduct {R&D} only if it intends to actually utilize the research to some end, i.e. if it can obtain the full rights to the resulting technology".¹³⁵⁸ The article on collaborative research states that "exclusivity {of ownership over inventions} is so important, investors often want it assured before significant costs are incurred".¹³⁵⁹

653. In response to the evidence submitted by the European Communities, the United States did not contest that this evidence indicates that there were market transactions in which the entity commissioning the R&D obtained ownership of all intellectual property rights.¹³⁶⁰ The United States, however, argued that the "market does not dictate a single outcome in the negotiation of intellectual property rights", and introduced evidence of alleged market transactions showing more "diversity in the disposition of rights".¹³⁶¹ This evidence is summarized below. For purposes of completing the analysis, we proceed below as if the Panel had treated the evidence submitted by the United States as accurate and probative.¹³⁶² Thus, we will seek to determine whether the evidence submitted by the United States shows that the disposition of intellectual property rights under the NASA/USDOD measures at issue is consistent with what occurs in transactions between two market actors. In other words, we consider whether the Panel, even if it had treated the evidence submitted by the United States as accurate and probative, would have concluded that the NASA/USDOD measures at issue are not consistent with transactions between two market actors.

654. The United States initially submitted four contracts between Boeing and "major research universities"¹³⁶³ in which the former pays the latter to conduct R&D. We discuss these four contracts in more detail below. Because the contents of the contracts are BCI, some of the text in our discussion has been deleted, as indicated by [***].

¹³⁵⁸Panel Report, para. 7.1030 (referring to European Communities' second written submission to the Panel, para. 376, in turn referring to O'Connor, *supra*, footnote 1355, p. 669).

¹³⁵⁹Cooper Dreyfuss, *supra*, footnote 1356, p. 1212. As for the WIPO training course, one PowerPoint slide advises that special care must be taken when outsourcing R&D, particularly by ensuring that "all persons involved {in the R&D activities} sign an agreement whereby they give the company sufficient rights to the results of their works". Another slide recommends that companies ensure that when persons that are not employees of the company participate in an R&D project, those persons "transfer any and all rights to the results of the project to the company". (WIPO-MOST, *supra*, footnote 1357, slides 42 and 43, respectively)

¹³⁶⁰United States' comments on the European Communities' response to Panel Question 323, para. 45.

¹³⁶¹United States' comments on the European Communities' response to Panel Question 323, para. 45.

¹³⁶²This approach is analogous to the approach adopted by the Appellate Body in *EC and certain member States – Large Civil Aircraft*. (See Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 925-929, 1175, 1178, and 1180-1202)

¹³⁶³Panel Report, para. 7.1036.

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656. Under US law and the NASA procurement contracts and USDOD assistance instruments, the commissioning party (NASA or the USDOD) does not obtain ownership rights over the intellectual property developed as part of the work conducted under those contracts and assistance instruments. Instead, the Panel found that "Boeing, as the contractor, retained rights to any inventions (i.e. patent rights) that it conceived of in the course of performing research funded by NASA".¹³⁶⁹ A similar finding was made by the Panel with respect to the USDOD assistance instruments.¹³⁷⁰ [

¹³⁶⁴Contract A–Sponsored Research Agreement #2001-ME-SSG between {name of counterparty deleted from exhibit} and The Boeing Company, 1 July 2001 (Panel Exhibit US-1208 (BCI)), section 5.1.

¹³⁶⁵Contract B–General Terms Agreement between The Boeing Company and {name of counterparty deleted from exhibit}, 5 December 2003 (Panel Exhibit US-1209 (BCI)), section 8.1.

¹³⁶⁶Contract C–General Terms Agreement between Boeing and {name of counterparty deleted from exhibit}, 30 June 2004 (Panel Exhibit US-1210 (BCI)).

¹³⁶⁷Contract D–Framework Agreement between {name of counterparty deleted from exhibit} and The Boeing Company, 1 December 2003 (Panel Exhibit US-1211 (BCI)), section 6.2: "[***]".

¹³⁶⁸Contract B–General Terms Agreement between The Boeing Company and {name of counterparty deleted from exhibit}, 5 December 2003 (Panel Exhibit US-1209 (BCI)), section 8.1.

¹³⁶⁹Panel Report, para. 7.1024.

¹³⁷⁰See Panel Report, para. 7.1149.

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¹³⁷¹Contract D, *supra*, footnote 1367 (Panel Exhibit US-1211 (BCI)), section 6.3.1.

¹³⁷²Panel Report, paras. 7.1024 and 7.1276; see also para. 7.1149.

¹³⁷³Panel Report, para. 7.1286 (referring to European Communities' first written submission to the Panel, para. 813 (referring to *United States Code*, Title 35, section 202(c)(4) (Panel Exhibit EC-558); and *United States Code of Federal Regulations*, Title 48, section 27.302(c) (Panel Exhibit EC-559)).

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658. In response to the Panel's third set of questions, the United States submitted two other contracts, identified as contracts E and F.¹³⁷⁴ The United States asserted that these two contracts were between Boeing and for-profit entities.¹³⁷⁵ [

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¹³⁷⁴Panel Exhibits US-1342 (BCI) (Contract E) and US-1343 (BCI) (Contract F).

¹³⁷⁵As with the other contracts, the names of Boeing's counterparties have been deleted.

¹³⁷⁶Panel Exhibit US-1342 (BCI) (Contract E), para. 1.

¹³⁷⁷Panel Exhibit US-1342 (BCI) (Contract E), para. 8.2.

¹³⁷⁸Panel Exhibit US-1342 (BCI) (Contract E), para. 8.5.

¹³⁷⁹Panel Exhibit US-1343 (BCI) (Contract F), section 4.3.

¹³⁸⁰Panel Exhibit US-1343 (BCI) (Contract F), section 4.3.

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660. In sum, even assuming that the Panel had treated the contracts submitted by the United States as evidence of transactions that occur on the market as accurate and probative, they show several important differences compared to the NASA procurement contracts and USDOD assistance instruments. [

¹³⁸¹Panel Exhibit US-1343 (BCI) (Contract F), section 4.3.

¹³⁸²Panel Exhibit US-1343 (BCI) (Contract F), sections 4.3.1.3(c) and 4.3.2.3(c).

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661. Indeed, US law constrains NASA's and the USDOD's ability to negotiate ownership over any intellectual property developed under the relevant contracts and agreements. We explain in Part VII that, pursuant to the Bayh-Dole Act of 1980, the 1983 Presidential Memorandum, the 1987 Executive Order, and the relevant general and NASA-specific federal regulations, neither the USDOD nor NASA will seek to obtain title to any inventions discovered as part of the work conducted under the NASA procurement contracts and USDOD assistance instruments. Rather, it is expected that the contractor (Boeing) will obtain ownership over the intellectual property rights. The contractor also owns "all technical data (i.e. data rights) produced with U.S. government funding, and may use these for {its} own commercial purposes".¹³⁸³ Thus, in effect, the allocation of intellectual property rights is pre-determined under the US legal framework.¹³⁸⁴ Put differently, there is no bargaining over the ownership of the intellectual property.¹³⁸⁵ Whereas, in a transaction between two market actors, the party undertaking the research would have to bargain to obtain ownership of any intellectual property, firms that enter into contracts or agreements with NASA and the USDOD need not bargain at all over intellectual property rights because they can expect to obtain ownership under the prevailing US legal framework.¹³⁸⁶ NASA and the USDOD are thus constrained by US law as to the gains that they can extract from the transaction. Meanwhile, the party undertaking research commissioned by NASA or the USDOD—in this case, Boeing—obtains ownership rights over intellectual property that it would otherwise have had to bargain for if the counterparty were a market actor.

662. We recall that the determination of "benefit" under Article 1.1(b) of the *SCM Agreement* seeks to identify whether the financial contribution has made "the recipient 'better off' than it would otherwise have been, absent that contribution".¹³⁸⁷ Moreover, the Appellate Body has said that "the marketplace provides an appropriate basis for comparison in determining whether a 'benefit' has been

¹³⁸³Panel Report, para. 7.1296.

¹³⁸⁴In response to a question from the Panel, the United States asserted that the USDOD "does not decide who will own the patent to an invention made under a {USDOD} contract. The policy set out in the 1983 Presidential Memorandum and effectuated through {USDOD's} regulations decides that question, and provides that the rights are split between the government and the contractor in accordance with chapter 38 of title 35 of the U.S. Code—the Bayh-Dole rule". (United States' response to Panel Question 22(b), para. 69 (footnote omitted))

¹³⁸⁵As we explain *infra*, para. 664, there may be bargaining over the scope of the government licence in the sense that the government may accept a more limited licence to use the data produced as part of the research if the contractor co-funds the project.

¹³⁸⁶To the extent that NASA and the USDOD obtain a licence for governmental use, they are required by US law to ensure that such government use does not interfere with Boeing's commercial use of the R&D.

¹³⁸⁷Appellate Body Report, *Canada – Aircraft*, para. 157.

'conferred', because the trade-distorting potential of a 'financial contribution' can be identified by determining whether the recipient has received a 'financial contribution' on terms more favourable than those available to the recipient in the market."¹³⁸⁸ As we have discussed above, even assuming that the evidence submitted by the United States is accurate and uncontested, the allocation of intellectual property rights in the examples of market transactions on record has been more favourable to the commissioning party and less favourable to the commissioned party than under the NASA procurement contracts and USDOD assistance instruments before us. This evidence thus indicates that transactions in the market result in an equilibrium that is more favourable to the commissioning party than in the measures before us. In other words, Boeing obtained more and NASA and the USDOD obtained less than they would have obtained in the market. In our view, this conclusion is sufficient to establish that the provision by NASA and by the USDOD of funding and other support to Boeing on the terms of the joint venture arrangements that are before us conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*.

663. We note that one of the salient features of the assistance instruments is that the USDOD and Boeing jointly fund the research projects and share, to some extent, the results of the research.¹³⁸⁹ In its appeal, the United States emphasizes that the funds provided by Boeing to this research must be considered in the determination of benefit.¹³⁹⁰ These are features of the USDOD measures that should be taken into account in identifying a market benchmark against which to compare those measures for purposes of determining whether a benefit has been conferred.¹³⁹¹ Moreover, we note that any monetary contribution made by the recipient to a joint research project affects the net value obtained by the firm from the project. If the contribution of the recipient firm to the project is neglected, there is a risk of overestimating the value obtained by the firm from the project and, hence, a finding of benefit could be made where a benefit did not in fact exist.

664. The Panel Report does not indicate that the Panel considered Boeing's monetary contribution in its assessment of whether the USDOD assistance instruments conferred a benefit. The Panel, however, made other findings that do not support the proposition that Boeing's contribution to the project meant that no benefit was conferred. As part of its analysis of financial contribution, the Panel found that the scope of the government licence over data rights varied when both Boeing and the

¹³⁸⁸Appellate Body Report, *Canada – Aircraft*, para. 157.

¹³⁸⁹The European Union does not dispute that Boeing provided part of the funding of the projects undertaken pursuant to the USDOD assistance instruments. (European Union's response to questioning at the oral hearing)

¹³⁹⁰The United States recognized before the Panel that "under some circumstances ... cost sharing arrangements can and do confer a benefit to the private party". (United States' response to Panel Question 194, para. 240)

¹³⁹¹We have explained in section VI.A that, under the USDOD assistance instruments, the USDOD and Boeing both make monetary contributions and share the outcomes of the research.

USDOD contributed funding to the project.¹³⁹² More specifically, the Panel found that the government received only "limited rights" to the data under the assistance instruments (which were cost-sharing transactions), as opposed to the "unlimited rights" to the data that the government receives under USDOD procurement contracts (where there was no cost-sharing).¹³⁹³ Thus, according to the Panel's description, Boeing's monetary contribution to the research project is not tied to the ownership rights over any inventions and data, which results from the operation of US law. Rather, Boeing's monetary contribution is consideration for the enhanced data rights that it obtains under the assistance instruments, which grant more limited rights to the government over the data. In the light of the Panel's finding, it is therefore clear that Boeing's monetary contribution under the assistance instruments does not change the bargain over the ownership of the inventions and data, it only changes the bargain as to the government's licence over the data rights.

665. The United States also argues that the USDOD opened each of the assistance instruments to competitive bidding and that, if Boeing had been seeking non-market terms for its participation in the research, one of the USDOD's other suppliers of aeronautics research would have bid less.¹³⁹⁴ This argument, however, fails to recognize the fact that ownership of any intellectual property is not open to bidding; it is determined by US law. Because each bidder knows in advance that this particular aspect of the transaction will not be altered with respect to its competitors, ownership of any resulting intellectual property will not be a determinative element in how each bidder structures its proposals.

666. For these reasons, we *find* that the funding and other support provided under the NASA procurement contracts and the USDOD assistance instruments conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*.

C. *Scope of the Panel's Benefit Findings as regards the NASA Measures*

667. We move to the United States' claim that the Panel erred "by basing its valuation of the total benefit conferred by NASA research contracts on a combination of transactions covering not only 'LCA-related research' challenged by the {European Communities}, but also other transactions that the {European Communities} did not challenge".¹³⁹⁵ In particular, the United States complains that the Panel did not exclude \$280 million in expenditures for research that NASA had determined was "unrelated"¹³⁹⁶ to the European Communities' claims. The United States characterizes this "omission"

¹³⁹²Panel Report, para. 7.1149.

¹³⁹³Panel Report, paras. 7.1149 and 7.1150.

¹³⁹⁴United States' oral statement at the first session of the oral hearing.

¹³⁹⁵United States' other appellant's submission, para. 66.

¹³⁹⁶United States' other appellant's submission, para. 66.

as an "error inconsistent with Article 1.1(b) because it treats transactions that were not part of the financial contribution under Article 1.1(a) as conferring a benefit".¹³⁹⁷

668. The Panel's findings are summarized in subsection 1. In subsection 2, we address the European Union's contention that the United States' claim is outside the scope of this appeal because it was not properly identified in the United States' Notice of Other Appeal. We then examine the United States' allegation of error in subsection 3.

1. The Panel's Findings

669. The Panel began its analysis of this claim by reviewing the United States' evidence regarding the maximum amount of payments made to Boeing for aeronautics R&D over the period 1989-2006. The Panel noted that the United States had explained that NASA had taken the following steps to arrive at its estimate of the amount of disbursements it had made to Boeing: (i) identifying the relevant contracts with Boeing that were awarded under the eight R&D programmes at issue between 1989 and 2006 through a search of the Federal Procurement Data Base ("FPDS"/"FPDS-NG")¹³⁹⁸ of all awards made to Boeing for the relevant period; (ii) eliminating awards that "clearly did not pertain to any NASA Aeronautics programs, such as those related to manned space flight, the International Space Station or space science"¹³⁹⁹; and (iii) calculating the amounts disbursed to Boeing for each such contract from disbursement information obtained from NASA's internal financial databases that, prior to 2004, accumulated data, performed checks, and then fed the information into the FPDS.¹⁴⁰⁰

670. The Panel observed that "{t}he first, and most important, step in the elimination process was to identify awards issued by NASA research centers that perform aeronautics research".¹⁴⁰¹ In this regard, the United States explained that NASA conducts all of its research activities at nine research centres, and that four of those centres (Langley Research Center, Glenn Research Center, Ames Research Center, and Dryden Research Center) are responsible for all aeronautics research conducted by NASA. These four research centres administer the eight R&D programmes at issue in this dispute and perform all aeronautics research required in support of NASA's other programmes.¹⁴⁰² The Panel took note of the United States' argument that, "{b}ecause the FPDS record for each award contains a code that indicates the center that awarded the instrument in question, NASA was able to filter the

¹³⁹⁷United States' other appellant's submission, para. 66.

¹³⁹⁸For the years 2004 to 2006, the relevant database was the Federal Procurement Data Base – Next Generation (FPDS-NG), which had superseded the Federal Procurement Data Base (FPDS). (Panel Report, para. 7.1058)

¹³⁹⁹United States' response to Panel Question 7, para. 14.

¹⁴⁰⁰Panel Report, para. 7.1058.

¹⁴⁰¹Panel Report, para. 7.1062.

¹⁴⁰²Panel Report, para. 7.1062.

FPDS list of Boeing contracts to remove all contracts awarded by the five NASA research centers that do not perform aeronautics research."¹⁴⁰³ The Panel further noted that the second part of the elimination process involved eliminating contracts that, "although awarded by one of the four NASA research centers that perform aeronautics research, nevertheless pertained to non-aeronautics research".¹⁴⁰⁴

671. The Panel noted that it had sought an explanation from the United States as to how the Panel could be satisfied that "the information submitted ... as to the universe of R&D contracts and agreements between NASA and Boeing {was} accurate and complete", and that the United States responded that NASA had conducted a "verification exercise".¹⁴⁰⁵ The value of the contracts identified in the verification exercise was "approximately \$116 million higher than the value of contracts reported by the United States at paragraph 212 of its first written submission"; a difference that the United States considered was "not significant".¹⁴⁰⁶

672. The Panel then turned to certain criticisms by the European Communities concerning the scope of transactions included in the United States' estimate.¹⁴⁰⁷ In particular, the European Communities criticized that the estimate (i) excluded payments made to Boeing as a subcontractor, and (ii) did not include the value of goods and services provided to Boeing through the Space Act Agreements. The Panel considered that both criticisms were "without foundation".¹⁴⁰⁸ The Panel also addressed the European Communities' arguments as to the completeness of the relevant contract data set and its allegation that "the FPDS/FPDS-NG database is a flawed and unreliable source for identifying the contracts between NASA and Boeing".¹⁴⁰⁹ The Panel, however, was not persuaded that the evidence supported the European Communities' contentions in this regard. Next, the Panel addressed the European Communities' allegation that the United States had failed to include four relevant contracts between NASA and Boeing in the list of contracts that formed the basis for the United States' disbursement estimate. The Panel noted the United States' explanation that one of the contracts in question was included in the list but was "mislabelled as a different contract", and that, although "the other three contracts were 'apparently missed in the initial analysis', they were captured

¹⁴⁰³Panel Report, para. 7.1062.

¹⁴⁰⁴Panel Report, para. 7.1063.

¹⁴⁰⁵Panel Report, para. 7.1065.

¹⁴⁰⁶Panel Report, para. 7.1069. (footnote omitted)

¹⁴⁰⁷Panel Report, para. 7.1070.

¹⁴⁰⁸Panel Report, para. 7.1070.

¹⁴⁰⁹Panel Report, para. 7.1072 (referring to European Communities' response to Panel Question 173(b), para. 301).

in the calculation of the 'maximum value' of Boeing contracts" in the United States' verification exercise.¹⁴¹⁰

673. At this point, the Panel recalled that the United States had explained that, once contracts issued by NASA facilities that conduct no aeronautics research were filtered out of the "all Boeing contracts" data set, there were only \$1.05 billion in contracts remaining for the 1989-2006 period that were potentially related to the European Communities' claims regarding aeronautics research.¹⁴¹¹ The Panel noted that the European Communities had not criticized this aspect of the United States' methodology for identifying the relevant contracts.¹⁴¹² It also took note of the United States' confirmation that, as a factual matter, "all contracts that are related to the European Communities' challenges ... must have been awarded by the four NASA centers ... that are responsible for all aeronautics research conducted by NASA and cannot have been awarded by any other NASA center or unit".¹⁴¹³

674. Lastly, as regards the accuracy of the disbursement information relating to each of the identified contracts, the Panel noted that the European Communities had not challenged the use of "disbursements" data as a close approximation of the amount of "payments" made to Boeing under the research contracts.¹⁴¹⁴ The Panel observed, however, that the European Communities had challenged the "reliability of NASA's 'financial databases', which presumably included the {NASA Procurement Management System} and the SAP/BW^{1415} systems that were the source of the disbursements data".¹⁴¹⁶ Nonetheless, the Panel was not persuaded that "the European Communities ha{d} adequately supported its allegations that NASA's financial databases {were} unreliable for purposes of estimating the value of NASA's R&D subsidies to Boeing".¹⁴¹⁷

675. The Panel concluded that, although it was clear that "NASA ha{d} made mistakes in compiling the relevant information, and that NASA's records are not perfect"¹⁴¹⁸, the European Communities had not demonstrated that the United States' estimate involved any methodological errors. The Panel therefore estimated that the total amount of payments to Boeing

¹⁴¹⁰Panel Report, para. 7.1074 (quoting United States' response to Panel Question 184, para. 191).

¹⁴¹¹Panel Report, para. 7.1076 (referring to United States' responses to Panel Question 179, para. 180 and Panel Question 188, para. 219).

¹⁴¹²Panel Report, para. 7.1076 (referring to European Communities' comments on the United States' responses to Panel Questions 179 and 188).

¹⁴¹³Panel Report, para. 7.1076 (referring to United States' response to Panel Question 339, para. 82).

¹⁴¹⁴Panel Report, para. 7.1080.

¹⁴¹⁵SAP Business Information Warehouse (BW).

¹⁴¹⁶Panel Report, para. 7.1080.

¹⁴¹⁷Panel Report, para. 7.1080.

¹⁴¹⁸Panel Report, para. 7.1081.

through R&D contracts under the eight NASA R&D programmes over the period 1989-2006 was \$1.05 billion.¹⁴¹⁹

676. As regards the value of the access to NASA facilities, equipment, and employees provided to Boeing, the Panel noted that the United States had initially tried to estimate this value by tabulating the information in certain Space Act Agreements entered into between NASA and Boeing. The Panel, however, identified two limitations in this information. First, the United States had only been able to tabulate information from 21 of the 38 known Space Act Agreements between NASA and Boeing.¹⁴²⁰ Second, the United States had not accounted for the value of the access to facilities, equipment, and employees provided by NASA to Boeing "in conjunction with" the procurement contracts.¹⁴²¹

677. In the light of these "limitations in the information available", the United States advanced an "alternative" methodology.¹⁴²² The United States proposed that the Panel use Boeing's share of total payments made to all of NASA's R&D contractors, partners, and grantees to estimate the maximum value of the facilities, equipment, and employees provided by NASA to Boeing.¹⁴²³ The Panel accepted the United States' argument that, "if Boeing received only 10.4 per cent of payments made to all programme participants, there is no basis for allocating to Boeing more than 10.4 per cent of the total costs incurred by NASA in maintaining and providing facilities, equipment and employees for aeronautics R&D."¹⁴²⁴

678. Even though the Panel accepted the United States' general approach, it disagreed with the value of the payments from NASA to Boeing that the United States used to derive the share of Boeing's payments. The United States used the figure \$775 million, which resulted in Boeing having received 10.4% of NASA's overall payment under the eight R&D programmes. The Panel, however, pointed out that it had estimated that the total amount of payments to Boeing to be \$1.05 billion. The Panel further explained that using the \$1.05 billion figure "{led} to the conclusion that Boeing received 14 per cent, not 10.4 per cent, of payments made to programme participants".¹⁴²⁵ Based on this share, the Panel then estimated "the value of the free access to facilities, equipment and employees under the eight R&D programmes at issue {to be} \$1.55 billion".¹⁴²⁶

¹⁴¹⁹Panel Report, para. 7.1081.

¹⁴²⁰Panel Report, para. 7.1093.

¹⁴²¹Panel Report, para. 7.1093.

¹⁴²²Panel Report, para. 7.1094.

¹⁴²³Panel Report, paras. 7.1094 and 7.1095.

¹⁴²⁴Panel Report, para. 7.1096. The Panel noted that "the European Communities itself sought to estimate the value of NASA 'facilities, equipment and employees' to Boeing based on Boeing's share of NASA funding." (*Ibid.*)

¹⁴²⁵Panel Report, para. 7.1099.

¹⁴²⁶Panel Report, para. 7.1099.

2. Is the United States' Claim Properly within the Scope of This Appeal?

679. We begin with the European Union's contention that the United States' claim is not within the scope of this appeal because the United States failed to identify in its Notice of Other Appeal "any alleged errors by the Panel under Article 1.1(b) of the *SCM Agreement* in *valuing* the benefit to Boeing from the NASA aeronautics R&D programmes, or reference any of the relevant paragraphs of the Panel Report"¹⁴²⁷, in accordance with Rule 23(2) of the *Working Procedures*.

680. Pursuant to Rule 23(2) of the *Working Procedures*, a Notice of Other Appeal shall include, *inter alia*, the following information:

- (i) a statement of the issues raised on appeal by another participant with which the party joins; or
- (ii) a brief statement of the nature of the other appeal, including:
 - (A) identification of the alleged errors in the issues of law covered in the panel report and legal interpretations developed by the panel;
 - (B) a list of the legal provision(s) of the covered agreements that the panel is alleged to have erred in interpreting or applying; and
 - (C) without prejudice to the ability of the other appellant to refer to other paragraphs of the panel report in the context of its appeal, an indicative list of the paragraphs of the panel report containing the alleged errors.

681. The Appellate Body has explained that Notices of Appeal and Other Appeal do not only serve the purpose of initiating an appeal. The additional requirements under Rule 20(2), and similarly those under Rule 23(2), of the *Working Procedures* "serve to ensure that the appellee also receives notice, albeit brief, of the 'nature of the appeal' and the 'allegations of errors' by the panel".¹⁴²⁸ The Appellate Body has elaborated on the requirements of a Notice of Appeal as follows:

The *Working Procedures for Appellate Review* enjoin the appellant to be *brief* in its notice of appeal in setting out "the nature of the appeal, including the allegations of errors". We believe that, in principle, the "nature of the appeal" and "the allegations of errors" are sufficiently set out where the notice of appeal adequately identifies the findings or legal interpretations of the Panel which are being appealed as erroneous. The notice of appeal is not expected to contain the reasons why the appellant regards those findings or interpretations as

¹⁴²⁷European Union's appellee's submission, para. 96. (original emphasis; footnote omitted)

¹⁴²⁸Appellate Body Report, *US – Countervailing Measures on Certain EC Products*, para. 62.

erroneous. The notice of appeal is not designed to be a summary or outline of the arguments to be made by the appellant. The legal arguments in support of the allegations of error are, of course, to be set out and developed in the appellant's submission.¹⁴²⁹ (original emphasis)

682. In previous appeals, the Appellate Body has also cautioned that, "if an appellee is not notified of the claims raised by the appellant or other appellant in the Notice of Appeal or Other Appeal, those claims are not properly within the scope of the appeal, and the Appellate Body will not make findings thereon."¹⁴³⁰

683. In paragraph 3 of its Notice of Other Appeal, the United States included the following claim:

The United States seeks review by the Appellate Body of the Panel's finding that payments made by NASA to Boeing under contracts for the performance of aeronautics research and facilities, equipment, and employees provided to Boeing through research contracts and agreements at issue conferred a benefit. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(b) of the SCM Agreement.⁵

⁵Panel Report, paras. 7.1037-7.1040 and 8.3.

684. In its other appellant's submission, the United States frames its claim as one involving an error, under Article 1.1(b) of the *SCM Agreement*, in the "valuation of the total benefit conferred by NASA research contracts".¹⁴³¹ At the oral hearing and in its additional memorandum, the United States clarified that its claim is that the Panel's finding of benefit is overbroad in that it includes contracts for research into topics that were not part of the European Communities' claim.¹⁴³²

685. As the European Union points out, the United States' Notice of Other Appeal does not expressly refer to the "alleged errors ... in valuing the benefit to Boeing from the NASA aeronautics R&D programmes".¹⁴³³ Nevertheless, the United States' Notice of Other Appeal refers specifically to the Panel's finding of benefit with respect to the payments and other support provided under the NASA contracts and agreements at issue. The United States' allegation to which the European Union objects is that the Panel's finding of benefit is overbroad because it encompasses NASA R&D

¹⁴²⁹Appellate Body Report, *US – Shrimp*, para. 95.

¹⁴³⁰Appellate Body Report, *EC – Fasteners (China)*, para. 582 (referring to Appellate Body Report, *US – Countervailing Measures on Certain EC Products*, para. 72; Appellate Body Reports, *EC – Bananas III (Article 21.5 – Ecuador II)/EC – Bananas III (Article 21.5 – US)*, para. 285; and Appellate Body Report, *Japan – Apples*, paras. 124-128).

¹⁴³¹United States' other appellant's submission, para. 66.

¹⁴³²United States' oral statement and responses to questioning at the first session of the oral hearing; United States' additional memorandum following the first session of the oral hearing, para. 35.

¹⁴³³European Union's appellee's submission, para. 96. (emphasis omitted)

contracts and agreements not challenged by the European Communities before the Panel. In other words, it is an allegation that the Panel's finding of benefit covers NASA R&D contracts and agreements that were not at issue in the dispute, because the European Communities had not challenged them. Therefore, we are of the view that paragraph 3 of the Notice of Other Appeal, particularly the reference to the "contracts and agreements at issue", can be read to indicate that the United States intended to challenge not only the finding of benefit, but also the breadth of that finding.

686. Nonetheless, we must caution that paragraph 3 of the Notice of Other Appeal is drafted at a level of vagueness and imprecision that makes it considerably difficult for the appellee, the third participants, and the Appellate Body to understand easily the full scope of the United States' claim. Understanding the full scope of an appellant's claim should not require such effort. Drafting the Notice of Appeal or Notice of Other Appeal with greater precision reduces the risk of procedural objections and possible dismissal of a claim because it does not comply with the requirements of Rule 20 or 23 of the *Working Procedures*.

687. We also recognize that the paragraphs of the Panel Report cited in the United States' Notice of Other Appeal do not correspond to the sections of the Panel Report where the Panel made the error alleged by the United States. The Notice of Other Appeal refers to paragraphs 7.1037-7.1040 and 8.3. Paragraphs 7.1037-7.1040 concern the Panel's analysis of whether the NASA measures conferred a benefit. Paragraph 8.3 is where the Panel set out its conclusions concerning the European Communities' claims of adverse effects. The United States' allegations of over-breadth are directed at the Panel's analysis set out in paragraphs 7.1055 through 7.1110 of the Panel Report. Nevertheless, we recall that Rule 23(2)(c)(ii)(C) of the *Working Procedures* requires an other appellant to provide an "indicative list" of the paragraph numbers of the panel report containing the alleged error(s) and that this list is "without prejudice to the ability of the other appellant to refer to other paragraphs of the panel report in the context of its appeal". The failure to provide a complete and accurate list of paragraph numbers covered by the allegation of error is not by itself a basis to reject a claim.¹⁴³⁴

688. Therefore, we *find* that the United States' Notice of Other Appeal sufficiently identifies the allegation of error and, consequently, we reject the European Union's argument that the United States' claim is not properly within the scope of this appeal.

¹⁴³⁴See Appellate Body Reports, *EC – Bananas III (Article 21.5 – Ecuador II) / EC – Bananas III (Article 21.5 – US)*, paras. 279 and 283, where the Appellate Body refused to dismiss a claim of the European Communities, even though the Notice of Appeal did not provide a list of the legal provisions of the covered agreements that the panel was alleged to have erred in interpreting or applying, or an indicative list of the paragraphs of the panel report containing the alleged errors.

3. Did the Panel Err under Article 1.1(b) of the *SCM Agreement*?

689. We recall that the United States' claim is that the Panel did not properly apply Article 1.1(b) of the *SCM Agreement*, because the Panel did not exclude from its estimate of the amount of the subsidy the \$280 million in expenditures for research that NASA had determined was "unrelated" to the European Communities' claims.¹⁴³⁵

690. The conferral of a benefit is one of the two elements of the definition of a subsidy in Article 1.1 of the *SCM Agreement*. The Appellate Body has explained that "the word 'benefit', as used in Article 1.1(b), implies some kind of comparison", and that "the marketplace provides an appropriate basis for comparison in determining whether a 'benefit' has been 'conferred', because the trade-distorting potential of a 'financial contribution' can be identified by determining whether the recipient has received a 'financial contribution' on terms more favourable than those available to the recipient in the market."¹⁴³⁶ In section VI.B, we reviewed the Panel's determination of benefit with respect to the NASA measures at issue. We observe that, having found that the NASA measures conferred a benefit on Boeing, the Panel did not proceed further to estimate the magnitude or amount of the benefit.¹⁴³⁷

691. The Panel then proceeded, in a separate section of its Report, to estimate the "amount of the subsidy to Boeing's LCA division".¹⁴³⁸ The Panel did not explain what exactly was meant by "amount of the subsidy". It would appear that the estimation exercise undertaken by the Panel is more closely related to the concept of financial contribution¹⁴³⁹ under Article 1.1(a)(1) than to the concept of benefit under Article 1.1(b) of the *SCM Agreement*. This is because the Panel was seeking to identify the amount of funds transferred by NASA to Boeing under the relevant contracts, as well as the value of Boeing's access to NASA facilities, equipment, and employees. Had the Panel sought to estimate the amount of the benefit, it would have had to focus on the advantage conferred on Boeing as compared to what it would have obtained in a market transaction.¹⁴⁴⁰ We further note that, in

¹⁴³⁵United States' oral statement and responses to questioning at the first session of the oral hearing.

¹⁴³⁶Appellate Body Report, *Canada – Aircraft*, para. 157.

¹⁴³⁷Panel Report, para. 7.1039.

¹⁴³⁸Panel Report, p. 468, subsection VII.D.5(e).

¹⁴³⁹This comes out explicitly in paragraph 7.1101 of the Panel Report when, in rebutting an argument of the European Communities, the Panel stated: "{T}here are two reasons why we shall treat the full amount of the *financial contributions* provided to Boeing as a subsidy to Boeing's LCA division". (emphasis added)

¹⁴⁴⁰See section VI.B.2 of this Report.

explaining its approach, the Panel stated that its analysis of the amount of the subsidy was "properly characterized as one part of the serious prejudice analysis".¹⁴⁴¹

692. Having reviewed the Panel's analysis that is the focus of the United States' allegations, it appears to us that the United States' appeal is misdirected. Even assuming, for the sake of argument, that the Panel erred in its calculation of the "amount of the subsidy", it is unclear that this would have been an error of interpretation or application of "benefit" under Article 1.1(b) of the *SCM Agreement*. The specific allegation made by the United States is that the Panel failed to exclude from the amount of the subsidy certain transactions that NASA had determined did not involve research that was relevant to LCA.¹⁴⁴²

693. The United States asserted before the Panel that NASA disbursements to Boeing under the challenged programmes amounted to less than \$750 million.¹⁴⁴³ The methodology used by the United States to arrive at this figure was as follows. First, the United States identified all of the contracts that were awarded by NASA to Boeing under the eight R&D programmes at issue during the period 1989-2006.¹⁴⁴⁴ For this purpose, the United States ran a search in the FPDS/FPDS-NG data base.¹⁴⁴⁵ Second, from this broad pool of Boeing contracts, the United States eliminated all contracts that did not relate to aeronautics research. This was done by identifying the awards issued by the NASA research centres that perform aeronautics research. The United States explained that NASA conducts all of its research activities at nine research centres, but that only four of those centres—Langley Research Center, Glenn Research Center, Ames Research Center, and Dryden Research Center—are responsible for all the aeronautics research conducted by NASA. These four research centres administer the eight R&D programmes and perform all the aeronautics research required in support of NASA's other programmes.¹⁴⁴⁶ This second step yielded a figure of \$1.05 billion.¹⁴⁴⁷ In the third step, the United States eliminated contracts that, although awarded by one of the four NASA research centres that perform aeronautics research, nevertheless pertained to non-aeronautics research (for example, contracts whose subject matter pertained to space, atmospheric science, airspace

¹⁴⁴¹Panel Report, para. 7.213. Moreover, the Panel considered that the calculation of the amount of the subsidy was not necessary under Article 1 of the *SCM Agreement*. The Panel made these remarks in relation to certain subsidy measures under Washington State House Bill 2294. However, we understand the Panel to have intended this explanation to apply also with respect to its analysis of the amount of the other subsidies. (*Ibid.*)

¹⁴⁴²The United States alleges that these expenditures related to R&D for space, procurement of goods, wind turbines and aeroprops, air traffic management, hypersonic flight, vertical take-off and landing/short take-off and landing, and aircraft support (maintenance and upkeep of NASA's aircraft). (United States' other appellant's submission, para. 71)

¹⁴⁴³Panel Report, para. 7.1057.

¹⁴⁴⁴Panel Report, para. 7.1058.

¹⁴⁴⁵For the period 2004-2006, the United States used the FPDS-NG data base, which superseded the FPDS.

¹⁴⁴⁶Panel Report, para. 7.1062.

¹⁴⁴⁷Panel Report, para. 7.1076.

hypersonics, vertical take-off and landing/short take-off and landing, and aircraft support related to the maintenance and upkeep of NASA's aircraft).¹⁴⁴⁸ Under this third step, the United States excluded \$280 million in expenditures, resulting in a total value of \$775 million between 1989 and 2006.¹⁴⁴⁹

694. The Panel sought further information from the United States to confirm the results of this exercise and also addressed some of the specific criticisms levelled by the European Communities against the United States' proposed approach.¹⁴⁵⁰ After reviewing the evidence, the Panel concluded:

It is clear to the Panel that NASA has made mistakes in compiling the relevant information, and that NASA's records are not perfect (and as we discuss below, in relation to Space Act Agreements, far from perfect). However, the European Communities has not demonstrated that the United States' estimate involved any "methodological" errors. The Panel therefore estimates that the total amount of payments to Boeing through R&D contracts under the eight R&D programmes over the period 1989-2006 was **\$1.05 billion**.¹⁴⁵¹ (original boldface)

695. Thus, the Panel decided to rely on the methodology proposed by the United States and ultimately accepted the results of the second step of the United States' methodology, that is, the results of segregating the contracts awarded to Boeing by the four NASA research centres that conduct aeronautics research. The Panel did not address the third step of the methodology that had been proposed by the United States, which involved eliminating the contracts that, despite being awarded by one of these four NASA research centres that perform aeronautics research, NASA had identified as not pertaining to aeronautics research. In our view, once the Panel had decided to engage with the methodological approach and the data provided by the United States, it should not simply have stopped at the second step without explaining the reasons for not engaging with the third step. The Panel should have explained why it disagreed with the third step or why it did not find it probative: for instance, because the results of the manual review, by NASA personnel, of the descriptions of the research conducted under each Boeing contract awarded by the four research centres could not be verified.¹⁴⁵²

696. Having said that, we note that the Panel's consideration of the amount of the subsidy was eminently a factual exercise that involved scrutinizing factual evidence submitted by the parties and focused on what was the most appropriate methodology to segregate the contracts that involved

¹⁴⁴⁸Panel Report, para. 7.1063 (referring to United States' response to Panel Question 179, para. 181).

¹⁴⁴⁹Panel Report, para. 7.1068; United States' response to Panel Question 188, para. 223. Some of these figures have been rounded off, thus the discrepancy when the figures are added up.

¹⁴⁵⁰See Panel Report, paras. 7.1064-7.1080.

¹⁴⁵¹Panel Report, para. 7.1081.

¹⁴⁵²Panel Report, para. 7.1068.

aeronautics R&D from the other transactions entered into between NASA and Boeing. This kind of factual assessment falls within a panel's authority as the initial trier of facts and should be reviewed by the Appellate Body only under Article 11 of the DSU, a claim the United States has not raised with respect to the Panel's estimate of the amount of the subsidy provided by NASA to Boeing.

697. We note that there is no obligation in the *SCM Agreement* to quantify the precise amount of the subsidy for purposes of an adverse effects claim, and the Panel's finding of benefit under Article 1.1(b) in this case does not depend on the Panel's quantification of the amount of the subsidy provided by NASA. The Appellate Body has previously stated that, while the magnitude of a subsidy may be relevant to the assessment of a claim of serious prejudice, a "precise, definitive quantification of the subsidy is not required" for purposes of a serious prejudice analysis.¹⁴⁵³ In the absence of such an obligation, it is not clear on what basis the Panel's reluctance to go further in its calculations could constitute legal error. Furthermore, the Panel never purported that its calculations would be precise, since it indicated that the amount is an estimate.¹⁴⁵⁴

698. The United States additionally submits that the Panel's error in estimating the amount of payments made by NASA to Boeing also affected the value estimated by the Panel for the free access to facilities, equipment, and employees provided by NASA to Boeing.¹⁴⁵⁵ The Panel estimated the amount of the subsidy provided to Boeing's LCA division in the form of such free access to be \$1.55 billion over the period 1989-2006.¹⁴⁵⁶ The Panel's estimation of the value of this access was based on a methodology proposed by the United States that used Boeing's share of overall payments made to the eight R&D programme participants to estimate the maximum value of the access to facilities, equipment, and employees provided by NASA to Boeing.¹⁴⁵⁷ Although the Panel accepted the United States' general approach, it disagreed with the value of the payments from NASA to Boeing that the United States used to derive Boeing's share of the overall payments. The United States used the figure \$775 million, which resulted in Boeing having received 10.4% of NASA's overall payment under the eight R&D programmes at issue. The Panel, however, pointed out that it had estimated the total amount of payments to Boeing through R&D contracts to be \$1.05 billion. The Panel further explained that using the \$1.05 billion figure "{led} to the conclusion that Boeing received 14 per cent, not 10.4 per cent, of payments made to programme participants".¹⁴⁵⁸

¹⁴⁵³ Appellate Body Report, *US – Upland Cotton*, para. 467.

¹⁴⁵⁴ See Panel Report, paras. 7.1081, 7.1109, and 7.1110.

¹⁴⁵⁵ United States' other appellant's submission, para. 76.

¹⁴⁵⁶ Panel Report, para. 7.1109.

¹⁴⁵⁷ Panel Report, paras. 7.1094 and 7.1095.

¹⁴⁵⁸ Panel Report, para. 7.1099.

Based on this share, the Panel then estimated "the value of the free access to facilities, equipment and employees under the eight R&D programmes at issue {to be} \$1.55 billion".¹⁴⁵⁹

699. We agree with the United States that the amount of the subsidy provided through the access to NASA facilities, equipment, and employees was estimated as a function of the value of the payments that had been estimated by the Panel. The amount of the payments provided by NASA to Boeing estimated by the Panel (\$1.05 billion) was used to derive Boeing's share of the overall payments (14%). We have declined above to disturb the Panel's finding as to the estimated amount of the subsidy provided through the payments made by NASA to Boeing. As a consequence, there is no basis for us to interfere with the Panel's estimate of the value of Boeing's access to NASA facilities, equipment, and employees.

700. We recall that the United States' claim on appeal is that the Panel erred in the application of the concept of benefit under Article 1.1(b) of the *SCM Agreement* because the Panel did not exclude from its estimate of the amount of the subsidy the \$280 million in expenditures for research that NASA had determined was unrelated to the European Communities' claims.¹⁴⁶⁰ We have found that the Panel's consideration of the amount of the subsidy was a factual assessment that fell within the Panel's authority as the initial trier of facts. The United States, however, did not raise a claim under Article 11 with respect to the Panel's consideration of the amount of the subsidy provided under the NASA measures at issue. We have additionally explained above that the United States' appeal is misdirected, because the Panel did not attempt to estimate the value of the benefit conferred to Boeing under the NASA measures at issue. Accordingly, we *reject* the United States' claim that the Panel erred in estimating the amount of the subsidy provided to Boeing's LCA division pursuant to the NASA contracts and agreements under the eight R&D programmes at issue to be \$2.6 billion over the period 1989-2006.¹⁴⁶¹ We emphasize that this figure is only an estimate and should be treated as such.

D. *Article 11 of the DSU – Amount of USDOD R&D Funding Potentially Relevant to LCA*

701. We now address the United States' claim that the Panel acted inconsistently with Article 11 of the DSU by stating, in paragraph 7.1205 of the Panel Report, that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA". The United States submits that the Panel acted inconsistently with Article 11 of the DSU because the Panel's statement lacks an

¹⁴⁵⁹Panel Report, para. 7.1099.

¹⁴⁶⁰United States' oral statement and responses to questioning at the first session of the oral hearing.

¹⁴⁶¹Panel Report, paras. 7.1081, 7.1109, and 7.1110.

evidentiary basis.¹⁴⁶² The Panel's findings are summarized in subsection 1. We assess the United States' claim in subsection 2.

1. The Panel's Findings

702. Having determined that the payments and access to facilities provided by the USDOD to Boeing under the assistance instruments constitute specific subsidies, the Panel then sought to determine the total amount of the subsidy to Boeing's LCA division.

703. The European Communities estimated that the USDOD had provided Boeing with \$4.3 billion in funding and support for "dual-use" R&D over the period 1991-2006, and argued that \$2.4 billion of that total should be treated as a subsidy to Boeing's LCA division.¹⁴⁶³ The United States responded that the European Communities had overestimated the amount of dual-use research conducted under the R&D programmes at issue. According to the United States, the total amount of any subsidy to Boeing's LCA division under USDOD R&D contracts and agreements "is significantly less than \$308 million over the period 1991-2006".¹⁴⁶⁴

704. The Panel noted that the parties did not dispute that the USDOD had provided Boeing \$45 billion in total RDT&E funding between 1991 and 2005.¹⁴⁶⁵ However, the Panel explained that the "European Communities {did} not assert that the entirety of this funding constitutes a subsidy to Boeing", but rather "the European Communities' claim relate{d} to {US}DOD R&D funding and support to Boeing for 'dual use' R&D".¹⁴⁶⁶

705. The Panel then observed that "there is no publicly available information setting forth the amount of {US}DOD 'dual use' R&D funding to Boeing"¹⁴⁶⁷ and noted, therefore, that the European Communities' subsidy amount was only an estimate based upon a "detailed expert report".¹⁴⁶⁸ Taking account of the European Communities' argument that its estimate should be adopted unless the United States provided evidence of the actual value of the payments and access to USDOD facilities, the Panel decided that, if the United States provided the "actual information and

¹⁴⁶²United States' other appellant's submission, paras. 123-125.

¹⁴⁶³Panel Report, para. 7.1199 (referring to Panel Exhibit EC-25, containing a compilation of charts setting out NASA/USDOD/USDOC aeronautics R&D subsidies to Boeing's LCA division, table at p. 20, containing data on USDOD RDT&E).

¹⁴⁶⁴Panel Report, para. 7.1200.

¹⁴⁶⁵Panel Report, para. 7.1202 (referring to European Communities' second written submission to the Panel, para. 471; and Top Contractors' Share of DOD RDT&E, FY 1991-FY 2005 (Panel Exhibit EC-29), p. 1).

¹⁴⁶⁶Panel Report, para. 7.1202.

¹⁴⁶⁷Panel Report, para. 7.1203.

¹⁴⁶⁸Panel Report, para. 7.1203 (referring to CRA International, "U.S. Department of Defense (DoD) Research, Development, Test and Evaluation (RDT&E) Funding Support to The Boeing Company for Dual-Use Aircraft R&D", CRA Project No. D08745-00 (November 2006) (Panel Exhibit EC-7)).

figures" relating to the USDOD subsidy, then its amount would "prevail over the European Communities' estimate".¹⁴⁶⁹

706. The Panel thus turned to the United States' subsidy calculations and noted that the United States claimed that the "maximum amount" of the subsidy was "only \$308 million".¹⁴⁷⁰ The Panel observed that the United States had reduced the amount during the proceedings from the \$529 million it had initially indicated due to "several mistakes" in Exhibit US-41 that contained a list of 43 USDOD R&D contracts and agreements.¹⁴⁷¹ The Panel further observed that the United States had indicated that its estimate concerned the total amount of the subsidy to Boeing "as a whole".¹⁴⁷² The Panel noted that, in the end, the United States claimed that the subsidy to Boeing's LCA division "would be significantly less than \$308 million, and, it seems, significantly less than \$100 million over the period 1991-2006".¹⁴⁷³

707. The Panel rejected the United States' "estimate" of the total amount of the subsidy to Boeing on four grounds.¹⁴⁷⁴ First, the United States' calculations excluded funding under the military aircraft RDT&E programmes, which made up \$3.1 billion of the European Communities' \$4.3 billion estimate. Second, the United States did not provide similar "argument or evidence"¹⁴⁷⁵ for a maximum subsidy amount as it did with the NASA aeronautics R&D subsidy calculations. Third, the United States did not include the value of Boeing's access to USDOD facilities. Fourth, the Panel did not find it "credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding"¹⁴⁷⁶ to Boeing "had any potential relevance to LCA".¹⁴⁷⁷ Without taking a definitional position itself, the Panel noted that the United States applied a broad definition of "dual-use" that included "'theoretical' or 'potential' civil applications" of R&D, and not one limited to tangible technologies actually applied on civil aircraft.¹⁴⁷⁸

¹⁴⁶⁹Panel Report, para. 7.1203.

¹⁴⁷⁰Panel Report, para. 7.1204 (referring to United States' response to questions regarding US Panel exhibits (10 January 2008), p. 2).

¹⁴⁷¹Panel Report, para. 7.1204.

¹⁴⁷²Panel Report, para. 7.1204.

¹⁴⁷³Panel Report, para. 7.1204.

¹⁴⁷⁴Panel Report, para. 7.1205.

¹⁴⁷⁵Panel Report, para. 7.1205.

¹⁴⁷⁶Panel Report, para. 7.1205.

¹⁴⁷⁷Panel Report, para. 7.1205. (footnote omitted)

¹⁴⁷⁸Panel Report, footnote 2796 to para. 7.1205.

708. At the same time, the Panel said it could not accept the European Communities' estimate of the subsidy provided to Boeing's LCA division, as its "methodology and analysis"¹⁴⁷⁹ did not distinguish payments and access to USDOD facilities provided under procurement contracts from those made under assistance instruments. In the light of the conflicting estimates of the parties and its own analysis, the Panel held that it was not possible to isolate payments and access to facilities provided under procurement contracts from the payments and access provided under assistance instruments.¹⁴⁸⁰

709. The Panel next stated that the Appellate Body report in *US – Upland Cotton* stood for the proposition that, "while a panel should endeavour to arrive at an estimate of the order of the 'magnitude' of the subsid(ies) alleged to cause price suppression within the meaning of Article 6.3(c) of the SCM Agreement, a 'precise, definitive quantification ... is not required'".¹⁴⁸¹ The Panel considered that this principle also applied to other forms of serious prejudice in Article 6.3.

710. The Panel concluded:

In this case, where we have determined that a measure constitutes a specific subsidy within the meaning of Articles 1 and 2 of the SCM Agreement, we have attempted to determine the amount of the subsidy that is properly allocated to Boeing's "LCA division". However, in the case of {US}DOD R&D subsidies to Boeing, while we do not accept the United States' estimate that the total amount of any {US}DOD subsidy to Boeing for "dual use" R&D is significantly less than \$308 million over the period 1991-2006, we also cannot accept the European Communities' estimate, and any attempt by the Panel to go further and arrive at our own estimate of the amount of the subsidy to Boeing's LCA division would be speculative.¹⁴⁸² (footnote omitted)

2. Did the Panel Make an Objective Assessment of the Matter under Article 11 of the DSU in Making the Challenged Statement?

711. The United States claims that the Panel acted inconsistently with Article 11 of the DSU in stating that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA".¹⁴⁸³ According to the United States, the Panel acted inconsistently with Article 11

¹⁴⁷⁹Panel Report, para. 7.1206.

¹⁴⁸⁰Panel Report, para. 7.1207.

¹⁴⁸¹Panel Report, para. 7.1208 (quoting Appellate Body Report, *US – Upland Cotton*, para. 467).

¹⁴⁸²Panel Report, para. 7.1209.

¹⁴⁸³Panel Report, para. 7.1205. (footnote omitted)

of the DSU because the Panel's finding lacks an evidentiary basis.¹⁴⁸⁴ The United States explains that "{t}he Panel cited no evidence in support of its comment about the amount of {USDOD} R&D of 'potential relevance to LCA'."¹⁴⁸⁵ Furthermore, the United States submits that the Panel's statement "is inconsistent with the Panel's ultimate finding that 'any attempt by the Panel to go further and arrive at {its} own estimate of the amount of the subsidy to Boeing's LCA division would be speculative'."¹⁴⁸⁶ The United States also refers to the Panel's statement that it would not take a position on whether "dual-use" should be understood narrowly or broadly.¹⁴⁸⁷ The United States therefore requests the Appellate Body to reverse the Panel's finding.

712. The European Union rejects the allegations that the Panel acted inconsistently with Article 11 of the DSU in making the statement challenged by the United States.¹⁴⁸⁸ First, the European Union argues that this statement should not be subject to appellate review, as it is not a legal finding or conclusion within the meaning of Article 17.13 of the DSU and had no effect on the Panel's ultimate conclusions that the aeronautics R&D subsidies provided to Boeing amounted to at least \$2.6 billion and caused adverse effects to the European Communities' LCA industry.¹⁴⁸⁹ Second, the European Union asserts that, if this statement is subject to appellate review, it is really in the nature of a conclusion as to the Panel's evidence-based rejection of the United States' claim that dual-use R&D funding to Boeing was no greater than \$308 million.¹⁴⁹⁰

713. Article 11 of the DSU requires a panel to "make an objective assessment of the matter before it, including an objective assessment of the facts of the case". The Appellate Body has previously explained that, as the initial triers of facts, panels have discretion in the appreciation of the evidence, and the Appellate Body has said it "will not interfere lightly" with a panel's exercise of this discretion.¹⁴⁹¹ The Appellate Body has noted that it will not "base a finding of inconsistency under Article 11 simply on the conclusion that {it} might have reached a different factual finding".¹⁴⁹² Instead, for a claim under Article 11 to succeed, the Appellate Body must be satisfied that the panel

¹⁴⁸⁴United States' other appellant's submission, paras. 123-125 (referring to Appellate Body Report, *US – Carbon Steel*, para. 142).

¹⁴⁸⁵United States' other appellant's submission, para. 125.

¹⁴⁸⁶United States' other appellant's submission, para. 125 (quoting Panel Report, para. 7.1209).

¹⁴⁸⁷United States' other appellant's submission, para. 125 (referring to Panel Report, footnote 2796 to para. 7.1205).

¹⁴⁸⁸European Union's appellee's submission, para. 185.

¹⁴⁸⁹European Union's appellee's submission, para. 186 (referring to Appellate Body Report, *US – Wool Shirts and Blouses*, p. 17, DSR 1997:I, 323, at 338).

¹⁴⁹⁰European Union's appellee's submission, para. 187.

¹⁴⁹¹Appellate Body Report, *US – Wheat Gluten*, para. 151; see also Appellate Body Report, *US – Carbon Steel*, para. 142.

¹⁴⁹²Appellate Body Report, *US – Wheat Gluten*, para. 151.

has exceeded its authority as trier of facts.¹⁴⁹³ As initial trier of facts, a panel must provide "reasoned and adequate explanations and coherent reasoning"¹⁴⁹⁴, base its finding on a sufficient evidentiary basis¹⁴⁹⁵, and treat evidence with "even-handedness".¹⁴⁹⁶

714. The United States' challenge involves a remark made by the Panel in attempting to estimate the amount of the subsidy provided by the USDOD to Boeing. As it did when it estimated NASA's subsidies, the Panel looked first at the evidence provided by the United States, because it considered that, "if the United States were able to provide the Panel with the actual information and figures regarding the amount of {US}DOD R&D subsidies to Boeing, or information from which the maximum amount of those subsidies could be derived, then such information would necessarily prevail over the European Communities' estimate."¹⁴⁹⁷ It is in the context of reviewing the evidence presented by the United States that the Panel made the challenged statement. We therefore focus below on this part of the Panel's analysis.

715. The United States presented the Panel with an exhibit¹⁴⁹⁸ that had a list of 43 USDOD R&D contracts and agreements and indicated that \$308 million was the maximum possible amount of the USDOD's subsidy to Boeing.¹⁴⁹⁹ In addition, the United States argued that the \$308 million concerned the funding provided to Boeing "as a whole", that is, both to Boeing's military and LCA divisions.¹⁵⁰⁰ The United States proposed that the amount of \$308 million be divided in half to arrive at the subsidy provided to Boeing's LCA division, in line with the methodology employed by the European Communities.¹⁵⁰¹ Thus, the Panel observed that, "while the United States has never provided an exact figure regarding the actual amount of any {US}DOD subsidy to Boeing's LCA

¹⁴⁹³ Appellate Body Report, *US – Wheat Gluten*, para. 151.

¹⁴⁹⁴ Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, footnote 618 to para. 293.

¹⁴⁹⁵ Appellate Body Report, *US – Carbon Steel*, para. 142.

¹⁴⁹⁶ Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 292.

¹⁴⁹⁷ Panel Report, para. 7.1203.

¹⁴⁹⁸ Panel Exhibit US-41 contains a list of 43 USDOD R&D contracts and agreements that total \$529 million. However, the United States subsequently indicated that the list in Panel Exhibit US-41 contains several mistakes, and that the actual maximum amount is only \$308 million. (See Panel Report, para. 7.1204)

¹⁴⁹⁹ The United States asserted that many of the R&D contracts and agreements that composed the \$308 million estimate did not, in fact, involve any dual-use R&D. Furthermore, the United States argued that some of the contracts and agreements on the list had "elements" with "no civil applicability". (Panel Report, para. 7.1204 (referring to United States' first written submission to the Panel, paras. 161 and 162; United States' response to Panel Question 208, para. 290; United States' comments on the European Communities' response to Panel Question 190(b), para. 326; and United States' response to Panel Question 208(b), para. 290 and footnote 376 thereto))

¹⁵⁰⁰ Panel Report, para. 7.1204.

¹⁵⁰¹ Panel Report, para. 7.1204.

division, it is clear that any such estimate would be significantly less than \$308 million, and, it seems, significantly less than \$100 million over the period 1991-2006."¹⁵⁰²

716. The Panel said that it could not accept the United States' estimate and gave the following reasons for its position. First, the Panel explained that the United States' estimate only included funding provided by the USDOD to Boeing under the 13 "general aircraft" RDT&E programmes and "completely exclude{d}" all funding provided to Boeing under the 10 "military aircraft" RDT&E programmes at issue.¹⁵⁰³ The Panel noted that funding under the military aircraft RDT&E programmes accounted for \$3.1 billion out of the \$4.3 billion that the European Communities had estimated was the total amount of the subsidy provided by the USDOD to Boeing for dual-use R&D. The second reason given by the Panel concerned the quality of the evidence provided by the United States. It appears that the Panel attributed less probative weight to the evidence put forward by the United States in relation to USDOD funding than to the evidence it submitted in connection with NASA funding. In particular, the Panel criticized the United States for failing to provide arguments or evidence with respect to the maximum amount of USDOD R&D dual-use funding provided to Boeing.¹⁵⁰⁴ Third, the Panel pointed out that the United States' estimate of the total amount of USDOD aeronautics R&D subsidy to Boeing did not account for the value of any access to USDOD facilities granted to Boeing. We recall that the Panel had found that access to USDOD facilities provided to Boeing was also a subsidy within the meaning of Article 1.1(a)(1) of the *SCM Agreement*.¹⁵⁰⁵ Finally, the Panel made the statement challenged by the United States that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA".¹⁵⁰⁶

717. It is true that the Panel, in making the statement challenged by the United States, did not cite specific evidence in support of its position. As we have explained above, Article 11 of the DSU requires panels not to make findings without a sufficient evidentiary basis.¹⁵⁰⁷ Certainly it would have been preferable for the Panel to have cited to evidence or referred to earlier factual findings when it made the challenged statement. Yet, other parts of the Panel's analysis lend support to the Panel's statement. We recall that the Panel examined the 23 USDOD RDT&E programmes at issue in its

¹⁵⁰²Panel Report, para. 7.1204.

¹⁵⁰³Panel Report, para. 7.1205.

¹⁵⁰⁴Panel Report, para. 7.1205. The Panel noted that, by contrast, the United States had provided evidence demonstrating that the maximum amount of the NASA payments to Boeing for aeronautics R&D could not be more than \$1.05 billion.

¹⁵⁰⁵See Panel Report, para. 7.1171.

¹⁵⁰⁶Panel Report, para. 7.1205. (footnote omitted)

¹⁵⁰⁷See Appellate Body Report, *US – Carbon Steel*, para. 142.

assessment of whether the measures constituted purchases of services. In the context of that analysis, the Panel looked at the benefits to be derived from the research by the USDOD and Boeing, which would have been germane to the issue of the "potential relevance to LCA" of the funding provided under the RDT&E programmes. The Panel made several findings that seem to question the view that the research had limited applicability to LCA development and production. The Panel found that, while the R&D performed by Boeing was of "some benefit and use" to the USDOD, it noted that of the 13 different "general aircraft" programmes at issue, "it would appear that at least two had the explicit objective of developing 'dual use' R&D."¹⁵⁰⁸

718. More importantly, in this analysis, the Panel specifically rejected the United States' argument that "technologies developed under the {US}DOD R&D programmes are {not} 'technologically applicable' to commercial aircraft (because of the different missions and cost-sensitivities of military and commercial aircraft)".¹⁵⁰⁹ Further, the United States explained that "{t}here are some small areas of overlap, which produce 'dual-use' technologies, but in these areas, {US}DOD generally tries to use the *potential civil application* to motivate commercial companies to contribute their resources to lessen {US}DOD's cost of reaching its military objective".¹⁵¹⁰ Moreover, the Panel noted that the United States elsewhere explained that "where a {USDOD} contracting agency sees *additional direct applications* for purchased technology, it seeks to obtain private sector contribution for the development of the technology".¹⁵¹¹ The United States also stated that "the incentive for private participation is the opportunity to share the cost of developing some technology of mutual interest to both the contractor and the government".¹⁵¹² For these reasons, the Panel found that the United States had failed to substantiate "its assertion that only a miniscule amount of the R&D conducted by Boeing under the {US}DOD R&D programmes at issue was 'technologically applicable' to commercial

¹⁵⁰⁸Panel Report, para. 7.1148.

¹⁵⁰⁹Panel Report, para. 7.1158. The Panel provided two reasons for rejecting this argument. First, the Panel said that the United States' argument "overlooks the fact that at least some of the {US}DOD programmes, for example, the ManTech Composites Affordability Initiative related to Advanced Fibre Placement, had the *explicit objective* of funding R&D to be applied towards both military and civil aircraft and emphasized the development of lower cost technologies." (*Ibid.*, para. 7.1159 (original emphasis)) Second, the Panel recalled the United States' explanation that "there exists a link between 'assistance instruments' and 'dual use' technologies: according to the United States, the reason that Boeing and other firms agree to enter into cost-sharing cooperative agreements with {US}DOD is because of the benefit (or potential benefit) of the R&D *for their commercial operations*." (*Ibid.* (original emphasis))

¹⁵¹⁰Panel Report, para. 7.1159 (quoting United States' response to Panel Question 208, para. 266). (emphasis added by the Panel)

¹⁵¹¹Panel Report, para. 7.1159 (quoting United States' first written submission to the Panel, para. 132). (emphasis added by the Panel)

¹⁵¹²Panel Report, para. 7.1159 (referring to United States' first written submission to the Panel, footnote 119 to para. 104). See also United States' first written submission to the Panel, para. 112.

aircraft."¹⁵¹³ This finding is consistent and supportive of the Panel's refusal to accept the United States' proposition that less than 1% of the total aeronautics R&D funding that the USDOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA.

719. We additionally note that the Panel had other evidence before it that supported the view that more than 1% of the total funding provided to Boeing over the period 1991-2005 had potential relevance to LCA. The European Communities had provided the Panel with its own estimate of the subsidy provided by the USDOD, which was based on calculations made by a firm called CRA International.¹⁵¹⁴ The amount of the subsidy to Boeing's LCA division was estimated by the European Communities to be \$2.4 billion. This is approximately 5% of the total R&D funding provided by the USDOD to Boeing. The Panel did not accept the European Communities' estimate because it did not distinguish between payments and access to USDOD facilities provided to Boeing under assistance instruments, on the one hand, and procurement contracts, on the other.¹⁵¹⁵ However, in the statement challenged by the United States, the Panel did not appear to be distinguishing between funding provided under procurement contracts and that provided under assistance instruments. Instead, the Panel seemed to be referring to all aeronautics R&D funding provided to Boeing that had any potential relevance to LCA. Thus, the Panel's statement is coherent with the general estimate provided by the European Communities and is not undermined by the fact that the European Communities' estimate may have included funding under both assistance instruments and procurement contracts.

720. In addition, we note that the statement challenged by the United States was the final remark made by the Panel in explaining why it was not persuaded by the estimate provided by the United States. When it made the challenged statement, the Panel had already provided three reasons why it could not accept the United States' estimate. Therefore, had the Panel refrained from making the challenged statement, it would have made little difference to the outcome of the Panel's analysis, nor would it have made much difference in terms of the underlying support for the Panel's decision to reject the United States' estimate. The United States has not appealed the three other reasons given by the Panel, nor the Panel's decision to reject the estimate put forward by the United States.

¹⁵¹³Panel Report, para. 7.1159. The Panel also found that the United States had failed to substantiate its assertion that the ITAR make it effectively impossible for Boeing to utilize any of the R&D performed under USDOD R&D contracts and agreements towards LCA. (*Ibid.*, para. 7.1160)

¹⁵¹⁴Panel Exhibit EC-7, *supra*, footnote 1468.

¹⁵¹⁵Panel Report, para. 7.1206.

721. We further recall that the Panel ultimately declined to provide a figure for its estimate of the total subsidy amount because the evidence on record did not allow it to segregate the payments and access to USDOD facilities provided under the assistance instruments from payments and access provided under the procurement contracts.¹⁵¹⁶ The Panel's rejection of the estimate proposed by the United States, as well as the one proposed by the European Communities, could be understood to constitute a finding by the Panel as to the range within which the amount of the subsidy would fall.¹⁵¹⁷ However, this range does not depend for support on the statement challenged by the United States. As noted above, the Panel's conclusion that it could "not accept the United States' estimate that the total amount of any {US}DOD subsidy to Boeing for 'dual use' R&D is significantly less than \$308 million over the period 1991-2006"¹⁵¹⁸ is supported by three other reasons, none of which has been challenged by the United States on appeal. In any event, the precise amount of the subsidy, or the range between the United States' and the European Communities' estimates, was not critical for the Panel's subsequent analysis of the European Communities' claims of serious prejudice. In its analysis of serious prejudice, the Panel stated that the aeronautics R&D subsidies amounted to at least \$2.6 billion.¹⁵¹⁹ The figure of \$2.6 billion was the amount of the subsidy that the Panel had estimated for the payments and the access to facilities, equipment, and employees provided under the NASA contracts and agreements. In other words, the precise amount of subsidy provided under the USDOD assistance instruments did not play a determinative role in the Panel's assessment of the European Communities' serious prejudice claims.

722. Finally, the Appellate Body recently clarified in *EC – Fasteners (China)* that "not every error allegedly committed by a panel amounts to a violation of Article 11 of the DSU" but, rather, "{i}t is incumbent on a participant raising a claim under Article 11 on appeal to explain *why* the alleged error *meets* the standard of review under that provision."¹⁵²⁰ In particular, the Appellate Body referred to a situation where an appellant alleges that a panel ignored a piece of evidence, and stated that "the mere

¹⁵¹⁶Panel Report, para. 7.1207.

¹⁵¹⁷The Panel concluded:

In this case, where we have determined that a measure constitutes a specific subsidy within the meaning of Articles 1 and 2 of the SCM Agreement, we have attempted to determine the amount of the subsidy that is properly allocated to Boeing's "LCA division". However, in the case of {US}DOD R&D subsidies to Boeing, while we do not accept the United States' estimate that the total amount of any {US}DOD subsidy to Boeing for "dual use" R&D is significantly less than \$308 million over the period 1991-2006, we also cannot accept the European Communities' estimate, and any attempt by the Panel to go further and arrive at our own estimate of the amount of the subsidy to Boeing's LCA division would be speculative.

(Panel Report, para. 7.1209 (footnote omitted))

¹⁵¹⁸Panel Report, para. 7.1205; see also para. 7.1209.

¹⁵¹⁹Panel Report, para. 7.1760.

¹⁵²⁰Appellate Body Report, *EC – Fasteners (China)*, para. 442. (original emphasis)

fact that a panel did not explicitly refer to that evidence in its reasoning is insufficient to support a claim of violation under Article 11."¹⁵²¹ Instead, the appellant "must explain why such evidence is so material to its case that the panel's failure explicitly to address and rely upon the evidence has a bearing on the objectivity of the panel's factual assessment".¹⁵²² We believe that this rationale applies equally to the case before us, where the United States is challenging the evidentiary basis of a statement by the Panel under Article 11 of the DSU but has not demonstrated or explained how the error vitiates the Panel's substantive findings. In our view, it is insufficient for an appellant simply to disagree with a statement or to assert that it is not supported by evidence. To succeed in its challenge under Article 11, an appellant must show that the statement was material to the panel's legal conclusion. In this case, the United States has not demonstrated that the challenged statement was material to the Panel's conclusion as to the total amount of the subsidy provided to Boeing through the USDOD measures. This is because, as explained above, other elements of the Panel's analysis do support that conclusion.

723. In the light of the above, we *reject* the United States' claim that the Panel acted inconsistently with Article 11 of the DSU when it stated, in paragraph 7.1205 of the Panel Report, that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA".

VII. NASA/USDOD Allocation of Patent Rights – Specificity

A. Introduction

724. We turn now to the European Union's claim concerning the Panel's finding that, on the assumption that the allocation of patent rights under the contracts and agreements between NASA/USDOD and Boeing constitutes a subsidy under Article 1.1 of the *SCM Agreement*, it would not be specific within the meaning of Article 2.1 of that Agreement. We provide a summary of the Panel's findings in section B. Next, we discuss the Panel's *arguendo* approach in section C. The European Union's claims on appeal are assessed in sections D, E, and F.

725. Before proceeding, we wish to clarify three aspects about the scope of the appeal that is before us. First, we note that, before the Panel, the European Communities challenged: (i) the allocation of *patent rights* under NASA/USDOD contracts and agreements; and (ii) the allocation of rights over the *data* produced under the relevant NASA/USDOD contracts and agreements.¹⁵²³ The

¹⁵²¹ Appellate Body Report, *EC – Fasteners (China)*, para. 442.

¹⁵²² Appellate Body Report, *EC – Fasteners (China)*, para. 442.

¹⁵²³ See Panel Report, paras. 7.1258-7.1265. The Panel noted that trade secrets are a subset of data rights. (*Ibid.*, para. 7.1265)

Panel rejected both claims.¹⁵²⁴ The European Union's appeal is directed only at the Panel's finding concerning the *patent rights* and does not include the Panel's finding on the *data rights*. This was confirmed by the European Union during the oral hearing.

726. Second, we observe that the European Communities challenged the patent rights allocation under NASA/USDOD contracts and agreements independently from its challenge to the payments and other support provided to Boeing under certain NASA/USDOD contracts and agreements. However, as discussed in Part VI, the allocation of patent rights was one of the features of the NASA/USDOD contracts and agreements on which the European Communities focused its argumentation that these transactions are not purchases of services. It was also one of the five evidentiary elements on which the Panel relied in concluding that the transactions are not purchases of services.¹⁵²⁵ Thus, the allocation of patent rights played a central role in the characterization of the contracts and agreements between NASA/USDOD and Boeing and this, in turn, was determinative for the conclusion that the payments and other support provided under the contracts and agreements constitute subsidies. The allocation of patent rights was also a central aspect of the European Communities' arguments on benefit, as well as the Panel's analysis of the issue.¹⁵²⁶ It is also an important element in our analyses of financial contribution and benefit.¹⁵²⁷

727. This gives rise to the following question: Was there an overlap between the European Communities' claims and, if so, does this have any legal consequences? The Panel resolved this question in relation to the European Communities' claim concerning the allocation of data rights (which the Panel dismissed because it considered that the claim "involve{d} double-counting"¹⁵²⁸). By contrast, the Panel dismissed the European Communities' claim concerning the allocation of patent rights on the basis that the allocation of patent rights under NASA/USDOD contracts and agreements is not specific. Nevertheless, during the interim review, the Panel suggested that its reasoning on the data rights claims "is applicable to any kind of intellectual property".¹⁵²⁹

728. We had a brief exchange with the participants during the oral hearing about the issue of potential overlap. The European Union explained that its claims do not overlap completely because its challenge to the allocation of patent rights concerned a broader set of NASA/USDOD contracts

¹⁵²⁴See Panel Report paras. 7.1294 and 7.1311, respectively.

¹⁵²⁵See section VI.A of this Report.

¹⁵²⁶The Panel observed that, "{a}t a minimum, it would be expected that some form of royalties or repayment would be required in the event that financial contributions were provided" on the terms reflected in the NASA procurement contracts and USDOD assistance instruments awarded to Boeing. (Panel Report, paras. 7.1039 and 7.1184)

¹⁵²⁷See sections VI.A and VI.B of this Report.

¹⁵²⁸Panel Report, para. 7.1309.

¹⁵²⁹Panel Report, para. 6.101.

and agreements with Boeing than its claim relating to the payments and other support.¹⁵³⁰ The United States, for its part, expressed the view that something that allegedly is the product of a subsidy cannot itself constitute a subsidy.

729. Neither participant, however, has appealed the Panel's approach to the potential overlap between the European Communities' claims. We do not need to resolve the differences between the participants' views, because the Panel proceeded on the assumption that the allocation of patent rights is in some respects a self-standing subsidy that is separate from the payments and other support provided under the NASA/USDOD contracts and agreements.¹⁵³¹ To the extent that such a self-standing subsidy could exist, we will assess the Panel's finding of specificity on the basis of the Panel's assumption.

730. Third, we recall that the Panel found that the payments and other support provided under the NASA/USDOD contracts and agreements at issue constitute specific subsidies within the meaning of Article 2.1 of the *SCM Agreement*. In the case of the NASA payments and other support, the United States "d{id} not dispute that each of the eight aeronautics R&D programmes at issue would, if found to provide subsidies within the meaning of Article 1, be specific under Article 2.1(a) of the *SCM Agreement*".¹⁵³² The Panel found that the payments and other support provided by the USDOD under the assistance instruments are specific subsidies under Article 2.1(a) because of "the fairly narrow focus of R&D performed under the 23 individual programmes (i.e. {programme elements})

¹⁵³⁰Before the Panel, the European Communities explained that it was challenging "all patents transferred/waived to Boeing under any and all R&D contracts and agreements that Boeing entered into with NASA and {US}DOD, including but not limited to those entered into under the specific NASA and {US}DOD R&D programmes listed in the European Communities' panel request". (Panel Report, para. 7.1263) The European Communities stated:

{F}rom the outset of this dispute, the European Communities has been challenging as a specific subsidy the provision of *all* patents to Boeing by NASA and {US}DOD pursuant to *all* NASA and {US}DOD contracts, even if they derive from programmes that are not being specifically challenged.

(*Ibid.* (quoting European Communities' response to Panel Question 216, para. 386 (original italics)) (emphasis added by the Panel underlined))

¹⁵³¹We are aware that there is some contradiction between the Panel's assumption concerning the allocation of patent rights and its remarks on the European Communities' data rights claim, which the Panel suggested during the interim review would also be relevant to other intellectual property.

¹⁵³²Panel Report, para. 7.1045. The only argument put forward by the United States was that NASA's wind tunnel services are "used by a wide range of industries across the U.S. economic spectrum". (*Ibid.*, para. 7.1046 (quoting United States' first written submission to the Panel, para. 251)) The Panel rejected this argument because it did not consider that it was supported by the evidence submitted by the United States. (*Ibid.*, para. 7.1047)

challenged by the European Communities".¹⁵³³ Therefore, any findings we make in connection to the specificity of the allocation of patent rights do not traverse the Panel's findings of specificity relating to the payments and other support provided under the NASA/USDOD contracts and agreements.¹⁵³⁴

B. *The Panel's Findings*

731. The Panel found that it was not necessary to resolve the issue of whether the allocation of patent rights under NASA and USDOD R&D contracts and agreements constitutes a financial contribution that conferred a benefit within the meaning of Article 1.1 of the *SCM Agreement*.¹⁵³⁵ In the Panel's view, it was clear that the allocation of patent rights under NASA and USDOD contracts and agreements is not specific to a "group of enterprises or industries" within the meaning of Article 2 of the *SCM Agreement*. This is because the Panel considered that the allocation of patent rights is "uniform under all U.S. government R&D contracts, agreements, and grants, in respect of all U.S. government departments and agencies, for all enterprises in all sectors".¹⁵³⁶ Indeed, the Panel noted that, in all cases, the contractor owns any inventions—and the patent rights—that it conceives in the course of performing research funded by the US Government, whereas the US Government receives a royalty-free, "government use/purpose" licence to use the subject invention.¹⁵³⁷

732. The Panel took note that, prior to 1980, the US Government had a general policy of taking all rights to patents over inventions produced by contractors under federally funded R&D contracts. The US Government would then grant non-exclusive licences to any applicant, including the contractor, that wished to use the subject invention.¹⁵³⁸ In 1980, however, the US Government changed its policy regarding the allocation of patent rights, and started granting ownership of patents to government contractors over any invention that they produced with federal funding under R&D contracts.¹⁵³⁹ In accordance with this new policy, the US Government would receive a limited "government use"

¹⁵³³Panel Report, para. 7.1196. The Panel made an alternative finding in the event "it {was} necessary to examine specificity at the level of the 'RDT&E Program' as a whole". (*Ibid.*, para. 7.1197) The Panel found that the European Communities had demonstrated *de facto* specificity under Article 2.1(c) of the *SCM Agreement*, because it had substantiated its assertion that Boeing, Lockheed Martin, Northrop Grumman, Raytheon, and United Technologies had received on average 45.2% of total USDOD RDT&E funding over the period 1991 through 2005. According to the Panel, this evidence demonstrates that almost half of all RDT&E funding went to five enterprises, all of which form part of the same industry. In the Panel's view, "this is more than enough to confirm that RDT&E funding goes 'predominantly' to firms in the defense industry, and this is enough to establish de facto specificity under Article 2.1(c)." (*Ibid.* (footnote omitted))

¹⁵³⁴We further note that the United States has not appealed the Panel's findings of specificity concerning the NASA/USDOD payments and other support.

¹⁵³⁵Panel Report, para. 7.1276.

¹⁵³⁶Panel Report, para. 7.1276.

¹⁵³⁷Panel Report, para. 7.1276.

¹⁵³⁸Panel Report, para. 7.1277.

¹⁵³⁹Panel Report, para. 7.1277.

licence to use the subject invention without having to pay the contractor any royalties.¹⁵⁴⁰ The Panel also acknowledged that this new policy originally applied only to non-profit organizations and small business firms, and that subsequently it was extended so as to accord the same treatment to all government contractors, regardless of size and profit/non-profit status.¹⁵⁴¹

733. The Panel noted that this new government policy concerning allocation of patent rights was implemented through a number of different legal instruments. The following five instruments were highlighted as the "relevant" ones¹⁵⁴²: (i) the Bayh-Dole Act, which implemented this new government policy in 1980; (ii) the 1983 Presidential Memorandum to the heads of Executive departments and agencies that extended the scope of the policy to include all government contractors, regardless of size and profit/non-profit status; (iii) the 1987 Executive Order into which the terms of the aforementioned Memorandum were eventually incorporated; (iv) the corresponding general federal regulations implementing the Bayh-Dole Act, the 1983 Presidential Memorandum, and the 1987 Executive Order¹⁵⁴³; and (v) the NASA-specific regulations.¹⁵⁴⁴ The Panel observed that the rules governing the allocation of patent rights under US Government-funded R&D contracts and agreements have remained essentially unchanged since the passage of the Bayh-Dole Act in 1980.¹⁵⁴⁵

734. The Panel turned next to examine how these US laws and regulations actually operate, and noted that they grant government contractors the option to retain patent rights, with some limitations, to inventions that arise from a funding agreement with the US Government.¹⁵⁴⁶ These patent rights authorize contractors to prevent all other entities from exploiting the technologies claimed by the patent and allow companies to grant commercial licences for the technology to others in exchange for compensation.¹⁵⁴⁷ The Panel noted that the government receives a "nonexclusive, nontransferable, irrevocable, paid-up licence to practice ... for or on behalf of the United States any subject invention throughout the world".¹⁵⁴⁸ Notably, this licence does not extend to any right to develop patented

¹⁵⁴⁰Panel Report, para. 7.1277.

¹⁵⁴¹Panel Report, para. 7.1277.

¹⁵⁴²Panel Report, para. 7.1278.

¹⁵⁴³*United States Code of Federal Regulations*, Title 48, sections 27.300-27.306 (Patent Rights under Government Contracts) (Panel Exhibit EC-559).

¹⁵⁴⁴*United States Code of Federal Regulations*, Title 14, section 1245 (Patents and Other Intellectual Property Rights, Subpart 1: Patent Waiver Regulations) (Panel Exhibit EC-572).

¹⁵⁴⁵Panel Report, para. 7.1283.

¹⁵⁴⁶Panel Report, para. 7.1284.

¹⁵⁴⁷Panel Report, para. 7.1285.

¹⁵⁴⁸*United States Code*, Title 35, section 202(c)(4) (Panel Exhibit EC-558); *United States Code of Federal Regulations*, Title 48, section 27.302(c) (Panel Exhibit EC-559).

technology for commercial sale but, rather, is limited to the use of the invention for any "government use".¹⁵⁴⁹

735. When addressing the Space Act, the Panel first observed that it provides that any invention made pursuant to a contract with NASA "shall be the exclusive property of the United States, and if such invention is patentable a patent therefore shall be issued to the United States"¹⁵⁵⁰ unless waived by NASA. The Panel noted, however, that, pursuant to NASA-specific regulations, NASA generally waives its patent rights to large companies, such as Boeing, for inventions developed in the course of NASA-funded research in order to comply with the 1983 Presidential Memorandum.¹⁵⁵¹ The Panel acknowledged that, unlike NASA, the USDOD does not have its own detailed regulations regarding patent transfers to large companies. Instead, the USDOD generally relies on the relevant portion of the Bayh-Dole Act and the 1983 Presidential Memorandum expanding the policy to large business firms, as well as the corresponding general regulations implementing these instruments.¹⁵⁵²

736. The Panel rejected the European Communities' argument that whether other US Government agencies follow the same practices as NASA and the USDOD with regard to the allocation of intellectual property rights is not relevant for the purpose of a specificity analysis. In the Panel's view, NASA's agency-specific regulations for implementing this US Government-wide policy cannot, for purposes of Article 2 of the *SCM Agreement*, be analyzed in isolation from the broader policy and legal framework that they implement.¹⁵⁵³ The Panel found that the specificity analysis cannot be dependent upon how the complaining party chooses to define the measure that it is challenging, because accepting such an approach would lead to anomalous results.¹⁵⁵⁴

737. The Panel therefore found that, assuming *arguendo* that the allocation of patent rights under NASA and USDOD R&D contracts and agreements with Boeing involves a subsidy within the meaning of Article 1.1 of the *SCM Agreement*—that is, a financial contribution that confers a benefit—the European Communities had failed to demonstrate that any such subsidy is specific within the meaning of Article 2 of the *SCM Agreement*.¹⁵⁵⁵

¹⁵⁴⁹Panel Report, para. 7.1286.

¹⁵⁵⁰Panel Report, para. 7.1287 (quoting *United States Code*, Title 42, section 2457(a) (Panel Exhibit EC-571)).

¹⁵⁵¹Panel Report, para. 7.1287.

¹⁵⁵²Panel Report, para. 7.1291.

¹⁵⁵³Panel Report, para. 7.1293.

¹⁵⁵⁴Panel Report, para. 7.1293.

¹⁵⁵⁵Panel Report, para. 7.1294.

C. *The Panel's Arguendo Approach*

738. The Panel used an *arguendo* assumption to avoid having to address whether the allocation of patent rights to Boeing is a financial contribution that confers a benefit within the meaning of Article 1.1 of the *SCM Agreement*.¹⁵⁵⁶

739. The chapeau of Article 2.1 of the *SCM Agreement* states that the analysis of specificity is directed at "a subsidy, as defined in paragraph 1 of Article 1". We understand that this is a reference to the measure that has been determined to be a subsidy under Article 1.1 because the measure is a financial contribution that confers a benefit. This suggests that the "subsidy, as defined in paragraph 1 of Article 1" is the starting point of the assessment of specificity. The analysis of specificity called for in Article 2.1 presupposes that the subsidy has already been found to exist. No such finding was made here given that the Panel never performed an analysis under Article 1 but, rather, chose to start its assessment with the issue of specificity. The Panel thought that its adoption of an *arguendo* approach was consistent with the Appellate Body's guidance in *China – Publications and Audiovisual Products*.¹⁵⁵⁷ However, in that case, the Appellate Body identified precisely the same problem that arises here when it said that recourse to an *arguendo* approach "may also be problematic for certain types of legal issues, for example, issues that go to the jurisdiction of a panel or preliminary questions on which the substance of a subsequent analysis depends."¹⁵⁵⁸ As we have explained, the assessment of specificity under Article 2.1 depends on how the subsidy was defined under Article 1.1, leaving little, if any, room for the adoption of an *arguendo* approach.

740. The Panel's failure to make an assessment under Article 1.1 of the *SCM Agreement* is problematic in this case because there may be some overlap in the claims put forward by the European Communities.¹⁵⁵⁹ This potential overlap added to the importance of clearly identifying the subsidy that would be the subject of the assessment of specificity under Article 2.1 of the *SCM Agreement*. As noted above, neither participant has requested on appeal that we address the potential overlap between the European Communities' claims.¹⁵⁶⁰ However, the open question as to the precise relationship between the claims of the European Communities illustrates the problems that may arise when a panel does not conduct a thorough examination of the subsidy at issue under Article 1.1 before turning to the assessment of specificity pursuant to Article 2.1 of the *SCM Agreement*. Indeed, at the oral hearing, the European Union and the United States had different

¹⁵⁵⁶Neither participant has challenged the Panel's *arguendo* approach on appeal.

¹⁵⁵⁷Panel Report, footnote 2933 to para. 7.1294 (referring to Appellate Body Report, *China – Publications and Audiovisual Products*, para. 213).

¹⁵⁵⁸Appellate Body Report, *China – Publications and Audiovisual Products*, para. 213.

¹⁵⁵⁹See *supra*, paras. 726-729.

¹⁵⁶⁰See *supra*, para. 729.

views as to what precisely the Panel "assumed" to be a self-standing subsidy for purposes of its assessment of specificity. The European Union argued that the measure consisted of the allocation of patent rights under the NASA/USDOD R&D contracts and agreements with Boeing. The United States responded that, in its view, the Panel's assumption was broader and included the Bayh-Dole Act, the 1983 Presidential Memorandum, and the 1987 Executive Order.

741. Another problem with the *arguendo* approach adopted by the Panel in this case is that, were the Appellate Body to disagree with the Panel's finding, it could lead to the claim remaining unresolved. If in this case we were to reverse the Panel and find instead that the allocation of patent rights under NASA/USDOD contracts and agreements is specific within the meaning of Article 2.1 of the *SCM Agreement*, there would be no Panel findings as to whether or not the allocation of patent rights under those contracts and agreements constitutes a subsidy. In order to resolve the European Communities' claim, we would have to be in a position to complete the analysis ourselves.¹⁵⁶¹ Article 3.3 of the DSU provides that one of the purposes of the WTO dispute settlement system is the "prompt settlement of situations in which a Member considers that any benefits accruing to it directly or indirectly under the covered agreements are being impaired by measures taken by another Member". This purpose is frustrated when, upon completion of the adjudication, a Member's claim is left unresolved because the Appellate Body was unable to complete the analysis of aspects of the claim with respect to which the panel had adopted an *arguendo* approach. An *arguendo* approach may initially appear to be more efficient, but ultimately may result in inefficient outcomes.¹⁵⁶²

742. With these reservations about the Panel's *arguendo* approach in mind, we turn to the Panel's assessment of specificity and the claims raised against it by the European Union. We examine, in sections D and E, the European Union's claim that the Panel erred in the interpretation and application of Article 2.1(a) of the *SCM Agreement*. We then turn to the European Union's allegation that the Panel failed to address its claim of *de facto* specificity under Article 2.1(c) in section F.

¹⁵⁶¹The European Union has not requested that we complete the analysis with respect to Article 1.1 of the *SCM Agreement* if we reverse the Panel and find that the allocation of patent rights under the NASA and USDOD measures at issue is specific within the meaning of Article 2.1. In the past, the Appellate Body has completed the analysis where there were sufficient undisputed facts or factual findings by the panel to enable it to do so. (See Appellate Body Report, *US – Section 211 Appropriations Act*, para. 343) In doing so in a recent case, the Appellate Body was able to complete the analysis by considering evidence put forward by the responding Member, that is, by examining the claim of the complaining Member on the assumption that the evidence proffered by the responding Member was accurate and uncontested. (See Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 925) See also Part VI of this Report.

¹⁵⁶²In justifying its use of the *arguendo* approach, the Panel also noted that, having found that the alleged subsidies are not specific under Article 2 of the *SCM Agreement*, its reliance upon the *arguendo* assumption created no issues or difficulties from the point of view of the implementation of DSB recommendations and rulings. (Panel Report, footnote 2933 to para. 7.1294) This holds true only once a finding of non-specificity has been made, which cannot be known at the outset of the analysis. The Panel's reasoning seems to have been based on an anticipated result, whether or not such a result would have been arrived at on the basis of its analysis. The Panel therefore seems to have gotten its logic backwards.

D. *Did the Panel Err in the Interpretation of Article 2.1(a) of the SCM Agreement?*

743. The European Union alleges that the Panel erred by considering that the US Government "as a whole" can be a "granting authority" for purposes of Article 2.1 of the *SCM Agreement*. The European Union asserts that, in this case, the granting authorities are NASA and the USDOD.

744. The United States responds that the European Union misinterprets Article 2.1 in calling for an analysis based on a subset of the US legislation relating to the challenged financial contributions.¹⁵⁶³ The United States submits that, if multiple authorities participate in the process of granting the subsidy, nothing in the text of Article 2.1(a) prevents a panel from considering all of them to be part of "the granting authority". Before the Panel, the United States argued that the granting authority with respect to the allocation of patent rights under both the NASA and USDOD measures is the President of the United States.¹⁵⁶⁴

745. The issue before us concerns the scope of the assessment of specificity under Article 2.1(a) of the *SCM Agreement* and, in particular, the scope of the inquiry where a subsidy is provided by different granting authorities pursuant to an overall scheme set out by a higher domestic authority. The position of the European Union is that the inquiry must limit itself to the granting authority that actually provides the subsidy being challenged by the complaining Member. The United States, for its part, submits that the inquiry must look at the broader legal framework.

746. Article 2.1 of the *SCM Agreement* provides:

In order to determine whether a subsidy, as defined in paragraph 1 of Article 1, is specific to an enterprise or industry or group of enterprises or industries (referred to in this Agreement as "certain enterprises") within the jurisdiction of the granting authority, the following principles shall apply:

(a) Where the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to certain enterprises, such subsidy shall be specific.

(b) Where the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions⁷ governing the eligibility for, and the amount of, a subsidy, specificity shall not exist, provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to. The criteria or conditions must be clearly spelled out in law, regulation, or other official document, so as to be capable of verification.

¹⁵⁶³United States' appellee's submission, p. 45, heading III.D.1.

¹⁵⁶⁴United States' response to Panel Question 144(k), para. 127, which included Panel Exhibit US-1268.

(c) If, notwithstanding any appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b), there are reasons to believe that the subsidy may in fact be specific, other factors may be considered. Such factors are: use of a subsidy programme by a limited number of certain enterprises, predominant use by certain enterprises, the granting of disproportionately large amounts of subsidy to certain enterprises, and the manner in which discretion has been exercised by the granting authority in the decision to grant a subsidy. In applying this subparagraph, account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority, as well as of the length of time during which the subsidy programme has been in operation.

²Objective criteria or conditions, as used herein, mean criteria or conditions which are neutral, which do not favour certain enterprises over others, and which are economic in nature and horizontal in application, such as number of employees or size of enterprise.

747. The chapeau of Article 2.1 refers to "a subsidy, as defined in paragraph 1 of Article 1". As we have noted above, we understand that this is a reference to the measure that has been determined to be a subsidy under Article 1.1 because the measure is a financial contribution that confers a benefit. This confirms that the starting point of the analysis of specificity is the measure that has been determined to constitute a subsidy under Article 1.1 of the *SCM Agreement*.

748. Subparagraph (a) of Article 2.1 calls for a determination of whether access to a subsidy is limited to "certain enterprises". The focus of this inquiry is thus on the class of subsidy recipients, and the manner in which access to that subsidy is limited to that class. These limitations must be "explicit", which the Appellate Body has previously explained means that they must be "express, unambiguous, or clear from the content of the relevant instrument, and not merely 'implied' or 'suggested'".¹⁵⁶⁵ Moreover, the Appellate Body has observed that the reference in subparagraphs (a) and (b) of Article 2.1 to "the granting authority, or the legislation pursuant to which the granting authority operates", is critical because it situates the analysis for assessing any limitations on eligibility in the particular legal instrument or government conduct effecting such limitations.¹⁵⁶⁶ In other words, the source of any limitation is the legislation pursuant to which the granting authority operates, or the granting authority itself.

749. Article 2.1(a) refers to limitations on access to "a subsidy". Although the use of this term in the singular might suggest a limited conception, we note that, if construed too narrowly, any individual subsidy transaction would be, by definition, specific to the recipient. Other context in

¹⁵⁶⁵ Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 372.

¹⁵⁶⁶ Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 368; Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 943.

Article 2.1 suggests a potentially broader framework within which to examine specificity. As we have noted, subparagraphs (a) and (b) of Article 2.1 refer to "the granting authority, or the legislation pursuant to which the granting authority operates". The second sentence of subparagraph (c) refers both to "a subsidy" and to "a subsidy programme". Similarly, examining economic diversification or the duration of a subsidy programme under the last sentence of Article 2.1(c) also entails consideration of the broader framework pursuant to which a particular challenged subsidy has been issued. We do not consider that the use of the term "granting authority" in the singular limits the inquiry. The use of the term "granting authority", in our view, does not preclude there being multiple granting authorities. Rather, this is likely where a subsidy is part of a broader scheme.

750. The foregoing indicates that the scope of the inquiry called for under Article 2.1(a) is not necessarily limited to the subsidy as defined in Article 1.1. Although the subsidy as defined in Article 1.1 is the starting point of the analysis under Article 2.1(a), the scope of the inquiry is broader in the sense that it must examine the legislation pursuant to which the granting authority operates, or the express acts of the granting authority. We note that a granting authority will normally administer subsidies pursuant to legislation. Thus, we would expect that most claims of specificity under Article 2.1(a) would focus on limitations set out in the legislation pursuant to which the granting authority operates. Members may design the legal framework for the distribution of subsidies in many ways. However, the choice of the legal framework by the respondent cannot predetermine the outcome of the specificity analysis. For instance, a Member may choose to authorize the distribution of subsidies to eligible enterprises or industries in the same legal instrument. In such cases, the inquiry may focus solely on that legal instrument. In other circumstances, a Member may set up a more complex regime by which the same subsidy is provided to different recipients through different legal instruments. It may also be that a Member may administer the distribution of subsidies through multiple granting authorities. In these cases, the inquiry may have to take into account this legal framework. This framework may be set out in laws, regulations, or other official documents, all of which may be part of the "legislation" pursuant to which the granting authority operates. We find support for this reading of "legislation" in Article 2.1(b), which provides that, "{w}here the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions governing the eligibility for, and the amount of, a subsidy"¹⁵⁶⁷, these criteria or conditions "must be clearly spelled out in law, regulation, or other official document, so as to be capable of verification".

¹⁵⁶⁷Footnote omitted.

751. Having said that, the chapeau of Article 2.1 makes it clear that the assessment of specificity is framed by the particular subsidy found to exist under Article 1.1. This means that the assessment of specificity under Article 2.1 should not examine subsidies that are different from those challenged by the complaining Member. A subsidy, access to which is limited to "certain enterprises", does not become non-specific merely because there are other subsidies that are provided to other enterprises pursuant to the same legislation.¹⁵⁶⁸

752. Determining whether multiple subsidies are part of the same subsidy is not always a clear-cut exercise. As we have explained, it requires careful scrutiny of the relevant legislation—whether set out in one or several instruments—or the pronouncements of the granting authority(ies) to determine whether the subsidies are provided pursuant to the same subsidy scheme. Another factor that may be considered is whether there is an overarching purpose behind the subsidies. Of course, this overarching purpose must be something more concrete than a vague policy of providing assistance or promoting economic growth.

753. Once the proper subsidy scheme is identified, then the question is whether that subsidy is explicitly limited to "certain enterprises", defined in the chapeau of Article 2.1 as "an enterprise or industry or group of enterprises or industries". To be clear, such examination must seek to discern from the legislation and/or the express acts of the granting authority(ies) which enterprises are eligible to receive the subsidy and which are not. This inquiry focuses not only on whether the subsidy was provided to the particular recipients identified in the complaint, but focuses also on all enterprises or industries eligible to receive that same subsidy. Thus, even where a complaining Member has focused its complaint on the grant of a subsidy to one or more enterprises or industries, the inquiry may have to extend beyond the complaint to determine what other enterprises or industries also have access to that same subsidy under that subsidy scheme.

754. We further recall that an assessment of specificity may not end with a consideration of Article 2.1(a). The Appellate Body has cautioned against examining specificity on the basis of the application of a particular subparagraph of Article 2.1 "when the potential for application of other subparagraphs is warranted in the light of the nature and content of measures challenged in a

¹⁵⁶⁸In *EC and certain member States – Large Civil Aircraft*, the Appellate Body was faced with the question of whether the panel's specificity analysis should have focused on the challenged research and technological development ("R&TD") grants to the aeronautics sector, or on the broader European-wide R&TD programme pursuant to which these grants were issued. The Appellate Body stated that it did not consider that explicit limitations on access to a subsidy to entities active in one sector of the economy will necessarily yield a finding of non-specificity under Article 2.1(a) simply because separate groupings of entities have access to other pools of funding under that programme. The Appellate Body added that, "if access to the same subsidy is limited to some grouping of enterprises or industries, an investigating authority or panel would be required to assess whether the eligible recipients can be collectively defined as 'certain enterprises'." (Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 949)

particular case".¹⁵⁶⁹ Thus, following an assessment under Article 2.1(a), a panel must also consider whether Article 2.1(b) and/or Article 2.1(c) are applicable.

755. The European Union's claim on appeal centres on the proposition that the term "granting authority" in Article 2.1 can refer to only the authority that provides the challenged subsidy.

756. As we have explained, the analysis under Article 2.1 focuses on ascertaining whether access to the subsidy in question is limited to a particular class of eligible *recipients*. While the scope and operation of the granting authority is relevant to the question of whether such an access limitation with respect to a particular class of recipients exists, it is important to keep in mind that it is not the purpose of a specificity analysis to determine whether the authorities involved in granting the subsidies constitute a single subsidy *grantor* or several *grantors*.¹⁵⁷⁰

757. A limitation on the access to the subsidy (or the absence of one) may result from the legislation pursuant to which the granting authority operates or from pronouncements or other actions of the granting authority. There may be a broad legislative framework and several authorities that are involved in its implementation; it is also conceivable that one granting authority administers several specific programs. Thus, regardless of how a complainant frames the subsidy measure it seeks to challenge, a panel must examine the broader legal framework pursuant to which the particular subsidy is granted and the relevant granting authorities operate. In this way, a panel can determine how a challenged measure operates, and whether one or more instruments or authorities individually or collectively limit access to a subsidy to particular recipients within the meaning of Article 2.1.

758. The European Union also asserts that the scope of the inquiry is constrained by the distinction drawn in Article 2.1(a) between the granting authority and the legislation pursuant to which that granting authority operates. The European Union emphasizes that specificity under Article 2.1 may be assessed either from the perspective of "the granting authority" or from the perspective of "the legislation pursuant to which the granting authority operates".¹⁵⁷¹

¹⁵⁶⁹Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 371; Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 945.

¹⁵⁷⁰Whether the entire US Government, the President, or each agency or department involved should be deemed a "granting authority" within the meaning of Article 2.1(a) is not dispositive of the question of whether access to patent rights are expressly limited to specific groups of subsidy *recipients*. We note, in this respect, that the Panel itself ultimately decided the question of whether the allocation of patent rights is specific based on the relevant legislative acts and regulations; its views on whether NASA, the USDOD, the US President, or the US Government were a single or several granting authorities were not determinative for its finding of non-specificity.

¹⁵⁷¹European Union's appellant's submission, para. 77.

759. We do not see such a mutually exclusive choice established in Article 2.1. Nor do we think that the use of the word "or" in Article 2.1(a) warrants such a reading. In the majority of cases involving an allegation of an express limitation, the alleged limitation will be reflected in the legislation pursuant to which the granting authority operates. It is difficult to conceive of many situations in which an express limitation can be identified from the decisions or actions of the granting authority where it is not explicit in the corresponding legislation. Furthermore, even where the focus is on the pronouncements or actions of the granting authority, these pronouncements or actions would have to be examined in the light of the corresponding legislation. For this reason, it is our view that the assessment of specificity under Article 2.1 should not proceed on the basis of a binary choice between looking at the granting authority or looking at the legislation pursuant to which that granting authority operates. Rather, the assessment should normally look at both. At the same time, we agree that, once a panel has analyzed both elements, it may consider, in the circumstances of a given case, that the question of specificity or non-specificity can be more appropriately resolved on the basis of the pronouncements or actions of the granting authority or the legislation pursuant to which the authority operates.

760. In sum, the granting authority (which may amount to a number of such authorities) and the legislation pursuant to which such granting authority(ies) operate(s) must be assessed within the legal framework of the WTO Member concerned at various levels of government, legislation, and regulation. Thus, we do not believe that the Panel erred in the interpretation of Article 2.1 of the *SCM Agreement* by assessing the alleged subsidies provided by NASA and the USDOD against the legal framework that exists in the United States for the allocation of patent rights under government R&D contracts and agreements and pursuant to which these granting authorities operate. Accordingly, we reject this aspect of the European Union's appeal.

E. *Did the Panel Err in the Application of Article 2.1(a) of the SCM Agreement?*

761. The European Union also alleges that the Panel erred in the application of Article 2.1(a) of the *SCM Agreement* to the relevant NASA and USDOD measures. The arguments put forward by the European Union in this part of its appeal are directed at demonstrating that the Panel should have considered NASA and the USDOD to be the granting authorities for purposes of the analysis of specificity. We have explained above that, in our view, the question of whether one or more granting authorities exist is not dispositive of and does not exhaust the analysis of whether a subsidy is specific. In the analysis that follows, we examine whether, assuming the allocation of patent rights under NASA/USDOD contracts and agreements is in some respects a self-standing subsidy, access to

such subsidy is explicitly limited to certain enterprises in the light of the interpretation of Article 2.1(a) of the *SCM Agreement* that we have set out above.

762. The United States has explained that, under its patent regime, the inventor is the initial owner of any rights to his/her inventions.¹⁵⁷² A person that obtains a patent is authorized "to prevent all other entities from exploiting the technologies claimed by the patent", and the patent holder is "allow{ed} ... to license the technology to others in exchange for compensation".¹⁵⁷³ More specifically, the US patent regime accords the patent holder the right to "exclude others from making, using, offering for sale, or selling" the invention in the United States, or "importing" the invention into the United States, for a limited period of time (currently, a minimum of 20 years from the date of application).¹⁵⁷⁴ In addition, a patent holder has the right to assign, or transfer by succession, the patent and to conclude licensing contracts with third parties.¹⁵⁷⁵

763. The European Union's claims on appeal concern a particular aspect of the US patent regime, namely, the allocation of patent rights when an invention is discovered in the course of R&D work being performed by an enterprise under a contract or agreement with the US Government, and more particularly with NASA and the USDOD.

764. As regards this aspect of the US patent regime, the Panel explained that, prior to 1980, the US Government had a general policy of taking all rights to patents over inventions produced by contractors under federally funded R&D contracts (and then granting non-exclusive licences to any applicant, including the contractor, that wished to use the subject invention).¹⁵⁷⁶ In 1980, the government changed its policy, and started allowing government contractors to retain ownership of patents over any invention that they produced with federal funding under R&D contracts (with the government receiving a "government use" licence to use the subject invention without having to pay the contractor any royalties).¹⁵⁷⁷ This new government policy was implemented through the following legal instruments, which are discussed in more detail below¹⁵⁷⁸:

¹⁵⁷²United States' response to questioning at the oral hearing.

¹⁵⁷³Panel Report, para. 7.1285.

¹⁵⁷⁴Panel Report, para. 7.1285 (quoting European Communities' first written submission to the Panel, para. 812 (referring to *United States Code*, Title 35, section 154(a)(2) (Panel Exhibit EC-562), and section 271(a) (Panel Exhibit EC-563)).

¹⁵⁷⁵Panel Report, para. 7.1285.

¹⁵⁷⁶Panel Report, para. 7.1277 (referring to European Communities' first written submission to the Panel, para. 806; and United States' first written submission to the Panel, para. 314).

¹⁵⁷⁷Panel Report, para. 7.1277.

¹⁵⁷⁸See Panel Report, para. 7.1278.

- (a) the **Bayh-Dole Act**, which was adopted in 1980 and which is codified at Title 35 of the *United States Code*, sections 200-212 (entitled "Patent Rights in Inventions Made with Federal Assistance")¹⁵⁷⁹;
- (b) the **1983 Presidential Memorandum** to the heads of Executive departments and agencies (entitled "Government Patent Policy") that extended the scope of the policy to all government contractors, regardless of size and profit/non-profit status¹⁵⁸⁰;
- (c) the **1987 Executive Order** (entitled "Facilitating access to science and technology") into which the terms of the 1983 Presidential Memorandum were eventually incorporated¹⁵⁸¹;
- (d) the corresponding **general federal regulations** implementing the Bayh-Dole Act, the 1983 Presidential Memorandum, and the 1987 Executive Order, which are codified at Title 48 of the *United States Code of Federal Regulations*, sections 27.300-27.306 (entitled "Patent Rights Under Government Contracts")¹⁵⁸²; and
- (e) the **NASA-specific regulations** (entitled "Patents and Other Intellectual Property Rights", with subpart 1 entitled "Patent Waiver Regulations") codified at Title 14 of the *United States Code of Federal Regulations*, section 1245.¹⁵⁸³

765. Under the Bayh-Dole Act, the new policy initially applied only to *non-profit organizations* and *small business firms*. The objectives pursued by the Bayh-Dole Act are described in the legislation as follows:

Policy and objective.

It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research and development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise without unduly encumbering future research and discovery; to promote the commercialization and public availability of inventions made in the United States by

¹⁵⁷⁹ *Supra*, footnote 243.

¹⁵⁸⁰ *Supra*, footnote 244.

¹⁵⁸¹ *Supra*, footnote 245.

¹⁵⁸² Panel Exhibit EC-559.

¹⁵⁸³ Panel Exhibit EC-572.

United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.¹⁵⁸⁴

766. As for the allocation of patent rights, the Bayh-Dole Act provides, in relevant part:

Disposition of rights.

(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention ... {¹⁵⁸⁵}

...

(c)(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world: *Provided*, That the funding agreement may provide for such additional rights, including the right to assign or have assigned foreign patent rights in the subject invention, as are determined by the agency as necessary for meeting the obligations of the United States under any treaty, international agreement, arrangement of cooperation, memorandum of understanding, or similar arrangement, including military agreements relating to weapons development and production.¹⁵⁸⁶

¹⁵⁸⁴*United States Code*, Title 35, section 200 (Panel Exhibit EC-558).

¹⁵⁸⁵*United States Code*, Title 35, section 202(a). This disposition of rights is subject to the following:

That a funding agreement may provide otherwise (i) when the contractor is not located in the United States or does not have a place of business located in the United States or is subject to the control of a foreign government, (ii) in exceptional circumstances when it is determined by the agency that restriction or elimination of the right to retain title to any subject invention will better promote the policy and objectives of this chapter, (iii) when it is determined by a Government authority which is authorized by statute or Executive order to conduct foreign intelligence or counterintelligence activities that the restriction or elimination of the right to retain title to any subject invention is necessary to protect the security of such activities, or (iv) when the funding agreement includes the operation of a Government-owned, contractor-operated facility of the Department of Energy primarily dedicated to that Department's naval nuclear propulsion or weapons related programs and all funding agreement limitations under this subparagraph on the contractor's right to elect title to a subject invention are limited to inventions occurring under the above two programs of the Department of Energy. The rights of the nonprofit organization or small business firm shall be subject to the provisions of paragraph (c) of this section and the other provisions of this chapter.

(*Ibid.*)

¹⁵⁸⁶*United States Code*, Title 35, section 202(a) and (c)(4) (Panel Exhibit EC-558).

767. The policy concerning allocation of patent rights introduced in the Bayh-Dole Act was subsequently expanded by President Ronald Reagan to all government contractors. The expansion of the policy's coverage was effected through the 1983 Presidential Memorandum and the 1987 Executive Order. The 1983 Presidential Memorandum reads as follows:

THE WHITE HOUSE
WASHINGTON

February 18, 1983

MEMORANDUM TO THE HEADS OF EXECUTIVE
DEPARTMENTS AND AGENCIES

SUBJECT: GOVERNMENT PATENT POLICY

To the extent permitted by law, agency policy with respect to the disposition of any invention made in the performance of a federally-funded research and development contract, grant or cooperative agreement award shall be the same or substantially the same as applied to small business firms and nonprofit organizations under Chapter 38 of Title 35 of the United States Code.

In awards not subject to Chapter 38 of Title 35 of the United States Code, any of the rights of the Government or obligations of the performer described in 35 U.S.C. 202-204 may be waived or omitted if the agency determines (1) that the interests of the United States and the general public will be better served thereby as, for example, where this is necessary to obtain a uniquely or highly qualified performer; or (2) that the award involves co-sponsored, cost sharing, or joint venture research and development, and the performer, co-sponsor or joint venturer is making substantial contribution of funds, facilities or equipment to the work performed under the award.

In addition, agencies should protect the confidentiality of invention disclosure, patent applications and utilization reports required in performance or in consequence of awards to the extent permitted by 35 U.S.C. 205 or other applicable laws.¹⁵⁸⁷

768. The objectives pursued by the 1983 Presidential Memorandum are described in a Fact Sheet attached to the Memorandum, which states, in relevant part:

FACT SHEET

Inventions developed under Government support constitute a valuable national resource. With appropriate incentives, many of these inventions will be further developed commercially by the private sector. The new products and processes that result will improve the productivity of the U.S. economy, create new jobs, and

¹⁵⁸⁷ *Supra*, footnote 244.

improve the position of the U.S. in world trade. The policy established by the Memorandum is designed to provide such incentives.

Experience has shown that, in most instances, allowing inventing organizations to retain title to inventions made with Federal support is the best incentive to obtain the risk capital necessary to develop technological innovations. The new policy provides that, with limited exceptions, the inventing organizations may retain title to the invention, subject to license rights in the Government which will enable the Government to use the invention in its own programs. ...

To the extent permitted by law, this Memorandum is applicable to all statutory programs including those that provide that inventions be made available to the public. *Those agencies, such as National Aeronautics and Space Administration and the Department of Energy, which continue to operate under statutes which are inconsistent in respects with the Memorandum, are expected to make maximum use of the flexibility available to them to comply with the provisions and spirit of the Memorandum.*¹⁵⁸⁸ (emphasis added)

769. The Executive Order of 1987 instructs the heads of each Executive department and agency to:

... promote the commercialization, in accord with {the 1983 Presidential} Memorandum to the Heads of Executive Departments and Agencies of February 18, 1983, of patentable results of federally funded research by granting to all contractors, regardless of size, the title to patents made in whole or in part with Federal funds, in exchange for royalty-free use by or on behalf of the government{.}¹⁵⁸⁹

770. The general regulations, which apply to the USDOD, and the NASA-specific regulations are described in turn below.

771. The allocation of rights over inventions discovered during the course of work performed for the USDOD is determined by sections 27.300-27.306 of Title 48 of the *United States Code of Federal Regulations*, which give effect to the 1983 Presidential Memorandum and the 1987 Executive Order. Section 27.302(b) of Title 48 of the *United States Code of Federal Regulations* provides:

Under the policy set for in {the Bayh-Dole Act, the 1983 Presidential Memorandum, and 1987 Executive Order}, each contractor may, after disclosure to the Government as required by the patent rights clause included in the contract, elect to retain title to any invention made in the performance of work under the contract.¹⁵⁹⁰

¹⁵⁸⁸ *Supra*, footnote 244.

¹⁵⁸⁹ *Supra*, footnote 245, section 1(b)(4).

¹⁵⁹⁰ Panel Exhibit EC-559.

772. This means that the contractor may file a patent application over the invention and exercise all rights that this entails. The regulations, however, provide that the US Government shall receive at least a non-exclusive, non-transferable, irrevocable, paid-up license to practice, or have practiced for or on behalf of the United States, any subject invention throughout the world.¹⁵⁹¹ The government also obtains "march-in" rights, which empower the federal department or agency to compel the contractor, in certain limited circumstances, to grant a license to applicants on terms that are reasonable under the circumstances, or to grant the license itself.¹⁵⁹² The Panel, however, observed that "{n}o U.S. government department or agency has ever exercised these march-in rights for any patent under any contract."¹⁵⁹³

773. The same regulations that apply to the USDOD apply to all other US Government departments and agencies, with the exception of NASA, which has its own regulations.¹⁵⁹⁴

774. Under the Space Act, the legislation that created NASA, the rights over inventions discovered in the course of work performed under a contract with NASA belong to the United States. The Space Act is codified in Title 42 of the *United States Code*. Section 2457(a) of Title 42 provides:

(a) Exclusive property of United States; issuance of patent

Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that—

- (1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or

¹⁵⁹¹The US Government may require additional rights in order to comply with treaties or other international agreements. In such cases, these rights shall be made a part of the contract. (*United States Code of Federal Regulations*, Title 48, section 27.302(c) (Panel Exhibit EC-559))

¹⁵⁹²Panel Report, para. 7.1286 (referring to European Communities' first written submission to the Panel, para. 814, in turn referring to *United States Code*, Title 35, section 203(a) (Panel Exhibit EC-558)).

¹⁵⁹³Panel Report, para. 7.1286 (referring to European Communities' first written submission to the Panel, para. 814).

¹⁵⁹⁴We explain below why, despite the formal differences, we consider NASA's regulations to be functionally equivalent to those applicable to other government departments and agencies.

At the oral hearing, the United States noted that there are specific regulations that apply to research funded by the US Department of Energy. Nonetheless, it has not been claimed before the Panel or in this appeal that those regulations provide a basis for a finding of specificity with respect to the allocation of patent rights under the NASA or USDOD measures.

(2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1),

such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section.¹⁵⁹⁵

775. The waiver of patent rights is addressed in subsection 2457(f) of Title 42 of the *United States Code*, which reads:

(f) Waiver of rights to inventions; Inventions and Contributions Board

Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. Each proposal for any waiver under this subsection shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for hearing, and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.¹⁵⁹⁶

¹⁵⁹⁵Panel Exhibit EC-571.

¹⁵⁹⁶Panel Exhibit EC-571.

776. The procedures for the waiver of patent rights are further elaborated in NASA's regulations. These regulations describe the policy objectives of the waiver as follows:

Policy.

(a) In implementing the provisions of section 305(f) of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2457(f)), and in determining when the interests of the United States would be served by waiver of all or any part of the rights of the United States in inventions made in the performance of work under NASA contracts, the Administrator will be guided by the objectives set forth in the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2451-2477) and by the basic policy of the Presidential Memorandum and Statement of Government Patent Policy to the Heads of the Executive Departments and agencies dated February 18, 1983. Among the most important goals are to provide incentives to foster inventiveness and encourage the reporting of inventions made under NASA contracts, to provide for the widest practicable dissemination of new technology resulting from NASA programs, and to promote early utilization, expeditious development, and continued availability of this new technology for commercial purposes and the public benefit. In applying this regulation, both the need for incentives to draw forth private initiatives and the need to promote healthy competition in industry must be weighed.¹⁵⁹⁷

777. NASA regulations allow for requests for waivers to be made at two points in time: "(i) in advance of the invention, as to any and all of the inventions that may be made under a contract; and (ii) after the reporting of an invention, subsequent to the invention being made".¹⁵⁹⁸ Requests for waivers are examined by the NASA Inventions and Contributions Board (the "Board"). The regulations provide that the Board will "normally" recommend that the request for waiver be granted.¹⁵⁹⁹ Under a waiver, NASA "waives the property rights of the United States government" in the United States and other countries and "conveys to the waiver recipient the entire right, title, and

¹⁵⁹⁷*United States Code of Federal Regulations*, Title 14, section 1245.103(a) (Panel Exhibit EC-572).

¹⁵⁹⁸Panel Report, para. 7.1287 (referring to *United States Code of Federal Regulations*, Title 14, sections 1245.104 and 1245.105 (Panel Exhibit EC-572)).

¹⁵⁹⁹See *United States Code of Federal Regulations*, Title 14, sections 1245.104(b) and 1245.105(b)(1) (Panel Exhibit EC-572). NASA's regulations provide that, in certain situations, the Board may reject the waiver request because it "finds that the interests of the United States will be better served by restricting or eliminating all or part of the rights of the contractor". (Panel Report, para. 7.1289 (quoting *United States Code of Federal Regulations*, Title 14, section 1245.104(b) (Panel Exhibit EC-572))) The regulations then list situations where this could be the case, namely: (i) when the contractor is not located in the United States or does not have a place of business in the United States or is subject to the control of a foreign government; (ii) when a determination has been made by the government authority that is authorized by statute or Executive order to conduct foreign intelligence or counterintelligence activities that the restriction or elimination of the right to retain title to any inventions made in the performance of work under the contract is necessary to protect the security of such activities; or (iii) where the Board finds that exceptional circumstances exist, such that restriction or elimination of the right to retain title will better promote certain objectives. (*United States Code of Federal Regulations*, Title 14, section 1245.104(b) (Panel Exhibit EC-572)) See also, section 1245.105(b)(1) (Panel Exhibit EC-572).

interest in and to each invention".¹⁶⁰⁰ There is evidence on record indicating that NASA routinely grants waivers when requested.¹⁶⁰¹

778. It is undisputed that, within the framework of the US patent regime, NASA's patent waiver regulations are formally different and separate from the regulations that apply to other US Government departments or agencies. While one set of regulations concerning the allocation of patent rights applies to other government departments and agencies, the regulations described above are specific to NASA. There are also differences in how the regulations operate. Under the legislation and general regulations that apply to other departments and agencies, a contractor may "elect to retain title" in the invention.¹⁶⁰² By contrast, NASA's statutory framework provides that title to any invention initially rests on the government, but NASA can waive title upon request.

779. However, the waiver provisions of the NASA regulations are linked to the broader legislative and regulatory framework established under the Bayh-Dole Act, the 1983 Presidential Memorandum, and the 1987 Executive Order. More specifically, the record indicates that the flexibility provided under the waiver provisions has been used to give effect to the 1983 Presidential Memorandum and the 1987 Executive Order. For example, as noted above, the Fact Sheet explaining the 1983 Presidential Memorandum states that "agencies, such as National Aeronautics and Space Administration ... are expected to make maximum use of the flexibility available to them to comply with the provisions and spirit of the Memorandum".¹⁶⁰³ NASA's regulations provide that, in making waiver determinations, NASA's Administrator will be guided by the objectives of the Space Act of 1958 and "by the basic policy of the Presidential Memorandum and Statement of Government Patent Policy to the Heads of the Executive Departments and agencies dated February 18, 1983".¹⁶⁰⁴

780. Moreover, the result of a waiver of patent rights by NASA would appear to be the same as where a contractor elects to retain title under the general regulations. Whether a contractor requests a waiver under the NASA regulations, or the contractor elects to retain title under the general

¹⁶⁰⁰NASA, Instrument of Waiver (Domestic and Foreign Rights), Structures and Materials Technology for Aerospace Vehicles (Panel Exhibit EC-1227), para. 1. This language is used where it is an advance waiver. The standard contract clauses used by NASA in relation to the issue of patent rights are contained in *United States Code of Federal Regulations*, Title 48, section 52.227-12 (Patent Rights – Retention by the Contractor), and section 1852.227-70 (New Technology).

¹⁶⁰¹The Panel noted that the study, which was conducted by the National Bureau of Economic Research, stated that, by the early 1980s, patent "waivers were essentially automatically granted" by NASA. (Panel Report, para. 7.1289 (referring to National Bureau of Economic Research, "Evidence from Patents and Patent Citations on the Impact of NASA and other Federal Labs on Commercial Innovation" (May 1997) (Panel Exhibit EC-574), p. 8))

¹⁶⁰²Panel Report, para. 7.1291 (quoting *United States Code*, Title 35, sections 200-212 (Patent Rights in Inventions Made with Federal Assistance) and section 202(a) (Panel Exhibit EC-558)).

¹⁶⁰³See *supra*, para. 768.

¹⁶⁰⁴See *supra*, para. 776.

regulations applicable to the USDOD, the contractor in both instances will obtain title to the invention, that is, will be able to claim sole ownership over it. As the titleholder, the contractor can exploit the invention commercially, for instance, by licensing the technology or incorporating it into its own products, without having to pay any royalties to the government. The contractor may also file for a patent that will give it the right to prevent others from using the technology without its permission.¹⁶⁰⁵ The government, for its part, obtains the right to use the invention free of charge for government use. The key point is that, both under the general regulations, which apply to the USDOD and other departments, and under a NASA waiver, ownership rights (title) over the invention will belong solely to the contractor through the allocation of patents under NASA and USDOD contracts and agreements, even though the mechanism for the initial allocation of patent rights is formally somewhat different.

781. At the oral hearing, the European Union explained that its claim of specificity is "the explicit limitations in the types of R&D that NASA and {US}DOD could fund, and consequently the enterprises that could benefit from the patent waivers and transfers for inventions deriving from the R&D".¹⁶⁰⁶

782. The thrust of the European Union's argument is that, because aerospace companies are the only ones eligible to receive NASA and USDOD funding, the patents that may result under the NASA/USDOD R&D contracts and agreements must also be specific. We have explained above, however, that the allocation of patent rights under NASA/USDOD contracts and agreements is a reflection of the broader legislative and regulatory framework that applies to the allocation of patent rights in US Government R&D contracts and agreements. This legislative and regulatory framework is set out in the Bayh-Dole Act and then extended to large and medium businesses by the 1983 Presidential Memorandum, the 1987 Executive Order, and the general and NASA-specific regulations. Once the legal framework for the allocation of patent rights under R&D contracts and agreements with the government is taken into account, it becomes clear that the eligibility to receive the alleged subsidy is not limited to the class of enterprises that conducts aerospace R&D.

783. The European Union also argues that the patent rights allocated in this case are a feature of the R&D contracts and agreements entered into between NASA/USDOD and Boeing.¹⁶⁰⁷ The European Union explains that, in the same way that it is not the US Government as a whole that provides the R&D funding and support for NASA/USDOD R&D, it is also not the US Government as

¹⁶⁰⁵ See Panel Report, para. 7.1285.

¹⁶⁰⁶ European Union's oral statement at the first session of the oral hearing.

¹⁶⁰⁷ European Union's appellant's submission, paras. 82 and 90.

a whole that waives/transfers the patent rights resulting from those same contracts.¹⁶⁰⁸ We have rejected above the European Union's argument that the analysis of specificity must be limited to the authority actually granting the alleged subsidy—in this case, NASA or the USDOD—in isolation from the legislative and regulatory framework within which it operates. The retention of title by contractors, under the USDOD regulations, and the waiver of patent rights, under the NASA regulations, are based on a broader US legislative and regulatory framework pursuant to which enterprises that perform R&D work for the US Government get to enjoy the patent rights over inventions discovered.

784. As regards NASA, the European Union emphasizes that "the Panel specifically found that NASA has its own specific legislation and regulations related to patent waivers".¹⁶⁰⁹ The European Union asserts that the Space Act and its implementing regulations constitute "the legislation pursuant to which the granting authority operates", within the meaning of Article 2.1(a) of the *SCM Agreement*¹⁶¹⁰, and adds that the Space Act explicitly limits the scope of NASA's aeronautics R&D activities to aeronautics and space. We have explained above that the Space Act and NASA's regulations cannot be viewed in isolation but, rather, should be viewed against the broader framework of legislation and regulations setting out the policy for the allocation of patent rights under government R&D contracts. Even if only certain enterprises perform aerospace research, and thus would enter into contracts or agreements with NASA, this has to be analyzed in the broader context, in which patent rights are also allocated to contractors under all R&D contracts and agreements with other government departments and agencies.¹⁶¹¹

785. The European Union additionally points out that, "when NASA waives patent rights, it does so in response to a request".¹⁶¹² As noted in the previous paragraph, the waiver cannot be considered in isolation from the general US legislative and regulatory framework that applies to all enterprises that perform work for all departments and agencies of the federal government. The fact that NASA patent waivers are granted only upon request does not change our assessment.

¹⁶⁰⁸European Union's appellant's submission, paras. 82 and 90.

¹⁶⁰⁹European Union's appellant's submission, para. 80 (referring to Panel Report, paras. 7.1287-7.1289).

¹⁶¹⁰European Union's appellant's submission, para. 81.

¹⁶¹¹We recall that the Panel found that:

... the allocation of patent rights is uniform under all U.S. government R&D contracts, agreements, and grants, in respect of all U.S. government departments and agencies, for all enterprises in all sectors. In all cases, the contractor/partner/recipient owns any inventions (i.e. patent rights) that it conceives in the course of performing research funded by the U.S. Government; however the U.S. Government receives a royalty-free, "government use/purpose" license to use the subject invention.

(Panel Report, para. 7.1276)

¹⁶¹²European Union's appellant's submission, para. 83 (referring to Panel Report, para. 7.1287). See also Panel Report, para. 7.1288.

786. Turning to the USDOD, the European Union states that, "as the entity that grants the R&D contracts, {US}DOD need not waive or grant rights in favour of a contractor to inventions arising from {US}DOD-funded contracts."¹⁶¹³ There are three shortcomings in the European Union's argument. First, the authority of the USDOD to "remove" a contractor's ability to keep title to any inventions would appear to be more limited than suggested by the European Union. This authority is to be exercised only in "exceptional circumstances".¹⁶¹⁴ Second, this authority applies to all US Government departments and agencies.¹⁶¹⁵ Third, the European Union has not asserted that the USDOD exercised this authority in a manner that resulted in limiting the alleged subsidy to certain enterprises.¹⁶¹⁶

787. During the oral hearing, the participants referred to the findings of the Appellate Body in US – Anti-Dumping and Countervailing Duties (China) and in EC and certain member States – Large Civil Aircraft.¹⁶¹⁷ In US – Anti-Dumping and Countervailing Duties (China), China argued that it was undisputed that State-owned commercial banks also provided loans to the industries under the "permitted" category that encompassed "the entire range of economic activity in China that {did} not fall within the {encouraged, restricted and eliminated} categories".¹⁶¹⁸ The Appellate Body, however, observed that the panel had not found that the projects/industries under the "permitted" category were eligible to receive the same loans as the "encouraged" projects/industries.¹⁶¹⁹ By contrast, in this case, the Panel has made an explicit finding that "the allocation of patent rights is uniform under all U.S. government R&D contracts, agreements, and grants, in respect of all U.S. government departments and agencies, for all enterprises in all sectors".¹⁶²⁰ In EC and certain member States – Large Civil Aircraft, the basis for the finding of specificity was that the funding under the EC Framework Programmes was divided into separate compartments, and each compartment targeted

¹⁶¹³European Union's appellant's submission, para. 88 (referring to Panel Report, para. 7.1291).

¹⁶¹⁴Panel Report, para. 7.1291 (referring to *United States Code*, Title 35, section 202(a)(ii) (Panel Exhibit EC-558)). See also United States' appellee's submission, para. 144.

¹⁶¹⁵See Panel Report, paras. 7.1291 and 7.1292. See also United States' appellee's submission, para. 144.

¹⁶¹⁶European Union's responses to questioning at the oral hearing.

¹⁶¹⁷Neither participant has asserted that the factual circumstances of this case are similar to those in *US – Anti-Dumping and Countervailing Duties (China)* or *EC and certain member States – Large Civil Aircraft*.

¹⁶¹⁸Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 382 (quoting China's appellant's submission in that appeal, para. 241).

¹⁶¹⁹Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 385. In that case, the Appellate Body also noted that the United States had expressed disagreement with China's assertion that it was an "undisputed fact" that the industries falling under the "permitted" category received loans from State-owned commercial banks, arguing that, according to Article 13 of the Implementing Regulation of the 11th Five-Year Plan (2006-2010), the "permitted" category was expressly excluded from the *Guiding Catalogue of the Industrial Restructuring (2005)* and, therefore, from the Government of China's policy priorities for lending. (*Ibid.*, footnote 326 thereto (referring to United States' responses to questioning at the oral hearing in that appeal))

¹⁶²⁰Panel Report, para. 7.1276.

certain enterprises. In the case before us, the allocation of patent rights or waivers under the NASA/USDOD contracts and agreements operates within the legislative and regulatory framework that applies to R&D activities performed by all enterprises for US Government departments and agencies. Thus, the patent rights allocation in this case does not present the same "compartmentalization" of funding to aeronautics R&D as under the EC Framework Programmes at issue in EC and certain member States – Large Civil Aircraft.¹⁶²¹

788. An additional argument of the European Union is that "an interpretation of Article 2.1 that looks to government-wide policies of a Member, rather than the actions and legislation of the authority that actually provides the subsidy, could frustrate the object and purpose of the *SCM Agreement*, i.e. 'to impose multilateral disciplines on subsidies which distort international trade' in goods".¹⁶²² As explained above, our analysis is not based on "a government-wide policy" but, rather, it is focused on the legislative and regulatory framework regulating the allocation of patent rights arising from R&D funded by the US Government. The European Union's contention also ignores the fact that a general legislative framework may be administered by a number of granting authorities and that authority-specific regulations may merely be measures implementing the broader legislation pursuant to which those authorities operate. The *SCM Agreement* imposes disciplines on subsidies that are specific to a particular class (that is, certain enterprises). Where a legislative framework exists that does not explicitly limit the eligibility of the subsidy to a certain class of enterprises or industries, as is the case here, it is not the type of subsidy that the drafters intended to make "specific" under Article 2.1(a) of the *SCM Agreement*. Thus, we cannot see how the object and purpose of the *SCM Agreement* would be frustrated.

789. In sum, proceeding on the Panel's assumption that the allocation of patent rights is in some respects a self-standing subsidy that is separate from the payments and other support provided under the NASA/USDOD contracts and agreements to the extent that such self-standing subsidy could exist, we do not see a basis to find that such subsidy is explicitly limited to certain enterprises, and therefore specific within the meaning of Article 2.1(a) of the *SCM Agreement*.

¹⁶²¹Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 948. In that dispute, "each of the EC Framework Programmes appear{ed} to divide up funding into those research areas that are sector-specific—such as the allocations to 'aeronautics' and 'aeronautics and space'—and those that {were} 'of a general horizontal nature, potentially cutting across a variety of business segments'. Thus, each EC Framework Programme target{ed} funding to economic activities "at both horizontal and sector specific levels". (*Ibid.* (quoting and referring to Panel Report, *EC and certain member States – Large Civil Aircraft*, paras. 7.1517, 7.1526, 7.1536, 7.1546, and 7.1557))

¹⁶²²European Union's appellant's submission, para. 76 (quoting, *inter alia*, Panel Report, *Brazil – Aircraft*, para. 7.26).

F. *Did the Panel Err by Failing to Address the European Communities' Allegation of De Facto Specificity under Article 2.1(c)?*

790. The European Union argues that the Panel erred by failing to adjudicate the European Communities' arguments of *de facto* specificity under Article 2.1(c) of the *SCM Agreement*.¹⁶²³ The European Union explains that NASA and the USDOD have some discretion in deciding to allocate patent rights to contractors, and whether to enter into the R&D contracts in the first place. This means, according to the European Union, that, "even if there is no *de jure* specificity under Article 2.1(a) of the *SCM Agreement*, there is, at a minimum, the considerable potential for Article 2.1(c) *de facto* specificity based on how those authorities actually implement the legislation or policy".¹⁶²⁴

791. Before the Panel, the European Communities argued that the allocation of intellectual property rights under the NASA and USDOD contracts and agreements is *de jure* specific within the meaning of Article 2.1(a).¹⁶²⁵ The European Communities also put forward arguments of *de facto* specificity under Article 2.1(c) "should the Panel consider NASA and {US}DOD intellectual property right waivers/transfers not to be specific under Article 2.1(a)".¹⁶²⁶ The European Communities based its claim of specificity under Article 2.1(c) on the alleged "disproportionate" amount of NASA contracts entered into and USDOD funding received by Boeing. More specifically, the European Communities argued as follows:

Boeing has received a disproportionate amount of all contracts awarded by NASA, including R&D contracts. In particular, from FY 1991 through FY 2004, Boeing has received on average 23.4% of all NASA contracts awarded, and as much as 31.4% of all such contracts in FY 1998. Further, Boeing's active participation at the highest levels of the NASA Advisory Council and its subcommittees reveals that NASA exercises discretion in granting subsidies in a manner that takes full account of Boeing's views and needs.

Boeing has also received a disproportionate amount of {US}DOD RDT&E funding over the years. In particular, from FY 1991 through FY 2005, Boeing has received on average 12.6% of all {US}DOD RDT&E awards, and as much as 17.7% of all such funding in FY 2001. Moreover, the European Communities estimates that five top US aerospace companies—Boeing, Lockheed Martin, Northrop Grumman, Raytheon, and United Technologies—have received, on average, 45.2% of total {US}DOD RDT&E funding over this same period.

¹⁶²³European Union's oral statement at the first session of the oral hearing.

¹⁶²⁴European Union's oral statement at the first session of the oral hearing.

¹⁶²⁵European Communities' first written submission to the Panel, para. 852.

¹⁶²⁶European Communities' first written submission to the Panel, para. 854.

In other words, the number of enterprises receiving NASA and {US}DOD contracts, and the resultant intellectual property right waivers/transfers, is extremely small in relation to the number of enterprises that enter into contractual relations with the US Government. Thus, NASA and {US}DOD intellectual property right waivers/transfers are specific within the meaning of Article 2.1(c) of the *SCM Agreement*.¹⁶²⁷ (footnotes omitted)

792. In *US – Anti-Dumping and Countervailing Duties (China)*, the Appellate Body stated that "{t}he reference in Article 2.1(c) to 'any appearance of non-specificity' resulting from the application of Article 2.1(a) and (b) supports the view that the conduct or instruments of a granting authority may not clearly satisfy the eligibility requirements of Article 2.1(a) or (b), but may nevertheless give rise to specificity in fact."¹⁶²⁸ The Appellate Body added that, "{i}n such circumstances, application of the factors under Article 2.1(c) to factual features of a challenged subsidy is warranted. Since an 'appearance of non-specificity' under Article 2.1(a) and (b) may still result in specificity in fact under Article 2.1(c) of the *SCM Agreement*, this reinforces our view that the principles in Article 2.1 are to be interpreted together."¹⁶²⁹ Based on this, the Appellate Body concluded that "a proper understanding of specificity under Article 2.1 must allow for the concurrent application of these principles to the various legal and factual aspects of a subsidy in any given case."¹⁶³⁰

793. In this case, the Panel included the European Communities' arguments on *de facto* specificity in its summary of the parties' arguments.¹⁶³¹ However, the Panel did not refer to Article 2.1(c) in its analysis of the European Communities' claim of specificity. Nor did the Panel provide any explanation as to why it chose not to address the European Communities' claim under Article 2.1(c). The Panel's analysis is incomplete and cannot be sustained. The principles of Article 2.1 must be applied concurrently. By its very terms, subparagraph (c) recognizes that a subsidy may be specific even where there is an "appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b)". A finding of non-specificity under subparagraphs (a) and (b) does not provide license to a panel to refrain from examining claims made under subparagraph (c). The Panel in this case should have at the very least explained the reasons why it rejected the European Communities' arguments under Article 2.1(c) of the *SCM Agreement*.

794. The Panel's ultimate conclusion of non-specificity under Article 2.1 therefore rests on an incomplete analysis. Thus, while we agree with the Panel that the allocation of patent rights under the legislative and regulatory framework of the Bayh-Dole Act, the 1983 Presidential Memorandum,

¹⁶²⁷European Communities' first written submission to the Panel, paras. 854-856.

¹⁶²⁸Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 370.

¹⁶²⁹Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 370.

¹⁶³⁰Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 371.

¹⁶³¹Panel Report, para. 7.1270.

the 1987 Executive Order, and general and NASA-specific federal regulations, to the extent it could constitute a self-standing subsidy, is not, in itself, specific under Article 2.1(a) of the *SCM Agreement*, we cannot sustain the Panel's overall finding under Article 2.1. We turn to consider ourselves whether the alleged subsidy is specific under subparagraph (c).

795. We recall that Article 2.1(c) of the *SCM Agreement* provides:

If, notwithstanding any appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b), there are reasons to believe that the subsidy may in fact be specific, other factors may be considered. Such factors are: use of a subsidy programme by a limited number of certain enterprises, predominant use by certain enterprises, the granting of disproportionately large amounts of subsidy to certain enterprises, and the manner in which discretion has been exercised by the granting authority in the decision to grant a subsidy.³ In applying this subparagraph, account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority, as well as of the length of time during which the subsidy programme has been in operation.

³In this regard, in particular, information on the frequency with which applications for a subsidy are refused or approved and the reasons for such decisions shall be considered.

796. The language of Article 2.1(c)—particularly the initial clause "notwithstanding any appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b)"—indicates that the application of this provision will normally follow the application of the other two subparagraphs of Article 2.1. We recall that the subparagraphs of Article 2.1 are "principles", and that the Appellate Body has previously said that a proper understanding of specificity under Article 2.1 must allow for their concurrent application.¹⁶³² Yet, the structure of Article 2.1 suggests a sequence for their application in which application of the principles in subparagraphs (a) and (b) precedes the application of the principle in subparagraph (c). In other words, one will normally reach subparagraph (c) after it has been determined that there are no explicit limitations as to which enterprises or industries have access to the subsidy.

797. The analysis under Article 2.1(c) proceeds where there are "reasons to believe that the subsidy may in fact be specific". While a conclusion that there is "an appearance of non-specificity" under Article 2.1(a)-(b) does not provide a panel license to refrain from examining claims under Article 2.1(c), a panel must consider whether, in the light of the arguments made by the parties, there

¹⁶³²Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 371; Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 945.

are "reasons" for it to believe that an assessment under Article 2.1(c) is warranted. These "reasons" would have to relate to the factors mentioned in subparagraph (c). The panel, in turn, would be expected to assess objectively the reasons and arguments provided by the parties. Where the panel finds that the arguments and evidence submitted by the parties do not sufficiently demonstrate reasons to indicate specificity under Article 2.1(c), a more exhaustive analysis of the specificity factors set out in that provision may not be warranted.

798. In this appeal, the European Union has described what it considers to be the discretionary authority that NASA and the USDOD have with respect to the allocation of patent rights. For example, the European Union has referred to the authority that NASA has to deny a request for a waiver and to the USDOD's authority to preclude a contractor from electing to retain patent rights over an invention. Yet, the European Union has not presented or pointed to the evidence on the Panel record showing that NASA or the USDOD have exercised their discretionary authority in such a manner. The Panel referred to a study by the National Bureau of Economic Research, according to which, "by the early 1980s patent 'waivers were essentially automatically granted' by NASA."¹⁶³³ At the oral hearing, the European Union did not dispute that the USDOD had not exercised its discretion to preclude a particular contractor from electing to retain title, nor did it assert that NASA had denied a request for a waiver.

799. Instead, the European Union has sought to support its claim under Article 2.1(c) by referring to the share of NASA contracts and USDOD funding received by Boeing. We recall that the Panel proceeded on the assumption that the allocation of patent rights is in some respects a self-standing subsidy that is separate from the payments and other support provided under the NASA/USDOD contracts and agreements. In the light of this assumption, any findings that the Panel made as to the specificity of the payments and other support provided under the NASA/USDOD contracts and agreements cannot speak to the specificity of the allocation of patent rights to the extent it constitutes a self-standing subsidy. Therefore, we are not persuaded that the arguments presented by the European Union demonstrate that, on the assumption that the allocation of patent rights is a self-standing subsidy, it is, "in fact", specific within the meaning of Article 2.1(c).

800. We recall that we have proceeded on the Panel's assumption that the allocation of patent rights is in some respects a self-standing subsidy that is separate from the payments and other support provided under the NASA/USDOD contracts and agreements. Proceeding as we have on that assumption, we have found that, to the extent that such self-standing subsidy exists, such subsidy is

¹⁶³³Panel Report, para. 7.1289 (quoting National Bureau of Economic Research, "Evidence from Patents and Patent Citations on the Impact of NASA and other Federal Labs on Commercial Innovation" (May 1997) (Panel Exhibit EC-574), p. 8).

not explicitly limited to certain enterprises within the meaning of Article 2.1(a) of the *SCM Agreement*. Nevertheless, we have found that the Panel erred by failing to examine the European Communities' arguments under Article 2.1(c) and therefore concluded that the Panel's overall finding under Article 2.1 could not be sustained. However, on the basis of these arguments, we are not persuaded that, on the assumption that the allocation of patent rights is a self-standing subsidy, it is, "in fact", specific within the meaning of Article 2.1(c) of the *SCM Agreement*, and thus *decline* to make such a finding.

VIII. Washington State Business and Occupation (B&O) Tax Rate Reduction

A. Financial Contribution – Revenue Foregone

801. We next turn to the United States' appeal of the Panel's finding that the reduction in the Washington State B&O tax rate applicable to commercial aircraft and component manufacturers¹⁶³⁴ under Washington State House Bill 2294 constitutes a financial contribution under Article 1.1(a)(1)(ii) of the *SCM Agreement*. In subsection 1, we set out a summary of the Panel's findings. In subsection 2, we consider the circumstances in which government revenue otherwise due is foregone within the meaning of Article 1.1(a)(1)(ii). Finally, in subsection 3, we assess the United States' claim on appeal.¹⁶³⁵

1. The Panel's Findings

802. The Panel reviewed the Appellate Body's reasoning in *US – FSC* and *US – FSC (Article 21.5 – EC)* concerning the administration of tax and the foregoing of government revenue that is otherwise due within the meaning of Article 1.1(a)(1)(ii) of the *SCM Agreement*. The test applied by the panel in *US – FSC* involved "examining the situation that would have existed but for the measure in question and determining whether there would have been a higher tax liability in the absence of the measure".¹⁶³⁶ The Panel observed that the Appellate Body in that dispute expressed some reservations about whether the "but for" test is an appropriate general test that should apply in

¹⁶³⁴The Panel referred in its analysis to the tax rate applicable under House Bill 2294 to "manufacturers of commercial aircraft and components for such aircraft". (Panel Report, para. 7.126) Under section 13(b), this tax rate applies to businesses engaged in "making sales, at retail or wholesale, of commercial airplanes, or components of such airplanes, *manufactured by that person*". (emphasis added) The tax rate under House Bill 2294 therefore applies to commercial aircraft and component manufacturers, whether they engage in manufacturing, wholesaling, or retailing activities.

¹⁶³⁵Although relevant details concerning the B&O tax rate reduction for commercial aircraft and component manufacturers set out in House Bill 2294 are described in this section of our Report, Part IV contains a more detailed description of the challenged measure.

¹⁶³⁶Panel Report, para. 7.117 (referring to Panel Report, *US – FSC*, para. 7.45).

all situations.¹⁶³⁷ As the Panel further noted, the Appellate Body clarified in *US – FSC (Article 21.5 – EC)* that there may be situations where it is possible to apply a "but for" test, namely, where the measure at issue is an "exception" to a "general" rule of taxation.¹⁶³⁸ The Appellate Body noted, however, that a panel is not always required to identify the general rule of taxation, and that, in many situations, it may be difficult to do so.¹⁶³⁹ On the basis of its review, the Panel summarized its understanding of the Appellate Body's analysis as suggesting that, "where it is possible to identify a general rule of taxation applied by the Member in question, a 'but for' test can be applied".¹⁶⁴⁰ The Panel added that, "[i]n other situations, the challenged taxation measure should be compared to the treatment applied to comparable income, for taxpayers in comparable circumstances in the jurisdiction in issue".¹⁶⁴¹

803. Turning to the B&O tax rate reduction for commercial aircraft manufacturing activities, the Panel concluded that "there is indeed a general rate of taxation applicable to manufacturing activities in the State of Washington and that the tax reduction provided to aircraft manufacturing activities constitutes an exception to this rule".¹⁶⁴² The Panel considered that the Washington State statutory tax provisions establish a general rule applying a tax rate of 0.484% to "every person engaging ... in business as a manufacturer"¹⁶⁴³, as well as certain exceptions from this general rate as set out in other provisions of the tax code. The Panel further considered that House Bill 2294 provides that commercial aircraft manufacturing, and the manufacturing of components for such aircraft, would be subject to an exceptional tax rate that differed from the general rate of 0.484%.¹⁶⁴⁴ In particular, the Panel noted that House Bill 2294 refers to the tax rate applicable to aircraft and component manufacturing—0.4235% between 1 October 2005 and 30 June 2007, and 0.2904% thereafter¹⁶⁴⁵—as a "preferential tax rate".¹⁶⁴⁶ House Bill 2294 also provides that, if a manufacturer availing itself of the preferential tax rate fails to submit an annual report detailing certain employment and wage information, the Washington State Department of Revenue "shall declare the amount of taxes ... reduced in the case of the preferential {B&O} tax rate, for that year to be immediately due and

¹⁶³⁷Panel Report, para. 7.117 (referring to Appellate Body Report, *US – FSC*, para. 91).

¹⁶³⁸Panel Report, para. 7.119 (referring to Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91).

¹⁶³⁹Panel Report, para. 7.119 (referring to Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91).

¹⁶⁴⁰Panel Report, para. 7.120.

¹⁶⁴¹Panel Report, para. 7.120.

¹⁶⁴²Panel Report, para. 7.121.

¹⁶⁴³*Revised Code of Washington*, section 82.04.240 (2004) (Panel Exhibit EC-83). The Panel found that "{s}imilar provisions apply in relation to taxes on wholesaling and retailing activities". (Panel Report, para. 7.124)

¹⁶⁴⁴Panel Report, paras. 7.125 and 7.126.

¹⁶⁴⁵Panel Report, paras. 7.48 and 7.49.

¹⁶⁴⁶Panel Report, para. 7.126 (quoting House Bill 2294, section 16(2)(a)). Section 16(2)(b) of House Bill 2294 refers to the rate as a "preferential business and occupation tax rate".

payable".¹⁶⁴⁷ The Panel considered that this supported its conclusion that "the reduced rate is an exceptional rate, and if certain requirements are not met, the amount by which the taxes were reduced must be repaid".¹⁶⁴⁸

804. The Panel also noted that the United States' written submissions and a number of documents produced by Washington State refer to four major tax classifications based on the following activities: manufacturing, wholesaling, retailing, and services.¹⁶⁴⁹ These four tax classifications "account for 90 percent of total B&O tax liability".¹⁶⁵⁰ Moreover, the Panel cited a study prepared by the Washington State Revenue Department that described a "preferential tax rate" for commercial aircraft and component manufacturers, as compared to the "general tax rate for manufacturing" of 0.484%.¹⁶⁵¹ The Panel added that, in other parts of the study, the Washington State Revenue Department refers to the "normal" or the "general" manufacturing tax rate of 0.484%.¹⁶⁵² The Panel concluded, therefore, that the evidence confirmed that there are "general" or "normal" B&O tax rates of 0.484% for manufacturing and wholesaling activities and 0.471% for retailing activities, and that deviations from these rates are an "exception" or a "preferential rate".¹⁶⁵³

805. Having concluded that the challenged tax rate reduction reflects an exception to a general rule of taxation, the Panel considered it appropriate to determine whether, "but for" the tax rate reduction, a higher B&O tax rate would otherwise apply to commercial aircraft and component manufacturers. The Panel concluded that, were it not for the "preferential rate" introduced by House Bill 2294, commercial aircraft and component manufacturers would be subject to the rates of 0.484% for manufacturing and wholesaling activities and 0.471% for retailing activities. Accordingly, the Panel

¹⁶⁴⁷House Bill 2294, section 16(2)(b).

¹⁶⁴⁸Panel Report, para. 7.127. The Panel observed that the Final Bill Report concerning House Bill 2294 stated that, if the reporting requirements were not met, "full taxes" would be immediately due and payable. (*Ibid.* (quoting Final Bill Report, House Bill 2294, C1L03E2, undated (Panel Exhibit EC-90), p. 3)) The Panel also cited other documents produced by Washington State that referred to the reduced rate as a "special" or "preferential" tax rate. (*Ibid.*, para. 7.128 (referring, respectively, to the *Washington Administrative Code*, section 458.20.136 (2000) (Panel Exhibit EC-80) and Washington State's response to Project Olympus Legal Questionnaire (Schedule 2 of the Project Olympus Master Site Agreement), 3 October 2003 (Panel Exhibit EC-91)))

¹⁶⁴⁹Panel Report, para. 7.129 (referring to United States' first written submission to the Panel, para. 430; and Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179), pp. 97-98). These tax classifications consist of the following: (i) manufacturing (0.484%); (ii) wholesaling (0.484%); (iii) retailing (0.471%); and (iv) services (1.5%).

¹⁶⁵⁰Panel Report, para. 7.129 (quoting Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179), p. 98).

¹⁶⁵¹Business and Occupation Tax – Differential Tax Rates, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-191), description of section 82.04.260(13).

¹⁶⁵²Panel Report, para. 7.131 (referring to Business and Occupation Tax – Differential Tax Rates, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-191)).

¹⁶⁵³Panel Report, para. 7.132.

found that the B&O tax rate reduction results in the foregoing of revenue otherwise due, and therefore constitutes a financial contribution under Article 1.1(a)(1)(ii) of the *SCM Agreement*.¹⁶⁵⁴

2. When Does a Government Forego Revenue Otherwise Due?

806. We begin our analysis by recalling the core aspects of the Appellate Body's reasoning in *US – FSC* and *US – FSC (Article 21.5 – EC)* as they relate to the interpretation of Article 1.1(a)(1)(ii) of the *SCM Agreement*. The Appellate Body observed that the foregoing of revenue otherwise due implies that less revenue has been raised by the government than would have been raised in a different situation, and that the word "foregone" suggests that the government has given up an entitlement to raise revenue that it could "otherwise" have raised. This purported entitlement, however, cannot exist in the abstract. There must be "some defined, normative benchmark against which a comparison can be made between the revenue actually raised and the revenue that would have been raised 'otherwise'".¹⁶⁵⁵ Moreover, the basis of comparison must be the "prevailing domestic standard" established by the tax rules applied by the Member in question, because "{w}hat is 'otherwise due' ... depends on the rules of taxation that each Member, by its own choice, establishes for itself".¹⁶⁵⁶

807. In the compliance proceedings in *US – FSC (Article 21.5 – EC)*, the Appellate Body further elaborated its understanding of the standard set out in Article 1.1(a)(1)(ii). The Appellate Body underscored that a financial contribution does not arise under Article 1.1(a)(1)(ii) simply because a government does not raise revenue that it could have raised. Although a government might be said to "forego" revenue when it chooses not to tax certain income, this alone is not determinative of whether the revenue foregone is "otherwise due". In other words, the Appellate Body stated that "the mere fact that revenues are not 'due' from a fiscal perspective does not determine that the revenues are or are not 'otherwise due' within the meaning of Article 1.1(a)(1)(ii)".¹⁶⁵⁷

808. The Appellate Body again emphasized that the term "otherwise due" implies a comparison between the challenged measure and a "defined, normative benchmark".¹⁶⁵⁸ The Appellate Body remarked that, because Members, in principle, have the sovereign authority to determine their own rules of taxation, the comparison under Article 1.1(a)(1)(ii) must necessarily be between the rules of taxation contained in the challenged measure and other rules of taxation of the Member concerned.

¹⁶⁵⁴Panel Report, para. 7.133.

¹⁶⁵⁵Appellate Body Report, *US – FSC*, para. 90.

¹⁶⁵⁶Appellate Body Report, *US – FSC*, para. 90.

¹⁶⁵⁷Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 88.

¹⁶⁵⁸Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 89 (referring to Appellate Body Report, *US – FSC*, para. 90).

As the Appellate Body explained, such a comparison enables panels and the Appellate Body "to reach an objective conclusion, on the basis of the rules of taxation established by a Member".¹⁶⁵⁹

809. The Appellate Body further recognized that it may be difficult to identify the appropriate benchmark for comparison under Article 1.1(a)(1)(ii), because domestic rules of taxation are varied and complex. The Appellate Body stated that, "{i}n identifying the appropriate benchmark for comparison, panels must obviously ensure that they identify and examine fiscal situations which it is legitimate to compare"¹⁶⁶⁰, and that this will be the case when there is "a rational basis for comparing the fiscal treatment of the income subject to the contested measure and the fiscal treatment of certain other income".¹⁶⁶¹ The Appellate Body added that, in general terms, "like will be compared with like"¹⁶⁶², and that it is important to ensure that the examination under Article 1.1(a)(1)(ii) "involves a comparison of the fiscal treatment of the relevant income for taxpayers in comparable situations".¹⁶⁶³

810. In both *US – FSC* and *US – FSC (Article 21.5 – EC)*, the Appellate Body considered that there may be situations where the measure at issue might be described as an "exception" to a general rule of taxation. In such cases, the Appellate Body said that it may be possible to apply a "but for" test to examine the fiscal treatment of income in the absence of the challenged measure. At the same time, the Appellate Body expressed concerns about the application of such an approach. In *US – FSC*, the Appellate Body stated that it had certain "abiding reservations"¹⁶⁶⁴ about applying any legal standard, such as a "but for" standard, in the place of actual treaty language, and expressed its concern that the application of a single standard would give rise to problems of circumvention. In *US – FSC (Article 21.5 – EC)*, the Appellate Body added that, "{g}iven the variety and complexity of domestic tax systems, it will usually be very difficult to isolate a 'general' rule of taxation, and 'exceptions' to that 'general' rule", and that an examination under Article 1.1(a)(1)(ii) "must be sufficiently flexible to adjust to the complexities of a Member's domestic rules of taxation".¹⁶⁶⁵ The Appellate Body affirmed that "panels should seek to compare the fiscal treatment of legitimately comparable income

¹⁶⁵⁹ Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 89.

¹⁶⁶⁰ Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 90.

¹⁶⁶¹ Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 90.

¹⁶⁶² Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 90. By way of example, the Appellate Body indicated that, if the measure at issue involves income earned in sales transactions, it might not be appropriate to compare the treatment of this income with employment income.

¹⁶⁶³ Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 92. By way of further example, the Appellate Body stated that, if the measure at issue is concerned with the taxation of foreign-source income in the hands of a domestic corporation, it might not be appropriate to compare the measure with the fiscal treatment of such income in the hands of a foreign corporation.

¹⁶⁶⁴ Appellate Body Report, *US – FSC*, para. 91.

¹⁶⁶⁵ Appellate Body Report, *US – FSC (Article 21.5 – EC)*, footnote 66 to para. 91.

to determine whether the contested measure involves the foregoing of revenue which is 'otherwise due', in relation to the income in question".¹⁶⁶⁶

811. In sum, the *SCM Agreement* recognizes that WTO Members are sovereign in determining the structure and rates of their domestic tax regimes. Also, because tax systems are not static, Members must have some flexibility to make adjustments to their systems. At the same time, the *SCM Agreement* recognizes that tax regimes may be used to achieve outcomes equivalent to the results that are achieved where a government provides a direct payment. This explains why the Agreement includes the foregoing of government revenue otherwise due among the measures that constitute financial contributions under Article 1.1(a)(1).

812. The identification of circumstances in which government revenue that is otherwise due is foregone requires a comparison between the tax treatment that applies to the alleged subsidy recipients and the tax treatment of comparable income of comparably situated taxpayers. Accordingly, a panel examining a claim under Article 1.1(a)(1)(ii) of the *SCM Agreement* should first identify the tax treatment that applies to the income of the alleged recipients. Identifying such tax treatment will entail consideration of the objective reasons behind that treatment and, where it involves a change in a Member's tax rules, an assessment of the reasons underlying that change.

813. As a second step, the panel should identify a benchmark for comparison—that is, the tax treatment of comparable income of comparably situated taxpayers.¹⁶⁶⁷ We recognize that this is not always a straightforward exercise, and may in some circumstances be exceedingly difficult. Identifying a benchmark involves an examination of the structure of the domestic tax regime and its organizing principles. In some cases, the principles will be ones well recognized in the tax regimes of Members; in other cases, they will be unique to the particular domestic regime. It may be that disparate tax measures, implemented over time, do not easily offer up coherent principles serving as a benchmark. In any event, the task of the panel is to develop an understanding of the tax structure and principles that best explains that Member's tax regime, and to provide a reasoned basis for identifying what constitutes comparable income of comparably situated taxpayers. Evidence relied upon in such an analysis must be located in the "rules of taxation that each Member, by its own choice, establishes

¹⁶⁶⁶ Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 91.

¹⁶⁶⁷ Although the Appellate Body has previously referred to the tax treatment of "comparable income", we understand that the same approach would apply to identifying any comparable taxable activity, transaction, or property of comparably situated taxpayers. (See *Revenue Statistics, 1965-2010, Annex A, The OECD Classification of Taxes and Interpretative Guide* (OECD, 2011) (referring to the following categories of taxation: taxes on income, profits, and capital gains; social security contributions; taxes on payroll and workforce; taxes on property; taxes on goods and services; and other taxes))

for itself".¹⁶⁶⁸ In doing so, a Member will be held to account for the tax structure and principles that it itself employs. This is akin to the approach undertaken in the field of public finance for purposes of estimating what are known as "tax expenditures".¹⁶⁶⁹

814. Finally, as a third step, the panel should compare the reasons for the challenged tax treatment with the benchmark tax treatment it has identified after scrutinizing a Member's tax regime. Such a comparison will enable a panel to determine whether, in the light of the treatment of the comparable income of comparably situated taxpayers, the government is foregoing revenue that is otherwise due in relation to the income of the alleged recipients.

815. In the light of the demands of this inquiry, we recall the reservations expressed by the Appellate Body about the limitations inherent in identifying a general rule and exception relationship. In doing so, a panel might artificially create a rule and an exception where no such distinction exists. In addition, an approach that focuses too narrowly on the change effected by a tax measure could result in a finding that government revenue otherwise due has been foregone anytime the tax rate applicable to a recipient is lowered. This underscores the risk in identifying a benchmark solely by reference to historical rates, the very departure from which may reflect evidence of shifting norms within that regime. Moreover, we note that a domestic tax system may be so replete with exceptions that the rate applicable to the general category of income in fact no longer represents the "general rule" but, rather, the "exception". The Appellate Body identified a similar concern in *US – FSC* when it expressed misgivings that a "but for" test could lead to circumvention "by designing a tax regime under which there would be *no* general rule that applied formally to the revenues in question, absent the contested measures".¹⁶⁷⁰ For these reasons, while there may be circumstances in which scrutiny of a tax regime indicates the presence of a general rule and an exception, we would expect that such an indication will not ordinarily end the analysis. Rather, we would expect a panel to further examine the structure of the domestic tax regime and its organizing principles.

¹⁶⁶⁸ Appellate Body Report, *US – FSC*, para. 90.

¹⁶⁶⁹ The Organisation for Economic Co-operation and Development ("OECD") describes tax expenditures as tax laws, regulations, or practices that reduce or postpone revenue for a comparatively narrow population of taxpayers relative to a benchmark tax. (*Tax Expenditures in OECD Countries* (OECD, 2010), p. 12 (referring to B. Anderson, PowerPoint presentation at the 5th Annual Meeting of OECD-Asia Senior Budget Officials held on 10-11 January 2008 in Bangkok, available at <www.oecd.org/dataoecd/40/6/39944419.pdf>))

¹⁶⁷⁰ Appellate Body Report, *US – FSC*, para. 91. (original emphasis)

3. Assessment of the Panel's Analysis under Article 1.1(a)(1)(ii) of the *SCM Agreement*

816. The first claim of the United States is that the Panel misconceived the proper standard under Article 1.1(a)(1)(ii) of the *SCM Agreement* by elevating the "but for" test "to the status of {a} general rule".¹⁶⁷¹ According to the United States, contrary to the Panel's approach, the Appellate Body has rejected the proposition that the "but for" test reflects the correct standard under Article 1.1(a)(1)(ii), instead, viewing it as "simply one methodology" that may be useful for applying the general standard "in certain, limited situations".¹⁶⁷² The European Union maintains that the Panel did not misinterpret the legal standard, and that the Panel made clear "that a 'but for' test *can* be applied, not *must* be applied, where it is possible to identify a general rule of taxation".¹⁶⁷³ The European Union therefore does not consider that the Panel elevated the "but for" test to a general rule but, rather, understood that such a test is applicable in certain situations in order to effectuate a comparison of legitimately comparable income.

817. The Panel summarized the Appellate Body's analysis in the *US – FSC* cases as follows:

{T}he Appellate Body's analysis suggests that where it is possible to identify a general rule of taxation applied by the Member in question, a "but for" test can be applied. In other situations, the challenged taxation measure should be compared to the treatment applied to comparable income, for taxpayers in comparable circumstances in the jurisdiction in issue.¹⁶⁷⁴

818. The Panel apparently viewed Article 1.1(a)(1)(ii) as requiring a comparison of the fiscal treatment under a challenged measure with that in respect of either (i) a general rule of taxation, or (ii) comparable income of comparably situated taxpayers. This is supported by the Panel's subsequent statement that it could apply the former test because, in the circumstances of this case, "it is not difficult to identify a general rule of taxation and exceptions to it".¹⁶⁷⁵ Viewed in this light, the Panel's approach suggests that, as long as a general rule of taxation is identified, it is sufficient to conduct an analysis limited to the determination that, but for the challenged measure, higher tax liability would have attached by virtue of the general rule. For the reasons we have expressed above, we consider that this approach may lead to an overly narrow conception of which rules are relevant in identifying a benchmark. We also do not believe that panels have a binary choice to make between a simplified, and a relatively more complex, inquiry. At the same time, we note that, by stating that a "but for" test

¹⁶⁷¹United States' other appellant's submission, para. 142.

¹⁶⁷²United States' other appellant's submission, para. 139.

¹⁶⁷³European Union's appellee's submission, para. 214. (original emphasis)

¹⁶⁷⁴Panel Report, para. 7.120.

¹⁶⁷⁵Panel Report, para. 7.133.

can be applied, the Panel indicated its awareness that the identification of a general rule does not lead invariably to the exclusive application of such a test. Therefore, subject to our observations above concerning the Panel's articulation of the legal standard, we do not consider that articulation to be inconsistent with Article 1.1(a)(1)(ii) of the *SCM Agreement*.

819. The United States also alleges two "specific errors of law"¹⁶⁷⁶ regarding the Panel's application of Article 1.1(a)(1)(ii). First, the United States submits that the Panel erred in its identification of the proper benchmark by failing to examine the Washington State B&O tax system as a whole, consisting of 36 activity classifications subject to B&O tax.¹⁶⁷⁷ Second, the United States asserts that the Panel erred in failing to account for the fact that, due to the "pyramiding"¹⁶⁷⁸ inherent in the Washington State B&O tax system, the effective tax rate for aerospace manufacturing exceeds the average effective tax rate for businesses in Washington State.¹⁶⁷⁹ The European Union argues that the Panel properly rejected using the range of 36 B&O tax rates in Washington State as the normative benchmark for purposes of establishing whether a financial contribution exists.¹⁶⁸⁰ The European Union also contends that the Panel properly excluded from its analysis consideration of pyramiding and the average effective B&O tax rate in Washington State.¹⁶⁸¹ The European Union points out that the United States conceded that the average effective B&O tax rate is not a normative benchmark, and offered no evidence or argument to support the notion that combating pyramiding and bringing effective B&O tax rates closer to the average effective B&O tax rate is any stated norm in Washington State tax law.¹⁶⁸²

820. We recall that House Bill 2294 lowered, in two stages, the B&O tax rate applicable to the gross income of commercial aircraft and component manufacturers. First, the bill provided for a reduction in the applicable tax rate from 0.484% or 0.471% to 0.4235% on 1 October 2005. Second, upon the later of 1 July 2007 or the commencement of final assembly of a "superefficient airplane"¹⁶⁸³, the bill provided for a further tax rate reduction to 0.2904%. Because final assembly of the Boeing 787 aircraft, meeting the definition of a "superefficient airplane", commenced in the first half of 2007, commercial aircraft and component manufacturers are subject to the rate of 0.2904%

¹⁶⁷⁶United States' other appellant's submission, para. 145.

¹⁶⁷⁷United States' other appellant's submission, para. 153.

¹⁶⁷⁸As explained *infra*, para. 829, "pyramiding" describes the process by which businesses, because they are taxed at each stage of production, pay higher rates in later stages of production due to the accumulation of taxes paid on prior inputs in the production process.

¹⁶⁷⁹United States' other appellant's submission, para. 157.

¹⁶⁸⁰European Union's appellee's submission, para. 221.

¹⁶⁸¹European Union's appellee's submission, para. 228.

¹⁶⁸²European Union's appellee's submission, paras. 228 and 231.

¹⁶⁸³"Superefficient airplane" is described in section 17 of House Bill 2294.

until 2024.¹⁶⁸⁴ House Bill 2294 also provides that, if a commercial aircraft manufacturer fails to submit an annual report detailing certain employment and wage information, the amount of the tax rate reduction will immediately become due.¹⁶⁸⁵

821. As explained above, the Panel concluded that there is a general or normal B&O tax rate of 0.484% for manufacturing and wholesaling activities and 0.471% for retailing activities, and that deviations from these rates constitute exceptions. The Panel thus considered that there are taxation rates that apply to general categories of business income generated from manufacturing, wholesaling, and retailing activities, and a lower, exceptional taxation rate that applies to a subset of that business income, consisting of income generated from commercial aircraft and component manufacturing, wholesaling, and retailing activities.¹⁶⁸⁶

822. Both before the Panel, and again on appeal, the United States has maintained that the Washington State B&O regime consists of 36 activity classifications, but recognizes four "major" or "principal" activity classifications subject to the following taxation rates: (i) manufacturing (0.484%); (ii) wholesaling (0.484%); (iii) retailing (0.471%); and (iv) services (1.5%).¹⁶⁸⁷ The Panel also noted that these four classifications "account for 90 per cent of total B&O tax liability".¹⁶⁸⁸ This indicates that Washington State itself classifies income from business activities into broad categories that, for purposes of the commercial aircraft sector, consist of manufacturing, wholesaling, and retailing activities.

823. We have explained above that a panel must be aware of the limitations inherent in identifying and comparing a general rule of taxation, and an exception from that rule. For instance, we noted that it could be misleading to identify a benchmark within a domestic tax regime solely by reference to historical tax rates. By that measure, the fact that commercial aircraft and component manufacturers were *previously* subject to higher tax rates would not in itself be determinative of what the benchmark is at the time of the challenge. In the circumstances of this case, however, we do not consider that the Panel was conducting a purely historical comparison. In particular, we note the Panel's acknowledgement that House Bill 2294 provided for a reversion to the "full taxes"¹⁶⁸⁹ associated with the general categories of activities in the event that certain reporting requirements were not met. This

¹⁶⁸⁴Panel Report, para. 7.48.

¹⁶⁸⁵Panel Report, para. 7.127.

¹⁶⁸⁶Panel Report, paras. 7.122 to 7.125.

¹⁶⁸⁷Panel Report, para. 7.129 (referring to Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179); and United States' first written submission to the Panel, para. 430). See also United States' other appellant's submission, para. 147.

¹⁶⁸⁸Panel Report, para. 7.129 (quoting Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179), p. 98).

¹⁶⁸⁹Panel Report, para. 7.127 (quoting Final Bill Report, HB 2294, C1L03E2, undated (Panel Exhibit EC-90), p. 3).

supports the Panel's view that the benchmark consisted of the generalized tax rates of 0.484% (manufacturing and wholesaling) and 0.471% (retailing), not because those rates reflected what *previously* applied to commercial aircraft manufacturing activities, but rather because they reflected what would *currently* apply to these activities if the conditions for the lower rates were not met.

824. We have also noted that it could be misleading to compare rates applicable to a general category of income with rates applicable to a subcategory of that income, without considering whether the scope of the "exceptions" undermines the existence of a "general rule". In this dispute, we note that the Panel analyzed what portion of income was entitled to a rate of taxation different from that applicable to income from general manufacturing activities. The United States had argued before the Panel that 60% of total taxable income in Washington State was subject to an adjusted rate of taxation.¹⁶⁹⁰ The European Communities responded that, once the aerospace industry was excluded, only 20% of manufacturing income was subject to an adjusted B&O tax rate.¹⁶⁹¹ The Panel concluded that, "if {House Bill} 2294 had not adjusted the rate for aerospace manufacturing, approximately 80 per cent of manufacturing activities in Washington State would be subject to the 0.484 per cent tax rate".¹⁶⁹² This reflects consideration by the Panel as to the relative tax treatment of other taxpayers engaged in the same broad category of business activities as commercial aircraft manufacturers.

825. In sum, the Panel identified broad categories of tax treatment under the Washington State tax code that apply to general manufacturing, wholesaling, and retailing activities in Washington State. The Panel also determined that commercial aircraft and component manufacturers are subject to a lower tax rate, which would in certain circumstances revert to the higher, general tax rates. The Panel moreover considered that the scope of the general tax rates in relation to that of various lower tax rates did not alter its conclusion that the general rates reflected what would have been applied to commercial aircraft and component manufacturers in the absence of the B&O tax reduction. Thus, we are satisfied that the Panel had a proper basis for selecting as the benchmark the tax treatment generally applicable in Washington State to businesses engaged in manufacturing (0.484%), wholesaling (0.484%), and retailing (0.471%) activities. In addition, we consider that the Panel properly concluded that a comparison of these general tax rates to the lower tax rate of 0.2904% that was applied to the gross income of commercial aircraft and component manufacturers under House Bill 2294 indicates the foregoing of government revenue otherwise due within the meaning of Article 1.1(a)(1)(ii) of the *SCM Agreement*.

¹⁶⁹⁰Panel Report, para. 7.138.

¹⁶⁹¹Panel Report, para. 7.138 (referring to European Communities' comments on the United States' response to Panel Question 32, para. 125).

¹⁶⁹²Panel Report, para. 7.138.

826. In its appeal, the United States challenges the basis for the Panel's reliance on a benchmark consisting of general manufacturing, wholesaling, and retailing tax rates by arguing that the Panel failed to take account of other important features of the Washington State B&O tax system. The United States asserts, for instance, that the Panel failed to consider that there are 36 categories of business activities individually identified in the Washington State tax code that, "taken together, reflect 'the fiscal treatment of ... relevant income for taxpayers in comparable situations'".¹⁶⁹³ The United States thus contends that, because Washington State establishes various tax rates for various activity categories, the appropriate benchmark consists of the entire B&O tax regime. The United States adds that, in failing to examine all of the tax rates of that regime, the Panel failed to consider the fiscal treatment of other relevant income for comparably situated taxpayers.

827. As we have explained, we consider that the Panel took into account both the tax treatment provided pursuant to House Bill 2294 and that applied to other categories of business activity under the Washington State tax code.¹⁶⁹⁴ We also do not understand how the B&O tax system as a whole could, in any event, operate as a benchmark. Because the Washington State B&O tax system is composed of various tax rates for various activity categories, they cannot all simultaneously serve as the basis for a comparison with the challenged rate. To contend that all of the B&O tax rates together constitute the benchmark would amount to the contention that there is, in effect, no benchmark within that system. Such an assertion, however, prematurely abdicates, rather than engages, the inquiry as to an appropriate benchmark for purposes of an analysis under Article 1.1(a)(1)(ii). In our view, that inquiry should seek to identify a benchmark within a taxation system even in circumstances where there may be several, perhaps competing, principles operating within a taxation system, or where the existence of any coherent principle or principles is difficult to discern.

828. The United States also maintains that the Washington State B&O tax system "is a multi-rate tax system that applies numerous tax rates to numerous individually identified categories of activities, and the tax rate applied to aerospace manufacturing and selling is within the range of tax rates applied to other activities".¹⁶⁹⁵ We understand this argument to posit that whether a challenged tax rate constitutes the foregoing of government revenue otherwise due is to be resolved by assessing whether

¹⁶⁹³United States' other appellant's submission, para. 153 (quoting Appellate Body Report, *US – FSC (Article 21.5 – EC)*, para. 92).

¹⁶⁹⁴See *supra*, paras. 821 and 822 (referring to Panel Report, paras. 7.122-7.125 and 7.129). See also Panel Report, paras. 7.202 and 7.203.

¹⁶⁹⁵United States' other appellant's submission, para. 153.

it approximates the average of the range represented by all rates under that regime.¹⁶⁹⁶ In our view, employing such a benchmark would lead to potentially indiscriminate outcomes whereby rates at or above an average rate would appear permissible, whereas rates below that benchmark would be deemed a financial contribution. We do not consider it plausible to maintain that a government foregoes revenue that is otherwise due in respect of particular taxpayers, irrespective of their type of income or business activity, simply because the tax rate that applies to those taxpayers' income falls below the average of a range of taxation rates.

829. The United States further contends that the Panel erred in its identification of the appropriate benchmark by failing to take account of effective B&O tax rates in Washington State. The United States argues that the aerospace industry is subject to particularly high effective tax rates due to "pyramiding", a process by which businesses, because they are taxed at each stage of production, pay higher rates in respect of later stages of production due to the accumulation of taxes paid on prior inputs in the production process. According to the United States, once adjusted for the phenomenon of pyramiding, the effective tax rate for aerospace manufacturing was reduced from 2.53% to 1.578%, which exceeds the average effective tax rate for other Washington State businesses of 1.53%.¹⁶⁹⁷ We see no indication in the Panel record that adjusting tax rates to approximate the average effective tax rate reflects a principle under the Washington State B&O tax regime. Rather, it appears to be more in the nature of an *ex post* explanation regarding the relationship of these rates to one another. We note, moreover, that the United States itself conceded that the average effective B&O tax rate does not constitute a benchmark for the purposes of this case under Article 1.1(a)(1)(ii).¹⁶⁹⁸

830. In addition, the Panel record does not support the contention that Washington State implemented House Bill 2294 alone, or as part of a broader regulatory scheme, to counteract the effects of pyramiding. House Bill 2294 was implemented in order to provide certain tax incentives to

¹⁶⁹⁶Before the Panel, the United States argued that, as long as the challenged rate falls within the range of B&O tax rates, "it cannot be considered revenue foregone that is otherwise due". (United States' first written submission to the Panel, para. 452) As the Panel correctly noted, the problem with employing this as a benchmark is that, "by definition, every rate in any multi-rate tax system falls within the range of rates in that tax system". (Panel Report, para. 7.135) The Panel added that, where "the lower bound of the range of nominal B&O tax rates is 0 per cent ... every tax rate falls within the range and it is never possible for a tax reduction to constitute a financial contribution". (*Ibid.*, footnote 1224 thereto)

¹⁶⁹⁷United States' other appellant's submission, para. 149.

¹⁶⁹⁸Panel Report, para. 7.137. The United States confirmed this position in response to questioning at the oral hearing.

the aerospace industry.¹⁶⁹⁹ The fact that House Bill 2294 provided for a reversion to "full taxes" in the event that certain reporting requirements were not met would seem contrary to alleviating the burden on the commercial aircraft sector caused by higher effective tax rates.¹⁷⁰⁰ We further observe that the report of the Washington State Tax Structure Study Committee, which the United States relied upon to highlight concerns with pyramiding in the Washington State tax system, recommended replacing the B&O tax system altogether, instead of adjusting tax rates throughout the B&O taxation system to remove the effects of pyramiding.¹⁷⁰¹ Finally, we note the Panel's conclusion elsewhere in its Report that none of the evidence submitted by the United States indicates that the B&O tax rate reduction was introduced in order to combat pyramiding.¹⁷⁰² We therefore do not consider that the average effective tax rate in the Washington State B&O tax system serves as an appropriate benchmark against which to compare the tax rate reduction set out in House Bill 2294.

831. For the foregoing reasons, we *uphold* the Panel's finding, in paragraph 7.133 of the Panel Report, that the reduction in the Washington State B&O tax rate applicable to commercial aircraft and component manufacturers constitutes the foregoing of revenue otherwise due, and therefore a financial contribution within the meaning of Article 1.1(a)(1)(ii) of the *SCM Agreement*.

B. *Specificity*

832. We next turn to the United States' appeal of the Panel's finding that the Washington State B&O tax rate reduction under House Bill 2294 is a subsidy that is specific within the meaning of Article 2.1(a) of the *SCM Agreement*. We first provide a summary, in subsection 1, of the Panel's findings before assessing, in subsection 2, the United States' claim on appeal.

¹⁶⁹⁹House Bill 2294, entitled "Aerospace Industry – Tax Incentives", states in section 1 as follows:

The legislature finds that the people of the state have benefited from the presence of the aerospace industry in Washington state. The aerospace industry provides good wages and benefits for the thousands of engineers, mechanics, and support staff working directly in the industry throughout the state. The suppliers and vendors that support the aerospace industry in turn provide a range of jobs. The legislature declares that it is in the public interest to encourage the continued presence of this industry through the provision of tax incentives. The comprehensive tax incentives in this act address the cost of doing business in Washington state compared to locations in other states.

¹⁷⁰⁰Panel Report, para. 7.127.

¹⁷⁰¹The report of the Washington State Tax Structure Study Committee recommended, *inter alia*:

Replacing the B&O tax with a value added tax eliminates the "pyramiding" effect as goods move through the production chain, thereby addressing the Committee's concerns with economic neutrality and competitiveness. A majority of the Committee members recommend this alternative.

("Tax Alternatives for Washington State: A Report to the Legislature" (November 2002), Vol. 1 (Panel Exhibit US-180), p. v)

¹⁷⁰²Panel Report, para. 7.205.

1. The Panel's Findings

833. The Panel began its analysis by setting out an interpretation of Article 2.1(a) of the *SCM Agreement*. The Panel considered that the ordinary meaning of the term "explicit" indicates that the limitation on access to a subsidy must "distinctly express all that is meant; leaving nothing merely implied or suggested", and must be "unambiguous" and "clear".¹⁷⁰³ The Panel added that, given that Article 2.1(a) provides that, "where the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy", it is clear that the express limitation can be found either in the legislation by which the granting authority operates, or in other statements or means by which the granting authority expresses its will.¹⁷⁰⁴ The Panel also considered guidance from the panel in *US – Upland Cotton* suggesting that "there is some tipping point, which varies on a case-by-case basis, at which access to the subsidy in issue is no longer considered to be limited to 'certain enterprises' but rather is 'sufficiently broadly available' throughout an economy as to be non-specific".¹⁷⁰⁵ On the basis of these considerations, the Panel concluded that a finding of specificity under Article 2.1(a) requires a limitation that, on the face of the legislation or in other statements or means by which the granting authority expresses its will, "expressly and unambiguously restricts the availability of a subsidy to 'certain enterprises' and as a result does not make the subsidy 'sufficiently broadly available throughout an economy'".¹⁷⁰⁶

834. In applying this standard to its analysis of specificity, the Panel first examined the terms of House Bill 2294. The Panel considered that "an inspection of {House Bill} 2294 lends credence to the European Communities' view that those tax measures under {House Bill} 2294 that we have found to be subsidies are specific".¹⁷⁰⁷ The Panel noted, in particular, that House Bill 2294 is entitled "Aerospace Industry – Tax Incentives", and that the language and operation of the bill limits the tax measures to the aerospace industry or to certain enterprises within the aerospace industry. The Panel therefore concluded that, "on the face of {House Bill} 2294, the taxation subsidies are expressly and unambiguously limited to enterprises manufacturing commercial airplanes or components for such airplanes", and that this constitutes a limitation either to an "industry" or to a "group of enterprises" within the meaning of Article 2 of the *SCM Agreement*.¹⁷⁰⁸

¹⁷⁰³Panel Report, para. 7.190 (quoting *Shorter Oxford English Dictionary*, L. Brown (ed.) (Clarendon Press, 1993), Vol. 1, p. 888).

¹⁷⁰⁴Panel Report, para. 7.190.

¹⁷⁰⁵Panel Report, para. 7.191 (referring to Panel Report, *US – Upland Cotton*, para. 7.1139).

¹⁷⁰⁶Panel Report, para. 7.192.

¹⁷⁰⁷Panel Report, para. 7.194.

¹⁷⁰⁸Panel Report, para. 7.196.

835. The Panel did not consider it appropriate, however, to confine its analysis to a review of House Bill 2294. The Panel observed that, by limiting the specificity analysis to House Bill 2294, rather than considering the Washington State B&O taxation system as a whole, it might otherwise overlook "valuable information which may shed light on whether or not a subsidy is properly characterized as specific".¹⁷⁰⁹ Noting the possibility that the relevant B&O tax rate reduction is part of a wider subsidy extended to other industries through separate amendments to the Washington State tax code, the Panel stated that "it is necessary to examine the B&O taxation system as a whole, in particular the legislation and documents produced by the granting authority, in order to determine whether the subsidy in issue is explicitly limited to certain enterprises or is broadly available".¹⁷¹⁰

836. Although the Panel considered it "possible" that the B&O tax rate reduction applicable to the aerospace industry is one part of a wider subsidy to a variety of industries, the Panel found that "the United States has provided little information on which the Panel would be able to draw the conclusion the United States seeks".¹⁷¹¹ The Panel acknowledged that the Washington State tax code establishes some variation in the B&O taxation rates applied to the manufacturing, wholesaling, and retailing sectors. The Panel also noted its prior conclusions that, while there are general B&O tax rates that apply to these broad categories of activity, there are also certain, more specific activities subject to "exceptions" to the general rates.¹⁷¹² Although this information supported the United States' argument that the aerospace industry is not alone in receiving an exception to the general rates of taxation for manufacturing, wholesaling, and retailing activities, the Panel was not persuaded that this led to a finding of non-specificity under Article 2.1(a).

837. In particular, the Panel found that, "if the differential B&O tax rates were truly implemented as part of a common subsidy programme, it would be reasonable to expect some links between the individual tax reductions, for example, in the timing of their introduction, in their purpose or in their levels".¹⁷¹³ The Panel found, however, that the United States had not provided "any evidence to suggest that the reductions to separate industries are part of a wider, generally available and explicit programme of tax reductions".¹⁷¹⁴ The Panel added that, "in fact, some of the evidence submitted by the United States runs counter to this argument."¹⁷¹⁵ The Panel thus found that the B&O tax rate reduction granted to the aerospace industry under House Bill 2294 is a subsidy that is specific within the meaning of Article 2.1(a) of the *SCM Agreement*.

¹⁷⁰⁹Panel Report, para. 7.198.

¹⁷¹⁰Panel Report, para. 7.199.

¹⁷¹¹Panel Report, para. 7.201 (referring to United States' response to Panel Question 233, para. 385).

¹⁷¹²Panel Report, paras. 7.202 and 7.203.

¹⁷¹³Panel Report, para. 7.205. (footnote omitted)

¹⁷¹⁴Panel Report, para. 7.205.

¹⁷¹⁵Panel Report, para. 7.205 (referring to Panel Exhibits US-191 and US-180).

2. Assessment of the Panel's Analysis under Article 2.1(a) of the SCM Agreement

838. The United States does not challenge the Panel's interpretation of specificity under Article 2.1(a) of the *SCM Agreement*.¹⁷¹⁶ Rather, the United States claims that the Panel failed, in the application of Article 2.1(a), to consider the entirety of the subsidy that the Panel had found to exist.¹⁷¹⁷ In the United States' view, the Panel failed to analyze whether, taking all of the differential tax rates in the Washington State tax system together, access to the subsidy was limited to certain enterprises, or whether access was sufficiently broadly available throughout the economy so as to indicate that the subsidy was not specific to certain enterprises. The United States maintains that, because the Panel "did not even attempt to ascertain"¹⁷¹⁸ whether access to this subsidy was limited to certain enterprises, as required by Article 2.1, the Panel's finding should be reversed.

839. The European Union contends that the Panel needed to examine only House Bill 2294 to arrive at a finding of *de jure* specificity, but that the Panel nevertheless proceeded to evaluate the B&O taxation system as a whole. In doing so, the Panel "made a finding of fact that the multiple B&O tax rate exceptions do not constitute a single 'subsidy' programme, but rather may constitute separate and distinct measures, because there was no evidence to justify considering all of the B&O tax rate exceptions together as a single measure for purposes of the Article 2.1(a) analysis".¹⁷¹⁹ According to the European Union, the Panel rightly called for evidence of a connection among the multiple tax breaks in order to determine that they were part of a common subsidy programme, and noted the lack of any such evidence on the Panel record.

840. In Part VII, we have set out our views on the scope of the inquiry under Article 2.1(a) of the *SCM Agreement*. We have explained that the focus of the inquiry under Article 2.1(a) is on the class of recipients, and the manner in which access to the subsidy is limited to the class. These limitations must be "explicit", which means that they must be "express, unambiguous, or clear from the content of the relevant instrument, and not merely 'implied' or 'suggested'".¹⁷²⁰ Moreover, the source of any limitations under Article 2.1(a) is the legislation pursuant to which the granting authority operates, or the granting authority itself.

¹⁷¹⁶United States' other appellant's submission, para. 167.

¹⁷¹⁷United States' other appellant's submission, para. 172.

¹⁷¹⁸United States' other appellant's submission, para. 178.

¹⁷¹⁹European Union's appellee's submission, para. 237 (referring to Panel Report, paras. 7.200-7.205).

¹⁷²⁰Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 372.

841. The scope of the inquiry called for under Article 2.1(a) is not necessarily limited to the subsidy as defined in Article 1.1. Although the subsidy as defined in Article 1.1 is the starting point of the analysis under Article 2.1(a), the scope of the inquiry is broader in the sense that it must examine the legislation pursuant to which the granting authority operates, or express acts of the granting authority. The outcome of that inquiry cannot be predetermined by the legal framework that a WTO Member chooses to establish and distribute the subsidies. At the same time, Article 2.1 makes it clear that the assessment of specificity is framed by the particular subsidy found to exist under Article 1.1. This means that the inquiry under Article 2.1 should not examine subsidies that are different from those challenged by the complaining Member. That inquiry requires careful scrutiny of the relevant legislation—whether set out in one or several instruments—to determine whether the subsidies are provided pursuant to the same subsidy scheme. Once a subsidy scheme is identified, then the question is whether that subsidy is explicitly limited to "certain enterprises", defined in the chapeau to Article 2.1 as "an enterprise or industry or group of enterprises or industries".

842. Following its assessment under Article 1.1 of the *SCM Agreement*, the Panel found that the "Washington B&O tax reduction"¹⁷²¹ is a subsidy to Boeing within the meaning of Article 1 of the *SCM Agreement*. By "Washington B&O tax reduction", the Panel was referring to the B&O tax rate reduction enacted under House Bill 2294. This is evident from the Panel's earlier discussion of financial contribution, where the Panel stated as follows:

The standard rate for manufacturing and wholesaling activities is 0.484 per cent and for retailing activities is 0.471 per cent. Were it not for the "preferential rate" introduced by {House Bill} 2294, aircraft manufacturers would be subject to the rates of 0.484 per cent for manufacturing and wholesaling and 0.471 per cent for retail sales. For these reasons, the Panel finds that the reductions in the B&O tax rates constitute the foregoing of revenue otherwise due and, as a result, are a financial contribution under Article 1.1(a)(1)(ii) of the *SCM Agreement*.¹⁷²²

843. Despite the somewhat generic reference to "reductions in the B&O tax rates", the preceding context indicates that this finding applied only to the B&O tax rate reduction applicable to the activities of commercial aircraft and component manufacturers under House Bill 2294. This understanding is confirmed by the Panel's subsequent reference to "the B&O tax {rate} reduction for aircraft manufacturing", which it had found "constitutes a subsidy".¹⁷²³ Therefore, for purposes of the assessment under Article 2.1, the subsidy "as defined in paragraph 1 of Article 1" was the B&O tax

¹⁷²¹Panel Report, para. 7.179.

¹⁷²²Panel Report, para. 7.133.

¹⁷²³Panel Report, para. 7.199. (italics omitted)

rate reduction contained in House Bill 2294 that applied to activities of commercial aircraft and component manufacturers.

844. At the outset of its assessment of specificity, the Panel explained that, "{a}s a starting point for the analysis of *de jure* specificity"¹⁷²⁴, it would examine the terms of House Bill 2294. The Panel considered that House Bill 2294 is the legislative instrument pursuant to which the subsidy found by the Panel—that is, the B&O tax rate reduction that applied to activities of commercial aircraft and component manufacturers—was enacted. Accordingly, the Panel's decision to begin its analysis with House Bill 2294 is consistent with the chapeau of Article 2.1, and with our understanding of the scope of the assessment under that provision.

845. The Panel, however, did not limit the scope of its analysis to the B&O tax rate reduction enacted under House Bill 2294. Indeed, the Panel rejected the European Communities' request that it do so, instead, opting to examine the Washington State B&O taxation system as a whole. The Panel explained the basis for its approach as follows:

{W}e cannot accept the European Communities' submission that the specificity analysis must be limited to amending legislation through which the subsidy is enacted. ... By limiting the specificity analysis to the amending legislation, rather than considering the Washington taxation legislation as a whole, valuable information which may shed light on whether or not a subsidy is properly characterized as specific may be ignored. Further, the approach advocated by the European Communities means that the specificity analysis is dependent upon how the complaining party chooses to define the measure it is challenging.¹⁷²⁵

846. The Panel added the following specific reasons concerning the challenged B&O tax rate reduction applicable to commercial aircraft and component manufacturers:

{A}lthough we have found {that the B&O tax rate reduction for commercial aircraft and components manufacturers} constitutes a subsidy, it is possible that it is one part of a wider subsidy extended to other industries through separate amendments to the Washington tax code. In our view, it is necessary to examine the B&O taxation system as a whole, in particular the legislation and documents produced by the granting authority, in order to determine whether the subsidy in issue is explicitly limited to certain enterprises or is broadly available. Therefore, we judge it appropriate to consider the *Revised Code of Washington* as a whole, rather than merely the amending legislation, {House Bill} 2294, in analyzing whether the

¹⁷²⁴Panel Report, para. 7.194.

¹⁷²⁵Panel Report, para. 7.198.

B&O tax rate reduction is specific within the meaning of Article 2.1(a).¹⁷²⁶

847. The Panel correctly recognized that the B&O tax rate reduction applicable to commercial aircraft and component manufacturers, enacted under House Bill 2294, could be part of a wider subsidy scheme. Hence, it correctly broadened the scope of its analysis to the Washington State B&O tax regime and sought to verify whether under this broader legal framework the same subsidy was being made available to other enterprises or industries. Ultimately, the Panel concluded that the same subsidy was not made available to other enterprises under the Washington State B&O tax regime. In arriving at this conclusion, the Panel was not persuaded that other differential B&O tax rates contained in the Washington State tax code were part of the same subsidy scheme as the challenged B&O tax rate reduction.

848. The United States advances two main arguments on appeal. First, the United States suggests there is incoherence in the Panel's approach. According to the United States, the Panel was required by Article 2.1 to "address the specificity of the subsidy that has been found to exist, not some other subsidy, and not merely a part of the subsidy found to exist".¹⁷²⁷ Because the Panel had found that the application of a tax rate lower than the standard rate constitutes a subsidy, the United States maintains that the Panel was required to make an assessment of whether access to *that* subsidy is explicitly limited to certain enterprises.¹⁷²⁸

849. As we have set out above, the Panel's conclusion under Article 1.1 of the *SCM Agreement* was not that all differential tax rates under Washington State's B&O tax regime constitute a subsidy. Rather, the Panel's finding under Article 1.1 was that the B&O tax rate reduction enacted under House Bill 2294 for commercial aircraft and component manufacturers was the subsidy. Having correctly started its analysis with the subsidy that it had determined to exist under Article 1.1, the Panel then expanded the scope of its inquiry by turning to the Washington State tax code as a whole. As we have explained, the Panel did not consider that the other differential tax rates formed part of the same subsidy scheme as the B&O tax rate reduction applicable to commercial aircraft and component manufacturers. We do not consider that the approach undertaken by the Panel was incoherent. On the contrary, if the Panel concluded that the other differential tax rates were not part of the same subsidy scheme as the reduced B&O tax rate for commercial aircraft and component manufacturers, then it was correct for the Panel not to have considered them collectively. We therefore consider that the Panel's approach is consistent with the scope of the inquiry under Article 2.1(a).

¹⁷²⁶Panel Report, para. 7.199.

¹⁷²⁷United States' other appellant's submission, para. 168.

¹⁷²⁸United States' other appellant's submission, para. 171.

850. Second, the United States questions the basis for the Panel's conclusion that it was not appropriate to consider the various B&O differential tax rates as part of the same subsidy programme. The United States asserts that none of the factors on which the Panel based its conclusion—namely, timing, level, and purpose—is relevant to the analysis.¹⁷²⁹

851. We share the Panel's view¹⁷³⁰ that, where multiple subsidies are part of the same subsidy scheme, one would expect to find links or commonalities between those subsidies. The Panel observed that the Washington State B&O tax regime applies certain rates to taxpayers based on the business activity in which they engage. In respect of manufacturing activities, the Washington State tax code applies a rate of 0.484% on all businesses engaged in manufacturing, unless they qualify for lower rates applicable to particular manufacturing activities. Apart from the taxation rate of 0.2904% applied to commercial aircraft and component manufacturing activities, the Panel also identified the following manufacturing activities that are subject to differential rates:

- (a) manufacturing wheat into flour, barley into pearl barley, soybeans into soybean oil, canola into canola oil or sunflower seeds into sunflower oil, raw seafood, biodiesel/alcohol fuel, processing or splitting dried peas, and processing perishable meat products (0.138%);
- (b) manufacturing semi-conductor materials and nuclear fuel assemblies (0.275%);
- (c) manufacturing aluminium and solar energy systems (0.2904%);
- (d) manufacturing associated with fresh fruit, vegetables, and dairy products (exempt);
and
- (e) manufacturing of timber and timber products (0.4235% until 30 June 2007 and 0.2904% until 30 June 2024).¹⁷³¹

¹⁷²⁹United States' other appellant's submission, paras. 174-178.

¹⁷³⁰See Panel Report, para. 7.205.

¹⁷³¹Panel Report, para. 7.202 (referring to *Revised Code of Washington*, section 82.04.260 (Panel Exhibit US-181); House Bill 2294, section 3; Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179); *Revised Code of Washington*, section 82.04.294 (Panel Exhibit US-188); *Revised Code of Washington*, section 82.04.2909 (Panel Exhibit US-189); and United States' first written submission to the Panel, para. 431).

852. The Washington State tax code also applies rates of 0.484% and 0.471% on businesses engaged in wholesaling and retailing activities, respectively, unless they qualify for lower rates applicable to particular such activities. Apart from the taxation rates of 0.484% and 0.471% applied to the wholesaling and retailing activities of commercial aircraft and component manufacturers, the Panel also identified the following activities subject to differential rates:

- (a) wholesaling and reselling prescription drugs, wholesaling of perishable meat products (0.138%);
- (b) wholesaling of solar energy systems and of aluminium, where manufactured by the seller (0.2904%);
- (c) wholesaling or retailing of nuclear fuel assemblies, where manufactured by the seller (0.275%);
- (d) retailing of interstate transport equipment (0.484%); and
- (e) wholesaling of dairy products, fresh fruit, and vegetables, where manufactured by the seller and where the purchaser transports the goods out of the state (exempt).¹⁷³²

853. The B&O tax rate reduction applicable to commercial aircraft and component manufacturers was enacted under House Bill 2294 as an amendment to the tax code, known as the *Revised Code of Washington*. At the oral hearing, the United States argued that this tax rate, together with the other differential tax rates, should have been considered collectively as a subsidy, because they are all contained in the Washington State tax code and expressed as exceptional rates to the general rates set out in that code. We note that the *Revised Code of Washington* reflects an accretion of tax rate adjustments over time, each implemented through separate pieces of legislation. The fact that a series of differential tax rates are located in the same section of the tax code, while relevant, cannot be dispositive as to whether they constitute part of the same subsidy scheme for purposes of a specificity analysis under Article 2.1(a).

¹⁷³²Panel Report, para. 7.203 (referring to *Revised Code of Washington*, section 82.04.260 (Panel Exhibit US-181); House Bill 2294, section 3; Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179); *Revised Code of Washington*, section 82.04.294 (Panel Exhibit US-188); *Revised Code of Washington*, section 82.04.2909 (Panel Exhibit US-189); and United States' first written submission to the Panel, para. 431 and footnote 588 thereto).

854. We further note that the amendment does not indicate that it was enacted as part of a broader subsidy scheme. On the contrary, House Bill 2294 clearly indicates that the legislation is aimed at "retaining and attracting the aerospace industry to Washington State" and includes "comprehensive tax incentives" directed at achieving this aim.¹⁷³³ The details of the differential tax rates examined by the Panel are set out in Panel Exhibit US-191, a study that the Washington State Department of Revenue is required by law to prepare.¹⁷³⁴ We see support in this document for the Panel's statement that "the differential tax rates were introduced at a range of different times and for a variety of different purposes".¹⁷³⁵ In particular, while some of the differential tax rates were, like the rate applicable to commercial aircraft and component manufacturers, designed to retain certain business activities in Washington State, others appear to have been adopted for entirely different purposes. We note, for instance, that the reduced tax rate for manufacturers of dairy products was enacted to support the dairy industry and provide a tax rate equivalent to producers of certain other agricultural commodities, whereas other reduced tax rates—for example, for flour and oil, seafood, and fruit and vegetable producers—were provided to address the low profit margins experienced by firms in those industries, in some instances because they were unable to pass the total cost of a gross receipts tax on to the consumers due to a highly competitive market structure.¹⁷³⁶

855. The Panel also noted that exhibits submitted by the United States include statements that "pyramiding"¹⁷³⁷ is a problem associated with the B&O tax. Nevertheless, the Panel found that these exhibits do not indicate that any tax rate reductions were introduced in order to combat this problem.¹⁷³⁸ Moreover, we have already considered¹⁷³⁸ that the evidence on the Panel record does not support the conclusion that the B&O tax rate reduction for commercial aircraft and component manufacturers was introduced to counteract the effects of pyramiding. Thus, the concept of pyramiding would not serve as a proper basis to find that the challenged B&O tax rate reduction belongs to the same subsidy scheme as other differential tax rates that allegedly redress the effects of pyramiding. Finally, we note that, apart from observing that all of the differential tax rates are contained within the *Revised Code of Washington*, the United States has not referred to any evidence on the Panel record to support the proposition that the B&O tax rate reduction applicable to

¹⁷³³House Bill 2294, preamble and section 1; see Panel Report, para. 7.41.

¹⁷³⁴Panel Report, para. 7.205. See United States' response to Panel Question 365, para. 199.

¹⁷³⁵Panel Report, para. 7.205.

¹⁷³⁶Business and Occupation Tax – Differential Tax Rates, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-191).

¹⁷³⁷Panel Report, para. 7.205 (referring to Business and Occupation Tax, *Revised Code of Washington*, section 82.04 (Panel Exhibit US-179); and Washington State Tax Structure Study, "Tax Alternatives for Washington State: A Report to the Legislature" (November 2002), Vol. 1 (Panel Exhibit US-180).

¹⁷³⁸Panel Report, para. 7.205

commercial aircraft and component manufacturers and the other differential tax rates form part of the same subsidy scheme.

856. We therefore consider that the Panel had a proper basis to conclude that the differential B&O tax rates set out in the *Revised Code of Washington* do not form part of a common subsidy programme.

857. As the Appellate Body has explained, it may be that a provisional indication in respect of specificity within the meaning of Article 2.1(a) will require further analysis under Article 2.1(b).¹⁷³⁹ We note that neither party has advanced arguments in this case concerning the applicability of Article 2.1(b) to the B&O tax rate reduction for commercial aircraft and component manufacturers. Moreover, as we have explained above, the only criterion for attracting the reduced tax rate under House Bill 2294 is that the subject business is engaged in activities of commercial aircraft or component manufacturers. We do not consider that this satisfies the requirement in footnote 2 to the *SCM Agreement* that "{o}bjective criteria or conditions" be neutral, not favour certain enterprises over others, and be economic in nature and horizontal in application. Indeed, this measure appears expressly targeted so as to limit the application of a particular tax rate reduction to a discrete category of business activity carried out by certain enterprises within a particular industry. Thus, we do not see that application of Article 2.1(b) to the challenged measures alters the analysis in respect of specificity. Finally, because the foregoing analysis indicates that there is an explicit limitation on access to a subsidy to certain enterprises, we do not consider that further analysis under Article 2.1(c) is warranted.

858. For the foregoing reasons, we *uphold* the Panel's finding, in paragraph 7.205 of the Panel Report, that the Washington State B&O tax rate reduction granted under House Bill 2294 is a subsidy that is specific within the meaning of Article 2.1(a) of the *SCM Agreement*.

¹⁷³⁹Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 950. See also Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China)*, para. 369: "We can conceive, for example, of situations in which an initial indication of specificity under Article 2.1(a) may need to be considered further if additional evidence demonstrates that the subsidy in question is available on the basis of objective criteria or conditions within the meaning of Article 2.1(b)."

IX. City of Wichita Industrial Revenue Bonds (IRBs) – Specificity

859. We next turn to the United States' appeal of the Panel's finding that the IRB subsidies provided by the City of Wichita are a specific subsidy within the meaning of Article 2.1(c) of the *SCM Agreement*. We begin, in section A, with a brief background on the IRBs issued to Boeing and Spirit, followed by a summary, in section B, of the Panel's findings in respect of this measure. In section C, we assess the United States' claim on appeal.

A. Background

860. As a general matter, IRBs are issued by the City of Wichita to the general public on behalf of a qualifying private entity, the proceeds of which are used to purchase, construct, or improve commercial or industrial property for that entity.¹⁷⁴⁰ The City of Wichita holds title to the property during the term of the IRB, and leases the property to the private entity in exchange for rent payments sufficient to cover the payment of principal and interest on the IRB to the public bondholders. During the term of the IRB, the private entity benefits from exemptions from certain interest rate, property, and sales taxes. At the conclusion of the IRB term, title to the property transfers to the private entity involved. The IRB scheme operated somewhat differently for Boeing, and subsequently Spirit (which acquired Boeing's Wichita division in June 2005), because the IRBs at issue, rather than being purchased by the public, were purchased by Boeing and Spirit themselves. This meant that Boeing and Spirit funded their own property development through the IRBs. Boeing and Spirit thus used IRBs, not for the purpose of financing property development, but rather to take advantage of property and sales tax exemptions associated with the IRBs. The City of Wichita has issued IRBs to Boeing and Spirit every year since 1979.

B. The Panel's Findings

861. The Panel first considered the challenged measure under Article 2.1(a) of the *SCM Agreement*. Noting that the European Communities had not submitted arguments in respect of that provision, the Panel considered that the relevant Kansas State statutory provisions authorizing the issuance of IRBs by Kansas cities and counties did not expressly limit the availability of the subsidy within the meaning of Article 2.1(a).¹⁷⁴¹ The Panel therefore turned to consider the European Communities' claim of specificity under Article 2.1(c) of the *SCM Agreement*. Although the Panel assessed each of the factors under Article 2.1(c), its ultimate finding of specificity relied on

¹⁷⁴⁰This description is drawn from paragraphs 7.648 to 7.664 of the Panel Report. Although relevant details concerning the IRBs are set out in this section of our Report, we note that Part IV contains a more detailed description of the challenged measure.

¹⁷⁴¹Panel Report, para. 7.743.

its consideration of the European Communities' arguments that Boeing and Spirit were granted disproportionately large amounts of IRB subsidies. The Panel considered that there were two issues it needed to examine. First, the Panel sought to establish "the correct interpretation of 'disproportionality', including what ratios need{ed} to be compared in this analysis".¹⁷⁴² Second, the Panel sought to determine whether the European Communities "ha{d} adequately substantiated its argument that the City of Wichita granted Boeing and Spirit IRB tax abatements in a disproportionate amount".¹⁷⁴³

862. The Panel considered that, in assessing whether a subsidy granted to certain enterprises is "disproportionately large", it was "necessary to convert the amount of the subsidy into a ratio by comparing it to something else that is 'whole'", and then to assess that ratio "to determine whether it is lacking proportion".¹⁷⁴⁴ The Panel agreed with the parties that, when a subsidy has been granted under a subsidy programme, that programme should ordinarily serve as the "whole" against which the subsidies to "certain enterprises" can be compared. The Panel considered that this approach finds support in the text of the final sentence of Article 2.1(c), which provides that, when applying the subparagraph, it is necessary to take into account the length of time during which "the subsidy programme" has been in operation.¹⁷⁴⁵

863. The Panel noted that there is no explicit guidance in the text of Article 2.1(c) regarding against what the relative amount of subsidy received by Boeing and Spirit should be compared. The European Communities contended that a second ratio should be used consisting of information about Boeing, such as employment levels, relative to comparable information relating to the entire economy in the jurisdiction of the granting authority. By contrast, the United States argued that the second ratio should compare the information about Boeing, such as employment levels, with comparable information about the group of recipients of the alleged subsidy.¹⁷⁴⁶

864. The Panel found problematic both ratios advocated by the parties.¹⁷⁴⁷ The Panel considered that there was some textual support for the European Communities' approach found in the last sentence of Article 2.1(c), which requires that "the extent of diversification of economic activities within the jurisdiction of the granting authority" be taken into account in applying the subparagraph. In determining whether the amount of subsidy granted to certain enterprises is lacking proportion, the Panel observed that comparing the percentage of subsidy received by the "certain enterprises" with

¹⁷⁴²Panel Report, para. 7.753.

¹⁷⁴³Panel Report, para. 7.753.

¹⁷⁴⁴Panel Report, para. 7.754.

¹⁷⁴⁵Panel Report, para. 7.755.

¹⁷⁴⁶Panel Report, para. 7.759.

¹⁷⁴⁷Panel Report, para. 7.760.

their position within the entire economy is one way in which the diversification of the economy in the jurisdiction of the granting authority can be taken into account.

865. The Panel considered, however, that there were problems with the European Communities' approach. First, assuming that disproportionality is established by means of any discrepancy, however small, between two ratios under consideration, the Panel observed that any limit on the availability of a subsidy would result in disproportionate distribution of that subsidy. The Panel explained that, for instance, "in circumstances where a subsidy may be broadly available throughout an economy, with 90 per cent of enterprises receiving it, a comparison of the ratio of the amount of subsidy received by each enterprise, or set of 'certain enterprises', with their contribution to the wider economy (including the 10 per cent of enterprises that did not receive the subsidy) will necessarily result in at least one enterprise or set of 'certain enterprises' receiving an amount of subsidy in disproportion to its contribution to the economy."¹⁷⁴⁸ In the Panel's view, the European Communities' approach to the specificity analysis contradicts the approach taken by prior panels, such as the panel in *US – Upland Cotton*, which held that there is a tipping point, which is not subject to rigid quantitative definition, at which a subsidy becomes sufficiently broadly available throughout an economy as to become non-specific. According to the Panel, in *US – Upland Cotton*, "the panel indicated that something less than universal availability can lead to a finding of non-specificity."¹⁷⁴⁹

866. The Panel thus observed that Article 2 of the *SCM Agreement* does not expressly indicate the level of strictness associated with the limit on access to the subsidy for it to be specific. As a result, it may have been possible to find a subsidy to be specific whenever there was any limit on its availability. The Panel added, however, that this is not the way in which Article 2 has been interpreted in prior disputes. The Panel maintained, therefore, that the European Communities' approach leads to "a finding that a subsidy has been granted in disproportionately large amounts by reason of the existence of a restriction on its availability but where otherwise the subsidy would be considered to be broadly available throughout the economy and therefore non-specific."¹⁷⁵⁰

867. The Panel considered that the United States' approach to the disproportionality analysis was also problematic. The Panel stated that, while it is difficult to find support in the text or context of Article 2 of the *SCM Agreement* for limiting the benchmark to the group of subsidy recipients, the United States' approach is more mathematically logical than that of the European Communities.¹⁷⁵¹

¹⁷⁴⁸ Panel Report, para. 7.762.

¹⁷⁴⁹ Panel Report, para. 7.762.

¹⁷⁵⁰ Panel Report, para. 7.763.

¹⁷⁵¹ Panel Report, para. 7.764.

The reason for this is that, in comparing the ratio of the amount of subsidy that Boeing and Spirit received in relation to the entire group of recipients of the subsidy with the ratio of Boeing's and Spirit's employment levels in relation to the aggregated employments levels of the group of recipients of the subsidy, like is compared with like, as both ratios have the same denominator. The Panel considered that, under the United States' approach, "it is always at least possible to find that a subsidy has not been granted to 'certain enterprises' in a disproportionate amount in circumstances where there is some limit on the subsidy's availability."¹⁷⁵²

868. The Panel explained, however, that the United States' approach was also difficult to reconcile with the purpose of Article 2 of the *SCM Agreement*, which is to determine whether a subsidy is sufficiently broadly available throughout an economy so as not to benefit "certain enterprises". Under the United States' approach, the Panel reasoned, a subsidy may be granted to only two or three enterprises, "and as long as these two or three enterprises receive the subsidy in proportion to their relative economic contributions *as compared to each other*, the disproportionality analysis does not point to any problem of specificity."¹⁷⁵³ The Panel added that, where one enterprise receives 100% of the subsidy, this will never lead to a finding that the enterprise receives a disproportionately large amount of subsidy, because the enterprise also makes up 100% of the economic activity of the subsidy recipients.

869. Although the Panel considered that neither of the approaches suggested by the parties was completely satisfactory, it noted that the European Communities had at least some support for its approach in the text of Article 2.1(c). Further, the Panel observed, "the problem that *any* limit on the availability of the subsidy leads to a finding of disproportionality may be overcome somewhat if disproportion is interpreted to mean a *significant* disparity between the two relevant ratios, rather than any discrepancy, however small."¹⁷⁵⁴ The Panel considered that this was not an unreasonable reading of Article 2.1(c) "because, in any event, it would seem unduly strict to require exact correspondence between the proportion of subsidy granted to certain enterprises with the enterprises' relative economic importance, as judged by an unspecified economic indicator".¹⁷⁵⁵

¹⁷⁵²Panel Report, para. 7.764.

¹⁷⁵³Panel Report, para. 7.765. (original emphasis)

¹⁷⁵⁴Panel Report, para. 7.768. (original emphasis)

¹⁷⁵⁵Panel Report, para. 7.768. The Panel also considered the approach advocated by Australia, in which the baseline group against which the economic position of the "certain enterprises" is compared is the group of entities that are *potentially* able to make use of the subsidy. The Panel concluded that, given the broad eligibility for the IRBs in this case, employing Australia's approach would unlikely differ significantly from the European Communities' approach of examining the position of Boeing and Spirit in the overall economy. (See *ibid.*, paras. 7.767 and 7.768)

870. Turning to the facts of the case, the Panel noted the European Communities' assertion that Boeing and Spirit received 69% of the IRBs that included tax abatements issued between 1979 and 2005, but that Spirit, after it had acquired Boeing's LCA operations in Wichita, accounted for 3.5% of total employment or 16% of manufacturing employment in Wichita.¹⁷⁵⁶ The Panel further noted that the European Communities was prepared to accept the United States' argument that Boeing's employment levels during most of the period over which the IRBs were issued were double those of Spirit, but that 32% of manufacturing employment was still disproportionate to a ratio of 69%. The Panel concluded that "there is a significant disparity between the proportion of IRBs received by Boeing and Spirit and their place within the goods sector of the economy, as indicated by the proportion of the sector they employ."¹⁷⁵⁷ The Panel acknowledged the United States' argument that comparing the proportion of subsidy received by Boeing and Spirit with the proportion of the economy they employed is not the fact-specific inquiry required for a specificity analysis, but considered that, "given the significance of the disparity between the figures, it constitutes a prima facie case of disproportionality", and that "the United States has not provided a convincing rebuttal of this prima facie case."¹⁷⁵⁸ Accordingly, the Panel found that the IRB tax abatements granted to Boeing and Spirit were disproportionately large, and therefore specific to "certain enterprises" within the meaning of Article 2.1(c) of the *SCM Agreement*.

C. *Assessment of the Panel's Analysis under Article 2.1(c) of the SCM Agreement*

871. The United States challenges the Panel's finding that the IRB subsidies were granted in disproportionately large amounts within the meaning of Article 2.1(c) of the *SCM Agreement* and, in particular, the Panel's decision to use company-specific employment levels of Boeing and Spirit, relative to total manufacturing employment in the City of Wichita, as the benchmark for its disproportionality analysis. The United States considers that "the Panel's approach, by focusing on a single numerical ratio, and using the total level of manufacturing employment within the jurisdiction of the granting authority as its baseline, does not provide a valid benchmark for what a subsidy like the IRBs would be proportional to."¹⁷⁵⁹ The United States further maintains that the Panel erred by

¹⁷⁵⁶Panel Report, para. 7.769.

¹⁷⁵⁷Panel Report, para. 7.769.

¹⁷⁵⁸Panel Report, para. 7.769. The Panel remarked that the United States had argued "at a relatively high level of generality" that the degree of diversification in the Wichita economy was low, but had not presented any statistics to indicate that Boeing and Spirit accounted for anything approximating 69% of the economic activity in Wichita. (*Ibid.*)

¹⁷⁵⁹United States' other appellant's submission, para. 186. (emphasis omitted)

failing to take into account the extent of diversification of economic activities in the City of Wichita.¹⁷⁶⁰

872. The European Union argues that the United States has failed to establish that the Panel erred in its disproportionality analysis. In the European Union's view, the Panel correctly concluded that the United States had not provided a convincing rebuttal of the European Communities' *prima facie* case.¹⁷⁶¹ In particular, the European Union argues, the United States failed to present any evidence to demonstrate that the share of IRB benefits received by Boeing and Spirit indeed reflected its participation in the Wichita economy, or that reliance on employment levels as a measure of economic participation was misleading.¹⁷⁶² The European Union further argues that the Panel considered economic diversification when it evaluated Boeing's and Spirit's relative share of employment in the manufacturing sector in the City of Wichita.¹⁷⁶³

873. In considering this claim on appeal, we must bear in mind the overall framework set out in Article 2.1 of the *SCM Agreement*. As we have explained in Part VII, subparagraphs (a) through (c) of Article 2.1 are to be considered within an analytical framework that recognizes and accords appropriate weight to each principle, and which allows for their concurrent application. We have also noted that the structure of Article 2.1 suggests that the specificity analysis will ordinarily proceed in a sequential order by which subparagraph (c) is examined following an assessment under subparagraphs (a) and (b).

874. In this dispute, although the European Communities did not present a claim of specificity with reference to subparagraphs (a) or (b), the Panel nevertheless proceeded to examine specificity within the meaning of Article 2.1(a). According to that provision, specificity exists where a granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to "certain enterprises", defined in the chapeau to Article 2.1 as "an enterprise or industry or group of enterprises or industries". The Panel noted that the European Communities had not attempted to argue that the tax abatements provided through the issuance of IRBs are specific under Article 2.1(a), and added that "it is clear that this is not the case."¹⁷⁶⁴ The Panel considered that the relevant Kansas State statutory provisions "do not expressly limit the availability of the subsidy such that it is not broadly available throughout the economy", and that this is in accordance with the legislation's broad purpose, which, the Panel found, "does not include any suggestion of an intent to

¹⁷⁶⁰United States' other appellant's submission, para. 191.

¹⁷⁶¹European Union's appellee's submission, para. 277 (referring to Panel Report, para. 7.769).

¹⁷⁶²European Union's appellee's submission, para. 277 (referring to Panel Report, para. 7.769).

¹⁷⁶³European Union's appellee's submission, para. 292.

¹⁷⁶⁴Panel Report, para. 7.743.

limit the issuance of IRBs to 'certain enterprises' within the meaning of Article 2.1(a)".¹⁷⁶⁵ The Panel then set out a provision of the Kansas State statute, which provides as follows:

It is the purpose of this act to promote, stimulate and develop the general welfare and economic prosperity of the state of Kansas through the promotion and advancement of physical and mental health, industrial, commercial and agricultural, natural resources and of recreational development in the state; to encourage and assist in the location of new business and industry in this state and the expansion, relocation or retention of existing business, industry and health development; and to promote the economic stability of the state by providing greater employment opportunities, diversification of industry and improved physical and mental health, thus promoting the general welfare of the citizens of this state by authorizing all cities and counties of the state to issue revenue bonds.¹⁷⁶⁶

875. The Panel's conclusion that the IRB subsidies are not specific within the meaning of Article 2.1(a) has not been raised on appeal. The authorizing statute expresses eligibility for IRB benefits in very broad terms, noting no limitations on access to a particular enterprise or industry or group of enterprises or industries. The statute also indicates that its purpose is to encourage new business to locate in Kansas State, to assist in the retention of existing business, and to promote economic stability through the diversification of industry. These and other indicators point to broad access to IRB benefits without any apparent limitation to a particular enterprise or industry, or group thereof.

876. The Panel then proceeded to analyze whether there was a basis for finding specificity in fact under Article 2.1(c) of the *SCM Agreement*.¹⁷⁶⁷ Article 2.1(c) provides that, "{i}f, notwithstanding any appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b), there are reasons to believe that the subsidy may in fact be specific, other factors may be considered." This sentence makes clear that the application of Article 2.1(c) proceeds on the basis of the conclusions reached as a result of the application of the preceding subparagraphs of Article 2.1. We therefore consider that it was correct for the Panel to assess whether the legislation pursuant to which the IRBs were granted explicitly limited access to certain enterprises within the meaning of Article 2.1(a), even though it was not claimed by the European Communities. Having found that the IRB subsidies are not specific within the meaning of Article 2.1(a), analysis by the Panel under Article 2.1(b) was not necessary.

¹⁷⁶⁵Panel Report, para. 7.743 (referring to *Kansas Annotated Statute*, sections 12-1740 ff (2001) (Panel Exhibit EC-167).

¹⁷⁶⁶*Kansas Annotated Statute*, section 12-1740 (2001) (Panel Exhibit EC-167).

¹⁷⁶⁷Panel Report, para. 7.744.

877. We have explained that Article 2.1(c) proceeds where "there are reasons to believe that the subsidy may in fact be specific". This means that, having reached the conclusion that there is an "appearance of non-specificity" following the application of the principles set out in Article 2.1(a) and (b), a panel must consider whether, in the light of the arguments and evidence submitted by the parties, there are "reasons" for it to consider that an assessment under Article 2.1(c) is warranted. The inquiry under Article 2.1(c) thus focuses on whether a subsidy, although not apparently limited to certain enterprises from a review of the relevant legislation or express acts of a granting authority, is nevertheless allocated in a manner that belies the apparent neutrality of the measure. This inquiry requires a panel to examine the reasons as to why the actual allocation of "amounts of subsidy" differs from an allocation that would be expected to result if the subsidy were administered in accordance with the conditions for eligibility for that subsidy.

878. We have also explained that the "reasons to believe that the subsidy may in fact be specific" relate to the factors set out in subparagraph (c). The second sentence of Article 2.1(c) prescribes the following factors for consideration: (i) use of a subsidy programme by a limited number of certain enterprises; (ii) predominant use by certain enterprises; (iii) the granting of disproportionately large amounts of subsidy to certain enterprises; and (iv) the manner in which discretion has been exercised by the granting authority in the decision to grant a subsidy.¹⁷⁶⁸ The third sentence of Article 2.1(c) adds that, in applying this provision, account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority, as well as of the length of time during which the subsidy programme has been in operation. These elements define the terrain for assessing whether subsidies, which may have appeared non-specific following the application of Article 2.1(a) and (b), are nevertheless specific in fact. Which elements are relevant to the analysis of specificity under Article 2.1(c) will be a function of what reasons there are to believe that the subsidy may in fact be specific. We would expect a panel to remain open to the applicability of each of the elements set out in Article 2.1(c), and to the possibility that a conclusion in respect of specificity in fact may, depending on the circumstances of the case, rely on an assessment of one, several, or all of those elements.

879. In this dispute, the Panel conducted an analysis of the IRBs under each of the factors set out in Article 2.1(c). However, the factor on which the Panel based its specificity finding, and which is directly at issue on appeal, concerns "the granting of disproportionately large amounts of subsidy to certain enterprises". Article 2.1(c) does not offer clear guidance as to how to measure whether certain enterprises are "grant{ed} disproportionately large amounts of subsidy". The language of

¹⁷⁶⁸Footnote 3 to Article 2.1(c) specifies that, "in particular, information on the frequency with which applications for a subsidy are refused or approved and the reasons for such decisions shall be considered."

Article 2.1(c) indicates that the first task is to identify the "amounts of subsidy" granted. Second, an assessment must be made as to whether the amounts of subsidy are "disproportionately large". This term suggests that disproportionality is a relational concept that requires an assessment as to whether the amounts of subsidy are out of proportion, or relatively too large.¹⁷⁶⁹ When viewed against the analytical framework set out above regarding Article 2.1(c), this factor requires a panel to determine whether the actual allocation of the "amounts of subsidy" to certain enterprises is too large relative to what the allocation would have been if the subsidy were administered in accordance with the conditions for eligibility for that subsidy as assessed under Article 2.1(a) and (b). In our view, where the granting of the subsidy indicates a disparity between the expected distribution of that subsidy, as determined by the conditions of eligibility, and its actual distribution, a panel will be required to examine the reasons for that disparity so as ultimately to determine whether there has been a granting of disproportionately large amounts of subsidy to certain enterprises.

880. On this basis, we turn to examine the allocation of IRB subsidies granted to Boeing and Spirit by the City of Wichita, and the reasons why such amounts of subsidy may or may not be disproportionately large.

881. The European Communities claimed in its first written submission that Boeing and Spirit received a disproportionately large amount of IRB subsidies issued by the City of Wichita between 1979 and 2005, because these companies were granted 61% of all IRBs, and 69% of all IRBs that included property tax abatements.¹⁷⁷⁰ The United States sought to rebut this claim by arguing that the fact that Boeing and Spirit received a significant share of IRBs was "unremarkable", because Boeing was "the largest private sector employer for the entire State of Kansas" and "aircraft production has historically been the core industry of Wichita".¹⁷⁷¹ The United States added that, "i}n the 1990s, Boeing's employment levels in Wichita exceeded 20,000 in some years with a payroll of approximately \$1 billion".¹⁷⁷²

882. In its second written submission, the European Communities argued that "o}ne way to assess the relative importance of a company within a local economy is to consider the company's employment as a percentage of local employment."¹⁷⁷³ In support of its argument, the

¹⁷⁶⁹The term "disproportionate" signifies "{l}acking proportion; poorly proportioned; out of proportion (*to*); relatively too large or too small"; and the term "proportion" refers to "{a} portion, a part, a share, esp. in relation to a whole; a relative amount or number". (*Shorter Oxford English Dictionary*, 6th edn, A. Stevenson (ed.) (Oxford University Press, 2007), Vol. 1, p. 713 and Vol. 2, p. 2372, respectively)

¹⁷⁷⁰Panel Report, para. 7.714 (referring to European Communities' first written submission to the Panel, paras. 336 and 337).

¹⁷⁷¹United States' first written submission to the Panel, para. 613. (emphasis and footnote omitted)

¹⁷⁷²United States' first written submission to the Panel, para. 613. (footnote omitted)

¹⁷⁷³European Communities' second written submission to the Panel, para. 249.

European Communities noted that, in 2006, Spirit's employment levels amounted to 16% of manufacturing employment in Wichita.¹⁷⁷⁴ The United States responded that this analysis failed to account for the diversification of economic activities within the City of Wichita, as required by Article 2.1(c), and that the European Communities' reliance on the employment metric in isolation reflected an insufficient inquiry under Article 2.1(c) and was, in any event, misleading, because Boeing's employment was more than double that of Spirit's during the relevant period.¹⁷⁷⁵ The European Communities countered that it had taken account of diversification of economic activities within Wichita by showing that "Boeing's share of Wichita IRBs is disproportionate, even taking into account Boeing's significance in the local economy"¹⁷⁷⁶ as measured by employment data. The European Communities also noted that, even accepting the contention that Boeing's employment levels were double those of Spirit, the resulting figure of 32% of overall local manufacturing employment still supports its argument that Boeing and Spirit were granted disproportionately large amounts of IRB subsidies.¹⁷⁷⁷

883. As we understand it, IRBs are potentially available to enterprises that seek to purchase, construct, or improve various types of commercial or industrial property.¹⁷⁷⁸ Thus, enterprises that would seek to have the City of Wichita issue IRBs on their behalf are those that intend to invest in property development. In any given year, not all enterprises in Wichita will be undertaking such property development, and, even if they were, they may not be inclined to fund such development through the IRB scheme. We therefore consider it likely that, although the legal basis for the allocation of IRBs may seemingly be broadly available to enterprises in Wichita, the enterprises that are actually in a position to avail themselves of IRB benefits at any given time represent only a subset of all enterprises in Wichita. Nevertheless, even if the benefits of IRBs are limited to those enterprises actually in a position to seek them, we would expect, on the basis of the conditions established for eligibility for IRBs, a wide distribution of those benefits across various sectors of the Wichita economy.¹⁷⁷⁹ Where the actual distribution of a subsidy deviates materially from the expected distribution of that subsidy, a panel would need to examine the reasons provided by the parties to explain that outcome.

¹⁷⁷⁴Panel Report, para. 7.769; European Communities' second written submission to the Panel, para. 249.

¹⁷⁷⁵United States' response to Panel Question 46, paras. 124 and 125.

¹⁷⁷⁶European Communities' comments on the United States' response to Panel Question 46, para. 152.

¹⁷⁷⁷Panel Report, para. 7.769; European Communities' comments on the United States' response to Panel Question 46, para. 153.

¹⁷⁷⁸Panel Report, para. 7.651.

¹⁷⁷⁹At the oral hearing, the United States referred to an exhibit that indicates that potential IRB recipients must, among other qualifications, engage in one of the following activities: manufacturing, service sector, research and development, warehousing and distribution, corporate headquarters, transportation, commercial redevelopment, tourism, affordable housing, and medical services. (See City of Wichita/Sedgwick County Economic Development Incentives Policy (Panel Exhibit EC-190))

884. In this dispute, the European Communities submitted to the Panel that Boeing and its successor, Spirit, received approximately 69% of all IRBs granted by the City of Wichita between 1979 and 2005. The Panel noted no objection by the United States to this ratio, and considered that it was reasonable to rely on it in assessing Boeing's and Spirit's share of property tax abatements with the total amount of property tax abatements received by all IRB holders.¹⁷⁸⁰ Even taking into account the fact that not all enterprises in Wichita would, at any given time, wish to enjoy the benefits of IRBs in respect of property development, we would nonetheless expect that the allocation of such benefits over the 25-year period between 1979 and 2005 would have produced a wider distribution of those benefits across different sectors of the Wichita economy. The fact that Boeing and its successor received over two thirds of all IRB property tax abatements from the City of Wichita over a 25-year period, in our view, provides a reason to believe that the IRB subsidies were granted in disproportionately large amounts to certain enterprises.¹⁷⁸¹

885. In this dispute, the European Communities and the United States engaged in considerable debate over the proper scope of a second ratio measuring the economic participation of Boeing and Spirit that, when compared against the 69% figure, could demonstrate whether the amounts of IRB subsidies provided to Boeing and Spirit were disproportionately large.¹⁷⁸² The European Communities had argued before the Panel that the second ratio should consist of information about Boeing and Spirit relative to comparable information relating to the entire economy in the jurisdiction of the granting authority; whereas the United States had argued that the second ratio should compare such information about Boeing and Spirit with comparable information relating to the group of recipients of the alleged subsidy.¹⁷⁸³ In addition, the European Communities and the United States disagreed over whether employment data was the appropriate metric to rely upon in measuring the economic participation of Boeing and Spirit.¹⁷⁸⁴ It was on the basis of this debate that the Panel accepted the European Communities' argument that the 69% figure demonstrated

¹⁷⁸⁰Panel Report, paras. 7.755 and 7.756.

¹⁷⁸¹We also note the Panel's conclusion that, together with another aircraft manufacturer (Cessna Aircraft Company), these entities received more than 78% of relevant IRBs during this period. (Panel Report, para. 7.751)

¹⁷⁸²Panel Report, para. 7.759.

¹⁷⁸³Panel Report, para. 7.759. The Panel recognized limitations in both benchmarks advanced by the parties, noting that each produced anomalous results. If the scope of the benchmark is economic participation within the entire economy, the use of that benchmark is likely to produce disparities in the comparison between the subsidy allocations and economic participation that reflects some disproportionality. (See *ibid.*, paras. 7.761 and 7.762) If the scope of the benchmark is limited to subsidy recipients, a subsidy distributed to an entity or group of entities constituting certain enterprises will likely indicate some disproportionality, because that entity or group of entities will also constitute 100% of the economic activity of subsidy recipients. (See *ibid.*, para. 7.765)

¹⁷⁸⁴European Communities' second written submission, paras. 249 and 250; United States' response to Panel Question 46, para. 124.

disproportionality when measured against evidence that Boeing and Spirit amounted to no more than 32% of manufacturing employment in Wichita.¹⁷⁸⁵

886. We do not consider that the focus by the parties and the Panel on determining what share of employment Boeing and Spirit had within the Wichita economy is particularly relevant to the inquiry of whether the IRB subsidies granted to Boeing and Spirit were disproportionately large. As we have explained, a panel's inquiry under Article 2.1(c) should focus on the reasons that explain any disparity between the actual and expected distributions of a subsidy. On appeal, the United States seeks to explain why the fact that Boeing and Spirit were granted 69% of IRB benefits does not indicate the granting of disproportionately large amounts of subsidy. The United States argues that IRBs are not available to the entire economy of Wichita, and that, as a result, calculating Boeing's and Spirit's share of economic participation as a ratio of employment levels of the entire Wichita manufacturing sector is not informative. As the United States argues, "only those companies that fund, construct or improve industrial and/or commercial property during the relevant time period actually had access to the IRB program", and there is therefore no reason to assume "that there is necessarily a logical and 'proportionate' relationship between the number of employees of a particular company or group of companies as compared to all employment in the Wichita manufacturing sector, and the amount of IRB tax benefits received".¹⁷⁸⁶ It would have made much more sense, the United States argues, to take a look at "qualifying investments" during the relevant period of time—that is, "those companies that actually made investments in industrial or commercial property".¹⁷⁸⁷

887. We agree that examining qualifying investments would have been a reasonable basis on which to show why the 69% figure does not indicate that IRB subsidies were granted in disproportionately large amounts. In particular, such a showing may have explained why, for IRB benefits seemingly broadly available over a 25-year period to enterprises seeking to develop commercial or industrial property, one company and its successor received over two thirds of those benefits. However, we do not see on the Panel record that the United States provided evidence in support of such an explanation.

¹⁷⁸⁵Panel Report, para. 7.769.

¹⁷⁸⁶United States' other appellant's submission, para. 184. (footnote omitted)

¹⁷⁸⁷United States' other appellant's submission, para. 184.

888. Instead, the United States advanced the generalized arguments that the Wichita economy is undiversified, that the "core industry of Wichita has focused on aircraft production", and that Wichita is sometimes known as the "Air Capital of the World".¹⁷⁸⁸ We do not see, however, that the United States put forward evidence to demonstrate that, even taking into account the particular focus in Wichita on aircraft manufacturing, Boeing and Spirit would be expected to receive over two thirds of IRB subsidies. On this basis, we agree with the Panel's assessment that the United States' arguments regarding the diversification of the Wichita economy were made only at "a relatively high level of generality".¹⁷⁸⁹ In sum, we do not see that the United States provided sufficient reasons supported by evidence to undermine the assessment that the granting to Boeing and Spirit of 69% of the amounts of IRB subsidy represents an allocation at variance from what would have been expected from the allocation of IRBs in accordance with their conditions for eligibility.

889. For the foregoing reasons, we *uphold*, albeit for different reasons, the Panel's finding, in paragraph 7.779 of the Panel Report, that the IRB subsidies provided by the City of Wichita to Boeing and Spirit are specific within the meaning of Article 2.1(c) of the *SCM Agreement*.

X. Adverse Effects

A. Introduction

890. After finding 15 measures to constitute specific subsidies in the collective amount of "at least \$5.3 billion"¹⁷⁹⁰, the Panel proceeded to evaluate the European Communities' claims that it had suffered adverse effects to its commercial interests in the form of serious prejudice within the meaning of Articles 5(c) and 6.3(a), (b), and (c) of the *SCM Agreement*. In its analysis, the Panel separated these subsidy measures into three groups, identified three relevant product markets, and considered two mechanisms¹⁷⁹¹ (by affecting Boeing's *prices*, and by affecting the development of *technologies* for use on a new Boeing LCA model) through which the subsidies were alleged to cause serious prejudice. This taxonomy, along with the Panel's ultimate findings, are set out in Table 2, and then explained in more detail in the next part of this section.

¹⁷⁸⁸United States' other appellant's submission, para. 191 (referring to Panel Report, para. 7.752; and quoting United States' first written submission to the Panel, para. 607; and Greater Wichita Convention and Visitors Bureau, "Aviation and Wichita" (Panel Exhibit US-250), respectively).

¹⁷⁸⁹Panel Report, para. 7.769.

¹⁷⁹⁰Panel Report, paras. 7.1433 and 7.1700.

¹⁷⁹¹Panel Report, para. 7.1596.

Table 2. Structure and summary of the European Communities' claim and the Panel's finding on adverse effects

Product market (Boeing and Airbus LCA in that market)	Serious prejudice alleged	Serious prejudice found
<p>100-200 seat LCA market</p> <p>(737NG and A320)</p>	<p>All of the subsidies had price effects which caused:</p> <ul style="list-style-type: none"> • significant price suppression of the A320, or threat thereof • significant lost sales of the A320, or threat thereof • displacement and impedance of EC exports of the A320 from various third-country markets, or threat thereof 	<p>The FSC/ETI subsidies and the Washington State B&O tax rate reduction affected Boeing's pricing of the 737NG, and this caused:</p> <ul style="list-style-type: none"> • significant price suppression of the A320 • significant lost sales of the A320 • displacement and impedance of EC exports of the A320 from third-country markets
<p>200-300 seat LCA market</p> <p>(767, 787, A330, Original A350, and A350XWB-800)</p>	<p>All of the subsidies had price effects, and the aeronautics R&D subsidies also had technology effects, and both types of effects caused:</p> <ul style="list-style-type: none"> • significant price suppression of the A330, Original A350, and A350XWB-800, or threat thereof • significant lost sales of the A330 and Original A350, or threat thereof • displacement and impedance of EC exports of the A330 and Original A350 from various third-country markets, or threat thereof • displacement and impedance of EC imports of the A330 and Original A350 into the United States, or threat thereof 	<p>The aeronautics R&D subsidies affected Boeing's development of technologies for the 787, and this caused:</p> <ul style="list-style-type: none"> • significant price suppression of the A330 and Original A350 • significant lost sales of the A330 and Original A350 • threat of displacement and impedance of EC exports of the A330 and Original A350 from third-country markets
<p>300-400 seat LCA market</p> <p>(777, A340, and A350XWB-900/ -1000)</p>	<p>All of the subsidies had price effects which caused:</p> <ul style="list-style-type: none"> • significant price suppression of the A340, or threat thereof • significant lost sales of the A340, or threat thereof • displacement and impedance of EC exports of the A340 from various third-country markets, or threat thereof 	<p>The FSC/ETI subsidies and the Washington State and City of Everett B&O tax rate reductions affected Boeing's pricing of the 777, and this caused:</p> <ul style="list-style-type: none"> • significant price suppression of the A340 • significant lost sales of the A340 • displacement and impedance of EC exports of the A340 from third-country markets

891. Before the Panel, the European Communities argued that 31 subsidy measures, alleged to amount to a total of \$19.1 billion¹⁷⁹², had caused serious prejudice in the form of significant price suppression and significant lost sales, and a threat thereof, in the world market within the meaning of Articles 5(c) and 6.3(c) of the *SCM Agreement*, as well as displacement and impedance of imports and exports, respectively, of Airbus LCA in the United States and third-country markets, and a threat thereof, within the meaning of Articles 5(c) and 6.3(a) and (b) of the *SCM Agreement*.¹⁷⁹³ According to the European Communities, "all of the subsidies ha{d} ... 'price effects' in that they ... enabled Boeing to charge lower prices for its LCA".¹⁷⁹⁴ Furthermore, the European Communities argued that one group of subsidies—the aeronautics R&D subsidies—also had "technology effects" in one of three relevant product markets, in that such subsidies enabled Boeing to research, design, develop, launch, produce, and sell its technologically innovative 787 family of LCA years earlier than would otherwise have been possible.¹⁷⁹⁵ These price and technology effects in turn adversely affected sales, market share, and prices of the competing Airbus LCA in the relevant product markets, according to the European Communities.¹⁷⁹⁶

892. The number of measures that the Panel found to be specific subsidies (15 measures) and their total amount ("at least \$5.3 billion"¹⁷⁹⁷) were both less than had been alleged by the European Communities. For purposes of its analysis of serious prejudice, the Panel separated these subsidies into three groups, which we refer to as the "aeronautics R&D subsidies"; the "tied tax subsidies"; and the "remaining subsidies".¹⁷⁹⁸

¹⁷⁹²Panel Report, para. 7.1606. The European Communities further estimated that Boeing would receive an additional \$4.6 billion in subsidies from 2007-2024. (*Ibid.*)

¹⁷⁹³Panel Report, para. 7.1592 (referring to European Communities' first written submission to the Panel, para. 1000); see also para. 7.1594. The European Communities alleged that certain of these subsidies were also prohibited subsidies (*ibid.*, para. 3.1), and the Panel found that one group of subsidy measures, namely, the FSC/ETI subsidies, were prohibited subsidies (*ibid.*, para. 8.2(a)).

¹⁷⁹⁴European Union's appellant's submission, para. 194 (quoting Panel Report, para. 7.1598 (original emphasis), in turn referring to European Communities' first written submission to the Panel, para. 1229).

¹⁷⁹⁵Panel Report, paras. 7.1596 and 7.1597 (referring to European Communities' first written submission to the Panel, paras. 1335, 1343, and 1345).

¹⁷⁹⁶Panel Report, para. 7.1596.

¹⁷⁹⁷Panel Report, para. 7.1700.

¹⁷⁹⁸Except with respect to the aeronautics R&D subsidies, the Panel did not use the same nomenclature in referring to these three groups. We note that we use the term "tied" to refer to subsidies that are directly related to Boeing's production or sale of LCA in the sense that the receipt of the subsidy is contingent on production or sale of a particular product. Although it did not use this term to refer to the FSC/ETI subsidies or the B&O tax rate reductions, the Panel appears to have accepted that it could be used to describe them. (Panel Report, footnote 3783 to para. 7.1827)

893. The aeronautics R&D subsidies, which the Panel found to amount to at least \$2.6 billion, consist of: (i) the payments made to Boeing and the access to NASA facilities, equipment, and employees provided to Boeing by NASA pursuant to procurement contracts and Space Act Agreements entered into under the eight aeronautics R&D programmes at issue; and (ii) the payments made to Boeing and the access to USDOD facilities provided to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue.¹⁷⁹⁹

894. The three tied tax subsidies, which the Panel found to amount to approximately \$2.2 billion, consist of: (i) the tax exemptions and tax exclusions provided to Boeing under FSC/ETI legislation¹⁸⁰⁰; (ii) the Washington State B&O tax rate reduction¹⁸⁰¹; and (iii) the City of Everett, Washington, B&O tax rate reduction.¹⁸⁰²

895. The eight remaining subsidies, which the Panel found to amount to approximately \$550 million, consist of¹⁸⁰³: (i) the property and sales tax abatements provided to Boeing pursuant to IRBs issued by the City of Wichita, Kansas; (ii) the Washington State B&O tax credits for preproduction development, computer software and hardware, and property taxes; (iii) the Washington State sales and use tax exemptions for computer hardware, peripherals, and software; (iv) the Washington State workforce development programme and Employment Resource Center; (v) the reimbursement of a portion of Boeing's relocation expenses by the State of Illinois; (vi) the 15-year Economic Development for a Growing Economy ("EDGE") tax credits provided by the State of Illinois; (vii) the abatement or refund of a portion of Boeing's property taxes provided by the State of Illinois; and (viii) the payment to retire the lease of the previous tenant of Boeing's new headquarters building in Chicago, Illinois.

¹⁷⁹⁹See Panel Report, paras. 7.1110, 7.1210, 7.1431, and 7.1433. The Panel identified these as four types of measures, namely: (i) the payments made to Boeing pursuant to procurement contracts entered into under the eight NASA aeronautics R&D programmes at issue; (ii) the access to NASA facilities, equipment, and employees provided to Boeing pursuant to procurement contracts and Space Act Agreements entered into under the eight NASA aeronautics R&D programmes at issue; (iii) the payments made to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue; and (iv) the access to USDOD facilities provided to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue. However, we recall that, for the reasons explained in section VI.A, we view the aeronautics R&D subsidies as joint venture-type transactions that are composite in nature.

¹⁸⁰⁰Panel Report, para. 7.1429. As explained *infra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market.

¹⁸⁰¹Panel Report, para. 7.302.

¹⁸⁰²Panel Report, para. 7.354. As explained *infra*, footnote 1879, the City of Everett B&O tax rate reduction applies only in respect of two of the three relevant product markets, and not in respect of the 100-200 seat LCA market.

¹⁸⁰³Panel Report, paras. 7.1431 and 7.1825-7.1827.

896. The Panel analyzed the effects of each group of subsidies separately, beginning with the largest one in terms of the total amount of the subsidies (the aeronautics R&D subsidies).¹⁸⁰⁴ As explained further below, the Panel analyzed the alleged "technology effects" of the aeronautics R&D subsidies, then assessed the alleged "price effects" of the tied tax subsidies and, finally, considered the alleged "price effects" of the remaining subsidies.

1. Background Information

- (a) Relevant markets, the reference period, and the temporal assessment of relevant market phenomena

897. The Panel made a number of findings regarding the relevant "markets", "subsidized products", and "like products" for purposes of its analysis. The parties agreed, and the Panel found, that "the LCA market is a global market geographically".¹⁸⁰⁵ The European Communities divided the global LCA market into five market segments, or product markets, on the basis of the flight range and seating capacity of LCA. Table 3 sets out the three product markets relevant to the European Communities' claim.

¹⁸⁰⁴Panel Report, para. 7.1700. As explained in section X.C below, in analyzing the effects of the aeronautics R&D subsidies provided by the USDOD, although the Panel recognized that, to the extent that they were funded by assistance instruments, all of the RDT&E programmes could have had relevant effects, it considered that there was "insufficient evidence on the record" of the effects of 21 of the 23 USDOD RDT&E programmes. (*Ibid.*, para. 7.1701) Accordingly, the Panel assessed the effects of just two of those programmes—ManTech and DUS&T—in its serious prejudice analysis.

¹⁸⁰⁵Panel Report, para. 7.1671. The Panel based its finding on a number of factors, namely: (i) Airbus and Boeing compete for the business of airlines and leasing companies throughout the world, and receive orders from, and make deliveries to, customers based in almost all geographic areas of the world; (ii) both companies display and market their aircraft at air shows that are held around the world and which are attended by a worldwide audience; (iii) Airbus and Boeing production and support facilities are situated around the world; and (iv) aircraft financing occurs on a global level. (*Ibid.*)

Table 3. Relevant product markets

Product market	Alleged Boeing "subsidized product"	Competing Airbus "like product"
The 100-200 seat LCA market: Single-aisle LCA with a capacity of 100-200 passengers in a 2-class configuration (or the respective cargo equivalent) and a short to medium range	737NG	A320
The 200-300 seat LCA market: Wide-body LCA with a capacity of 200-300 passengers in a 3-class configuration (or the respective cargo equivalent) and a medium to long or ultra-long range	787 767 ¹⁸⁰⁶	A330, Original A350 and A350XWB-800
The 300-400 seat LCA market: Wide-body LCA with a capacity of 300-400 passengers in a 3-class configuration (or the respective cargo equivalent) and a long or ultra-long range	777	A340 and A350XWB-900/-1000

Source: Panel Report, paras. 7.1669-7.1672.

898. The United States accepted the European Communities' division of the market as the basis for evaluating the European Communities' serious prejudice claim¹⁸⁰⁷, and so did the Panel.¹⁸⁰⁸ The Panel further expressed the view that, provided that the European Communities demonstrated one of the alleged forms of serious prejudice in subparagraphs (a) through (c) of Article 6.3 in relation to a particular Boeing subsidized LCA and a corresponding Airbus like product, it would establish serious prejudice for purposes of Article 5(c) of the *SCM Agreement*.¹⁸⁰⁹

899. With respect to the relevant geographical scope for its analysis, the Panel distinguished between: (i) the European Communities' claims under Article 6.3(c) of significant lost sales and significant price suppression; and (ii) its claims under Article 6.3(a) and (b) of displacement or impedance of imports or exports. For the first category of claims, the Panel stated that it would conduct its analysis on the basis of its understanding that the geographic scope of each product market

¹⁸⁰⁶Although the European Communities did not make any claims relating to the subsidization of, or Boeing's commercial behaviour in respect of, the 767, it appears to have been accepted by both parties as well as by the Panel that Boeing's 767 competed in the same 200-300 seat LCA market as the 787 and Airbus' A330, Original A350, and A350XWB-800. (See, for example, Panel Report, paras. 7.1774, 7.1775, and 7.1783)

¹⁸⁰⁷Panel Report, para. 7.1670. The United States considered that, because a complaining party enjoys considerable latitude in framing its arguments, as long as the complainant identifies markets or products that are reasonable and coherent, a panel should accept that definition. While the United States believed that there were "serious flaws" in the European Communities' five-way segmentation of the LCA market, it accepted that the subsidized products identified were sufficiently coherent to permit a market analysis. (*Ibid.*)

¹⁸⁰⁸Panel Report, para. 7.1672. The Panel considered it "reasonable" to examine the European Communities' arguments on the basis of its identification of these product markets, and clarified that it was not suggesting that this is the only, or most appropriate, way in which to divide the LCA market or to identify the relevant subsidized products and corresponding like products. (*Ibid.*)

¹⁸⁰⁹Panel Report, para. 7.1667.

was worldwide.¹⁸¹⁰ With respect to the second category, however, the Panel noted that Article 6.3(a) and (b) "expressly direct us to conduct our examination of displacement and impedance on the basis of national markets".¹⁸¹¹ Thus, the Panel explained, it would examine whether there was displacement and impedance of imports or exports based on the evidence of sales occurring in the three product markets in each relevant country.

900. The Panel accepted, as an appropriate reference period for purposes of its serious prejudice analysis, the three-year period proposed by the European Communities—namely, 2004-2006.¹⁸¹² The Panel stated that it would nevertheless, in assessing the existence of serious prejudice within that reference period, take account of "evidence pertaining to periods prior to 2004, giving due weight to that evidence in terms of its context, relevance, and probative value".¹⁸¹³ In contrast, the Panel rejected arguments by the European Communities that the full amount of certain subsidies received (or anticipated to be received) in 2007-2009 should be allocated, three years back in time, to the 2004-2006 reference period.¹⁸¹⁴

901. The parties' arguments also raised certain issues with respect to the moment in time at which price suppression, lost sales, and displacement or impedance occur, and, in this connection, regarding the probative value of evidence of *orders* for aircraft versus evidence of (*actual*) *deliveries* of aircraft. The Panel considered that the specific modalities of how LCA are produced and sold means that price suppression and lost sales for such products "should be understood to begin at the time at which an LCA order is obtained (or an order is lost), and to continue up to and including the time at which that aircraft is delivered (or not delivered)".¹⁸¹⁵ This is because the terms and conditions of purchase are set at the time of order, but only a fraction of the payment is made at that time. Complete payment does not occur until delivery of the aircraft, years later.¹⁸¹⁶ In contrast, the Panel considered that the terms "imports" and "exports" in Article 6.3(a) and (b) of the *SCM Agreement* indicate that displacement and impedance are forms of serious prejudice that arise only on delivery of the aircraft to the customer.¹⁸¹⁷ In other words, because displacement or impedance occurs only at the time of

¹⁸¹⁰Panel Report, para. 7.1674.

¹⁸¹¹Panel Report, para. 7.1674.

¹⁸¹²Panel Report, para. 7.1679. This finding has not been appealed. In reaching this finding, the Panel rejected the United States' argument that such a reference period was too short in the light of the lengthy product development cycles in the LCA industry, and the fact that the European Communities had challenged subsidies granted over a long period of time, between 1989 and 2006. (*Ibid.*, para. 7.1678)

¹⁸¹³Panel Report, para. 7.1679.

¹⁸¹⁴See, for example, Panel Report, paras. 7.252, 7.1812, and 7.1813.

¹⁸¹⁵Panel Report, para. 7.1685. See also para. 7.1812.

¹⁸¹⁶Panel Report, para. 7.1685 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 49).

¹⁸¹⁷Panel Report, para. 7.1685.

imports or exports, these phenomena arise only when LCA deliveries occur.¹⁸¹⁸ The consequence of this understanding of how the relevant provisions are to be applied in the context of the market for LCA was, according to the Panel, that, in examining claims of significant price suppression and significant lost sales under Article 6.3(c), data pertaining to both LCA orders and LCA deliveries were relevant. In contrast, only delivery data can definitively establish claims of actual displacement and/or impedance of imports or exports under Article 6.3(a) and/or (b).¹⁸¹⁹ The Panel added that, with respect to displacement or impedance, since an order for an aircraft can be considered to represent a future delivery, it may constitute evidence of a future import or export that will be displaced or impeded, that is, evidence of the existence of a *threat* of serious prejudice.¹⁸²⁰

(b) Key aspects of the LCA industry

902. Several of the issues relating to serious prejudice implicate the structure of the LCA industry as well as the nature of competition between LCA manufacturers. Accordingly, in order to facilitate an understanding of the Panel's findings and provide some context for our evaluation of the issues on appeal, we begin by identifying key characteristics of the LCA industry. We do so on the basis of the findings made by the Panel¹⁸²¹, as well as matters of common ground between the parties.

903. The LCA market is a duopoly.¹⁸²² Airbus and Boeing each holds a significant share of the market and possesses a degree of market power. Each manufacturer's decision regarding the supply and pricing of its products has the ability to influence the pricing of the other and, more generally, the market price.¹⁸²³ Both the type and quantity of new LCA to be produced are determined by each manufacturer in consultation with major airlines and leasing companies, who are the main purchasers of LCA.¹⁸²⁴ The characteristics sought by these customers have led to the development of broadly

¹⁸¹⁸Panel Report, para. 7.1686.

¹⁸¹⁹Panel Report, para. 7.1686.

¹⁸²⁰Panel Report, para. 7.1686.

¹⁸²¹Before turning to its evaluation of the European Communities' claim of serious prejudice, the Panel set out an overview of key aspects of the LCA industry "in order to provide relevant factual background to {its} evaluation of the effects of the subsidies". (Panel Report, para. 7.1687)

¹⁸²²Panel Report, para. 7.1688 and footnote 3550 thereto. The Panel cited evidence that, as of 31 December 2006, Boeing and Airbus LCA accounted for 90.9% of LCA in operation, and that other producers, such as the Russian manufacturer Tupolev, did not account for a significant volume of supply and operated only in certain regions and certain specific product categories. (*Ibid.*, footnote 3550 to para. 7.1688 (referring to R.P. Muddle, Airlines Capital Associates, Inc., "The Dynamics of the Large Civil Aircraft Industry" (2 March 2007) (Panel Exhibit EC-10), para. 16))

¹⁸²³Panel Report, para. 7.1688.

¹⁸²⁴Leasing companies accounted for approximately 17% of LCA orders and approximately 25% of LCA deliveries between 2000 and 2006. (Panel Report, paras. 7.1688 and 7.1689)

similar LCA models by Airbus and Boeing. Airbus and Boeing each offers a full line of LCA, and both manufacturers source material and technology worldwide, often from the same suppliers.¹⁸²⁵

904. LCA are sold to customers through long-term contracts, often involving staggered deliveries of aircraft over several years. The terms and conditions of each purchase contract are set at the time the order is made, and include many different elements, such as aircraft specification, net price, discounts, non-price concessions, and financing arrangements. A non-refundable deposit is paid at the time of signature of the order contract, and manufacturers generally use the cash flow generated by such non-refundable deposits to finance production.¹⁸²⁶ Complete payment does not occur until delivery of the aircraft.¹⁸²⁷ LCA purchase contracts provide both the basic airframe price, as well as for the "escalation"¹⁸²⁸ of that price to account for the time that elapses between the negotiation of the price at the time of order and the delivery of the aircraft.

905. LCA production involves substantial upfront development costs over a period of several years, with a return over a considerably longer period—18 years, on average. LCA production is generally characterized by steep learning curves.¹⁸²⁹ The production costs of initial units of a new LCA model are much higher than the production costs of subsequent units once the manufacturer has begun to realize learning curve efficiencies. Because such efficiencies are factored into an LCA manufacturer's projected costs at the time of the launch of the new aircraft programme, manufacturers price initial units of LCA as though they were already at the bottom of the learning curve.¹⁸³⁰ At the time of launch, the manufacturer sets pricing targets for the new aircraft that, over its projected life, must exceed the manufacturer's fully loaded average production costs by an amount sufficient to justify the investment.¹⁸³¹ Technological innovation is a key element of competition in this industry, and the period over which a particular aircraft model can be sold is largely determined by the life of the technology that defines that model. As such technology becomes outdated, the LCA manufacturer

¹⁸²⁵Panel Report, paras. 7.1688 and 7.1692.

¹⁸²⁶Panel Report, para. 7.1685 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 49).

¹⁸²⁷Panel Report, para. 7.1685 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 49).

¹⁸²⁸Panel Report, para. 7.1685.

¹⁸²⁹Panel Report, para. 7.1691. The Panel explained that "{t}he learning curve refers to the negative correlation between cumulative output and unit cost: the more aircraft of a given type of LCA produced by a firm, the less it costs to produce the next unit of that aircraft". (*Ibid.*, footnote 3561 to para. 7.1691 (referring to Professor L.M.B. Cabral, "Impact of Development Subsidies Granted to Boeing" (New York University and CEPR, March 2007) (Panel Exhibit EC-4), para. 53))

¹⁸³⁰Panel Report, para. 7.1691 (referring to Dr. J. Jordan and Dr. G. Dorman, "Reply to the Report of Professor Cabral" (NERA Economic Consulting, 2007) (Panel Exhibit US-3), p. 15).

¹⁸³¹Panel Report, para. 7.1691.

will need to make major capital investments in new technologies to maintain a competitive product offering and to continue making sales.¹⁸³²

906. Because of the importance of aircraft acquisitions to customers' businesses, every sales campaign involves a focus on the unique needs of the particular customer. Differences in price, capacity, and direct operating cost are the most significant factors that determine the outcome of LCA sales campaigns.¹⁸³³ Customers are sophisticated, and they make extensive technical and economic evaluations of LCA manufacturers' proposals.¹⁸³⁴ This involves estimating the present value of costs associated with the acquisition of a new fleet of aircraft (for example, price, maintenance costs, direct and indirect operating costs, financing, training costs, costs associated with the introduction of new LCA) against the present value of the revenue stream expected to be generated by the proposed fleet. The resultant calculation is the net present value to the customer of the proposal.¹⁸³⁵ Both parties agreed before the Panel that the best overall net present value is typically determinative of the outcome of a sales campaign and that, because the performance characteristics of the competing LCA are fixed at the time of a sales campaign, the only variables that can be modified during such a campaign are the price and price-related concessions.¹⁸³⁶ Price concessions can sometimes offset disadvantages associated with non-price factors.¹⁸³⁷ According to the Panel, leasing companies tend to be more focused on price than airline customers.¹⁸³⁸ Prices obtained by leasing companies can serve as a form of benchmarking on prices for new LCA.¹⁸³⁹

¹⁸³²Panel Report, para. 7.1691.

¹⁸³³Panel Report, para. 7.1694.

¹⁸³⁴Although engines account for between 20% and 30% of the total cost of LCA, LCA customers typically negotiate concessions on the engine purchase with engine manufacturers separately from their LCA purchase negotiations with airframe manufacturers. (Panel Report, para. 7.1690)

¹⁸³⁵Panel Report, para. 7.1694.

¹⁸³⁶European Communities' response to Panel Question 81, para. 321: "{A}lthough a multitude of factors are involved during the course of a sales campaign, in the end, the only element that can still be negotiated is the final price, or some price-related other concession"; United States' comments on the European Communities' response to Panel Question 81, para. 275: "{T}he United States agrees {with the European Communities} that the performance characteristics of the competing Boeing and Airbus large civil aircraft are set at the time of the sales campaign and that the variable in the campaigns is price and price/non-price concessions".

¹⁸³⁷Panel Report, para. 7.1694.

¹⁸³⁸Panel Report, footnote 3567 to para. 7.1694 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 36), and footnote 3557 to para. 7.1689 (referring to R.P. Muddle, Airline Capital Associates, Inc., "The Dynamics of the Large Civil Aircraft Industry" (March 2007) (Panel Exhibit EC-10), para. 26).

¹⁸³⁹Panel Report, para. 7.1689. The Panel also observed that, during the 2000-2006 period, sales to leasing companies accounted for a relatively higher proportion of Airbus sales (20%) as compared to Boeing sales (14%). (*Ibid.*, footnote 3556 to para. 7.1689)

907. LCA producers set prices in relation to, *inter alia*, the development costs for a particular LCA programme and the prices of competing LCA.¹⁸⁴⁰ At the time an LCA order is placed, the negotiated price¹⁸⁴¹ is typically lower than the airframe prices listed in publicly available materials, due to price concessions and credits offered by the manufacturer.¹⁸⁴² The Panel "accept{ed} evidence that Boeing changed its pricing policy in late 2004/2005 and became much more 'aggressive' on price".¹⁸⁴³

908. During the course of its evaluation of the European Communities' claim of serious prejudice, the Panel referred to certain additional dynamics within the LCA industry. First, a subsidy that enhances an LCA manufacturer's ability to develop innovative technologies for application to its aircraft will potentially give rise to a significant competitive advantage to that manufacturer.¹⁸⁴⁴ Second, in at least some instances, competition between rival LCA manufacturers is affected by so-called "switching costs".¹⁸⁴⁵ Switching costs refer to the costs that buyers who operate one particular family of aircraft must incur to switch to a new supplier. Such costs result from, for example, the need for additional training for pilots or in respect of aircraft maintenance when different

¹⁸⁴⁰Panel Report, Appendix VII.F.2 – The Cabral Model, p. 779, para. 74. The Panel took account of evidence to the effect that, "at the time of the decision to launch an LCA programme, Boeing bases its pricing on (i) the price it believes the LCA will command over its lifetime, and (ii) the projected volume of sales for that LCA, against (iii) the costs of the LCA programme (including non-recurring investments and recurring costs such as anticipated learning curve efficiencies)" and that, "once the launch decision is made, pricing is 'market driven' in the sense that Boeing aims to achieve the highest market value for its products in light of market conditions". (*Ibid.*, footnote 4262 to para. 74 (quoting Statement of Clay Richmond (Panel Exhibit US-275 (HSBI)); and referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 105)) In response to a question from the Panel, the United States explained that:

Boeing's pricing decisions, which look for the optimal or profit-maximizing price, take a number of factors into account, *including*: (1) the pricing of its competitor, Airbus, (2) the strength and elasticity of demand, (3) its expectations regarding future market conditions, (4) its strategic interests in particular sales campaigns, (5) the implications of a price reduction for futures sales and for the residual values of aircraft previously sold, and (6) changes in its product-specific fixed and variable costs, as well as in its general costs.

(United States' response to Panel Question 298, para. 522 (original emphasis))

¹⁸⁴¹The Panel explained that, from the perspective of a customer, "the 'net flyaway price' of an aircraft consists of the 'total aircraft price' less credits and price concessions offered by the LCA manufacturer"; as well as discounts offered by the engine manufacturer and by suppliers of buyer furnished equipment. (Panel Report, para. 7.1693) The total aircraft price, in turn, consists of the airframe basic list price, plus charges for: (i) changes to standard aircraft specifications; (ii) buyer furnished equipment; (iii) supplier furnished equipment; and (iv) the engine basic list price. (*Ibid.*)

¹⁸⁴²Depending upon the number of years between the order and delivery of aircraft and the escalation terms agreed at the time the order is placed, price escalation factors can significantly impact the purchase price ultimately paid upon delivery. (See Panel Report, para. 7.1685 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 49))

¹⁸⁴³Panel Report, Appendix VII.F.2 – The Cabral Model, p. 777, para. 68.

¹⁸⁴⁴Panel Report, para. 7.1769.

¹⁸⁴⁵Panel Report, para. 7.1818.

aircraft are introduced to a customer's fleet.¹⁸⁴⁶ The existence of switching costs implies that an incumbent supplier has an advantage in a particular sales campaign that the rival supplier will need to overcome in its overall offer.¹⁸⁴⁷ Third, certain LCA sales campaigns are more price-sensitive and more competitive than others.¹⁸⁴⁸ The Panel noted that the significance of each of the three factors that tend to determine the outcome of LCA sales campaigns—price, capacity, and direct operating cost—varies from campaign to campaign depending on buyers' fleets and business plans, as well as whether the buyer is an airline or a leasing company, and whether a leasing company is purchasing to satisfy known demand or on a speculative basis.¹⁸⁴⁹ The Panel also noted that the European Communities distinguished between competitive and non-competitive sales campaigns.¹⁸⁵⁰ Fourth, although demand for LCA slumped following the 11 September 2001 attacks on the World Trade Center and the 2003 severe acute respiratory syndrome (SARS) epidemic, this contraction was short-lived and the 2004-2006 period saw an unprecedented growth in demand for LCA.¹⁸⁵¹

2. The Panel's Approach to Causation

909. The Panel began its analysis of serious prejudice by outlining the approach that it intended to take in analyzing the European Communities' claim. The Panel indicated that these provisions require the establishment of a causal link between the subsidies at issue and the form of serious prejudice

¹⁸⁴⁶Panel Report, footnote 3776 to para. 7.1818.

¹⁸⁴⁷While both the European Communities and the United States acknowledged the existence of switching costs and the fact that they could induce an LCA manufacturer to offer price concessions to overcome such costs, they disagreed as to the extent of their significance, as well as with respect to the circumstances in which they would play a role. For example, the European Communities argued that switching costs also imply that a supplier's strategic incentives to compete aggressively to win a new customer include the incentive to become the incumbent supplier and thereby to gain an advantage in future sales campaigns to that same customer. The European Communities suggested that switching cost considerations are relevant whenever a buyer considers purchasing other aircraft within the same family as aircraft that it already owns, and that, on this basis, 37.4% of Boeing's sales would involve switching cost considerations. (Panel Report, Appendix VII.F.2 – The Cabral Model, pp. 768 and 773, paras. 37-38 and 55, respectively) The United States, in contrast, disputed the existence of any link between current price discounts and the probability of future switching costs. The United States also argued that switching costs could arise in campaigns only where a customer is considering the purchase of aircraft that are the *same variant*, of the *same generation*, as its existing fleet, and that only 4.5% of Boeing deliveries between 2000 and 2006 involved the type of switching costs that could have led Boeing to make switching cost price concessions. (*Ibid.*, pp. 772-773, paras. 49-54)

¹⁸⁴⁸Panel Report, paras. 7.1694 and 7.1820.

¹⁸⁴⁹Panel Report, footnote 3568 to para. 7.1694.

¹⁸⁵⁰Panel Report, footnote 3393 to para. 7.1615 (referring to European Communities' first written submission to the Panel, para. 1222).

¹⁸⁵¹Panel Report, paras. 4.297 and 7.1782. The European Communities noted that, in their responses to Panel Question 299, both parties agreed on the reasons for the strong demand in 2004-2006, namely: (i) strong demand for air travel in emerging markets such as China; (ii) market liberalization and the consequent opening of new routes and growth of low-cost carriers; and (iii) increases in fuel costs that spurred airlines to replace aging fleets. (See European Communities' response to Panel Question 299, paras. 712-714; United States' response to Panel Question 299, para. 527; and European Communities' comments on the United States' response to Panel Question 299, para. 547)

alleged.¹⁸⁵² The Panel considered nonetheless that, given the absence of the precise type of "causation" and "non-attribution" language found in Part V of the *SCM Agreement*, these provisions afford panels a certain degree of discretion in selecting an appropriate methodology for analyzing whether subsidies have caused the specific market phenomena listed in the subparagraphs of Article 6.3.¹⁸⁵³

910. The Panel remarked that the parties agreed that "determining whether the effect of the subsidies at issue in the dispute is serious prejudice necessitates an economic analysis of how the subsidies affected *Boeing's* commercial behaviour with respect to the pricing and product development of particular LCA".¹⁸⁵⁴ The Panel resolved to adopt a "unitary" approach to causation, under which it would not assess the indicia of competitive harm such as prices, sales, and market share in isolation but, rather, as part of an integrated analysis of causation.¹⁸⁵⁵

911. The Panel stated that it would adopt a counterfactual approach in examining whether the effects of the subsidies at issue were displacement or impedance, significant lost sales, or significant price suppression. The Panel further explained that this counterfactual analysis would take place in two stages.¹⁸⁵⁶ First, the Panel would examine the effects of the subsidies on *Boeing's* prices and product offerings in the relevant product markets. Second, the Panel would examine the effects that the subsidies had, through those effects on Boeing, on *Airbus'* prices and sales in the same product

¹⁸⁵²Panel Report, para. 7.1656.

¹⁸⁵³Panel Report, para. 7.1656 (referring to Appellate Body Report, *US – Upland Cotton*, para. 436).

¹⁸⁵⁴Panel Report, para. 7.1657. (original emphasis) The Panel also noted that the European Communities agreed with the United States that, "in order to cause adverse effects within the meaning of Articles 5 and 6.3, subsidies must cause a change in the commercial behaviour of their beneficiaries to an extent that results in adverse effects". (*Ibid.*, footnote 3493 to para. 7.1657 (quoting European Communities' second written submission to the Panel, para. 646)) The European Communities asserted that Boeing's commercial behaviour with respect to the pricing and product development of certain LCA would necessarily have been different absent the challenged subsidies, whereas the United States contended that Boeing's commercial behaviour would have been the same. (*Ibid.*, para. 7.1657)

¹⁸⁵⁵Panel Report, para. 7.1658. As explained by the Appellate Body in *EC and certain member States – Large Civil Aircraft*, panels may undertake an analysis of serious prejudice under either a unitary or two-step approach. Under a two-step approach, the analysis first seeks to identify the existence of the particular effects listed in Article 6.3 of the *SCM Agreement*—such as displacement or significant price suppression—and then, as a second step, examines whether there is a causal relationship between such effects and the subsidies. Under a unitary approach, the panel conducts a single, integrated analysis of both the existence of the market phenomena and the issue of whether they have been caused by the subsidies at issue. Although the Appellate Body has said that either approach is acceptable, it has expressed a preference for a unitary approach, because "it is difficult to understand the market phenomena described in the various subparagraphs of Article 6.3 in isolation from the challenged subsidies". (Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1109) See also See Appellate Body Report, *US – Upland Cotton*, para. 431; and Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 354.

¹⁸⁵⁶Panel Report, para. 7.1659. We emphasize that this "two-stage" approach of the Panel was not the same as the "two-step" approach adopted by the panels in *EC and certain member States – Large Civil Aircraft* and *US – Upland Cotton*, as explained in the preceding footnote 1855. This Panel explained that it would conduct a unitary analysis of causation, but that, in doing so, it would consider the two stages through which the alleged subsidy effects operated: first, the effects on Boeing, and, second, the consequent effects on Airbus.

markets.¹⁸⁵⁷ The Panel added that it would undertake an evaluation of possible non-attribution factors at both stages of its integrated analysis of causation.¹⁸⁵⁸ The Panel expressed the view that proceeding through the approach that it had outlined would enable it to determine whether "there is a genuine and substantial relationship of cause and effect between the subsidy in question and the displacement or impedance, significant lost sales, or significant price suppression".¹⁸⁵⁹

912. In setting out the above approach, the Panel did not extensively elaborate its understanding of the requisite causal link pursuant to Articles 5(c) and 6.3 of the *SCM Agreement*. Although neither participant has appealed the Panel's articulation of its intended approach, we nevertheless consider it useful to recall briefly the main elements of a causation analysis under Part III of the *SCM Agreement* because of the centrality of the issue of causation to many of the claims of error raised in this appeal.

913. A plain reading of the language of Article 5 ("No Member should *cause*, through the use of any {specific subsidy} ... (c) serious prejudice to the interests of another Member"¹⁸⁶⁰); of Article 6.2 ("serious prejudice shall not be found if the subsidizing Member demonstrates that the subsidy in question has not *resulted in* any of the *effects* enumerated in {Article 6.3}"¹⁸⁶¹); and of Article 6.3 (which provides that serious prejudice may arise when "the *effect* of the subsidy"¹⁸⁶² is one or more of the market phenomena listed in that provision) makes clear that, in disputes involving claims under Part III of the *SCM Agreement*, a complainant must demonstrate not only the existence of the relevant subsidies and the adverse effects to its interests, but also that the subsidies at issue have *caused* such effects.¹⁸⁶³ The Appellate Body has consistently articulated the causal link required as "a genuine and substantial relationship of cause and effect".¹⁸⁶⁴ In other words, the subsidies must contribute, in a

¹⁸⁵⁷Panel Report, para. 7.1659.

¹⁸⁵⁸Panel Report, para. 7.1660. The Panel explained that, "in conducting our analysis of whether the subsidies affected Boeing's pricing and product offerings, we will also analyze the effects of other factors that are alleged to have affected that behaviour" and that, "in analyzing the effects of the subsidies on Airbus' prices and sales, we will consider the effect of factors other than Boeing's pricing and product offerings on Airbus' prices and sales in each of the three product markets". (*Ibid.*)

¹⁸⁵⁹Panel Report, para. 7.1662.

¹⁸⁶⁰Emphasis added.

¹⁸⁶¹Emphasis added.

¹⁸⁶²Emphasis added.

¹⁸⁶³This fundamental precept was recognized by the first panel to assess a claim under Part III of the *SCM Agreement*. (Panel Report, *Indonesia – Autos*, para. 14.154)

¹⁸⁶⁴See, for example, Appellate Body Report, *US – Upland Cotton*, para. 438; Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 374; and Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1232. In identifying the nexus that must be established between the subsidies at issue and the relevant market effects, the Appellate Body has drawn to some extent on jurisprudence with respect to the causation requirements in trade remedy cases, while at the same time cautioning that the explicit causation requirements that the covered agreements prescribe in connection with anti-dumping, countervailing duty, and safeguards investigations "apply in different contexts and with different purposes" and, therefore, "must not be automatically transposed into Part III of the *SCM Agreement*". (Appellate Body Report, *US – Upland Cotton*, para. 438)

"genuine"¹⁸⁶⁵ and "substantial"¹⁸⁶⁶ way, to producing or bringing about one or more of the effects, or market phenomena, enumerated in Article 6.3.

914. When tasked with determining whether the causal link in question meets the requisite standard of a "genuine and substantial" causal relationship, a panel will often be confronted with multiple factors that may have contributed, to varying degrees, to that effect. Indeed, in some circumstances, it may transpire that factors other than the subsidy at issue have caused a particular market effect. Yet the mere presence of other causes that contribute to a particular market effect does not, in itself, preclude the subsidy from being found to be a "genuine and substantial" cause of that effect. Thus, as part of its assessment of the causal nexus between the subsidy at issue and the effect(s) that it is alleged to have had, a panel must seek to understand the interactions between the subsidy at issue and the various other causal factors, and make an assessment of their connections to, as well as the relative importance of the subsidy and of the other factors in bringing about, the relevant effects. In order to find that the subsidy is a genuine and substantial cause, a panel need not determine it to be the *sole* cause of that effect, or even that it is the *only* substantial cause of that effect. A panel must, however, take care to ensure that it does not attribute the effects of those other causal factors to the subsidies at issue¹⁸⁶⁷, and that the other causal factors do not dilute the causal link between those subsidies and the alleged adverse effects such that it is not possible to characterize that link as a genuine and substantial relationship of cause and effect.¹⁸⁶⁸ The subsidy at issue may be found to exhibit the requisite causal link notwithstanding the existence of other causes that contribute to producing the relevant market phenomena if, having given proper consideration to all other relevant contributing factors and their effects, the panel is satisfied that the contribution of the subsidy has been demonstrated to rise to that of a genuine and substantial cause.

915. Finally, we note that a demonstration that subsidies are a genuine and substantial cause of the alleged serious prejudice is a fact-intensive exercise, and one that inevitably involves extensive, case-specific evidence. The manner in which a complainant may seek to demonstrate the existence of the

¹⁸⁶⁵The "genuine" nature of the causal link requires a complainant to show that the nexus between cause and effect is "real" or "true". Dictionary definitions of "genuine" include "{h}aving the character claimed for it: real, true, not counterfeit", and "{n}atural or proper to a person or thing". (*Shorter Oxford English Dictionary*, 6th edn, A. Stevenson (ed.) (Oxford University Press, 2007), Vol. 1, p. 1094)

¹⁸⁶⁶As for the "substantial" component of the causal relationship, this concerns the relative importance of the causal agent (the subsidies at issue) in bringing about the adverse effect(s) in question. Dictionary definitions of "substantial" include "{h}aving solid worth or value, of real significance; solid; weighty; important, worthwhile" and "{o}f ample or considerable amount or size; sizeable, fairly large". (*Shorter Oxford English Dictionary*, 6th edn, A. Stevenson (ed.) (Oxford University Press, 2007), Vol. 2, p. 3088)

¹⁸⁶⁷Appellate Body Report, *US – Upland Cotton*, para. 437; Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1232.

¹⁸⁶⁸Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 375; Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376.

effects and the links between the subsidies at issue and those effects, and the type of supporting evidence that may be adduced, are likely to vary considerably. Even though each panel's assessment will turn very much on the particular facts and circumstances of the case, it must not deviate from the requirements outlined above.

3. The Panel's Analysis of "Technology Effects" and "Price Effects"

916. The Panel observed that, in its submissions, the European Communities had distinguished, "based on the nature of the subsidies"¹⁸⁶⁹ between, on the one hand, the effects of the subsidies benefiting Boeing's 787 family of LCA and, on the other hand, the effects of the subsidies benefiting Boeing's 737NG and 777 families of LCA. The European Communities alleged that all of the subsidies had "price effects" on all three of these Boeing LCA families in all three relevant product markets, because the subsidies provided Boeing with the ability to charge lower prices either by reducing Boeing's marginal unit costs or by increasing Boeing's non-operating cash flow. In addition, the European Communities contended that the aeronautics R&D subsidies had "technology effects" in one of those product markets in that they "helped Boeing develop, launch and produce a technologically-advanced 200-300 seat LCA {the 787} much more quickly than it could have on its own".¹⁸⁷⁰ Based on this understanding, the Panel decided to begin its analysis by examining the alleged "technology effects"—the effects of the aeronautics R&D subsidies on Boeing's development of technologies for the 787—before subsequently considering whether, with respect to all three allegedly subsidized Boeing LCA (the 737NG, the 787, and the 777), all of the subsidies at issue had effects on Boeing's pricing of those models of LCA and, thereby, caused serious prejudice to the interests of the European Communities.¹⁸⁷¹

(a) The Panel's analysis of the "technology effects" of the aeronautics R&D subsidies

917. The Panel understood the European Communities to argue that the aeronautics R&D subsidies: (i) accelerated Boeing's development of new and advanced LCA technologies, as well as design and manufacturing processes, thereby enabling Boeing to bring the 787 to the market much sooner than it could have on its own; (ii) limited and delayed Airbus' access to innovative R&D technologies; (iii) increased the marketability of the 787; and (iv) allowed a rapid ramp-up of 787 deliveries.¹⁸⁷² The European Communities sought to demonstrate that the aeronautics R&D subsidies

¹⁸⁶⁹Panel Report, para. 7.1696.

¹⁸⁷⁰Panel Report, para. 7.1697 (quoting European Communities' first written submission to the Panel, para. 1343).

¹⁸⁷¹Panel Report, para. 7.1699.

¹⁸⁷²Panel Report, para. 7.1601.

have provided Boeing with technologies capable of commercial exploitation in key areas—notably, composites technologies—as well as with knowledge, experience, and confidence relevant to the development of successful commercial technologies and processes.¹⁸⁷³ Such knowledge, experience, and confidence were alleged to have enabled Boeing to assess the validity of different design, manufacturing, and assembly solutions even when the technologies applied to the 787 were not the same as those studied pursuant to the NASA and USDOD programmes, and to leverage the knowledge effects gained from its participation in those programmes in Boeing's own related R&D activity.¹⁸⁷⁴

918. In examining the alleged effects of the subsidies in the 200-300 seat LCA market, the Panel examined: (i) the objectives of the aeronautics R&D subsidies; (ii) their structure and design; (iii) their operation; and (iv) the conditions of competition in that market. Having done so, the Panel found, as a first step, that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787" and, thereby, "conferred a competitive advantage on Boeing".¹⁸⁷⁵ According to the Panel, it was "clear" that, "absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008".¹⁸⁷⁶

919. The Panel next considered the evidence relating to the effects of the aeronautics R&D subsidies on Airbus' prices and sales in the 200-300 seat LCA market and found that, in the 2004-2006 reference period, the effect of those subsidies was serious prejudice in the form of a threat of displacement and impedance of EC exports in third-country markets within the meaning of Article 6.3(b) of the *SCM Agreement*, and significant lost sales and significant price suppression, within the meaning of Article 6.3(c) of the *SCM Agreement*.¹⁸⁷⁷

¹⁸⁷³Panel Report, para. 7.1601 (referring to European Communities' first written submission to the Panel, para. 1352).

¹⁸⁷⁴Panel Report, para. 7.1604.

¹⁸⁷⁵Panel Report, para. 7.1773.

¹⁸⁷⁶Panel Report, para. 7.1775.

¹⁸⁷⁷Panel Report, para. 7.1797. According to the Panel, but for the aeronautics R&D subsidies: (i) Airbus would have obtained additional orders and the European Communities would not have suffered the threat of displacement or impedance of exports from third-country markets; (ii) Airbus would have made additional sales and would not have suffered significant lost sales; and (iii) prices for the relevant Airbus LCA would have been significantly higher and Airbus would not have suffered significant price suppression. (*Ibid.*, para. 7.1794)

(b) The Panel's analysis of the "price effects" of the subsidies

920. The Panel's analysis of the "price effects" of the subsidies was divided into two parts. First, the Panel examined the effects of the tied tax subsidies, that is, the tax subsidies directly tied to the production and sale of individual aircraft.¹⁸⁷⁸ To the extent that they applied to Boeing products in each market¹⁸⁷⁹, the Panel found that these tied tax subsidies had the effect of significantly suppressing Airbus' prices and of causing Airbus to lose significant sales, and of displacing and impeding EC exports in third-country markets in the 100-200 seat and the 300-400 seat LCA markets.¹⁸⁸⁰ With respect to the 200-300 seat LCA market, the Panel considered that it would not be appropriate to conduct an aggregated analysis of the "technology effects" of the aeronautics R&D subsidies and the "price effects" of the tied tax subsidies because the two groups of subsidies operate "through entirely distinct causal mechanisms".¹⁸⁸¹ Only two of the tied tax subsidies (the B&O tax rate reductions¹⁸⁸²) applied in that product market and, with respect to their effects, the Panel found that there was "insufficient evidence ... to conclude that these subsidies are of a magnitude that would enable them, on their own, to have such an effect on Boeing's prices of the 787 as would lead to a finding that their effects in the 200-300 seat wide-body market were significant price suppression, significant lost sales or displacement or impedance of European Communities imports into the United States or exports to third countries".¹⁸⁸³

921. Second, the Panel considered the effects of subsidies that were not linked to the production of individual LCA and were instead alleged to have increased Boeing's non-operating cash flow and, thereby, enhanced Boeing's alleged ability to engage in "aggressive pricing".¹⁸⁸⁴ Although the European Communities had included the aeronautics R&D subsidies within this category, the Panel decided not to include the effects of these subsidies in this part of its analysis on the grounds that, having already found that the aeronautics R&D subsidies, through their technology effects, caused serious prejudice to the European Communities in the 200-300 seat LCA market, "it would be

¹⁸⁷⁸Panel Report, paras. 7.1801 and 7.1806.

¹⁸⁷⁹One of the tied tax subsidies—the City of Everett B&O tax rate reduction—did not apply in respect of the manufacture and sale of the 737NG and thus did not form part of the Panel's analysis of the effects of the subsidies alleged to reduce marginal unit costs in the 100-200 seat LCA market. (Panel Report, para. 7.1803)

¹⁸⁸⁰Panel Report, para. 7.1823.

¹⁸⁸¹Panel Report, para. 7.1824.

¹⁸⁸²The Panel's analysis of the FSC/ETI subsidies proceeded on the basis that these subsidies could have had effects only in the 100-200 seat and 300-400 seat LCA markets, and not in the 200-300 seat LCA market. The Panel explained that this was due to the fact that the United States had repealed certain aspects of the grandfathering of FSC and ETI tax breaks for tax years beginning after 2006, and that no 787s would be delivered before that date, as well as the fact that the European Communities itself did not claim that the FSC/ETI subsidies affected the prices of the 787 and did not allocate the FSC/ETI subsidies to the 787 for purposes of its serious prejudice arguments. (Panel Report, para. 7.1802)

¹⁸⁸³Panel Report, para. 7.1824.

¹⁸⁸⁴Panel Report, para. 7.1825.

over-counting to additionally analyze their effects based on a different understanding of their operation, namely, as freeing up additional cash for Boeing to use to lower the prices of its LCA".¹⁸⁸⁵ Accordingly, the Panel analyzed the effects of the other subsidies alleged to have increased Boeing's non-operating cash flow—the remaining subsidies—which totalled some US\$550 million between 1989 and 2006. The Panel was "not persuaded that subsidies of this nature and of this amount have affected Boeing's prices in a manner that could be said to give rise to serious prejudice to the European Communities' interests".¹⁸⁸⁶

4. Order of Analysis of the Issues on Appeal Relating to the Panel's Serious Prejudice Findings

922. In section B, we analyze the United States' appeal of the Panel's findings with respect to the "technology effects" of the aeronautics R&D subsidies. In section C, we consider the European Union's appeal, under Article 11 of the DSU, of the Panel's finding that there was insufficient evidence on the record to enable it to assess the effects of the USDOD RDT&E programmes (other than the ManTech and DUS&T programmes). In section D, we deal with the United States' appeal of the Panel's findings regarding the "price effects" of the tied tax subsidies at issue. Finally, in section E, we address the European Union's appeal of the Panel's decisions not to undertake a collective assessment of certain groups of subsidies and their effects for purposes of its serious prejudice analysis.

B. *Technology Effects*

1. Introduction

923. The Panel structured its analysis of the alleged "technology effects" of the aeronautics R&D subsidies in two stages, beginning with an analysis of the effect of the subsidies on Boeing's offering of the 787, and followed by an analysis of the effect of the subsidies on Airbus' prices and sales.¹⁸⁸⁷ The Panel explained that, at each stage of its analysis, it would address possible relevant non-attribution factors.¹⁸⁸⁸ The Panel also clarified that its overall approach to the analysis of whether the effects of the aeronautics R&D subsidies were any of the forms of serious prejudice alleged by the European Communities would be counterfactual in nature.¹⁸⁸⁹

¹⁸⁸⁵Panel Report, para. 7.1826.

¹⁸⁸⁶Panel Report, para. 7.1828.

¹⁸⁸⁷Panel Report, paras. 7.1659 and 7.1660; see also paras. 7.1701-7.1797.

¹⁸⁸⁸Panel Report, para. 7.1660.

¹⁸⁸⁹Panel Report, paras. 7.1661 and 7.1662; see also paras. 7.1774 and 7.1775.

924. At the conclusion of the *first stage* of its analysis, in which it considered the effect of the aeronautics R&D subsidies on Boeing's offering of the 787, the Panel stated that:

... the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787 and that, in the light of the conditions of competition in the LCA industry, these subsidies conferred a competitive advantage on Boeing.¹⁸⁹⁰

925. Moreover, the Panel found that:

... absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008.¹⁸⁹¹

926. At the conclusion of the *second stage* of its analysis, in which it considered the effect of the aeronautics R&D subsidies on Airbus' prices and sales, the Panel found that:

... *but for* the effects of {the aeronautics R&D subsidies} (i) Airbus would have obtained additional orders for its A330 and Original A350 LCA from customers in third country markets Australia, Ethiopia, Kenya and Iceland in 2005 and 2006, and the European Communities would not have suffered the threat of displacement or impedance of exports from third country markets within the meaning of Article 6.3(b) of the SCM Agreement; (ii) Airbus would have made additional sales of the A330 and Original A350 over the same period, and to that extent, would not have suffered significant lost sales in the 200-300 seat wide-body LCA product market, within the meaning of Article 6.3(c) of the SCM Agreement; and (iii) prices of the A330 and the Original A350 in the 2004 to 2006 period would have been significantly higher, and to that extent, Airbus would not have suffered significant price suppression in the 200-300 seat wide-body LCA product market, within the meaning of Article 6.3(c) of the SCM Agreement.¹⁸⁹² (original emphasis)

927. On the basis of these two intermediate conclusions, the Panel found overall that:

... the effect of the aeronautics R&D subsidies is a threat of displacement and impedance of European Communities' exports from third country markets within the meaning of Article 6.3(b) of the SCM Agreement, with respect to the 200-300 seat wide-body LCA product market, and significant lost sales and significant price suppression, within the meaning of Article 6.3(c) of the SCM Agreement with respect to that product market, each of which

¹⁸⁹⁰Panel Report, para. 7.1773.

¹⁸⁹¹Panel Report, para. 7.1775.

¹⁸⁹²Panel Report, para. 7.1794.

constitute serious prejudice to the interests of the European Communities within the meaning of Article 5(c) of the SCM Agreement.¹⁸⁹³

928. The United States seeks reversal of this overall finding by the Panel, as well as a number of intermediate conclusions leading up to it made by the Panel at the first and second stages of its causation analysis. In subsection 2, we provide relevant background information regarding the Boeing 787. In subsections 3 and 4, we assess the United States' appeal of the Panel's conclusion, at the *first stage* of its analysis, that the aeronautics R&D subsidies contributed in a genuine and substantial way to the development of the 787 and its launch in 2004. In subsection 5, we consider the United States' appeal of the Panel's use of the counterfactual analysis as it relates to both stages. Finally, in subsection 6, we consider the United States' challenge to the Panel's conclusion, at the *second stage* of its analysis, regarding the effects of the aeronautics R&D subsidies on Airbus through Boeing's product offering.

2. Background Information regarding the Boeing 787

929. In order to provide context for consideration of the United States' claims on appeal, we find it useful to provide a brief background of the Boeing 787, including its technological features, the reasons for its introduction into the 200-300 seat LCA market and the competition it faced in that market, as well as relevant market share and pricing data for the models in that market. We do so on the basis of the factual findings of the Panel and the facts of the case that were not contested between the parties.

930. During the relevant period—2004 to 2006—the LCA within the 200-300 seat LCA market comprised Boeing's 767¹⁸⁹⁴ and 787 and Airbus' A330, Original A350, and A350XWB-800.¹⁸⁹⁵

931. In the late 1990s, Boeing's assessment of the market led it to form the view that "route fragmentation would lead to a larger number of lower-volume routes, best served by a mid-sized, extended range aircraft"¹⁸⁹⁶, and it determined to develop a new LCA product incorporating advanced technologies to meet these market needs.¹⁸⁹⁷ This led to the development of the 787, which was

¹⁸⁹³Panel Report, para. 7.1797. See also paras. 7.1854(a) and 8.3(a)(i).

¹⁸⁹⁴Panel Report, paras. 7.1774 and 7.1783.

¹⁸⁹⁵Panel Report, paras. 7.1670 and 7.1672.

¹⁸⁹⁶Panel Report, para. 7.1774.

¹⁸⁹⁷See "The new-technology Boeing 787 Dreamliner, which makes extensive use of composite materials, promises to revolutionize commercial air travel," *Aviation Week & Space Technology Market Supplement*, 14 March 2005 (Panel Exhibit EC-701).

launched in 2004 with deliveries to customers promised as from 2008.¹⁸⁹⁸ The Panel identified and described six technologies that the European Communities alleged to be incorporated in the 787.¹⁸⁹⁹ The most notable of these technologies is the use of all composite fuselage and wings¹⁹⁰⁰ and the manufacturing processes related thereto.¹⁹⁰¹ The other five technologies¹⁹⁰² relate to "more-electric" architecture; open systems architecture; enhanced aerodynamics and structural design; noise reduction; and health management systems.¹⁹⁰³

932. In the years preceding the launch of the 787 in 2004, the 767 and the A330 were the main aircraft products available in the 200-300 seat LCA market.¹⁹⁰⁴ Between 2000 and 2003, the A330's share of the market was consistently greater than that of the 767 and, in 2003, stood at 82%. Although demand for aircraft had fallen in 2002 following the 11 September 2001 attacks on the World Trade Center and the SARS epidemic¹⁹⁰⁵, demand for all LCA rebounded in subsequent years due to the demand for air travel in emerging markets¹⁹⁰⁶, market liberalization¹⁹⁰⁷, and because increases in the cost of fuel led airlines to replace older inefficient aircraft.¹⁹⁰⁸ There was, in particular, substantial growth in the size of the 200-300 seat LCA market during the reference period, that is, 2004-2006.¹⁹⁰⁹ Both Airbus and Boeing increased the volume of their sales within this product market during the reference period, as compared to the immediately preceding period, that is, 2002 and 2003.¹⁹¹⁰ With respect to market share, Airbus' share (comprising the A330 and A350) of the market declined by 36% between 2003 and 2004¹⁹¹¹, while, from 2004 to 2006, Boeing's market share

¹⁸⁹⁸The Panel noted that, even though it ultimately turned out that Boeing was unable to deliver the 787 in 2008, the relevant fact was that, "in 2004, Boeing believed that it would be able to make its first deliveries in 2008 (and made contractual promises to its customers to this effect)". (Panel Report, footnote 3712 to para. 7.1777)

¹⁸⁹⁹Panel Report, Appendix VII.F.1.A, p. 729, para. 1 (referring to European Communities' first written submission to the Panel, para. 1350). The Panel described these technologies, as well as how they relate to the technologies featured on the 787, in Appendix VII.F.1.B, p. 729.

¹⁹⁰⁰Panel Report, Appendix VII.F.1.B, pp. 729-733, paras. 3-10 and VII.F.1.C, pp. 738-739, paras. 20-25. The Panel defined a "composite" as a composition of two or more materials on a macroscopic scale, working together to produce material properties that are different from the properties of those elements on their own. (*Ibid.*, p. 729, para. 3)

¹⁹⁰¹Panel Report, Appendix VII.F.1.C, pp. 738-739, provides some background information concerning the design and manufacture of the composite fuselage.

¹⁹⁰²Panel Report, Appendix VII.F.1.A, p. 729, para. 1.

¹⁹⁰³Panel Report, Appendix VII.F.1.B, pp. 733-737, paras. 12-19.

¹⁹⁰⁴Panel Report, paras. 7.1774, 7.1775, 7.1777, and 7.1783.

¹⁹⁰⁵Panel Report, para. 7.1782.

¹⁹⁰⁶United States' response to Panel Question 299, para. 527; European Communities' response to Panel Question 299, para. 712.

¹⁹⁰⁷United States' response to Panel Question 299, para. 527; European Communities' response to Panel Question 299, para. 712.

¹⁹⁰⁸United States' response to Panel Question 299, para. 527; European Communities' response to Panel Question 299, para. 712.

¹⁹⁰⁹Panel Report, tables at paras. 7.1782 and 7.1783.

¹⁹¹⁰Panel Report, para. 7.1783.

¹⁹¹¹Panel Report, para. 7.1785.

(comprising the 767 and 787) was more than Airbus', ranging in these years between 54% and 66% of the 200-300 seat LCA market.¹⁹¹²

933. While list prices are higher than the actual prices paid for LCA, we note that Boeing's list prices for the 767 ranged between \$118 million and \$160.5 million, and between \$138 million and \$188 million for the 787.¹⁹¹³ For Airbus, sample list prices were \$160 million and \$178 million for the A330 and \$162 million and \$179 million for the Original A350.¹⁹¹⁴

3. The Panel's Analysis of the Effects of the Aeronautics R&D Subsidies on Boeing

934. The first set of arguments by the United States relates to the Panel's conclusion, at the close of the first stage of its analysis, that the aeronautics R&D subsidies "contributed in a genuine and substantial way to Boeing's development of technologies for the 787 and that, in the light of the conditions of competition in the LCA industry, these subsidies conferred a competitive advantage on Boeing".¹⁹¹⁵ The Panel reached this conclusion after its consideration of four main analytical elements: (i) the *objectives* of the aeronautics R&D subsidies; (ii) the *structure and design* of the aeronautics R&D subsidies; (iii) the *operation* of the aeronautics R&D subsidies; and (iv) the *conditions of competition* in the LCA industry. The Panel supplemented its analysis of these four pillars with a 27-page appendix to its Report—Appendix VII.F.1—in which it: (i) identified the six technology areas alleged by the European Communities to be "key" features of the 787¹⁹¹⁶; (ii) explained the process of the "design, manufacture and assembly of the 787"¹⁹¹⁷; and (iii) summarized the arguments advanced by the parties regarding the relationship between the aeronautics R&D subsidies and Boeing's development of the six technologies for the 787.¹⁹¹⁸

935. At the start of its analysis, the Panel explained that it would "focus primarily on the material pertaining to research conducted by Boeing and McDonnell Douglas under the aeronautics R&D programmes in the field of composites, and the composites technologies applied on the 787,

¹⁹¹²Panel Report, table at para. 7.1783.

¹⁹¹³These ranges of list prices are drawn from Panel Exhibit EC-664 ("2006 Boeing Jet Prices, as of 2 October 2006").

¹⁹¹⁴European Communities' first written submission to the Panel, Figure 11 at para. 1176.

¹⁹¹⁵Panel Report, para. 7.1773.

¹⁹¹⁶As we have noted above, these six technology areas were: (i) composites technologies, primarily the design, development, and manufacturing of 787 composite fuselages and wings; (ii) more-electric architecture; (iii) open systems architecture; (iv) enhanced aerodynamics and structural design; (v) noise reduction technologies; and (vi) health management systems. (Panel Report, Appendix VII.F.1.A, p. 729, para. 1 (referring to European Communities' first written submission to the Panel, para. 1350))

¹⁹¹⁷Panel Report, Appendix VII.F.1.C, pp. 738-739, paras. 20-25.

¹⁹¹⁸Panel Report, Appendix VII.F.1.D, pp. 740-756, paras. 26-78.

particularly under the ACT, AST and R&T Base programmes, which appear from the evidence to be the most commercially and technologically significant programmes in this regard".¹⁹¹⁹

936. The Panel then turned to consider the first pillar of its analysis, namely, the *objectives* of the aeronautics R&D subsidies. The Panel referred to statements by NASA officials, as well as a NASA report and US Congressional Budget Office documents¹⁹²⁰ confirming that the key objective of the aeronautics R&D subsidies at issue was "the enhancement of the competitiveness and increase of the market share of the U.S. industry, and Boeing in particular, vis-à-vis its international competitors".¹⁹²¹

937. Second, in its review of the *structure and design* of the eight NASA research programmes¹⁹²² and the two USDOD research programmes¹⁹²³ at issue, the Panel delineated the objectives and research priorities under each of these programmes. With respect to the NASA programmes, the Panel summarized overall that:

... NASA consistently and pervasively expresses the objectives of, and motivations behind, its aeronautics R&D programmes in terms of promoting the competitiveness of the U.S. aeronautics industry through technology development leading to superior and lower cost products. The particular areas covered by these R&D programmes appear to have been selected on the basis of their likely contribution toward the commercial development of technologies that were viewed as being of particular strategic importance to the enhancement of the competitiveness of the U.S. industry. Closely related to this, the evidence shows that the R&D was often undertaken at the behest of and in close collaboration with the U.S. industry. While the research performed by Boeing under the NASA R&D programmes was not undertaken directly in the context of the development and production of particular civil aircraft, the NASA R&D programmes aimed at enhancing Boeing's ability to develop technology for commercial purposes.¹⁹²⁴

938. As for the two USDOD RDT&E programmes, the Panel concluded that:

The objectives of {US}DOD's ManTech and DUS&T programmes are not specifically expressed as being to provide a competitive advantage to the U.S. aeronautics industry. Rather, these programmes have the explicit objective of developing "dual-use" R&D. To that end, they envisage collaboration with industry in developing technologies, including cost reduction processes and

¹⁹¹⁹Panel Report, para. 7.1702.

¹⁹²⁰Panel Report, paras. 7.1705-7.1708.

¹⁹²¹Panel Report, para. 7.1704.

¹⁹²²The ACT, AST, R&T Base, HSR, Computational Aerosciences project of the HPCC, QAT, VS, and AS programmes. (Panel Report, paras. 7.1709-7.1737)

¹⁹²³The ManTech and DUS&T programmes. (Panel Report, paras. 7.1738 and 7.1739)

¹⁹²⁴Panel Report, para. 7.1709.

practices that have application in the civil sector. In our view, the objectives of these {US}DOD RDT&E programmes suggest that subsidies funded under those programmes contribute to providing Boeing with competitive advantages.¹⁹²⁵

939. The Panel then proceeded to the third pillar, and conducted a lengthy examination of the *operation* of the aeronautics R&D subsidies. It began by recalling the strategic focus of the aeronautics R&D subsidies, noting that the NASA subsidies "are precisely focused on those areas which, from a commercial perspective, are considered to be the most crucial to the LCA industry in the sense that they carry the greatest prospect of creating significant competitive advantage."¹⁹²⁶ The Panel then noted that the aeronautics R&D subsidies operated as collaborative research projects with and for Boeing, and "complemented Boeing's internal product development efforts".¹⁹²⁷ In the Panel's view, this complementarity between NASA's and Boeing's own research efforts was apparent from "the length of the research and development cycle in the LCA industry and the timing of Boeing's product development"; the "extensive breadth and depth of technologies" required to produce a superior aircraft; and Boeing's collaboration with NASA in identifying and planning the research tasks for NASA and the technical performance goals of the particular aeronautics R&D subsidies.¹⁹²⁸

940. For the Panel, "{a}nother important aspect of the operation of the aeronautics R&D subsidies is their role in reducing Boeing's R&D risk."¹⁹²⁹ Based on evidence from budget estimates for NASA's R&T Base programme, as well as a NASA publication, the Panel found that "there are large disincentives for private sector investment in long-term, high risk aeronautical {R&D}".¹⁹³⁰ According to the Panel, these "large disincentives" stemmed from the "inability of individual companies to fully capture the benefits of these research efforts, as well as the length of the aircraft research and development cycle and investment recoupment period, and the extensive breadth and depth of technologies required to produce a superior aircraft."¹⁹³¹ The Panel noted that:

¹⁹²⁵Panel Report, para. 7.1740.

¹⁹²⁶Panel Report, para. 7.1742.

¹⁹²⁷Panel Report, para. 7.1746.

¹⁹²⁸Panel Report, para. 7.1746. In support of this finding, the Panel cited a Boeing conference paper that discussed the path to development of a composite fuselage. The author of that paper explained that the three phases of the NASA ACT programme, which had been originally envisaged to run from 1989-2002, "if combined with Boeing internally funded efforts ... would prepare {Boeing} for commitment to a composite fuselage application" by 2002-2003. (*Ibid.* (referring to L.B. Ilcewicz, "Advanced Composite Fuselage Technology", *Third NASA Advanced Composites Technology Conferences*, NASA Conference Publication 3178, Part 1, Vol. 1 (1992) (Panel Exhibit EC-1338), excerpt, p. 110))

¹⁹²⁹Panel Report, para. 7.1747.

¹⁹³⁰Panel Report, para. 7.1747. In support, the Panel referred to NASA R&T Base Budget Estimates, at FY 1997, SAT 4.5; and at FY 1999, SAT 4.1.3 (Panel Exhibit EC-398)). See also NASA publication, "Airborne Trailblazer", chap. 1 (Panel Exhibit EC-288), p. 2.

¹⁹³¹Panel Report, para. 7.1747 (referring to NASA R&T Base Budget Estimates, at FY 1997, SAT 4.5; and at FY 1999, SAT 4.1.3 (Panel Exhibit EC-398)).

... research conducted under the NASA R&D subsidies occurs through a gradual, iterative process in which failures and abandonment of further development of particular technologies serve as building blocks for newer technologies. In other words, even unsuccessful research generates important knowledge and experience that is applied to subsequent technology developments.¹⁹³²

941. The Panel therefore contemplated that research reduces risk, because, through a process of "trial and error, development efforts are progressively focused on the most promising technologies".¹⁹³³

942. Finally, relying on a 1999 independent study provided by the European Communities—the "Peisen Study"¹⁹³⁴—which sets out NASA's system of categorizing research according to its "technology readiness level", or "TRL", the Panel observed that NASA's role in the development of higher-risk technologies resulted in "an acceleration of the overall technology development process for an airframe manufacturer like Boeing and would therefore facilitate an earlier product launch than would otherwise have been possible."¹⁹³⁵

943. The Panel registered the disagreement between the parties as to the relationship between the technology concepts that Boeing and McDonnell Douglas studied pursuant to the NASA and USDOD aeronautics R&D subsidies, on the one hand, and the technologies actually applied to the 787, on the other hand. It noted that, whereas the United States had sought to emphasize the differences between the two, the European Communities emphasized the continuities.¹⁹³⁶ The Panel, for its part, considered that to focus on the differences between various technologies that may exist at particular points in time would "artificially and inaccurately obscure the important links that exist between them".¹⁹³⁷ The Panel explained that such links lay, for example, in the fact that the evidence before the Panel was "consistent with the technologies properly being viewed essentially as efforts directed to solving enduring technological problems", as well as with a "pattern whereby the technology concepts studied under the NASA R&D subsidies and the technologies applied to the 787 are essentially part of the same process in which solutions to technological problems are developed (through a collective exercise of progressive learning through trial and error involving largely the same teams of people over an extended period of time)."¹⁹³⁸ The Panel concluded that "technologies

¹⁹³²Panel Report, para. 7.7148.

¹⁹³³Panel Report, para. 7.1748.

¹⁹³⁴D.J. Peisen et al., *Case Studies: Time Required to Mature Aeronautic Technologies to Operational Readiness*, Draft report (SAIC and GRA, Inc., November 1999) (Panel Exhibit EC-795). We provide further details of the Peisen Study *infra*, para. 974.

¹⁹³⁵Panel Report, para. 7.1748.

¹⁹³⁶Panel Report, para. 7.1749 (referring to Affidavit of Alan Miller (Panel Exhibit US-1258)).

¹⁹³⁷Panel Report, para. 7.1750.

¹⁹³⁸Panel Report, para. 7.1750.

that may, at any given moment, be portrayed as discrete and unrelated, are in fact more appropriately regarded as being part of a single process of iterative learning and advancement in pursuit of a common technological goal."¹⁹³⁹

944. The Panel rejected arguments by the United States attributing the success of the technologies developed for the 787 to factors other than the aeronautics R&D subsidies, including the efforts of Boeing and its suppliers. In response to an argument that the 787 was the product of Boeing's own past commercial experience and its significant internal R&D efforts, the Panel emphasized the important contributions made by the aeronautics R&D subsidies to the early research efforts, as well as the "complementarity and interdependence"¹⁹⁴⁰ between the work that Boeing and McDonnell Douglas performed for NASA and Boeing's own aeronautics R&D efforts. Therefore, while the Panel recognized Boeing's and its suppliers' "significant investments"¹⁹⁴¹ towards the development of the 787, it found that, by 2004, these contributions had not outweighed the contribution made by the aeronautics R&D subsidies to the development of the technologies used on the 787.¹⁹⁴²

945. The Panel also held that the effects of the aeronautics R&D subsidies could not be assessed simply on the basis of the face value of the financial contributions involved, which amounted to "at least \$2.6 billion".¹⁹⁴³ Rather, the Panel found that, by their nature, the aeronautics R&D subsidies "multiply the benefit from a given expenditure".¹⁹⁴⁴ In this regard, the Panel rejected the proposition that "the effects of the aeronautics R&D subsidies can essentially be reduced to their cash value".¹⁹⁴⁵

946. On the basis of the foregoing observations, the Panel concluded, with respect to the operation of the aeronautics R&D subsidies, that they "are designed to develop and validate new technologies for Boeing to commercialize", and that "it would be artificial to treat their contribution as having been exhausted or so diminished as to no longer be making a genuine and substantial contribution to Boeing's development of technologies for the 787."¹⁹⁴⁶

¹⁹³⁹Panel Report, para. 7.1750.

¹⁹⁴⁰Panel Report, para. 7.1756.

¹⁹⁴¹Panel Report, para. 7.1757.

¹⁹⁴²Panel Report, para. 7.1758.

¹⁹⁴³Panel Report, para. 7.1760. This estimate was based on the Panel's earlier calculation of the value of the NASA aeronautics R&D subsidies. The Panel did not quantify the value of the USDOD aeronautics R&D subsidies. (See *ibid.*, para. 7.1433)

¹⁹⁴⁴Panel Report, para. 7.1760.

¹⁹⁴⁵Panel Report, para. 7.1760.

¹⁹⁴⁶Panel Report, para. 7.1764.

947. Fourth, the Panel turned to the *conditions of competition* between Airbus and Boeing. It noted the "intense competition"¹⁹⁴⁷ that characterizes the LCA industry, and opined that "a subsidy that enhances an LCA manufacturer's ability to develop innovative technologies for application to its aircraft will potentially give rise to a significant competitive advantage to that manufacturer".¹⁹⁴⁸

948. In this section, the Panel also responded to, and dismissed, arguments of the United States that NASA aeronautics R&D subsidies do not confer a competitive advantage on Boeing vis-à-vis Airbus, because NASA-funded research is generally applicable conceptual research, the results of which are publicly disseminated and equally available to Airbus.¹⁹⁴⁹ It similarly dismissed an argument that many of the technologies that the European Communities attempted to link to the research that Boeing and McDonnell Douglas performed for NASA and the USDOD pursuant to the aeronautics R&D subsidies are supplied by third parties and are commercially available to Airbus.¹⁹⁵⁰

949. Based on its assessment of these four pillars, the Panel concluded that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787 and that, in the light of the conditions of competition in the LCA industry, these subsidies conferred a competitive advantage on Boeing."¹⁹⁵¹

4. The United States' Appeal

950. The United States argues that the Panel erred in finding that the aeronautics R&D subsidies caused adverse effects to the interests of the European Communities within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement* because they "contributed in a genuine and substantial way to Boeing's development of technologies for the 787."¹⁹⁵² The United States contends that the Panel's conclusion that a "genuine and substantial" link exists is in error, because the Panel failed properly to take into account its own findings that:

- (a) much of the work that NASA funded bore a weak relationship to the 787 as it was not directed toward the six critical 787 technologies identified by the Panel;
- (b) even the NASA research most directly on the development pathway toward the 787 is far removed from the ultimate technologies used on that aircraft;

¹⁹⁴⁷Panel Report, para. 7.1765 (quoting Dr. J. Jordan and Dr. G. Dorman, "Reply to the Report of Professor Cabral" (NERA Economic Consulting, 2007) (Panel Exhibit US-3), p. 18).

¹⁹⁴⁸Panel Report, para. 7.1769.

¹⁹⁴⁹Panel Report, paras. 7.1770 and 7.1771.

¹⁹⁵⁰Panel Report, paras. 7.1771 and 7.1772.

¹⁹⁵¹Panel Report, para. 7.1773.

¹⁹⁵²United States' other appellant's submission, para. 214 (quoting Panel Report, para. 7.1773).

- (c) NASA funding was only one of many sources available to Boeing for technology development and was unavailable for later stages of the research;
- (d) non-subsidy sources were responsible for most of the technology eventually used to make the 787 and for Boeing's ability to apply that technology to the 787; and
- (e) the magnitude of the subsidies was small in relation to the cost of developing the 787.¹⁹⁵³

951. According to the United States, "when considered in their totality", the above findings demonstrate that the Panel could not properly have determined that a genuine and substantial relationship of cause and effect existed between the aeronautics R&D subsidies and the adverse effects to the interests of the European Communities.¹⁹⁵⁴ The United States does not, however, indicate whether we would have to reverse the Panel's conclusion regarding the effects caused by the aeronautics R&D subsidies if we were to accept that the Panel indeed made one or more of the above findings, but not that it made all of them. Nor does the United States explain whether it considers that we would have to reverse the Panel's ultimate conclusion if we considered only some subset of these findings to be inconsistent with that conclusion.

952. We note that the arguments of the United States listed above at subparagraphs (a)-(e) appear to relate primarily to the Panel's analysis of the *operation* of the aeronautics R&D subsidies, which was the third of the four pillars considered by the Panel in its overall assessment of the nature of the subsidies. The United States' arguments require us to make a determination as to whether, taken individually or cumulatively, the United States' grounds of appeal invalidate the Panel's finding that the aeronautics R&D subsidies "contributed in a genuine and substantial way to Boeing's development of technologies for the 787" and that a genuine and substantial causal link exists.¹⁹⁵⁵

953. One of the main points of contention between the participants lies in the proper characterization of the United States' claims and, in particular, whether its arguments relate to the Panel's application of the legal standard to the facts of this dispute, or, rather, exclusively to the Panel's appreciation of the facts. In this dispute, the relevant legal standard is the one provided for under Articles 5(c) and 6.3 of the *SCM Agreement*, which require that the adverse effects be shown to be the effects of, or caused by, the subsidies at issue. As we have explained above, the

¹⁹⁵³United States' other appellant's submission, para. 257. Although the United States sets out its arguments on appeal under six subheadings, it also appears to categorize them thematically under the five headings listed at subparagraphs (a)-(e) above.

¹⁹⁵⁴United States' other appellant's submission, para. 257.

¹⁹⁵⁵Panel Report, para. 7.1773.

Appellate Body has consistently articulated the causal link required under Article 6.3 as one involving "a genuine and substantial relationship of cause and effect".¹⁹⁵⁶ The United States has clarified that, in its arguments on appeal, it does not seek to challenge the overall analytical legal framework adopted by the Panel¹⁹⁵⁷; nor is it alleging that the Panel's errors "rise to the level" of a failure to make an objective assessment under Article 11 of the DSU¹⁹⁵⁸ (save for one claim that it specifically brings under that provision). Rather, the United States has styled its claims as relating to the Panel's failure to establish properly a "genuine and substantial" causal link within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement*. The United States posits that, having appropriately identified the legal requirements of Articles 5(c) and 6.3, the Panel took a number of "impermissible short-cuts in applying the law."¹⁹⁵⁹ According to the United States, the Panel's own findings regarding the nature and magnitude of the aeronautics R&D subsidies show that any link between the NASA and USDOD aeronautics R&D subsidies and Boeing's ability to launch a technologically innovative 787 "is so attenuated" that it does not rise to the level of a genuine and substantial relationship of cause and effect.¹⁹⁶⁰

954. The European Union asserts that all of the arguments of the United States in this part of its appeal relate solely to the weighing of the evidence and, therefore, should have been brought under Article 11 of the DSU as challenges to the Panel's objectivity in reviewing and appreciating the evidence. For the European Union, many of the United States' arguments on appeal have been repeated from the Panel stage, and reflect no more than mere disagreement with the Panel's factual findings.¹⁹⁶¹ The European Union highlights that similar kinds of arguments were raised in *EC and certain member States – Large Civil Aircraft*, and that the Appellate Body in that dispute treated them as arguments relating exclusively to factual findings.¹⁹⁶²

955. We recall that the Appellate Body has recognized the difficulty of distinguishing "clearly between issues that are purely legal or purely factual, or are mixed issues of law and fact", and has stated that "{i}n most cases ... an issue will *either* be one of application of the law to the facts *or* an issue of the objective assessment of facts, and not both."¹⁹⁶³ The Appellate Body has found that

¹⁹⁵⁶See *supra*, para. 913.

¹⁹⁵⁷United States' other appellant's submission, para. 196. The United States here explains that the Panel "correctly laid out the analytical framework, relied on the appropriate authorities to guide its analysis, and set out the proper legal tests." (*Ibid.*)

¹⁹⁵⁸United States' other appellant's submission, para. 221.

¹⁹⁵⁹United States' other appellant's submission, para. 196; see also para. 201.

¹⁹⁶⁰United States' other appellant's submission, para. 217.

¹⁹⁶¹European Union's appellee's submission, paras. 326 and 327.

¹⁹⁶²European Union's appellee's submission, para. 329 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1316).

¹⁹⁶³Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 872. (original emphasis)

allegations implicating a panel's assessment of the facts and evidence fall under Article 11 of the DSU.¹⁹⁶⁴ By contrast, "the consistency or inconsistency of a given fact or set of facts with the requirements of a given treaty provision is ... a legal characterization issue" and therefore a legal question.¹⁹⁶⁵ The Appellate Body has further stated that whether a panel properly interpreted a provision of the WTO agreements and properly applied that interpretation to the facts of the case is a legal question.¹⁹⁶⁶

956. A party is free to frame its claim on appeal as it sees fit.¹⁹⁶⁷ However, important consequences flow from that choice, including the standard of review that will apply in adjudicating that claim. When the Appellate Body considers that a claim consists solely of a challenge to the objectivity of the panel's assessment of the evidence, the Appellate Body has declined to consider such allegations in circumstances where the participant making them failed to raise an Article 11 claim in its Notice of Appeal or to substantiate such a claim in its submissions.¹⁹⁶⁸

957. In this dispute, the Panel found that the "aeronautics R&D subsidies contributed in a *genuine and substantial* way to Boeing's development of technologies for the 787".¹⁹⁶⁹ The Panel used similar language to summarize the intermediate conclusions that it drew from its review of the four pillars that it considered.¹⁹⁷⁰ The language used by the Panel to describe how the aeronautics R&D subsidies

¹⁹⁶⁴This includes claims that a panel: exceeded its authority as a trier of facts (Appellate Body Report, *US – Wheat Gluten*, para. 151); disregarded evidence or did not have a sufficient evidentiary basis on the record for its finding (Appellate Body Report, *US – Continued Zeroing*, para. 338); lacked even-handedness in the treatment of evidence (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 292); failed to provide reasoned and adequate explanations for its findings (Appellate Body Report, *US – Softwood Lumber VI (Article 21.5 – Canada)*, para. 97); or failed to provide coherent reasoning (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 293 and footnote 618 thereto, and para. 294).

¹⁹⁶⁵Appellate Body Report, *EC – Hormones*, para. 132.

¹⁹⁶⁶Appellate Body Report, *US – Upland Cotton*, para. 399.

¹⁹⁶⁷Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 872; Appellate Body Report, *Canada – Wheat Exports and Grain Imports*, para. 177; Appellate Body Report, *Japan – Apples*, para. 136.

¹⁹⁶⁸Appellate Body Report, *Mexico – Anti-Dumping Measures on Rice*, para. 274.

¹⁹⁶⁹Panel Report, para. 7.1773. (emphasis added)

¹⁹⁷⁰For instance, the Panel found that:

- it was not very realistic to believe that the US Government "would have provided aeronautics R&D subsidies of the magnitude received by Boeing (and McDonnell Douglas) between 1989 and 2006 without those subsidies contributing in a *genuine and substantial* way to improving Boeing's competitiveness";
- the aeronautics R&D subsidies "are designed to develop and validate new technologies for Boeing to commercialize, and we consider that it would be artificial to treat their contribution as having been exhausted or so diminished as to no longer be making a *genuine and substantial* contribution to Boeing's development of technologies for the 787"; and
- the aeronautics R&D subsidies "contributed in a *genuine and substantial* way to Boeing's development of technologies for the 787 and that, in the light of the conditions of competition in the LCA industry, these subsidies conferred a competitive advantage on Boeing."

(Panel Report, paras. 7.1740, 7.1764, and 7.1773, respectively (emphasis added); see also paras. 7.1752, 7.1754, and 7.1758)

contributed to the development of the 787—that is, in a "genuine and substantial" way—is reminiscent of the *legal* standard articulated by the Appellate Body for determining the existence of the requisite causal link between subsidies and the adverse effects identified in Article 6.3(a)-(c) of the *SCM Agreement*. Nonetheless, the Panel's repeated use of the phrase "genuine and substantial" does not, alone, establish that the Panel was in each instance reaching a legal, rather than a factual, conclusion.

958. The intermediate findings of a panel may be either legal or factual, or entail both factual and legal elements. In reviewing a panel's findings, it is often difficult to disentangle legal conclusions or legal reasoning from factual findings. Where there is ambiguity, it will fall on the Appellate Body to determine whether a finding—and a related challenge to it on appeal—is properly characterized as legal or factual, in the circumstances of a specific case. The United States brings its appeal on the basis that the Panel erred in applying the legal standard to the facts, and we will proceed to evaluate the United States' claims on that basis, save where we determine that the Panel's finding, and the United States' challenge to it, relate exclusively to the Panel's factual assessment. In such circumstances, we will be unable to conduct our review in the absence of a claim by the United States under Article 11 of the DSU.

959. With these considerations in mind, we turn to the specific arguments of the United States on appeal.

5. Specific Grounds of Appeal Raised by the United States

- (a) Whether the Panel erred by "extrapolating findings" with respect to three NASA composites programmes to all of the R&D programmes

960. The United States alleges that the Panel erred because it examined in detail only three NASA programmes—the ACT, AST, and the R&T Base programmes—and then "extrapolat{ed} their effects" to the remaining NASA and USDOD R&D programmes at issue.¹⁹⁷¹ The United States acknowledges that the ACT, AST, and R&T Base programmes, under which composites are researched, are the "most commercially and technologically" important¹⁹⁷², but contends that, by extrapolating their effects to the remaining NASA and USDOD programmes, the Panel "exaggerated the effect" of these remaining programmes, which, in the Panel's own estimation, were less relevant and bore little relation to the technologies used on the 787.¹⁹⁷³

¹⁹⁷¹United States' other appellant's submission, para. 222.

¹⁹⁷²United States' other appellant's submission, para. 222 (referring to Panel Report, para. 7.1702).

¹⁹⁷³United States' other appellant's submission, para. 222.

961. The United States highlights in particular the Panel's treatment of two NASA programmes—the HSR and the AS programmes—which according to the United States were not on the "causal pathway"¹⁹⁷⁴ to the development of the technologies used on the 787. With respect to the HSR programme, the United States refers to the Panel's explanation that this programme was aimed at developing high-speed supersonic civil transport and addressing environmental problems caused by atmospheric effects and community noise.¹⁹⁷⁵ According to the United States, these technological objectives were obviously different from those identified by the Panel (or by the European Communities) as critical for the 787.¹⁹⁷⁶ Moreover, the United States refers to the Panel's acknowledgement that the supersonic research under the HSR programme ended in failure since Boeing eventually abandoned the idea of launching a supersonic civil aircraft.¹⁹⁷⁷ With respect to the AS programme, the United States notes the Panel's finding that the objectives of that programme included: "(i) foundational science and discipline-centric research; (ii) multidisciplinary, coupled effects, and component-based research; (iii) sub-system or multidisciplinary integration; and (iv) system level design."¹⁹⁷⁸ Moreover, argues the United States, the AS programme was aimed at "saving lives" and not at the development of competitive technologies for Boeing's exclusive or predominant use.¹⁹⁷⁹ For the United States, the presence of subsidized research that was unrelated to the 787 technologies, within the larger category of aeronautics R&D subsidies analyzed by the Panel, calls into question whether the research conducted under programmes that did relate to the technologies used on the 787 was sufficient to cause the serious prejudice found by the Panel.¹⁹⁸⁰

962. The European Union disagrees with the "extrapolation" arguments of the United States. In its view, the Panel assessed the evidence before it and properly concluded that all of the research programmes contributed, to different degrees, to the technologies used on the 787.¹⁹⁸¹ The European Union notes that, in addition to evidence relating to the three composites-related NASA programmes, the Panel had before it concrete evidence of "technology spin-offs" from the other five (non-composites-related) NASA programmes that Boeing applied to the 787, and that such evidence is reflected in Appendix VII.F.1 of the Panel Report.¹⁹⁸² In any event, the European Union argues that the United States' focus on a 1:1 application to the 787 of the technologies studied under the R&D

¹⁹⁷⁴United States' other appellant's submission, para. 226.

¹⁹⁷⁵United States' other appellant's submission, para. 226 (referring to Panel Report, para. 7.1728). Moreover, the United States observes that the HSR programme accounted for 40% of the \$1.05 billion in NASA contracts found to be subsidies. (*Ibid.*)

¹⁹⁷⁶United States' other appellant's submission, para. 226.

¹⁹⁷⁷United States' other appellant's submission, para. 226 (referring to Panel Report, para. 7.1730).

¹⁹⁷⁸United States' other appellant's submission, para. 225 (quoting Panel Report, para. 7.1737).

¹⁹⁷⁹United States' other appellant's submission, para. 225.

¹⁹⁸⁰United States' other appellant's submission, para. 228.

¹⁹⁸¹European Union's appellee's submission, para. 366 (referring to Panel Report, para. 7.1702).

¹⁹⁸²European Union's appellee's submission, para. 363.

programmes ignores the cumulative effect of the subsidies in allowing Boeing to identify an optimized solution for the design of the 787 at the optimal time.¹⁹⁸³

963. We take as our starting point the Panel's own description of the way in which the research conducted by Boeing pursuant to the NASA and USDOD programmes contributed to the technologies used on the 787. The Panel embarked on its analysis by drawing attention to the assertion of the European Communities that "the most important of the technical characteristics of the 787" that are derived from the aeronautics R&D subsidies "are its composite fuselage, composite wing, and composite manufacturing tools and processes".¹⁹⁸⁴ The Panel clarified that NASA's AST, ACT, and R&T Base programmes, pursuant to which research was conducted by Boeing and McDonnell Douglas in the field of composites and composites technologies, were the "most commercially and technologically significant programmes", and explained that, for this reason, it would "focus primarily" on the research under these programmes.¹⁹⁸⁵ The participants were in agreement at the oral hearing that the Panel did not err in selecting these three programmes as the most important "commercially and technologically", because of the composites research conducted under them.

964. The importance ascribed by the Panel to composites technologies—and the ACT, AST, and R&T Base programmes under which such technologies were studied—is reflected in its analysis. The Panel took note of the preponderance of composites structures used on the 787¹⁹⁸⁶, and explained how NASA's research objectives relating to composites evolved from 1989 through to the 2000s under the

¹⁹⁸³European Union's appellee's submission, paras. 372 and 373.

¹⁹⁸⁴Panel Report, para. 7.1702.

¹⁹⁸⁵Panel Report, para. 7.1702.

¹⁹⁸⁶The Panel noted, for example, that: the fuselage of the 787—composed of frames, stringers, and skin—is constructed from composite materials using a variety of innovative technologies (Panel Report, Appendix VII.F.1.C, p. 738, paras. 22 and 23); the use of composites was innovative because, previously, aircraft were constructed by bolting panels together, which added weight and required seams and joints that were expensive to maintain (p. 738, paras. 21 and 22); and there were contributions made by suppliers in manufacturing composite wings for the 787 (p. 739, para. 25). In Appendix VII.F.1.B, pp. 729-733, paras. 3-10 and Appendix VII.F.1.C, pp. 738-739 of the Panel Report, the Panel described the development of the use of composites on a number of predecessor Airbus and Boeing models, through to the 787 aircraft.

successive ACT, AST, and R&T Base programmes.¹⁹⁸⁷ The Panel highlighted a specific example of the research conducted by Boeing engineers pursuant to a contract funded by the ACT programme—the Advanced Composite Technology Fuselage Program ("ATCAS")—that led to the development of the 360° single barrel composite fuselage, a hallmark feature of the 787.¹⁹⁸⁸ The Panel also referred to the substantial *knowledge and experience* gained by Boeing engineers working under the NASA composites programmes, and delineated how their immersion in composites manufacture and design over a number of years enabled them to "leverage the substantial accumulated knowledge and experience in any future composite-related R&D activity".¹⁹⁸⁹ That experience led to tangible benefits—for example, the Panel noted that "the most important benefit that the ACT program provided to Boeing was the ability for its engineers to gain experience and work under real development program restrictions with clear cost targets."¹⁹⁹⁰

965. We recall that the United States' argument on appeal is that the Panel "extrapolated" the findings made with respect to the three composites-related programmes to the remaining five NASA and two USDOD programmes considered by the Panel. The United States draws our attention to two

¹⁹⁸⁷For instance, the Panel noted that NASA launched the ACT programme as a "major new programme" for composite wing and fuselage primary structures in 1988. (Panel Report, para. 7.1710) It described how, between 1988 and 1995, the composites research proceeded in phases under the ACT programme, which was succeeded by the AST and R&T Base programmes, which themselves ran from the late 1990s through to the 2000s. (*Ibid.*, paras. 7.1710-7.1727) The Panel explained how the composites research conducted under these successive NASA programmes was geared towards the reduction of the weight of transport as well as of the costs of producing aircraft composites, which would eventually lead to increased aircraft performance and lower operating costs. For instance, in describing the objectives of the AST programme, the Panel highlighted the following statement in a NASA AST Budget Estimate document:

While the current demonstrated level of composites technology can promise improved aircraft performance and lower operating costs through reduced structural weight, it does so with increased manufacturing costs, currently twice the cost of aluminium. The goals of the composites element are to reduce the weight of civil transports by 30-50% and their cost by 20-25% compared to today's metallic transports. This translates into a potential 16% direct operating cost-savings to the airlines and increases the competitiveness of the U.S. built transports. In cooperation with industry and the {Federal Aviation Administration}, research is performed to validate the technology for the application of new composites manufacturing techniques, such as through-the-thickness stitching and resin transfer moulding, textile preforms and advanced fiber placement, on transport wings.

(Panel Report, para. 7.1716 (quoting NASA AST Budget Estimates, FY 1992-FY 2001 (Panel Exhibit EC-357), at FY 1996, SAT 4-38))

¹⁹⁸⁸Panel Report, para. 7.1751. The Panel agreed with the European Communities that the work conducted by Boeing pursuant to the ATCAS, involving the preparation of a four quadrant, panelized fuselage section, served as a "roadmap" for Boeing to arrive at the composite fuselage 360° barrel solution that it later used on the 787. (*Ibid.*)

¹⁹⁸⁹Panel Report, footnote 3684 to para. 7.1756 (referring to Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI))), para. 27)

¹⁹⁹⁰Panel Report, footnote 3684 to para. 7.1756 (quoting D. Wacht, "An Analysis of Selected NASA Research Programs and Their Impact on Boeing's Civil Aircraft Programs" (November 2006) (Panel Exhibit EC-15 (BCI)), p. 67).

NASA programmes in particular—the HSR and AS programmes—and asserts that the Panel's findings with respect to these programmes disclose little or no relation to the technologies that the Panel found (and the European Communities had argued) were responsible for making the 787 the success that it was in 2004.

966. We recall that the Panel discussed the technical objectives of the HSR and AS programmes as part of its consideration of the *structure and design* of the subsidies, under the second pillar of its analysis. With respect to the HSR programme, the Panel noted that research was geared towards the development of a high-speed supersonic civil transport. Under Phase I, the objective was to define the "environmental compatibility requirements in the areas of atmospheric effects and community noise and sonic boom" and to establish "technology foundation to meet these requirements".¹⁹⁹¹ Under Phase II, the programme would address "essential technologies needed by the U.S. aeronautics industry in order to make informed decisions regarding future {high-speed supersonic civil transport} development and production."¹⁹⁹² With respect to the AS programme, the Panel noted that research under that programme would contribute to a reduction in aviation and accident fatality rates and would encompass research in "foundational science and discipline-centric research; multidisciplinary, coupled effects, and component-based research; sub-system or multidisciplinary integration; and system level design".¹⁹⁹³

967. It is clear from the above descriptions of the technical objectives of the HSR programme and the AS programme that the Panel did not explicitly link any of the six technologies used on the 787 to the research conducted under the two programmes.¹⁹⁹⁴ However, this alone does not validate the United States' argument that, by failing to do so, the Panel thereby improperly "extrapolated" findings with respect to the ACT, AST, and R&T Base programmes. This is because the Panel's finding of a causal pathway was not predicated upon the existence of a direct relationship between the technologies seen on the 787 and the research conducted under the NASA and USDOD programmes. Rather, as the Panel explained, the technologies used on the 787 must be understood as the product of an incremental process of research that progressed in gradual stages. The Panel further explained that the "technology concepts studied under the NASA R&D subsidies and the technologies applied to

¹⁹⁹¹Panel Report, para. 7.1728 (quoting NASA HSR Budget Estimates, FY 1991-FY 2001 (Panel Exhibit EC-343), at FY 1994, RD 9-31).

¹⁹⁹²Panel Report, para. 7.1729 (referring to NASA HSR Budget Estimates, FY 1991-FY 2001 (Panel Exhibit EC-343), at FY 1994, RD 9-33).

¹⁹⁹³Panel Report, para. 7.1737 (referring to NASA Aviation Safety Budget Estimates, FY 2000-FY 2007 (Panel Exhibit EC-382), at FY 2007, SAE ARMD 2-7).

¹⁹⁹⁴We recall that the European Communities had identified a total of six technologies that were used on the 787. Apart from the composites technologies, these included technologies related to "more-electric" architecture; open systems architecture; enhanced aerodynamics and structural design; noise reduction; and health management systems.

the 787 are essentially part of the same process in which solutions to technological problems are developed (through a collective exercise of progressive learning through trial and error involving largely the same teams of people over an extended period of time)".¹⁹⁹⁵ Moreover, the Panel highlighted that "technologies that may, at any given moment, be portrayed as *discrete and unrelated*, are in fact more appropriately regarded as being part of a single process of iterative learning and advancement in pursuit of a common technological goal."¹⁹⁹⁶ For the Panel, therefore, "even unsuccessful research generates important knowledge and experience that is applied to subsequent technology developments."¹⁹⁹⁷

968. The Panel therefore perceived the causal link as encompassing not only research conducted pursuant to the NASA and USDOD programmes that can be traced directly to the 787 technologies, but also research that was less directly related, and even resulted in failure. Framed at such a level of generality, this causal connection might be taken to mean that any programme, irrespective of how closely the research conducted pursuant to it might be to the eventual 787 technologies, would be included. However, the Panel illustrated, through a number of specific examples, how the research conducted under the programmes at issue contributed to the eventual 787 technologies. As we have noted above, the Panel highlighted how Boeing's work under the ATCAS contract led to the development of the 360° single barrel composite fuselage.¹⁹⁹⁸ With respect to the "more-electric systems" technology, the Panel explained that, although the technologies developed pursuant to the AST-funded "Power-by-Wire" contract between NASA and McDonnell Douglas¹⁹⁹⁹ were developed on different aircraft and using different criteria, the objective of the contract was the development and demonstration of a "more-electric secondary power system" that would provide enough confidence through testing that industry could transfer the technology to their civil fleet.²⁰⁰⁰

¹⁹⁹⁵Panel Report, para. 7.1750.

¹⁹⁹⁶Panel Report, para. 7.1750. (emphasis added)

¹⁹⁹⁷Panel Report, para. 7.1748.

¹⁹⁹⁸Panel Report, para. 7.1751. See *supra*, footnote 1988.

¹⁹⁹⁹Panel Report, para. 7.1752 (referring to European Communities' first written submission to the Panel, Annex C, para. 71, in turn referring to NASA Contract NAS3-27018 with McDonnell Douglas Aerospace regarding Power-By-Wire Development and Demonstration for Subsonic Civil Transport, 29 September 1993 (Panel Exhibit EC-826), at C-5).

²⁰⁰⁰See Panel Report, para. 7.1752. For this reason, the Panel considered it "artificial to suggest that the research into more-electric systems architecture that Boeing and McDonnell Douglas conducted under the aeronautics R&D programmes did not contribute in a genuine and substantial way to Boeing's development of more-electric systems for the 787 because, for example, the flight controls for the 787 are not the same electronic actuation technology studied by McDonnell Douglas under the {Power-By-Wire} contract." (*Ibid.*)

969. Turning to the specific examples of the HSR and AS programmes, we note first that the European Communities explained before the Panel how they each contributed to the eventual development of key technologies used on the 787.²⁰⁰¹ Second, as regards the HSR programme, the United States highlights on appeal that this programme resulted in failure and had to be abandoned. However, as the Panel itself explained, programmes that do not lead to successful technologies are not necessarily outside the causal pathway because "even unsuccessful research generates important knowledge and experience that is applied to subsequent technology developments."²⁰⁰² In any event, we can identify one way in which the failed HSR programme, which focused on supersonic technologies, contributed to advancing the research into the 787 technologies. The Panel noted that, prior to 2000, Boeing was working on a high-speed aircraft—the Sonic Cruiser.²⁰⁰³ However, that project gained little support from airlines because customers were more interested in aircraft with lower operating costs than in aircraft flying at supersonic speed. In line with this feedback, Boeing decided to build a more efficient airplane that was capable of flying at the same speed as existing aircraft but at a lower cost.²⁰⁰⁴ It appears, therefore, that the research into the high-speed Sonic Cruiser, even if it ultimately resulted in failure, helped Boeing to eliminate those technologies that were not commercially attractive, and to concentrate Boeing's engineers' efforts instead on research into technologies—in particular, composites—that were of more interest to customers and were actually used on the 787.

970. In the light of the above, we do not agree with the United States that the Panel improperly "extrapolated" the effects of the three composites programmes to the other NASA and USDOD programmes. The causal link found to exist between all of the R&D programmes at issue and the 787 technologies did not rest on extrapolation. Reasoning from "extrapolation" would imply an assumption that, because certain programmes gave rise to technologies that are used on the aircraft, other programmes automatically do the same. That was not the Panel's reasoning. Rather, it was the Panel's view that all of the programmes, to differing degrees, contributed to the process of

²⁰⁰¹For instance, as regards the HSR programme, the European Communities argued that this programme helped Boeing develop and enhance CFD (computer design software) codes, which allowed the company to improve the *aerodynamics and structural design* of its LCA in less time and at lower cost than would otherwise have been possible, particularly as they reduce the need for extensive and expensive wind tunnel tests. (See Panel Report, Appendix VII.F.1.D, p. 749, paras. 55-60) The European Communities argued that Boeing conducted research on *health management* technologies under the AS programme. (See *ibid.*, p. 755, para. 75)

²⁰⁰²Panel Report, para. 7.1748.

²⁰⁰³Panel Report, para. 7.1746. In its arguments before the Panel, the United States itself noted that Boeing had initially sought to meet the demand for the new fragmented market it had foreseen with a fast, extended-range aircraft because it would not only be faster and lighter, due to the use of composites, but it would also travel just under the speed of sound. (United States' first written submission to the Panel, paras. 921 and 922)

²⁰⁰⁴United States' first written submission to the Panel, paras. 921 and 922.

technological development that eventually led to the commercialization of the 787 technologies. The Panel was clearly of the view that the three composites programmes that contributed to the development of the composites technologies were on the "causal pathway" to Boeing's offering of the 787. However, this did not exhaust the Panel's understanding of the relevant causal link. That causal connection encompassed even research conducted pursuant to programmes that resulted in failure, or were not directly related to the 787 technologies. Far from attenuating or diluting any link that might exist between the three composites programmes and the 787, the Panel's assessment of the role of the remaining R&D programmes buttresses its overall finding that all of the aeronautics R&D subsidies contributed, albeit to differing degrees, to the development of the technologies used on the 787.

971. Accordingly, we reject the United States' argument on appeal that, in its analysis of the three composites programmes, the Panel "extrapolated" findings to the remaining NASA and USDOD programmes at issue, and that the Panel's assessment thereby attenuates the genuine and substantial link found by the Panel to exist between the aeronautics R&D subsidies and Boeing's development of the technologies used on the 787.

- (b) Whether the Panel erred by not finding that the NASA research was too far removed from the commercial technologies used on the 787

972. In its second argument on appeal, the United States alleges that, by misreading a table in the Peisen Study²⁰⁰⁵, the Panel miscalculated the amount of time by which the NASA research accelerated the development of the technologies used on the 787 and thereby understated the time and resources that Boeing itself was required to invest to bring the NASA research to commercial viability. Therefore, posits the United States, even if the research conducted by NASA were on the "causal pathway" towards a technology ready for operational use on the 787, the Panel underestimated how far removed that research was from the technologies actually used on the 787, and therefore misjudged the amount of additional private sector development time required to develop them.²⁰⁰⁶ This, argues the United States, further attenuates the genuine and substantial causal link found by the Panel.

973. The European Union counters that the arguments of the United States relate to a factual error by the Panel and, in the absence of a claim under Article 11 of the DSU, are outside the scope of appellate review. In any event, contends the European Union, even if the United States' arguments

²⁰⁰⁵We provide further details of the Peisen Study *infra*, para. 974.

²⁰⁰⁶See United States' other appellant's submission, paras. 229-235.

were to be accepted on appeal, they do not invalidate the Panel's finding of a causal link²⁰⁰⁷ because, even if the Panel's reading of the table in the Peisen Study were erroneous, and were revised, this correction would not affect the Panel's ultimate legal conclusions.²⁰⁰⁸ The European Union argues that even the revised numbers show that: the NASA-funded research gave Boeing a significant timing advantage of several years in developing the 787 technologies; the NASA research reduced the risk faced by Boeing; and the Peisen Study provides *average* timeframes for a broad range of "airframe" technologies that are not the specific technologies used on the 787, which might in any event require a longer time to develop.²⁰⁰⁹

974. We note first that the Panel referred to the Peisen Study in support of its finding that NASA research reduces the risk that the private sector would otherwise have to bear in financing early and potentially unsuccessful research.²⁰¹⁰ That study explains NASA's system of categorizing research according to its level of maturity or TRL (technological readiness level), ranging from the highest risk and lowest maturity technology at TRL 1 ("basic scientific/engineering principles observed and reported") to the lowest risk and highest maturity technology at TRL 9 ("operational use of actual system tested, and benefits proven").²⁰¹¹ According to the Peisen Study, "NASA typically works on technologies from a TRL of 1 to a TRL of 6" and, at TRL 6, "industry often takes the technology and develops it to the state of operational readiness, TRL 9".²⁰¹² The Peisen Study, which examined 18 civil aeronautics products, notes that there is considerable variability in the time it takes for technologies to mature, with average maturation times varying by technology type, by the technology's primary benefit or goal, and, to a lesser extent, by the need for additional technologies or NASA testing for the successful maturation of the technology.²⁰¹³

975. Based on evidence in the Peisen Study indicating the average time taken by NASA to progress from TRL 1 to TRL 6, the Panel concluded that NASA's development of "higher risk technologies up to TRL 6 results in an acceleration of the overall technology development process for an airframe manufacturer like Boeing and would therefore facilitate an earlier product launch than would otherwise have been possible".²⁰¹⁴ The Panel based this consideration on its assessment that the average time to progress from TRL 1 to TRL 6 is 11.3 years. The Panel derived this estimate

²⁰⁰⁷European Union's appellee's submission, para. 379.

²⁰⁰⁸European Union's appellee's submission, para. 383 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1335).

²⁰⁰⁹European Union's appellee's submission, paras. 385-387.

²⁰¹⁰Panel Report, paras. 7.1747 and 7.1748.

²⁰¹¹Peisen Study, Table 1.2-1, p. 2.

²⁰¹²Peisen Study, p. 1. A TRL of 6 typically means that the prototype of the system concept is demonstrated in a relevant environment. (*Ibid.*, Table 1.2-1, p. 2)

²⁰¹³Panel Report, footnote 3668 to para. 7.1748.

²⁰¹⁴Panel Report, para. 7.1748.

from its reading of a table in the Peisen Study relating to the average time taken by airframe technologies to progress to TRL 9 from TRL 1, which included the following data:

Table 4. Sample statistics of twelve NASA technologies from TRL 1 to TRL 9, by type of aeronautics technology-airframe

Years to TRL 9 from TRL:	Airframe Technologies (2)	
	Average	St Dev
1	16.5	4.2
2	15.5	3.5
3	14.8	3.2
4	14.0	2.8
5	12.0	4.2
6	11.3	3.9
7	10.0	4.2
8	2.5	2.1
9	0	0

Source: Peisen Study, p. 11, Table 3.3-1.

976. As the heading on the left-most column indicates, each row sets out the average number of years (and the relative standard deviation) that a technology takes to mature *from* the TRL indicated in the left column *to* TRL 9. Accordingly, row 6 reports the number of years from TRL 6 to TRL 9, and shows the average as being *11.3 years*. Having reviewed the table, however, the Panel stated that "the average time *from TRL 1 to TRL 6* was 11.3 years ..., while the average time from TRL 1 to TRL 9 was 16.5 years".²⁰¹⁵ Therefore, according to the Panel's calculation, the time necessary for an airframe technology to mature from TRL 6 to TRL 9 is only 5.2 years.

977. The United States asserts that the Panel misunderstood the first column of the table and, as a result, wrongly read it to state that it takes 11.3 years from TRL 1 to TRL 6. Read properly, the table shows that it takes 5.2 years from TRL 1 to TRL 6, and 11.3 years from TRL 6 to TRL 9.²⁰¹⁶ The European Union does not defend the 11.3-year period referred to by the Panel. Both participants thus appear to accept, and it seems incontrovertible to us, that the Panel misread the table in the Peisen Study.

978. The United States contends that the consequence of the Panel's error in overestimating the duration of the NASA-funded high-risk/low-maturity research—and therefore underestimating the time and resources invested by Boeing and its suppliers in the later stages of the research process—is that the Panel's ultimate finding that a causal link exists is weakened.

²⁰¹⁵Panel Report, para. 7.1748. (emphasis added)

²⁰¹⁶United States' other appellant's submission, para. 233.

979. In addressing the United States' claim, we can distinguish two steps taken by the Panel in its consideration of the table in the Peisen Study. First, the Panel's appreciation of the contents of that table; and second, its application of the legal causation standard to the evidence. The first step is factual since it concerns the Panel's treatment of factual evidence; the second step, however, is legal since it involves the characterization of the facts according to the legal standard. Although a misreading of the evidence under the first step might have had consequences for the Panel's ultimate legal conclusion under the second step, it is an error in the appreciation of the facts, and not an error in the application of the legal standard. Consequently, in the absence of a claim under Article 11 of the DSU, we are unable to consider further this ground of the United States' appeal.

980. Even if we were able to correct the Panel's erroneous reading of the table in the Peisen Study, the United States has not explained why or how the Panel's numerical error necessarily vitiates its finding that the aeronautics R&D subsidies facilitated an earlier launch of the 787 than would have otherwise been possible. In this regard, we note first that, having (erroneously) stated that the average amount of time to progress from TRL 1 to TRL 6 was 11.3 years, the Panel tempered the import of this finding by stating that it did not thereby "mean to suggest that it would have taken Boeing as much as 11 years longer to develop the 787 in the absence of the aeronautics R&D subsidies".²⁰¹⁷ Such a caveat was, in our view, reasonable given that the estimates in the Peisen Study were based only on *average* timeframes, and do not necessarily reflect the precise time that was required to develop and launch the technologies used on the 787. The Panel's finding must be understood to mean that the NASA aeronautics R&D subsidies accelerated the technology development process by *some* amount of time, and, therefore gave Boeing an advantage in bringing its technologies to market. The exact amount of time was not critical: that the NASA research enabled Boeing to accelerate the research process was. Second, the Panel found elsewhere that the aeronautics R&D subsidies reduced the large disincentives for the private sector to invest in early stage aeronautics R&D.²⁰¹⁸ For the Panel, because of the importance of the aeronautics R&D subsidies in overcoming these significant disincentives, it was "not reasonable" to believe that, absent the aeronautics R&D subsidies, Boeing could have achieved the gains that it did "within the time-frame" that it did.²⁰¹⁹ In the Panel's view, therefore, without the aeronautics R&D subsidies, Boeing would not have been willing to invest as much, and as soon, in early stage R&D, and it would have taken Boeing longer to bring the 787 technologies to commercial readiness without the aeronautics R&D subsidies.

²⁰¹⁷Panel Report, para. 7.1748.

²⁰¹⁸Panel Report, para. 7.1747. The Panel found that there were large disincentives for private sector investment in long-term, high-risk R&D due to the inability of individual companies to capture fully the benefits of research efforts, the length of the aircraft research and development cycle and investment recoupment cycle, and the extensive breadth and depth of technologies to produce superior aircraft. (*Ibid.*, para. 7.1747) This finding has not been appealed by the United States.

²⁰¹⁹Panel Report, para. 7.1759.

981. For the above reasons, we reject the argument of the United States that the Panel's misreading of the table in the Peisen Study attenuates its finding that the aeronautics R&D subsidies contributed in a genuine and substantial way to the development of the 787.

- (c) Whether the Panel erred in its appreciation of the role of Boeing and its suppliers in the development of the technologies used on the 787

982. The United States also challenges the Panel's assessment of the role played by Boeing and its suppliers in the commercial and technological success of the 787. The United States highlights that the Panel itself acknowledged that Boeing conducted a substantial amount of research *on its own* to develop and launch the 787, including at the early stages of the research effort.²⁰²⁰ According to the United States, the NASA-funded research was, "by any measure"²⁰²¹, small in comparison, and the additional research and independent technological developments by Boeing attenuate any link between the aeronautics R&D subsidies and the technologies used on the 787.²⁰²² Further, the United States argues that the Panel failed to take proper account of the knowledge and experience that Boeing acquired from non-NASA sources, including through its work with its suppliers. It was through this collaboration that Boeing gained the skills to integrate technologies on LCA, and not, as the Panel found, because of the aeronautics R&D subsidies.²⁰²³ The United States argues, in parallel, that, by finding that Boeing gained "integration skills" through NASA research, the Panel acted inconsistently with its obligations under Article 11 of the DSU.²⁰²⁴ The United States contends that, although the Panel accepted that many of the technologies used on the 787 were commercially available or otherwise sourced from Boeing's suppliers²⁰²⁵, it underestimated their contribution to Boeing's knowledge base and to the technologies used on the 787.²⁰²⁶

983. The European Union repeats its argument that *all* of these claims of the United States should have been brought under Article 11 of the DSU. With respect to the specific claim brought by the United States under Article 11 of the DSU, the European Union recalls the Panel's finding that the aeronautics R&D subsidies enabled Boeing to meet the challenges of integrating technologies from a wide variety of suppliers.²⁰²⁷ The European Union submits that the United States' argument "fails to

²⁰²⁰United States' other appellant's submission, para. 236 (referring to Panel Report, para. 7.1746).

²⁰²¹United States' other appellant's submission, para. 237.

²⁰²²United States' other appellant's submission, para. 236.

²⁰²³United States' other appellant's submission, paras. 238 and 240 (referring to Panel Report, para. 7.1757).

²⁰²⁴United States' other appellant's submission, paras. 238 and 239.

²⁰²⁵United States' other appellant's submission, para. 238 (referring to Panel Report, para. 7.1757).

²⁰²⁶United States' other appellant's submission, para. 238.

²⁰²⁷European Union's appellee's submission, para. 396 (referring to United States' other appellant's submission, paras. 214 and 238-249).

recognise that several ... contracts were precisely focused on making Boeing a better integrator"²⁰²⁸ and refers to the Panel's finding that the United States' argument "overlooks the importance of the knowledge and experience that Boeing obtained pursuant to the aeronautics R&D subsidies".²⁰²⁹ The European Union asserts that, simply because the Panel accorded the evidence a different weight than the United States does not mean that the Panel failed to conduct an objective assessment under Article 11 of the DSU.²⁰³⁰

984. We begin with the United States' argument that the Panel erred in its application of Articles 5(c) and 6.3 in failing to take proper account of the contribution of Boeing and its suppliers vis-à-vis the role of the aeronautics R&D subsidies in the timely development of the 787 technologies, and that this alleged failure vitiates the Panel's determination that a genuine and substantial causal relationship existed between the aeronautics R&D subsidies and the 2004 launch of the technologically advanced 787. As we have noted above²⁰³¹, a panel that is tasked with determining whether the causal link in question meets the requisite standard of a "genuine and substantial" causal relationship will often be confronted with multiple factors that may have contributed, to varying degrees, to that effect. As part of its assessment of the causal nexus between the subsidy at issue and the effect(s) that it is alleged to have had, a panel must seek to understand the interactions between that subsidy and the various other causal factors, and make an assessment of their connections to, as well as the relative importance of the subsidy, and of the other factors, in bringing about, the relevant effect(s). In order to find that the subsidy is a genuine and substantial cause, a panel need not determine it to be the *sole* cause of that effect, or even that it is the *only* substantial cause of that effect. A panel must, however, take care to ensure that it does not attribute the effects of those other causal factors to the subsidy at issue, and that the other causal factors do not dilute the causal link between that subsidy and the alleged adverse effects such that it is not possible to characterize that link as a genuine and substantial relationship of cause and effect. We have also noted that a demonstration that subsidies are a genuine and substantial cause of the alleged serious prejudice is a fact-intensive and case-specific exercise.

985. We consider first the Panel's discussion of the contribution made by *Boeing* to the overall development of the technologies used on the 787. The Panel noted that NASA research complemented and was conducted in collaboration with Boeing's *own* internally funded research

²⁰²⁸European Union's appellee's submission, para. 397.

²⁰²⁹European Union's appellee's submission, para. 398 (referring to Panel Report, para. 7.1772). The European Union highlights, in this respect, the Panel's finding that "[t]he critical question in developing and building LCA is *not* how to *get* the different technologies and design and manufacturing tools. The critical question is how to *use* them." (*Ibid.*, para. 399 (quoting Panel Report, para. 7.1772 (original emphasis)))

²⁰³⁰European Union's appellee's submission, para. 400.

²⁰³¹*Supra*, paras. 913 and 914.

efforts²⁰³², illustrating by way of example that, while Boeing conducted research on one fuselage segment under the NASA-funded ATCAS, it used internal funds to conduct research on other fuselage segments, material and process standards, and structural allowables.²⁰³³ The Panel further stated that, from 2000 onwards, Boeing—together with its suppliers—had made "significant investments in R&D" in the "respective technology areas", first with respect to the Sonic Cruiser and then with respect to the 787, and had developed expertise in the application of composites in secondary structures, as well as in primary structures such as the 777 empennage.²⁰³⁴ The Panel also took into account Boeing's *own* financial resources and registered that, between 1986 and 2006, Boeing repurchased \$16 billion worth of its own stock.²⁰³⁵

986. The above statements by the Panel illustrate that it appreciated the extent of Boeing's contribution to the research into the technologies for the 787, and was aware of its ability to finance such research. However, the Panel demonstrated through its reasoning why those substantial contributions on Boeing's part were not inconsistent with the genuine and substantial link that it had found to exist between the aeronautics R&D subsidies and the timely development of the 787 technologies. What was crucial to that link was not merely the fact that Boeing also conducted research, and that it used its own resources to do so, but, rather, it was "the length of time over which {the aeronautics R&D subsidies} operated, the collaboration with Boeing and complementarity with Boeing's own internal R&D efforts and the nature of the technological problems that were the focus of the research".²⁰³⁶ In the course of its analysis, the Panel highlighted the joint efforts between Boeing and NASA in conducting research. It noted that "Boeing gain{ed} a significant advantage from performing the R&D work itself, *in collaboration with NASA*, as well as from conducting research under the R&D subsidies *in tandem with its own related R&D efforts*."²⁰³⁷ Moreover, the Panel noted that the effects of the subsidies were measured by the "*cumulative effect* of Boeing's decades-long participation" in NASA and USDOD programmes, taking into account "the *complementarity and interdependence* between the work that Boeing and McDonnell Douglas performed for NASA and Boeing's own internal R&D efforts."²⁰³⁸ The Panel also underscored the boost that the NASA subsidies provided to the development of technologies at the earliest, most fundamental, stages of research. For the Panel, to focus too narrowly on Boeing's experience and its significant internal R&D efforts alone would "sever artificially the contribution of *earlier significant research efforts*

²⁰³²Panel Report, para. 7.1746.

²⁰³³Panel Report, para. 7.1746.

²⁰³⁴Panel Report, para. 7.1757.

²⁰³⁵Panel Report, para. 7.1760.

²⁰³⁶Panel Report, para. 7.1754.

²⁰³⁷Panel Report, para. 7.1771. (emphasis added)

²⁰³⁸Panel Report, para. 7.1756. (emphasis added)

which are ... an inherent part of the technology development process."²⁰³⁹ As we have explained above, NASA's role, especially in those early stages, lay precisely in the fact that it shouldered the initial burden for the private sector when technology was at its lowest stage of maturity and where risk was highest. It was the aeronautics R&D subsidies that enabled Boeing to overcome the disincentives in investing in aeronautics R&D, and which therefore accelerated Boeing's launch of the 787 with all of its technological advancements in 2004.

987. While recognizing NASA's contribution, particularly at the early stages, the Panel also appreciated that, at "some point in time", the contribution of that research could reasonably be expected to diminish in relation to other, "more recent or revolutionary technological developments"²⁰⁴⁰ attributable to other factors. At that stage, it would not be possible to characterize the research conducted by NASA in the 1990s as having contributed in a "genuine and substantial" way to new technologies applied to future Boeing LCA.²⁰⁴¹ However, the Panel found that this point had not been reached in 2004, when the 787 entered the market.²⁰⁴² While we could conceive of different ways in which an advantage provided by subsidies might dissipate over time or might be severed, through, for instance, the intervention of other, more important causal factors, the United States does not indicate or explain why the mere fact that Boeing contributed at various stages, including at early stages, to the research effort means that the important role played by the aeronautics R&D subsidies is attenuated. Indeed, consistent with our previously stated views regarding a genuine and substantial link²⁰⁴³, the fact that Boeing's contribution of resources, time, and financing might be substantial does not mean that the timing advantage provided by the subsidies, as well as their role in allowing Boeing to overcome risks and disincentives, is diminished.

988. The United States also argues that the Panel underestimated the role played by Boeing's *suppliers* in developing the 787 technologies. As was the case with Boeing, the Panel recognized that these suppliers made "significant investments" in R&D²⁰⁴⁴ and noted further that, during the 1990s, suppliers such as Kawasaki Heavy Industries and Fuji Heavy Industries were developing expertise in the use of composites in primary aircraft structures contemporaneously with Boeing's development efforts.²⁰⁴⁵ The above statements illustrate that the Panel did take into account the contribution made by suppliers, but that it nonetheless concluded that such contribution did not attenuate the genuine and

²⁰³⁹Panel Report, para. 7.1756. (emphasis added)

²⁰⁴⁰Panel Report, para. 7.1758.

²⁰⁴¹Panel Report, para. 7.1758.

²⁰⁴²Panel Report, para. 7.1758.

²⁰⁴³*Supra*, para. 984.

²⁰⁴⁴Panel Report, para. 7.1757.

²⁰⁴⁵Panel Report, para. 7.1757.

substantial link that it had found to exist between the aeronautics R&D subsidies and Boeing's launch of the 787 in 2004.

989. The United States does not contest that the aeronautics R&D subsidies were important at the early stages of the research effort. We also note that, in its arguments, the United States fails to explain how the contribution of Boeing and its suppliers attenuates that role. In the light of the Panel's view of the important role played by the aeronautics R&D subsidies, in particular at the early stages of the research effort, we reject the United States' argument on appeal that the Panel failed to appreciate the efforts of Boeing and its suppliers, and therefore erred in applying the legal standard of causation to the facts of this dispute.

990. In addition to its claims that the Panel erred in its application of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*, the United States also asserts that the Panel violated Article 11 of the DSU. Specifically, the United States contends that there was no evidentiary basis for the Panel's statement in paragraph 7.1772 of its Report that "Boeing's ability to use other companies' commercially available technologies on the 787 was due to 'the knowledge and experience that Boeing obtained pursuant to the aeronautics R&D subsidies as an integrator of the various technologies'".²⁰⁴⁶ In fact, argues the United States, there is evidence on the Panel record suggesting the contrary, namely, that Boeing had developed experience in the application of composites in primary and secondary structures since the 1960s.²⁰⁴⁷ This work involved integrating the technologies of multiple suppliers, independent of NASA and USDOD research programmes.²⁰⁴⁸ The United States also alleges that the integration of a variety of supplier technologies on a commercial programme differs greatly, in both scale²⁰⁴⁹ and quality²⁰⁵⁰, from the work executed pursuant to the aeronautics R&D programmes at issue. The United States therefore requests the Appellate Body to

²⁰⁴⁶United States' other appellant's submission, para. 240 (quoting Panel Report, para. 7.1772).

²⁰⁴⁷United States' other appellant's submission, para. 241 (referring to Panel Report, Appendix VII.F.1, p. 731, para. 7)

²⁰⁴⁸United States' other appellant's submission, para. 241.

²⁰⁴⁹To illustrate the differences in scale, the United States argues that even the largest NASA programme, the HSR programme, amounted only to \$440 million (which, in fact, was only \$307 million given that NASA cut short this programme), with \$26 million for the main ATCAS programme and \$74.4 million for the AST programme contract on composite wing structures. These figures represent a minor portion of what it costs an LCA producer to develop new aircraft. (United States' other appellant's submission, para. 242)

²⁰⁵⁰With respect to the quality of work, the United States asserts that the nature of the "integration" of a NASA project differs from the "integration" that Boeing performed in producing LCA for three reasons. First, regarding the maturity of the technology, NASA-funded aeronautics R&D projects do not advance beyond the laboratory and do not deal with real-world problems of applying these technologies. Second, with respect to the complexity of the system, most of NASA research does not involve making usable physical parts and components and, where necessary, it was at most a component to a wing box, fuselage section, or wing. Third, as regards the scale of production, even in those rare cases when NASA projects called for making a physical component, it was at most one or two over a period of months or years for laboratory test purposes. (United States' other appellant's submission, paras. 243 and 244)

reverse the relevant part of paragraph 7.1772 of the Panel Report, which it characterizes as a finding that the aeronautics R&D programmes were "partially responsible for Boeing's integration capabilities".²⁰⁵¹

991. The European Union responds that many of the aeronautics R&D contracts were precisely focused on making Boeing a better integrator and that, given the substantial evidence before it, the Panel acted within the bounds of its discretion in rejecting the United States' argument that "many of the technologies applied to the 787 are commercially available to Airbus from third party suppliers".²⁰⁵² The European Union emphasizes that panels are not required to ascribe the same weight to evidence as the parties do, and expresses the view that the United States' appeal amounts to no more than mere disagreement with the weight the Panel accorded to the evidence.²⁰⁵³

992. We commence by recalling that Article 11 of the DSU requires a panel to "consider all the evidence presented to it, assess its credibility, determine its weight, and ensure that its factual findings have a proper basis in that evidence"²⁰⁵⁴, and that "panels {may not} make affirmative findings that lack a basis in the evidence contained in the panel record".²⁰⁵⁵ Within these parameters, "it is generally within the discretion of the Panel to decide which evidence it chooses to utilize in making findings".²⁰⁵⁶ In this regard, the Appellate Body has stated that it will not "interfere lightly" with a panel's fact-finding authority²⁰⁵⁷ but, rather, for a claim under Article 11 to succeed, "the Appellate Body must be satisfied that the panel has exceeded its authority as the trier of facts".²⁰⁵⁸ In other words, "not every error allegedly committed by a panel amounts to a violation of Article 11 of the DSU"²⁰⁵⁹, but only those that are so material that, "taken together or singly", they undermine the

²⁰⁵¹United States' other appellant's submission, para. 249.

²⁰⁵²European Union's appellee's submission, paras. 397-399.

²⁰⁵³European Union's appellee's submission, para. 400 (referring to Appellate Body Report, *Australia – Salmon*, para. 267).

²⁰⁵⁴Appellate Body Report, *Brazil – Retreaded Tyres*, para. 185 (referring to Appellate Body Report, *EC – Hormones*, paras. 132 and 133). See also Appellate Body Reports in *Australia – Salmon*, para. 266; *EC – Asbestos*, para. 161; *EC – Bed Linen (Article 21.5 – India)*, paras. 170, 177, and 181; *EC – Sardines*, para. 299; *EC – Tube or Pipe Fittings*, para. 125; *Japan – Apples*, para. 221; *Japan – Agricultural Products II*, paras. 141 and 142; *Korea – Alcoholic Beverages*, paras. 161 and 162; *Korea – Dairy*, para. 138; *US – Carbon Steel*, para. 142; *US – Gambling*, para. 363; *US – Oil Country Tubular Goods Sunset Reviews*, para. 313; and *EC – Selected Customs Matters*, para. 258.

²⁰⁵⁵Appellate Body Report, *US – Carbon Steel*, para. 142.

²⁰⁵⁶Appellate Body Report, *EC – Hormones*, para. 135. The Appellate Body has also stated that: a panel has to base its findings on a sufficient evidentiary basis on the record (Appellate Body Report, *EC – Fasteners (China)*, para. 441); may not apply a double standard of proof (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 293); and its treatment of the evidence must not "lack even-handedness" (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 292).

²⁰⁵⁷Appellate Body Report, *EC – Sardines*, para. 299; Appellate Body Report, *US – Carbon Steel*, para. 142; Appellate Body Report, *US – Wheat Gluten*, para. 151.

²⁰⁵⁸Appellate Body Report, *US – Wheat Gluten*, para. 151.

²⁰⁵⁹Appellate Body Report, *EC – Fasteners (China)*, para. 442.

objectivity of the panel's assessment of the matter before it.²⁰⁶⁰ Accordingly, it is insufficient for an appellant simply to disagree with a statement or to assert that it is not supported by evidence.

993. As we see it, in paragraph 7.1772 of its Report, the Panel accepted the European Communities' submission that the aeronautics R&D subsidies provided Boeing with knowledge and experience as an *integrator* of the various technologies. That submission was made in, and the Panel quoted from, the European Communities' confidential oral statement at the first substantive meeting of the Panel. The relevant paragraph of that oral statement, which the Panel quoted in its entirety, does not refer to any supporting evidence.²⁰⁶¹

994. The statement in paragraph 7.1772 challenged by the United States forms part of the Panel's analysis of the *conditions of competition* in the LCA industry, which was the fourth pillar in its assessment of the effect of the aeronautics R&D subsidies on Boeing. In that part of its Report, the Panel weighed various pieces of evidence before finding that "the conditions of competition in the LCA industry are such that a subsidy that enhances an LCA manufacturer's ability to develop innovative technologies for application to its aircraft will potentially give rise to a significant competitive advantage to that manufacturer".²⁰⁶² The Panel addressed, in paragraphs 7.1770 and 7.1771 of its Report, two arguments by the United States that sought to rebut the proposition that the aeronautics R&D subsidies conferred a competitive advantage on Boeing relative to Airbus. First, the Panel rejected the argument that the results of NASA-funded research are equally available to Airbus because they are "publicly disseminated". The Panel recalled its earlier finding that there are "restrictions on the dissemination of certain aspects of NASA-funded research results, and that public

²⁰⁶⁰Appellate Body Report, *EC – Fasteners (China)*, para. 499; Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1318.

²⁰⁶¹Panel Report, para. 7.1772 (quoting European Communities' oral statement at the first Panel meeting (BCI), para. 14). Even though the Panel did not refer to any item of evidence to support its statement in paragraph 7.1772, we have doubts about whether the issue of Boeing gaining knowledge and experience as an integrator of the various technologies as a result of the aeronautics R&D subsidies is unsupported by evidence on the Panel record as the United States suggests. In particular, we note that paragraphs 15-18 of Panel Exhibit EC-1175 (HSBI/BCI) (Statement by Patrick Gavin et al. (8 November 2007)) contain an extensive explanation of how LCA manufacturers remain responsible for the integration of the various technologies and components from internal and external sources, and how Boeing has gained "integration" experience and knowledge from participating in the aeronautics R&D subsidies. This exhibit was referred to by the Panel in paragraph 7.1771 of its Report, that is, the paragraph preceding the one in which the Panel referred to Boeing obtaining knowledge and experience as an integrator of the various technologies and on which the United States bases its claim under Article 11 of the DSU.

²⁰⁶²Panel Report, para. 7.1769.

dissemination does not occur immediately".²⁰⁶³ Second, the Panel addressed, in the last two sentences of paragraph 7.1771, the United States' argument that crucial technologies used on the 787 from third-party suppliers were equally available to Airbus. The Panel found that the United States had failed to rebut a "critical assertion" made by the European Communities in HSBI submissions, and supported by evidence²⁰⁶⁴, that technologies from third-party suppliers used on the 787 are *not* commercially available.²⁰⁶⁵ Only then did the Panel state, in paragraph 7.1772, that the United States' argument that critical technologies from third-party suppliers are equally available to Airbus overlooked the importance of Boeing gaining experience and knowledge as an integrator of the various technologies on account of the aeronautics R&D subsidies.

995. In our view, paragraph 7.1772 contains a mere passing observation by the Panel that, even if Airbus had access to technologies provided by third-party suppliers on a commercial basis, it would not have had the ability to use such technologies the way Boeing did due to the experience the latter had gained, through the aeronautics R&D subsidies, as an integrator of the various technologies.²⁰⁶⁶ Thus, we do not consider that the statement in paragraph 7.1772 was material to the Panel's disposition of the argument that critical technologies from third-party suppliers were commercially

²⁰⁶³Panel Report, para. 7.1771 and footnote 3699 thereto. We also recall that, in its analysis of financial contribution with respect to the NASA R&D programmes, the Panel found that certain contracts between NASA and Boeing under the ACT programme contained a "For Early Domestic Dissemination" clause, whereby a contractor would not be able to grant permission to publish data resulting from R&D or release such data to foreign parties without prior concurrence of the "Contracting Officer". The intention of these clauses was to provide for early dissemination of significantly commercial data in the US Government and the domestic industry prior to general publication. (*Ibid.*, para. 7.1001) Along similar lines, the Panel found that the "Technology Transfer" Handbook for the HSR programme states that the LERD clauses aim at restricting access to sensitive information generated in the HSR programme, and that these clauses serve the purpose of controlling the transfer of such sensitive information to foreign competitors. (*Ibid.*, para. 7.1007)

²⁰⁶⁴The Panel referred to Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI)), but did not discuss its content or the reasons why it was persuaded by it. However, we note that the United States does not challenge, under Article 11 of the DSU, the Panel's reliance on Panel Exhibit EC-1175 in the last two sentences of paragraph 7.1771. In any event, having verified its content, we consider that this item of evidence was pertinent to the Panel's analysis.

²⁰⁶⁵Panel Report, para. 7.1771. We also observe that, subsequent to the filing of the European Communities' second written submission and Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI)), the United States made certain statements that various technologies used on the 787 were developed by third-party suppliers and that such technologies were also available to Airbus. (See, for instance, United States' response to Panel Question 208(a), para. 287; and United States' comments on the European Communities' response to Panel Question 150(b), para. 187) However, despite making certain assertions, the United States did not produce any supporting evidence of its own.

²⁰⁶⁶We observe, in this respect, that the Panel had previously found that:

... the real value of the aeronautics R&D subsidies was in having dozens of Boeing engineers immersed in composite design and manufacturing for several years, thus enabling Boeing to leverage the substantial accumulated knowledge and experience in any future composite-related R&D activity.

(Panel Report, footnote 3684 to para. 7.1756 (referring to Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI)), para. 27; and D. Wacht, "An Analysis of Selected NASA Research Programs and Their Impact on Boeing's Civil Aircraft Programs" (November 2006) (Panel Exhibit EC-15 (BCI)), p. 67))

available to Airbus, since this argument had already been rejected by the Panel in the last two sentences of the preceding paragraph. Therefore, even in the absence of the statement in paragraph 7.1772, the Panel's rejection of the United States' argument that critical technologies used on the 787 from third-party suppliers are equally commercially available to Airbus would nevertheless stand.

996. Thus, we find that the Panel did not act inconsistently with Article 11 of the DSU, or lack a factual basis for its statement, in paragraph 7.1772 of the Panel Report, that "{t}he "ability to define and manage the complex interaction of design processes, organization and tools so as to enable the robust development and manufacturing of an aircraft at minimum time and cost ... is a challenge that Boeing can meet thanks in large part to NASA and {USDOD} funding". It follows that we cannot accept the United States' request that we reverse the Panel's finding, in paragraph 7.1772 of the Panel Report, that the aeronautics R&D subsidies at issue afforded Boeing knowledge and experience as an "integrator of the various technologies".

- (d) Whether the Panel erred in its appreciation of the relevance of NASA's public dissemination of the results of the NASA R&D

997. The United States argues that the Panel failed properly to take into account the fact that "NASA's public dissemination requirement"²⁰⁶⁷ lessens the value of the aeronautics R&D subsidies to Boeing. The United States highlights the Panel's finding that NASA restricts the public dissemination of "certain aspects"²⁰⁶⁸ of its research. According to the United States, the "critical implication" of this finding was that the data restriction clauses, including LERD clauses, contained in NASA contracts with Boeing restrict dissemination of "certain aspects" of research results only for a limited time.²⁰⁶⁹ With respect to all of the other aspects—that is, those that *are* disseminated—the United States contends that the Panel should have taken into account that some portion of the NASA aeronautics R&D subsidies valued at \$2.6 billion is of less value in both a competitive and monetary sense.²⁰⁷⁰ The Panel, however, declined to discount the value of the aeronautics R&D subsidies in this way.

²⁰⁶⁷United States' other appellant's submission, p. 101, subheading VI.B.1.e. By "NASA's public dissemination requirement", the United States appears to refer to its argument that the NASA research results are "publicly disseminated and therefore widely known and well understood within the global community of engineers and scientists working in a particular area". (Panel Report, para. 7.1770 (referring to Statement of Michael Bair (Panel Exhibit US-7), paras. 33 and 34; and Affidavit of Branko Sarh (Panel Exhibit US-1254), para. 5))

²⁰⁶⁸Panel Report, para. 7.1771.

²⁰⁶⁹United States' other appellant's submission, para. 250.

²⁰⁷⁰United States' other appellant's submission, para. 250.

998. In response, the European Union argues that the Panel correctly found, within the bounds of its discretion, that the dissemination by NASA of its research results is limited because of contractual restrictions designed to favour US LCA manufacturers.²⁰⁷¹ Moreover, the European Union highlights that the Panel's finding was based on its acceptance of the European Communities' argument that NASA does not generally publicly disclose or disseminate anything that is commercially useful or important.²⁰⁷²

999. We recall that the Panel estimated the value of the NASA subsidies at \$2.6 billion, but was unable to quantify the value of the USDOD subsidies.²⁰⁷³ As we have noted above, the Panel considered the effect of NASA dissemination policies in the fourth pillar of its analysis relating to the *conditions of competition* in the US LCA industry. There, the Panel addressed an argument of the United States that NASA aeronautics R&D subsidies did not confer a "competitive advantage" on Boeing vis-à-vis Airbus because the results of NASA-funded research are widely disseminated and therefore widely known and well understood within the global community of engineers and scientists working in a particular area.²⁰⁷⁴ As we have also noted above, the Panel ultimately rejected this argument because it considered that there are restrictions on the dissemination of the NASA results and because dissemination does not occur immediately. In support, the Panel referred to the data restriction clauses in NASA and USDOD contracts—that is, the "(i) limited exclusive data rights *{sic}* {LERD}, (ii) for early domestic dissemination, and (iii) requirements for prior written approval before the release of certain technical information."²⁰⁷⁵ The Panel noted that, "{a}lthough differing in their nature and scope, each of these limited access rights seek to delay the foreign transfer of commercially sensitive information or prevent its public release without prior written approval of NASA or {US}DOD."²⁰⁷⁶

²⁰⁷¹European Union's appellee's submission, para. 402 (referring to Panel Report, footnote 3699 to para. 7.1771).

²⁰⁷²European Union's appellee's submission, para. 403 (referring to European Communities' oral statement at the first Panel meeting (BCI), para. 22; European Communities' second written submission to the Panel, paras. 793 and 829-833; European Communities' oral statement at the second Panel meeting (BCI), paras. 15-21; Statement by Patrick Gavin et al. (8 November 2007) (Panel Exhibit EC-1175 (HSBI/BCI)), paras. 34-40; and Declaration by Ray Kingcombe (9 November 2007) (Panel Exhibit EC-1177).

²⁰⁷³Panel Report, paras. 7.1433 and 7.1760.

²⁰⁷⁴Panel Report, para. 7.1770 (referring to Statement of Michael Bair (Panel Exhibit US-7), paras. 33 and 34; and Affidavit of Branko Sarh (Panel Exhibit US-1254), para. 5).

²⁰⁷⁵Panel Report, footnote 3699 to para. 7.1771.

²⁰⁷⁶Panel Report, footnote 3699 to para. 7.1771. These statements of the Panel are consistent with earlier findings made in the course of its subsidy analysis. For instance, the Panel referred to "For Early Domestic Dissemination" clauses (para. 7.1001), and LERD clauses (para. 7.1024). As we have noted previously, the diminution of benefits, due to dissemination, is limited by the fact that Boeing held patent or exclusive data rights and, therefore, disseminated information was often not put to commercial use by others. Therefore, the benefit flowing from aeronautics R&D subsidies to Boeing was not necessarily reduced by the dissemination of R&D results.

1000. The Panel's findings indicate that research results subject to data restriction clauses were the most commercially sensitive information and, therefore, of the most value to Boeing and its competitors. The United States does not advance arguments as to how the competitive position of Airbus was improved—or how Airbus suffered lesser adverse effects—because "certain aspects" of the results of the NASA research programmes were disseminated. Nor does the United States explain what the impact of any reduction in the \$2.6 billion amount of the NASA subsidies would be on the Panel's findings with respect to the effects of those subsidies, especially given the fact that the Panel did not equate the effects of the aeronautics R&D subsidies with their cash value.²⁰⁷⁷ Finally, if the United States is seeking to have us step into the shoes of the Panel and, ourselves, find that the value of the NASA aeronautics R&D subsidies was something less than \$2.6 billion, we do not see how we could do so given the limits on the scope of appellate review.

1001. In any event, the United States does not request that we disturb the other bases on which the Panel rejected the United States' arguments that Boeing was less competitive due either to the dissemination of the NASA results or to the availability of the same research to Airbus. As we have noted previously, the Panel made additional findings that:

... it is {not} very realistic to believe that NASA would so consistently and prominently state that the objectives of the aeronautics R&D programmes were to provide a competitive advantage to U.S. subsonic transport by accelerating the development of key, high payoff technologies if all of the NASA-funded R&D were in fact research that was publicly disseminated and equally available to Airbus. Nor is the Panel persuaded that the critical technologies that Boeing developed in collaboration with its suppliers are equally available to Airbus. The Panel notes that the United States has failed to rebut a critical assertion made by the European Communities in its HSBI submissions and evidence in this regard.²⁰⁷⁸ (footnote omitted)

1002. For these reasons, we dismiss the United States' argument that the Panel's findings concerning the dissemination of certain NASA research lessen the value of the aeronautics R&D subsidies, and thereby undermine the Panel's finding that the aeronautics R&D subsidies contribute in a genuine and substantial way to the 787 technologies.

²⁰⁷⁷Panel Report, para. 7.1760. We discuss this in subsection (e) below.

²⁰⁷⁸Panel Report, para. 7.1771.

- (e) Whether the Panel erred in its assessment of the magnitude of the NASA aeronautics R&D subsidies

1003. Finally, the United States asserts that the \$2.6 billion worth of aeronautics R&D subsidies found to have been provided to Boeing from 1989 to 2006 "is small compared to Boeing's own research and development spending"²⁰⁷⁹, and that, therefore, any link between the research and Boeing's ability to develop and launch the technologically innovative 787 in 2004 "is that much more attenuated".²⁰⁸⁰

1004. In response, the European Union highlights that the Panel properly recognized that the aeronautics R&D subsidies were "intended to multiply the benefit from a given expenditure"²⁰⁸¹ and argues that the Panel "was not required to attach particular significance to the amount of the financial contribution in comparison to other expenditure".²⁰⁸²

1005. We recall that the Panel dealt with the magnitude of the subsidies, as compared with Boeing's own revenues and R&D expenditures, in response to an argument by the United States that Boeing's capacity and ability to conduct R&D would have allowed it to conduct the same R&D with the same results, even in the absence of the NASA and USDOD funding.²⁰⁸³ In dismissing the relevance of the comparative insignificance of the known value of aeronautics R&D subsidies, the Panel made the following finding:

The Panel is aware, however, that this amount {of at least \$2.6 billion} perhaps may not appear significant when compared to Boeing's consolidated revenues or R&D expenditures over 1989-2006. Indeed, as the United States points out, Boeing repurchased over \$16 billion in stock between 1986 and 2006. However, this sort of numerical comparison presupposes that the effects of the aeronautics R&D subsidies can essentially be reduced to their cash value, a proposition that we do not accept. ... {T}he value to Boeing of the particular aeronautics R&D programmes in question is essentially a function of the technological advancements that those programmes provide. Precisely because the nature of this kind of subsidy is that it is intended to multiply the benefit from a given expenditure, the Panel considers it unlikely that

²⁰⁷⁹United States' other appellant's submission, para. 251.

²⁰⁸⁰United States' other appellant's submission, para. 252.

²⁰⁸¹European Union's appellee's submission, para. 391 (quoting Panel Report, para. 7.1760).

²⁰⁸²European Union's appellee's submission, para. 394.

²⁰⁸³Panel Report, para. 7.1759. The Panel never placed a value on the amount spent by Boeing on R&D. In its other appellant's submission, the United States argues that costs for a full aircraft development programme like the 787 are around \$2 billion per year. (United States' other appellant's submission, para. 251 (referring to *The Boeing Company Annual Report* (2006) (Panel Exhibit US-126), p. 26 (\$2,390 million in R&D for Boeing Commercial Aircraft in 2006))) The United States argues that, even in 2000, the slowest year covered by the information before the Panel, Boeing's R&D spending ran at \$574 million. (*Ibid.*, footnote 399 thereto (referring to Statement of Michael Bair (Panel Exhibit US-7), para. 42))

the effects of such expenditure (to the extent that it was successfully deployed) would be reducible to its face amount. ... As we have noted above ..., there are large disincentives for private sector investment in research of the kind that was conducted under the aeronautics R&D subsidies, and any suggestion that a firm such as Boeing would have conducted such research is subject to the same fundamental objection here.²⁰⁸⁴ (footnote omitted)

1006. The Appellate Body has stated previously that, while the magnitude of subsidies is important, precise quantification is not an indispensable part of a serious prejudice analysis.²⁰⁸⁵ Moreover, the absolute value or size of a subsidy may not correspond directly to the impact that the subsidy may have in causing adverse effects. Subsidies of a relatively small magnitude may nevertheless have substantial effects in a particular case or market. We understand the Panel to have found this to be the case as regards the effects of the aeronautics R&D subsidies.

1007. As the above finding of the Panel demonstrates, the Panel itself recognized that the amount spent by NASA on the aeronautics R&D subsidies was not large as compared to Boeing's revenues and its own R&D expenditures. However, the Panel stressed that the aeronautics R&D subsidies allowed Boeing to overcome the disincentives in investing in risky aeronautics R&D. For the Panel, the relative magnitude of the amounts spent by NASA and Boeing did nothing to reduce or diminish that important contribution. We see no reason to disagree.

1008. The United States makes two additional arguments regarding the Panel's consideration of the magnitude of the subsidies. First, it emphasizes the Panel's statement that, "because the nature of this kind of subsidy is that it is intended to *multiply the benefit* from a given expenditure, {it was} unlikely that the effects of such expenditure (to the extent that it was *successfully deployed*) would be reducible to its face amount."²⁰⁸⁶ For the United States, any "multiplying" of the benefit of a given expenditure would equally apply to Boeing's internal R&D expenditure.²⁰⁸⁷ Second, the United States

²⁰⁸⁴Panel Report, para. 7.1760.

²⁰⁸⁵Appellate Body Report, *US – Upland Cotton*, para. 467. We recall that the panel in *EC and certain member States – Large Civil Aircraft* stated that "the relevant question is not the precise amount of subsidy attached to each unit of the subsidized product, but rather whether the subsidies in question are of sufficient magnitude, in light of their nature and effect, to have caused the serious prejudice alleged". (Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1968) That issue was not appealed in that dispute. We also note that, in that same dispute, the Appellate Body treated Airbus' "financial viability" and, consequently its ability to self-fund R&D, as a factual matter that was not reviewable in the absence of a claim under Article 11 of the DSU. (Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1316)

²⁰⁸⁶Panel Report, para. 7.1760. (emphasis added)

²⁰⁸⁷United States' other appellant's submission, para. 254.

asserts that the Panel failed to take into account that many of the NASA payments found by the Panel to constitute subsidies were not "successfully deployed".²⁰⁸⁸

1009. As regards the United States' first argument, it is not clear to us that the Panel excluded the possibility of a "multiplier" effect for Boeing's own R&D expenditures. Neither is it clear to us whether the Panel's reference to a "multiplier" effect was based on a qualitative or quantitative assessment of the value of R&D expenditures. Moreover, even if the value of Boeing's expenditures were multiplied, we do not see how this reduces the important contribution made by the NASA subsidies that, as explained above, were indispensable in allowing Boeing to overcome the disincentives it faced in investing in risky aeronautics R&D.

1010. With respect to the second argument, the United States reads the Panel's parenthetical reference to "successfully deployed"²⁰⁸⁹ expenditures to imply that the aeronautics R&D subsidies that funded research that was ultimately unsuccessful made *no* contribution to the development of the 787 technologies. As we have already explained²⁰⁹⁰, however, the causal link found by the Panel incorporated within its scope even those research programmes that were not directly related to technologies used on the 787, including research conducted under research programmes that resulted in failed technologies. We therefore do not read the Panel's statement that the benefits were multiplied to the extent that they were "successfully deployed"²⁰⁹¹ as excluding altogether those programmes that resulted in failures, because, by the Panel's own account, these failed research efforts also contributed, albeit to a lesser extent, to the success of the 787.

1011. Accordingly, we do not accept that the difference in the magnitude of the aeronautics R&D subsidies and Boeing's own R&D spending attenuates the Panel's intermediate finding that the subsidies contributed in a genuine and substantial way to the development of the technologies used on the 787 in 2004.

(f) Conclusion

1012. We recall that, in this part of its appeal, the United States seeks reversal of the Panel's legal finding that the aeronautics R&D subsidies caused adverse effects to the interests of the European Communities on the ground that a number of the Panel's findings, "when considered in their totality", do not establish a genuine and substantial relationship of cause and effect, as required under

²⁰⁸⁸United States' other appellant's submission, para. 255.

²⁰⁸⁹Panel Report, para. 7.1760.

²⁰⁹⁰See *supra*, subsection X.B.4.a.

²⁰⁹¹Panel Report, para. 7.1760.

Articles 5 and 6.3 of the *SCM Agreement*.²⁰⁹² The United States raised five main arguments in support of its claims that the Panel failed properly to apply the legal standard to the facts, and one argument that the Panel failed to make an objective assessment of the matter under Article 11 of the DSU. We have dismissed all five of the United States' arguments, either because the United States' arguments relate solely to factual matters not subject to a DSU Article 11 challenge, or because, on the merits, the United States has not succeeded in demonstrating that the Panel failed properly to find the existence of a genuine and substantial causal link. We have also rejected the United States' claim under Article 11 of the DSU. Accordingly, we *reject* the United States' request that we reverse the Panel's finding at the first stage of its analysis, in paragraph 7.1773 of the Panel Report, as well as its request for consequential reversal of the Panel's finding that the aeronautics R&D subsidies caused adverse effects to the interests of the European Communities. Instead, we *find* that the Panel did not err by finding, in paragraph 7.1773 of the Panel Report, that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787" in 2004.

6. The Panel's Counterfactual Analysis

(a) Introduction

1013. In its second set of arguments on appeal, the United States seeks reversal of the Panel's finding that, "absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008"²⁰⁹³, as well as its "dependent" finding that the aeronautics R&D subsidies caused adverse effects to the European Communities.²⁰⁹⁴ The United States alleges that these findings are in error because, in both the first and second stages of its assessment of the technology effects, the Panel's counterfactual analysis was insufficient. We recall, in this regard, that the first stage entailed an analysis of the effect of the aeronautics R&D subsidies on Boeing, whereas the second stage was concerned with the effect of the aeronautics R&D subsidies on Airbus.

²⁰⁹²United States' other appellant's submission, para. 257. As we have noted, it is not clear whether the United States contends that our acceptance of any one of its arguments would call into question the Panel's overall conclusion or whether its argument is rather that, taken together, the various claims of deficiency require reversal of the Panel's ultimate finding on causation. We have also explained that, while an appellant is free to frame its appeal as it sees fit, it must bear the consequences of that decision. Where there is disagreement or ambiguity as to the nature of the appeal, the Appellate Body will act as the final arbiter in determining whether the claim is one that can be properly the subject of appellate review.

²⁰⁹³Panel Report, para. 7.1775.

²⁰⁹⁴United States' other appellant's submission, para. 278.

1014. With respect to the first stage, the United States asserts that, although the Panel posed the right counterfactual question—namely whether Boeing would have launched the 787 when it did, and as it did, in the absence of the aeronautics R&D subsidies—it erred in applying Articles 5 and 6.3 of the *SCM Agreement* through its "cursory" and "insufficient" counterfactual analysis.²⁰⁹⁵ According to the United States, the Panel failed to take into account all of the findings that it had made at the first stage of its analysis, including those made with respect to the nature of the aeronautics R&D subsidies; Boeing's research priorities and activities, as well as its available resources; and the conditions of competition in the LCA industry. The United States argues that, when properly considered, these findings should have led the Panel to conclude that, even without the aeronautics R&D subsidies, Boeing would have launched the 787 when it did and with the same level of technological innovation.²⁰⁹⁶

1015. The United States also challenges the adequacy of the Panel's counterfactual analysis as it relates to the second stage of its analysis. These arguments are set out in the United States' appellee's submission, which it submitted after the circulation of the Appellate Body report in *EC and certain member States – Large Civil Aircraft*. Relying largely on the findings of the Appellate Body in that dispute, the United States asserts that, in assessing the European Communities' claims of significant lost sales, significant price suppression, and a threat of displacement and impedance, the Panel should have explored further a counterfactual scenario involving Boeing aircraft that the Panel had deemed "most likely"²⁰⁹⁷ to have occurred in the absence of subsidies.

1016. The finding that the United States would like reversed—namely that, absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated in the 787 in 2004, with promised deliveries commencing in 2008—is found at the beginning of the second stage of the Panel's analysis, immediately following the Panel's in-depth analysis at the first stage. At that midway point of its overall analysis of the technology effects of the aeronautics R&D subsidies, the Panel recalled the main counterfactual argument of European Communities, namely that:

²⁰⁹⁵United States' other appellant's submission, para. 258.

²⁰⁹⁶United States' other appellant's submission, paras. 258 and 261.

²⁰⁹⁷Panel Report, para. 7.1775.

... *but for* the aeronautics R&D subsidies, (i) Boeing could not have launched, in April 2004, a 787 family of LCA offering the many operating cost savings and enhancements in passenger comfort that have made it such a commercial success relative to the A330 and Original A350; and (ii) Boeing could not have contractually bound itself to make significant deliveries of the 787 starting in 2008.²⁰⁹⁸ (footnotes omitted)

1017. The Panel noted that the evidence before it demonstrated that Boeing needed to develop an LCA to replace the 767 in the 200-300 seat LCA market, and that it would have done so in the early- to mid-2000s.²⁰⁹⁹ The Panel considered that the only question before it was "what sort of aircraft Boeing could have developed, and when that aircraft could have been launched and first entered into service, in the absence of the aeronautics R&D subsidies."²¹⁰⁰ The Panel found that, had Boeing not received the aeronautics R&D subsidies:

... two scenarios {were} most likely: Boeing would have developed a 767-replacement that incorporated all of the technologies that are incorporated on the 787, but its launch would have been significantly later than 2004 and it would not have been able to promise first deliveries for 2008, or Boeing would have launched a 767-replacement in 2004 that was technologically superior to the 767, but did not offer the degree of technological innovation of the 787. We do not have to reach any definitive view on which of these outcomes would have occurred. What is clear to us is that, absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008.²¹⁰¹

1018. The Panel's reasoning demonstrates that it engaged in a counterfactual analysis of causation, as had been proposed by the European Communities. The United States did not object to the use of the counterfactual analysis in the Panel proceedings²¹⁰², nor does it raise any objection to such an analysis on appeal.

1019. The provisions of Part III of the *SCM Agreement* that deal with causation—that is, Articles 5 and 6.3—require a demonstration that the market phenomena specified in Article 6.3(a)-(d) be "caused" by, or be the "effect of", the subsidy. Beyond this, these provisions do not prescribe the

²⁰⁹⁸Panel Report, para. 7.1774. The Panel noted that, rather, according to the European Communities, it would have taken Boeing "years longer" as well as much more of its own money to do so. (*Ibid.*, footnote 3702 thereto (referring to European Communities' first written submission to the Panel, Annex C, para. 199))

²⁰⁹⁹This finding was based on the evidence before the Panel that Boeing had concluded in the late 1990s that route fragmentation would lead to a larger number of lower-volume routes, best served by a mid-sized, extended range aircraft (a commercial assessment unrelated to the subsidies), and that such an aircraft was needed due to the age of the 767. (Panel Report, para. 7.1774)

²¹⁰⁰Panel Report, para. 7.1774. (footnotes omitted)

²¹⁰¹Panel Report, para. 7.1775.

²¹⁰²Panel Report, para. 7.1657.

manner in which a panel must conduct its analysis of causation. A counterfactual analysis is a form of analysis that a panel may find useful in resolving questions of causation.²¹⁰³ The precise way in which counterfactual reasoning is deployed will vary depending on how the causal problem presents itself in a particular dispute. A counterfactual analysis may be highly quantitative, or predominantly qualitative in nature, or it may involve both quantitative and qualitative elements.

1020. In seeking to discharge its burden of demonstrating the effects of relevant subsidies, a complaining party may elect to employ a counterfactual analysis. Indeed, a complaining party may well find it difficult to establish causation of certain Article 6.3 phenomena (for example, impedance and price suppression) without counterfactual argumentation. A panel evaluating the respective claims and defences of the parties will also have to give due consideration to the use of a counterfactual analysis, especially when such an analysis forms part of the arguments submitted by the parties. The panel might decide to accept the counterfactual scenario(s) proposed by one party as to the market situation that would have prevailed absent the subsidies, but it is not bound to do so.²¹⁰⁴ Rather, as part of its objective assessment of the matter, a panel will have to form its own view as to what a market unaffected by subsidies would have looked like and may find it appropriate to construct its own counterfactual scenario(s). A panel is not required to identify and explore every possible hypothetical market scenario, especially where the parties themselves have not elaborated upon, or substantiated the likelihood of, such possible scenarios. The extent to which a panel may or must elaborate upon the specific details of its constructed alternative will vary by case, but, having selected a reasonable scenario, a panel should pursue its counterfactual analysis in a coherent and consistent fashion.

1021. Turning to the United States' criticism of the Panel's counterfactual analysis in this case, we note first that the United States identifies the "counterfactual portion" of the Panel's analysis as comprising the following "two findings":

²¹⁰³The Appellate Body has found that a counterfactual analysis:

... provides an adjudicator with a useful analytical framework to isolate and properly identify the effects of the challenged subsidies. ... As with other factual assessments, panels clearly have a margin of discretion in conducting the counterfactual analysis.

(Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1110 (footnote omitted)) In some contexts, including in assessing claims of price suppression, the Appellate Body has explained that a counterfactual analysis is an "inescapable" part of a causation analysis. (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 351) See also Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, footnote 2549 to para. 1162.

²¹⁰⁴In this regard, the Appellate Body in *US – Upland Cotton (Article 21.5 – Brazil)*, in discussing the approach to causation and non-attribution taken by the compliance panel in that dispute (in the context of a claim of significant price suppression), noted that "a panel has a certain degree of discretion in selecting an appropriate methodology for determining whether the 'effect' of a subsidy is significant price suppression". (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 370 (quoting Appellate Body Report, *US – Upland Cotton*, para. 436))

- (i) "Boeing needed to develop an LCA to replace the 767 in the 200-300 seat wide-body product market, and ... it would have done so in the early- to mid-2000s"; and
- (ii) "{A}bsent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008."²¹⁰⁵

1022. Contrary to the argument of the United States, we do not understand the counterfactual enquiry engaged in by the Panel to be limited to simply the two paragraphs in which these findings are contained. The Panel explained that it would adopt a counterfactual approach to causation for both stages of its causation analysis.²¹⁰⁶ That counterfactual analysis appears to us to have been underpinned by its consideration of: (i) the counterfactual scenario presented by the European Communities that, without the subsidies, Boeing would not have launched the 787 in 2004, but rather would have done so later²¹⁰⁷; and (ii) the counterfactual scenario presented by the United States, namely that, without the subsidies, Boeing would have launched the same 787 aircraft with the same technologies at the same time that it did because it had the financial capacity to do so, and because it was engaged in the same R&D research as NASA.²¹⁰⁸

1023. The Panel based its analysis at the first stage on these respective counterfactual scenarios presented by the parties. For instance, in finding that the aeronautics R&D subsidies accelerated the time at which Boeing was able to bring the technologies on the 787 to commercial application, the Panel accepted the European Communities' contention that it was the aeronautics R&D subsidies that allowed Boeing to deliver the 787 earlier than would have otherwise been possible.²¹⁰⁹ Equally, in finding that, notwithstanding Boeing's financial capacity, as well as its own investment and participation in R&D, the aeronautics R&D subsidies contributed in a genuine and substantial way to the 787, the Panel rejected the counterfactual scenario that had been advanced by the United States.²¹¹⁰

1024. Having rejected the United States' counterfactual scenario at the first stage, the Panel appears to have conducted its analysis at the second stage on the basis of the European Communities' counterfactual scenario of a 787 that would not have been present in the market until "years later"

²¹⁰⁵United States' other appellant's submission, para. 260 (referring to Panel Report, paras. 7.1774 and 7.1775).

²¹⁰⁶Panel Report, para. 7.1659.

²¹⁰⁷We have already noted the argument of the European Communities to the Panel that it would have taken Boeing "years longer" as well as much more of its own money to do so. (Panel Report, footnote 3702 to para. 7.1774 (referring to European Communities' first written submission to the Panel, Annex C, para. 199))

²¹⁰⁸See, for instance, United States' oral statement at the second Panel meeting, paras. 144 and 145.

²¹⁰⁹See, for instance, Panel Report, para. 7.1748.

²¹¹⁰See, for instance, Panel Report, para. 7.1758.

(that is, not available to customers until well after 2004). Under the European Communities' scenario, the market during the reference period would most likely have consisted of the A330 and the 767, which were the two models available before 2004. The Panel found that the A330 was the "undisputed market leader" in the 200-300 seat LCA market²¹¹¹, with an 82% share of the market in 2003.²¹¹² Without the subsidies, therefore, it is likely that most sales would continue to have gone to that aircraft, and that increased demand²¹¹³ would have enabled the market leader to maintain or even raise prices.

1025. This is the basis upon which we understand the Panel to have proceeded in its counterfactual causation analysis and to have determined that, but for the aeronautics R&D subsidies, Airbus would not have suffered significant lost sales and price suppression, and a threat of displacement and impedance of its LCA exports. Yet, when it articulated the counterfactual scenarios, the Panel appears, at least in part, to have deviated from the arguments of the parties as well as from the basis upon which it conducted its own analysis. As we have noted above, the Panel considered that, in the absence of the aeronautics R&D subsidies, two scenarios were "most likely". The first involved the launch of a 767-replacement, which incorporated all of the technologies that are incorporated in the 787, but with a launch that would have been significantly later than 2004, and in which Boeing would not have been able to promise first deliveries by 2008 (which we refer to as the "787-later" scenario). This scenario is in essence the one presented by the European Communities. The Panel also found it likely that Boeing would have launched a 767-replacement in 2004 that was technologically superior to the 767, but did not offer the degree of technological innovation of the 787 (which we refer to as the "767-plus" scenario). This latter scenario of a 767-plus, however, had not been specifically advanced by either of the parties, is not referred to in the evidence on record, and is not reflected in the content of the Panel's counterfactual reasoning. For this reason, we find it difficult to sustain the arguments of the United States that are predicated on the counterfactual scenario involving a 767-plus aircraft.

(b) The Panel's counterfactual analysis: the first stage

1026. In its other appeal, the United States contends that the Panel erred in its application of Articles 5 and 6.3 of the *SCM Agreement* because of its "cursory" and "insufficient" counterfactual analysis.²¹¹⁴ According to the United States, a proper counterfactual analysis required the Panel to consider the nature of the subsidies; Boeing's research priorities and activities, and available

²¹¹¹Panel Report, para. 7.1777.

²¹¹²See table at Panel Report, para. 7.1783.

²¹¹³We have noted above the Panel's finding that there was an increase in demand in the 200-300 seat LCA market during the reference period. (*Supra*, para. 932)

²¹¹⁴United States' other appellant's submission, para. 258.

resources; and the conditions of competition in the LCA industry.²¹¹⁵ The United States argues that these factors indicate that, in the absence of the aeronautics R&D subsidies, Boeing would have followed the same course as it did with the subsidies: investigating the same areas, at the same pace, and aiming for the same goal, namely, a technologically advanced aircraft commercially competitive with the A330.²¹¹⁶ Therefore, the Panel's analysis failed to establish the requisite causal link. Consequently, the United States requests us to reverse the Panel's finding that, "absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008"²¹¹⁷, and its "dependent" finding that those subsidies have caused adverse effects to the interests of the European Communities.²¹¹⁸

1027. The European Union responds that the United States' arguments relate exclusively to facts and should have been brought under Article 11 of the DSU. In any event, the European Union argues that the Panel's counterfactual analysis was sufficient and demonstrates that it properly completed the first step of its counterfactual analysis regarding how Boeing's commercial behaviour in the 200-300 seat LCA market would have been different absent the aeronautics R&D subsidies.²¹¹⁹

1028. As a preliminary matter, we note that a panel's counterfactual analysis will usually involve both factual and legal elements, which may not be easily distinguishable. Here, the United States appears to accept the Panel's factual findings. Accordingly, we will entertain the United States' arguments on appeal only to the extent they implicate the Panel's ultimate legal finding that the aeronautics R&D subsidies were a genuine and substantial cause of the serious prejudice.

1029. Turning to the specific allegations, the United States refers to six findings of the Panel that, in its view, should have led the Panel to conclude that, even without the subsidies, Boeing would have launched an LCA in 2004 with all of the technological innovations of the 787, capable of competing with the A330.²¹²⁰ These findings are that: (i) Boeing and Airbus "have strong commercial incentives to spend the resources needed to gain a technical advantage over competitors"²¹²¹; (ii) Boeing knew what research needed to be done since the scope and programme of research was arrived at in

²¹¹⁵United States' other appellant's submission, paras. 258 and 261.

²¹¹⁶United States' other appellant's submission, para. 278.

²¹¹⁷United States' other appellant's submission, para. 278 (referring to Panel Report, para. 7.1775).

²¹¹⁸United States' other appellant's submission, para. 278.

²¹¹⁹European Union's appellee's submission, para. 414.

²¹²⁰See United States' other appellant's submission, para. 278.

²¹²¹United States' other appellant's submission, para. 263 (referring to Panel Report, paras. 7.1765 and 7.1768).

collaboration with industry²¹²²; (iii) NASA funded and conducted its research the same way that Boeing did, that is, by paying scientists to conduct the research and obtain the use of facilities and equipment needed to perform the work²¹²³; (iv) any private party could engage the NASA facilities, equipment, and employees through reimbursable Space Act Agreements and Boeing paid cash in exchange for those goods and services²¹²⁴; (v) Boeing was self-funding research on the same topics and at the same time as NASA²¹²⁵; and (vi) Boeing had sufficient funds to achieve the same learning and experience as that provided by the government's aeronautics R&D expenditures at issue.²¹²⁶

1030. Many of these findings have been challenged by the United States in the first part of its appeal and are already dealt with in the previous part of this Report. By labelling these arguments as pertaining to the Panel's "counterfactual analysis", the United States appears to be repackaging several arguments that we have already considered and dismissed above. The Panel's causation analysis must be understood holistically as incorporating a counterfactual approach to causation. In that analysis, the Panel assessed whether, but for the subsidies, Boeing could have developed the 787 by 2004. In doing so, it expressly considered and engaged with arguments relating to Boeing's own involvement in research alongside NASA, its access to research facilities, as well as its substantial financial capabilities. As we have noted above, while it took account of these factors and acknowledged their significance, the Panel still considered that the aeronautics R&D subsidies played an important role in accelerating the development of the 787 technologies, and allowing Boeing to overcome the significant disincentives it faced in investing in long-term, high-risk aeronautics R&D. The United States' attempt to frame its arguments as ones relating to the Panel's counterfactual analysis does not undermine these key findings of the Panel, which were indispensable to its finding that, absent the aeronautics R&D subsidies, Boeing would not have developed the 787 by 2004, with all of the technologies on it, and with promised deliveries for 2008.

1031. The United States raises one observation of the Panel—made in the context of its consideration of the *conditions of competition*—with which we did not deal in the previous section, namely that the "{t}he essence of the intense competition between Boeing and Airbus is to design and build better airplanes".²¹²⁷ According to the United States, this statement suggests that LCA

²¹²²United States' other appellant's submission, para. 264 (referring to Panel Report, paras. 7.1740-7.1745).

²¹²³United States' other appellant's submission, para. 265.

²¹²⁴United States' other appellant's submission, para. 266 (referring to Panel Report, footnote 2624 to para. 7.1082).

²¹²⁵United States' other appellant's submission, para. 267 (referring to Panel Report, para. 7.1746).

²¹²⁶United States' other appellant's submission, para. 268 (referring to Panel Report, paras. 7.1759, 7.1830, and 7.1831).

²¹²⁷Panel Report, para. 7.1765 (quoting Dr. J. Jordan and Dr. G. Dorman, "Reply to the Report of Professor Cabral" (NERA Economic Consulting, 2007) (Panel Exhibit US-3), p. 11).

manufacturers have "strong incentives" to invest in R&D, and thereby "gain a technical advantage over competitors".²¹²⁸ We understand the United States to argue that the Panel's reference to the intense competition between Boeing and Airbus over the design and development of aircraft cannot be reconciled with its finding that Boeing faced large disincentives to invest in early-stage/high-risk R&D.

1032. We see no inherent contradiction between these two statements or between the Panel's statement regarding the "essence of the intense competition between Boeing and Airbus" and its conclusion that, absent the subsidies, Boeing would not have been able to launch the 787 in 2004. This is because the incentives created by the fierce competition between Airbus and Boeing do not exclude a finding that the investment required for aeronautics R&D was not warranted because of the inherent risk. While the intensity of the competition provides an incentive for these companies to invest in R&D, that incentive does not mean that the investment would necessarily have been undertaken by Boeing without the aeronautics R&D subsidies. In any event, the Panel found otherwise.

1033. Finally, the United States makes a separate argument with respect to a response by the Panel to its argument that, compared to the \$16 billion spent by Boeing on repurchasing stock between 1986 and 2006²¹²⁹, the magnitude of the aeronautics R&D subsidies over a similar period was inconsequential. Specifically, the Panel found that:

{t}he United States' invitation to compare the amounts of the aeronautics R&D subsidies with Boeing's payments to shareholders may be taken also to imply that the ultimate effect of the aeronautics R&D subsidies was merely to increase payments to Boeing's shareholders. The Panel does not accept the proposition that the effect of the aeronautics R&D subsidies was essentially to benefit Boeing's shareholders by replacing funds that Boeing would otherwise have spent on R&D.²¹³⁰

1034. The United States argues that the proposition rejected by the Panel—namely, that the effect of the subsidies was essentially to benefit Boeing's shareholders—is a necessary implication of the counterfactual analysis. In the United States' view, if the characterization that the effect of the subsidies is "to increase payments" to shareholders prevents a conclusion that, in the absence of subsidies, the relevant competitive situation would have remained the same, a counterfactual analysis

²¹²⁸United States' other appellant's submission, para. 263.

²¹²⁹Panel Report, para. 7.1760 (referring to United States' comments on the European Communities' response to Panel Question 78, para. 270).

²¹³⁰Panel Report, para. 7.1760.

becomes "meaningless" because it is always possible to say that the receipt of subsidies made someone better off.²¹³¹

1035. Unlike the United States, we understand the Panel in the above-quoted passage to reiterate that the value of the aeronautics R&D subsidies to Boeing was not directly comparable to the cash amounts paid to shareholders, and that the effects of the subsidies were not reducible to their cash value. Rather, as the Panel found, the aeronautics R&D subsidies were intended to have "multiplier" effects.²¹³² They also allowed Boeing to overcome the significant disincentives that it otherwise faced.²¹³³ Therefore, the Panel considered that a comparison of dollar amounts of the aeronautics R&D subsidies with Boeing's available financial resources over the same period would not be an appropriate metric by which to predict Boeing's likely commercial behaviour in the absence of the subsidies.

1036. In the light of the above, we do not agree with the United States that the Panel's counterfactual analysis, as applied in the first stage of its analysis, was insufficient or undermines the genuine and substantial causal link that the Panel found to exist. Accordingly, we are unable to agree with the United States that the Panel erred in concluding, in paragraph 7.1775 of the Panel Report, that, "absent the aeronautics R&D subsidies, Boeing would not have been able to launch an aircraft incorporating all of the technologies that are incorporated on the 787 in 2004, with promised deliveries commencing in 2008".²¹³⁴ Therefore, we reject the United States' request for reversal of the above finding and for consequential reversal of the Panel's finding that the aeronautics R&D subsidies caused adverse effects to the interests of the European Communities.²¹³⁵

(c) The Panel's counterfactual analysis: the second stage

1037. The United States asserts that the Panel's counterfactual analysis is deficient because, in assessing the effect of the aeronautics R&D subsidies on Airbus' sales and prices at the second stage, the Panel failed to explore "what the market would look like" under the counterfactual scenario of a

²¹³¹United States' other appellant's submission, para. 276.

²¹³²Panel Report, para. 7.1760.

²¹³³Immediately following the above-quoted section, the Panel stated:

As we have noted above ... we have no reason to doubt the evidence that there are large disincentives for private sector investment in research of the kind that was conducted under the aeronautics R&D subsidies, and any suggestion that a firm such as Boeing would have conducted such research is subject to the same fundamental objection here. Moreover, we consider that it is implausible that such specifically earmarked and scrutinized R&D funds disbursed over such a period of time were effectively nothing more than a transfer to shareholders.

(Panel Report, para. 7.1760)

²¹³⁴Panel Report, para. 7.1775.

²¹³⁵United States' other appellant's submission, para. 278.

767-plus.²¹³⁶ Relying in particular on findings of the Appellate Body in *EC and certain member States – Large Civil Aircraft*, the United States distinguishes the 767-plus scenario in this dispute from two of the four scenarios considered by the Appellate Body in that dispute involving the complete absence of the recipient's aircraft in the market in the absence of the subsidies²¹³⁷, and for which the Appellate Body found that no further counterfactual analysis was necessary. The United States argues that the 767-plus scenario is more analogous to the two other scenarios considered by the Appellate Body in *EC and certain member States – Large Civil Aircraft* involving a weaker, unsubsidized recipient entering the market in the absence of the subsidies²¹³⁸, for which the Appellate Body found that a more detailed counterfactual analysis was required.²¹³⁹

1038. Based on its understanding of the Appellate Body report in *EC and certain member States – Large Civil Aircraft*, the United States argues that the Panel in this dispute could not have established the existence of a genuine and substantial causal relationship between the aeronautics R&D subsidies and the alleged serious prejudice without analyzing the 767-plus counterfactual scenario that it itself had identified.²¹⁴⁰ Specifically, the United States asserts that the Panel should have made findings as to how a Boeing 767-plus would have competed against the older Airbus A330 or whether the Original A350 would have been launched at all, given that it was a response to the 787.²¹⁴¹ Moreover, in its examination of price suppression, the Panel looked only at the 787's impact on A330 and Original A350 prices, not at what price impact would have resulted from a 767-plus. Likewise, adds the United States, in its assessment of lost sales and threat of displacement or impedance, the Panel failed to consider whether those airlines in respect of which it found lost sales would necessarily have ordered from Airbus if the 787 had not been available, or what would have happened had Boeing offered them a 767-plus.²¹⁴²

1039. In sum, the United States argues that, when viewed in the light of *EC and certain member States – Large Civil Aircraft*, the Panel's analysis in this case reveals shortcomings in its use of a counterfactual analysis. As we have explained above, the adequacy of a counterfactual analysis must

²¹³⁶We recall that this scenario of a "767-plus" involved a 767-replacement in 2004 that was technologically superior to the 767, but did not offer the degree of technological innovation of the 787. (Panel Report, para. 7.1775)

²¹³⁷United States' appellee's submission, para. 284 (referring to Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1264).

²¹³⁸United States' appellee's submission, para. 281 (referring to Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1993).

²¹³⁹Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1264.

²¹⁴⁰United States' appellee's submission, para. 286.

²¹⁴¹United States' appellee's submission, para. 285.

²¹⁴²United States' appellee's submission, para. 285.

be determined according to, *inter alia*, the scenarios, arguments, and evidence on the record of a particular dispute.²¹⁴³

1040. On appeal, the United States' arguments that the Panel's counterfactual analysis at the second stage was inadequate are all based on the 767-plus scenario posited by the Panel. As we observed above, however, this scenario was not based on any counterfactual arguments of the parties. Moreover, it was a scenario adverted to in passing by the Panel in the introduction to the second stage of its analysis, even though there are no indications in the Panel's reasoning or factual findings to support the statement that Boeing might have introduced a new LCA model before all of the technologies found on the 787 were ready for commercial application. Accordingly, we are unable to agree with the United States' argument that the Panel's failure to pursue the counterfactual involving a 767-plus was in error, and calls into question the genuine and substantial link found by the Panel to exist between the aeronautics R&D subsidies and the relevant adverse effects. Accordingly, we consider that the Panel did not err in its use of a counterfactual analysis or in finding, in paragraph 7.1794 of the Panel Report, that "*but for*" the effects of the aeronautics R&D subsidies, Airbus would not have suffered serious prejudice. We therefore also reject the United States' request for consequential reversal of the Panel's finding that the aeronautics R&D subsidies caused adverse effects to the interests of the European Communities.

7. The Panel's Analysis of the Effects of the Aeronautics R&D Subsidies on Airbus

1041. The United States also separately appeals findings of the Panel at the second stage of its analysis in which it examined the effects of the aeronautics R&D subsidies on Airbus' prices and sales. We begin by recounting the relevant findings of the Panel.

1042. Having reached the conclusion that, absent the subsidies, Boeing would not have been able to launch an aircraft with all of the technologies of the 787 in 2004, with projected deliveries in 2008²¹⁴⁴, the Panel proceeded with its analysis of the European Communities' claims of serious prejudice. Specifically, the European Communities had alleged that the aeronautics R&D subsidies adversely affected Airbus' interests through:

²¹⁴³See *supra*, paras. 1019 and 1020. We recall that the Appellate Body in *EC and certain member States – Large Civil Aircraft* did not find a further counterfactual analysis necessary in two scenarios for which it found it likely that, absent the subsidies, it would not have been possible for Airbus to have entered the market at all. (Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1264)

²¹⁴⁴Panel Report, para. 7.1775.

- (i) significant price suppression of the A330, Original A350, and A350XWB-800;
- (ii) significant lost sales of the A330 and Original A350;
- (iii) displacement and impedance of imports of the A330 and Original A350 into the United States²¹⁴⁵;
- (iv) displacement and impedance of exports of the A330 and Original A350 in various third-country markets; and
- (v) a threat of significant price suppression with respect to future *orders* of the A330 and A350XWB-800²¹⁴⁶; or, in the alternative, a threat of significant price suppression, a threat of significant lost sales, and a threat of displacement and impedance of imports and exports with respect to future *deliveries* of Airbus LCA.²¹⁴⁷

1043. The Panel began by examining the European Communities' allegations of significant lost sales. It determined that the "performance characteristics of the 787 and/or its scheduled entry into service in 2008 appear to have been the decisive factors in the outcomes of the Qantas, Ethiopian Airlines, and Icelandair campaigns in 2005 and the Kenya Airways campaign in 2006".²¹⁴⁸ For this reason, the Panel found that, "*but for* the effects of certain aeronautics R&D subsidies, Airbus ... would not have suffered significant lost sales within the meaning of Article 6.3(c) of the SCM Agreement."²¹⁴⁹

1044. Based on market share data for the relevant third-country markets in which the Panel had found lost sales (that is, Australia, Ethiopia, Kenya, and Iceland), the Panel also concluded that there was a threat of displacement and impedance of EC exports in those third-country markets, within the

²¹⁴⁵As is evident from this list, the European Communities did claim that the effect of the aeronautics R&D subsidies was displacement and impedance of imports of Airbus LCA into the US market within the meaning of Article 6.3(a) of the *SCM Agreement*. Although the Panel did not explicitly make a finding on this allegation, it appears that the Panel considered that it had disposed of this claim in finding that, with respect to the sales campaigns involving US airlines—Continental and Northwest Airlines—factors other than the aeronautics R&D subsidies were responsible for Boeing's success. (Panel Report, para. 7.1786 and footnote 3725 thereto) In any event, the European Union does not raise the absence of a ruling with respect to its Article 6.3(a) claim as an issue on appeal.

²¹⁴⁶Panel Report, para. 7.1776.

²¹⁴⁷Panel Report, footnote 3705 to para. 7.1776 (referring to European Communities' first written submission to the Panel, para. 1342). This alternative claim was conditional upon the Panel disagreeing with the European Communities' contention that the Panel should assess serious prejudice on the basis of orders rather than deliveries.

²¹⁴⁸Panel Report, para. 7.1786.

²¹⁴⁹Panel Report, para. 7.1788. (original emphasis)

meaning of Article 6.3(b) of the *SCM Agreement*.²¹⁵⁰ These findings were based on actual delivery data (for the years up to and including 2006) and projected future deliveries (for the years 2007 onwards) for sales campaigns involving Qantas, Ethiopian Airlines, Kenya Airways, and Icelandair.²¹⁵¹ Having considered these data, the Panel was satisfied that, "*but for* the effects of certain of the aeronautics R&D subsidies, Airbus would have obtained additional orders for its A330 or Original A350 LCA from customers in third-country markets in Australia, Ethiopia, Kenya, and Iceland, and thus would not have suffered the threat of displacement or impedance of its exports from third country markets within the meaning of Article 6.3(b) of the *SCM Agreement*".²¹⁵²

1045. Finally, the Panel turned to the European Communities' allegations of significant price suppression suffered by Airbus in the 200-300 seat LCA market. The Panel considered pricing information and market share data with respect to the A330. The Panel accepted "the proposition that with the launch of a technologically-advanced aircraft {that is, the 787}, the price of the competing, older technology aircraft can be expected to decline (along with its residual values)."²¹⁵³ The Panel was "satisfied that this is what happened to the A330 when the 787 was launched in 2004", which "left Airbus in a position in which it had to lower the price of the A330 in order to try to mitigate its loss of market share to the 787."²¹⁵⁴ The Panel noted that "demand for 200-300 seat wide-body LCA fell in 2002 (largely due to the events of {the 11 September 2001 attacks on the World Trade Center} and the SARS epidemic)"²¹⁵⁵ and saw "in the data submitted ... an indication that price trends for the A330 declined after 2004 and that, from its former position as market leader in this product market, it lost market share to Boeing."²¹⁵⁶ The Panel considered that the market share figures "show the rather dramatic erosion of Airbus' market share in the 2004 to 2006 period, compared with the 2000-2003 period", which "coincides with the introduction of the 787 in 2004."²¹⁵⁷ In conclusion, the Panel noted that "{t}he evidence concerning the pricing trends for the A330, combined with the market share data, are consistent with what we would expect to occur from the introduction of a technologically-superior aircraft, offering operating cost advantages over older-technology aircraft, for around the same price."²¹⁵⁸

²¹⁵⁰Panel Report, paras. 7.1790 and 7.1791.

²¹⁵¹Panel Report, para. 7.1790 (referring to "Airbus and Boeing LCA Deliveries and Projected Deliveries in the Challenged Markets – Projected deliveries as of 31 December 2006" (Panel Exhibit EC-1173)).

²¹⁵²Panel Report, para. 7.1791. (original emphasis)

²¹⁵³Panel Report, para. 7.1781.

²¹⁵⁴Panel Report, para. 7.1781.

²¹⁵⁵Panel Report, para. 7.1782.

²¹⁵⁶Panel Report, para. 7.1781.

²¹⁵⁷Panel Report, para. 7.1785.

²¹⁵⁸Panel Report, para. 7.1785.

1046. The Panel also referred to BCI evidence submitted by the European Communities that demonstrated that Airbus was able to secure sales by offering [***] in order to offset the technological advantages and operating cost savings offered by the 787.²¹⁵⁹ The Panel concluded that the "evidence concerning the degree of price concessions that Airbus offered in order to secure sales of its A330 and Original A350 indicates that a further effect of the aeronautics R&D subsidies was significant price suppression with respect to the A330 and Original A350."²¹⁶⁰

1047. The Panel referred to, but rejected, the European Communities' claims that a further effect of the aeronautics R&D subsidies was significant price suppression of the A350XWB-800, on the grounds that the European Communities had not presented evidence of price trends or actual pricing for this Airbus model.²¹⁶¹

1048. On the basis of the evidence it had reviewed, the Panel found that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787 and that, as a result, *but for* the effects of these subsidies":

- Airbus would have obtained additional orders for its A330 and Original A350 LCA from customers in third country markets Australia, Ethiopia, Kenya and Iceland in 2005 and 2006, and the European Communities would not have suffered the threat of displacement or impedance of exports from third country markets within the meaning of Article 6.3(b) of the SCM Agreement;
- Airbus would have made additional sales of the A330 and Original A350 over the same period, and to that extent Airbus would not have suffered significant lost sales in the 200-300 seat wide-body LCA product market, within the meaning of Article 6.3(c) of the SCM Agreement; and
- prices of the A330 and the Original A350 in the 2004 to 2006 period would have been significantly higher, and to that extent, Airbus would not have suffered significant price suppression in the 200-300 seat wide-body LCA product market, within the meaning of Article 6.3(c) of the SCM Agreement.²¹⁶²

²¹⁵⁹Panel Report, para. 7.1792 (referring to European Communities' first written submission to the Panel, para. 1393; and European Communities' second written submission to the Panel, Full HSBI Appendix, para. 10).

²¹⁶⁰Panel Report, para. 7.1792.

²¹⁶¹Panel Report, para. 7.1793.

²¹⁶²Panel Report, para. 7.1794.

1049. The Panel therefore concluded overall that:

... the effect of the aeronautics R&D subsidies is a threat of displacement and impedance of European Communities' exports from third country markets within the meaning of Article 6.3(b) of the SCM Agreement, with respect to the 200-300 seat wide-body LCA product market, and significant lost sales and significant price suppression, within the meaning of Article 6.3(c) of the SCM Agreement with respect to that product market, each of which constitute serious prejudice to the interests of the European Communities within the meaning of Article 5(c) of the SCM Agreement.²¹⁶³

8. The United States' Appeal relating to the Second Stage of the Panel's Analysis of the Technology Effects of the Aeronautics R&D Subsidies

1050. Before addressing the specific grounds of the United States' appeal, we note the pertinent provisions of the *SCM Agreement*, that is, Articles 5(c) and 6.3(b) and (c), which provide, in relevant part:

5. No Member should cause, through the use of any subsidy referred to in paragraphs 1 and 2 of Article 1, adverse effects to the interests of other Members, i.e.:

...

(c) serious prejudice to the interests of another Member.
(footnote omitted)

6.3 Serious prejudice in the sense of paragraph (c) of Article 5 may arise in any case where one or several of the following apply:

...

(b) the effect of the subsidy is to displace or impede the exports of a like product of another Member from a third country market;

(c) the effect of the subsidy is a significant price undercutting by the subsidized product as compared with the price of a like product of another Member in the same market or significant price suppression, price depression or lost sales in the same market{.}

²¹⁶³Panel Report, paras. 7.1797; see also paras. 7.1854(a) and 8.3(a)(i).

(a) Significant lost sales

1051. We begin with the United States' challenge to the Panel's finding that the effect of the aeronautics R&D subsidies was significant lost sales to Airbus in the same market, within the meaning of Article 6.3(c) of the *SCM Agreement*.

1052. The Appellate Body has defined a "lost sale" as one that a supplier "failed to obtain".²¹⁶⁴ The Appellate Body has understood that concept as "relational", entailing consideration of "the behaviour of both the subsidized firm(s), which must have won the sales, and the competing firm(s), which allegedly lost the sales", due to the effect of the subsidy.²¹⁶⁵ Sales can be lost "in the same market", within the meaning of Article 6.3(c), only if the subsidized product and the like product compete in the same product market. With respect to the meaning of "significant", the Appellate Body has noted that this term means "important, notable or consequential"²¹⁶⁶, and has both quantitative and qualitative dimensions.²¹⁶⁷

1053. In this dispute, the European Communities relied on evidence from ten sales campaigns²¹⁶⁸ to substantiate its claims of significant lost sales. This evidence was discussed in the European Communities' first written submission to the Panel, and the details of the relevant campaigns within the 200-300 seat LCA market were set out in an HSBI Annex to that submission—Annex D. According to the European Communities, customers chose the 787 due to some or all of the following subsidy-induced characteristics: its technological innovation; early availability; and low prices.²¹⁶⁹ The United States responded that reasons other than the R&D subsidies explained the failure of Airbus to secure sales in the relevant sales campaigns. For instance, although the United States agreed that the A330 and Original A350 lost sales to the 787 because of the latter's advanced technological features, it argued that these features were not the result of the subsidies, but were the product of work and investment by Boeing and its suppliers.²¹⁷⁰ The United States agreed that the Original A350 lost sales because of the earlier availability of the 787; however, it attributed that fact, not to the aeronautics R&D subsidies, but to the different strategies employed by Airbus and

²¹⁶⁴ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1214.

²¹⁶⁵ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1214.

²¹⁶⁶ Appellate Body Report, *US – Upland Cotton*, para. 426 (referring to Panel Report, *US – Upland Cotton*, para. 7.1326).

²¹⁶⁷ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1218.

²¹⁶⁸ See Panel Report, footnote 3724 to para. 7.1786. The sales campaigns relied on by the European Communities were: All Nippon Airways (2004); Japan Airlines (2004); Continental Airlines (2004-2006); Icelandair (2005); Northwest (2005); Air Canada (2005); Qantas (2005); Kenya Airways (2006); Ethiopian Airlines (2005); and Royal Air Maroc (2005).

²¹⁶⁹ European Communities' first written submission to the Panel, Annex D (BCI version), paras. 5-77. See also Panel Report, para. 7.1786.

²¹⁷⁰ United States' first written submission to the Panel, para. 997.

Boeing.²¹⁷¹ Finally, the United States referred to sales campaign evidence submitted as an HSBI Annex to its first written submission, which it alleged proved that the European Communities' arguments were unfounded and demonstrated that customers chose the 787 for reasons other than its low price.²¹⁷²

1054. The Panel agreed with the European Communities that in four of the 10 sales campaigns referred to by the European Communities—that is, the sales campaigns involving Qantas (2005), Ethiopian Airlines (2005), Icelandair (2005), and Kenya Airways (2006)—the effect of the aeronautics R&D subsidies was significant lost sales in the same market, within the meaning of Article 6.3(c) of the *SCM Agreement*. In the Panel's view, the "performance characteristics of the 787, and/or its scheduled entry into service in 2008" were "decisive factors" in Boeing's ability to secure these sales.²¹⁷³ By contrast, for the other six sales campaigns—that is, those involving All Nippon Airways (2004), Japan Airlines (2004), Continental Airlines (2004-2006), Northwest (2005), Air Canada (2005), and Royal Air Maroc (2005)—the Panel did not find the aeronautics R&D subsidies to be the cause of the lost sales, citing factors "other than the performance characteristics of the 787 over the A330 or Original A350, and the 2008 delivery date for the 787" that played a "significant part" in the loss of these particular sales to Boeing.²¹⁷⁴ These other factors included Boeing's relationship with the airline in question; the particular routes to be serviced and range of aircraft; the effect of the competition between the A340 and Boeing's 777 and the airline's preference for a mixed fleet; and Airbus' failure to submit a formal offer.²¹⁷⁵

1055. In the course of its brief analysis, the Panel discussed the Qantas sale, which involved an order of 45 Boeing 787s, plus 20 options and a further 50 purchase rights. The Panel noted the "extremely competitive" nature of that sale, and concluded, based on the size of the order and various factors that singled out that campaign as being of strategic importance to Boeing and Airbus, that Airbus' loss of this sale alone was "significant".²¹⁷⁶ The Panel was therefore satisfied that, but for the effect of the subsidies, Airbus would have made additional sales of the Original A350 and would not have suffered significant lost sales within the meaning of Article 6.3(c).

²¹⁷¹United States' first written submission to the Panel, para. 998.

²¹⁷²United States' first written submission to the Panel, para. 999, referring to US Campaign Annex (HSBI).

²¹⁷³Panel Report, para. 7.1786. The Panel also referred to evidence that, for customers, the "extremely low pricing offered by Boeing" informed their choice of the 787. (*Ibid.*)

²¹⁷⁴Panel Report, para. 7.1786.

²¹⁷⁵Panel Report, footnote 3725 to para. 7.1786.

²¹⁷⁶Panel Report, para. 7.1788.

- (i) *Whether the Panel erred by "double-counting" each 787 sale as two lost sales for Airbus*

1056. The United States asserts that the Panel's finding of significant lost sales is in error because it implies that sales of both the A330 *and* the Original A350 were lost in the Qantas, Ethiopia Airlines, Icelandair, and Kenya Airways sales campaigns. The United States argues that the Panel "double counted" lost sales when it treated each sale won by the 787 as two lost sales—namely, one for the Original A350 and one for the A330—even though no customer intended to buy both airplanes and Airbus could only lose each sale once.²¹⁷⁷ The United States contends that, for the lost sales found by the Panel, Airbus either made no bid at all, removed the A330 from consideration in favour of the Original A350, or offered only the Original A350 against the 787.²¹⁷⁸ Therefore, the Panel's finding that Airbus lost sales for the A330 does not meet the requirements of Article 6.3(c) of the *SCM Agreement* and, in the United States' view, must be reversed. Since the finding of a threat of displacement and impedance of the A330 is based "exclusively" on the "invalid" lost sales finding, the United States asserts that it must also be reversed.²¹⁷⁹

1057. The European Union responds that it had never alleged before the Panel that a single sales campaign in which Airbus offered the A330 and Original A350 should count as two sales. Moreover, the Panel's finding only reflects that, in several of the sale campaigns, Airbus offered a mix of A330s and Original A350s, and, hence, lost sales of both these aircraft.²¹⁸⁰

1058. Through this argument on appeal, the United States raises an issue of how properly to construe the Panel's finding of lost sales. We note that, in arguing that the Panel "double-counted" lost sales, the United States appears to focus on the Panel's statement at the end of its analysis that, but for the effects of the R&D subsidies, Airbus "would have made additional sales of the A330 *and* Original A350 over the same period, and to that extent, would not have suffered significant lost sales in the 200-300 seat wide-body LCA product market, within the meaning of Article 6.3(c) of the *SCM Agreement*".²¹⁸¹

1059. That finding must, however, be read together with the prior reasoning contained in the body of the Panel's analysis. The Panel began its consideration of the European Communities' claims of lost sales by discussing the evidence from the sales campaigns presented by the European Communities. The Panel found that the evidence regarding specific sales campaigns that

²¹⁷⁷United States' other appellant's submission, para. 279.

²¹⁷⁸United States' other appellant's submission, para. 283.

²¹⁷⁹United States' other appellant's submission, para. 281.

²¹⁸⁰European Union's appellee's submission, paras. 443 and 444.

²¹⁸¹Panel Report, para. 7.1794. (emphasis added)

occurred in the 200-300 seat LCA market between 2004 and 2006 demonstrated that customers decided to purchase Boeing's 787 either because they "perceived that Airbus' A330 family and Original A350 family LCA were not as capable as Boeing's 787 family LCA in fulfilling {their} technical or delivery schedule requirements"; or because they "considered Airbus' A330 family and Original A350 family LCA to be capable of meeting {their} technical and delivery schedule requirements, but {were} 'swayed by the extremely low pricing offered by Boeing'."²¹⁸² The Panel concluded that, in the specific sales campaigns involving Qantas, Ethiopian Airlines, Icelandair, and Kenya Airways, sales were lost to the 787 due to the "advanced technological features of the 787, the availability of which at that time was accelerated by the aeronautics R&D subsidies".²¹⁸³ The Panel then proceeded to discuss in further detail the sales campaign involving Qantas and, at the close of that discussion, found that the evidence before it supported a conclusion that, but for the subsidies, Airbus would have made additional sales of the Original A350.²¹⁸⁴ The Panel neither stated nor implied that it considered that two sales had been lost by Airbus for each 787 ordered.

1060. We understand the reasoning of the Panel to be contained in its explanation that customers chose the 787 because of their perception that it was more technologically advanced than either the A330 or the Original A350, as well as on account of its low price. We know from the evidence presented to the Panel, and referred to by the United States, that, in at least one sales campaign, Airbus did not offer either of these two aircraft²¹⁸⁵ and, in another, both the A330 and Original A350 were offered.²¹⁸⁶ Since the Panel found that customers considered the 787 to be the more advanced aircraft, it appears that, for at least two sales campaigns, the customers either considered neither the A330 nor the Original A350, or considered both the A330 and the Original A350, but rejected them in favour of the 787.

1061. We also note that, in concluding that there was a threat of displacement and impedance, the Panel explicitly stated that, but for the aeronautics R&D subsidies, "Airbus would have obtained additional orders for its A330 *or* Original A350" from customers in third-country markets in Australia, Ethiopia, Kenya, and Iceland.²¹⁸⁷ The Panel's threat of displacement and impedance finding was a consequence of its lost sales finding and was based on the same sales campaigns that Boeing

²¹⁸²Panel Report, para. 7.1786.

²¹⁸³Panel Report, para. 7.1787.

²¹⁸⁴Panel Report, para. 7.1788.

²¹⁸⁵United States' other appellant's submission, para. 283.

²¹⁸⁶The participants appear to accept that, with respect to at least one sales campaign, Airbus initially offered both the A330 and the Original A350. Although the United States argues that "Airbus ... removed the A330 from consideration in favour of the Original A350" in that specific sales campaign, there is no evidence of such withdrawal and the Panel made no finding in this regard. (United States' other appellant's submission, para. 283) The European Union argues that, in a number of sales campaigns, Airbus offered the airline customer a mix of A330s and Original A350s. (European Union's appellee's submission, para. 444)

²¹⁸⁷Panel Report, para. 7.1791. (emphasis added)

won and Airbus lost. Thus, the Panel's use of "or", rather than "and", in its finding regarding a threat of displacement and impedance suggests to us that, far from "double-counting" lost sales for each specific campaign, the Panel treated each lost sale to Boeing as being a loss of *either* the A330 *or* the Original A350.²¹⁸⁸

1062. Finally, we also note that the Panel's ultimate finding of significant lost sales, in paragraphs 7.1797 and 8.3(a)(i) of the Panel Report, is, in any event, made with respect to the 200-300 seat LCA market generally, rather than with respect to either or both specific Airbus LCA models.²¹⁸⁹

1063. For the above reasons, we do not read the Panel's finding as suggesting that for each sale of the 787 gained by Boeing, two were lost by Airbus. Nor do we consider that the Panel's finding of significant lost sales in the same market is justified only with respect to the Original A350, and not the A330. Accordingly, we reject the United States' request for reversal of the Panel's finding of lost sales of the A330 because of "double-counting". For that same reason, we also reject the United States' request for consequential reversal of the Panel's finding of a threat of displacement and impedance with respect to the A330.

(ii) *Whether the Panel erred by failing properly to consider other factors*

1064. Second, the United States argues that, in concluding that the Ethiopian Airlines, Icelandair, and Kenya Airways sales campaigns resulted in lost sales for the A330 and Original A350, the Panel failed to take into account "customer-specific situations" showing that Boeing's victory in these campaigns was not the effect of the aeronautics R&D subsidies.²¹⁹⁰ These "customer-specific situations" include "'Boeing's relationship with the airline (Continental Airlines, All Nippon Airways, Japan Airlines)' and Airbus' 'failure to submit a formal offer within the time limit specified by the airline (Royal Air Maroc)'".²¹⁹¹ The United States highlights that the Panel recognized that such factors could be critical when it rejected allegations of lost sales in these other sales campaigns on the

²¹⁸⁸We recall the European Union's assertion that it had never presented arguments that two sales were lost to Airbus for each sale of the Boeing 787. (*Supra*, para. 1057)

²¹⁸⁹The Panel found that:

... the effect of the aeronautics R&D subsidies is ... significant lost sales ... within the meaning of Article 6.3(c) of the SCM Agreement with respect to {the 200-300 seat LCA} market, ... which constitute{s} serious prejudice to the interests of the European Communities within the meaning of Article 5(c) of the SCM Agreement.

(Panel Report, para. 7.1797)

²¹⁹⁰United States' other appellant's submission, para. 286.

²¹⁹¹United States' other appellant's submission, para. 286 (quoting Panel Report, footnote 3725 to para. 7.1786).

basis that these factors, rather than the aeronautics R&D subsidies, explained the customer's choice. Yet the Panel neglected to consider similar factors for the campaigns involving Ethiopian Airlines, Icelandair, and Kenya Airways. Accordingly, argues the United States, the Panel's lost sales finding under Article 6.3(c) of the *SCM Agreement* is in error.²¹⁹² Moreover, since the Panel's finding of lost sales formed the "sole" basis for the Panel's conclusion that there was a threat of displacement and impedance, the United States requests the Appellate Body to reverse the threat of displacement and impedance finding of the Panel.²¹⁹³

1065. In response, the European Union asserts that the Panel considered, and properly rejected, relevant other factors. The European Union explains that the Panel could not explain its finding in more detail due to the HSBI nature of the sales campaign evidence. Moreover, the European Union posits that the arguments of the United States implicate the Panel's weighing of evidence and should have been raised under Article 11 of the DSU.²¹⁹⁴

1066. We begin with the United States' argument that the Panel failed to ascribe sufficient importance to Boeing's pre-existing customer relationships in its treatment of the Icelandair, Kenya Airways, and Ethiopian Airlines sales campaigns as compared with its treatment of that same factor with respect to the sales campaigns involving Continental Airlines, All Nippon Airways, and Japan Airlines. The evidence on the Panel record suggests that, as with Continental Airlines, All Nippon Airways, and Japan Airlines, three of the airlines for which the Panel concluded there were lost sales—namely Ethiopian Airlines, Icelandair, and Kenya Airways—also had all-Boeing or predominantly Boeing fleets.²¹⁹⁵ We have no reason to doubt that the Panel assessed this factor in considering these sales campaigns, and weighed it differently in considering the sales campaigns involving Continental Airlines, All Nippon Airways, and Japan Airlines. Yet the reason for this difference in treatment is not evident from the Panel's reasoning.²¹⁹⁶ We have concerns about the scarcity of the Panel's analysis. However, the claims brought by the United States can only be properly dealt with if brought under Article 11 of the DSU²¹⁹⁷ since they challenge the objectivity of the Panel's assessment of the facts and seek to have us attribute a different weight to a specific factor

²¹⁹²United States' other appellant's submission, para. 286.

²¹⁹³United States' other appellant's submission, para. 294.

²¹⁹⁴European Union's appellee's submission, paras. 446 and 447.

²¹⁹⁵In this respect, we observe that, before the Panel, the United States noted that the following airlines, including those referred to here on appeal, either had all-Boeing LCA fleets or operated only Boeing 767s as their mid-size LCA. (United States' other appellant's submission, para. 288 (referring to United States' first written submission to the Panel, Full HSBI Appendix, footnote 2 to para. 10))

²¹⁹⁶The European Union's counterargument that the evidence that was before the Panel is HSBI in nature is not entirely convincing, given that the Panel was able to articulate reasons for the Qantas sales, even though the evidence from that campaign was also HSBI-designated. (See Panel Report, para. 7.1788)

²¹⁹⁷See, for example, Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, paras. 292, 293 and footnote 618 thereto, 294, and 295.

than did the Panel. In the absence of such a claim, we see no basis to interfere with the Panel's exercise of its fact-finding authority solely on the ground that it came to different conclusions in circumstances where the facts surrounding these campaigns illustrated that they shared one characteristic with other campaigns for which the Panel did not find lost sales.

1067. The United States also argues that the Icelandair sales campaign shared features with the Royal Air Maroc sales campaign for which the Panel rejected the European Communities' claim of lost sales because of Airbus' "failure to submit a formal offer within the time limit specified" by that airline.²¹⁹⁸ According to the United States, the situation arising in the Icelandair sales campaign is as compelling a reason to find that no causal link exists as a late bid.²¹⁹⁹ For the same reasons given above, we do not entertain this claim of the United States in the absence of a claim under Article 11 of the DSU.

1068. In the light of the above, and even accepting that the Panel could have provided a fuller explanation as to how the evidence from the three sales campaigns supports a finding of significant lost sales in the same market, we are not persuaded that the Panel erred in applying Article 6.3(c) of the *SCM Agreement* in its consideration of the sales campaigns involving Ethiopian Airlines, Icelandair, and Kenya Airways, and therefore reject the United States' request for reversal of the lost sales finding. For that same reason, we reject the United States' request for reversal of the Panel's consequential finding of a threat of displacement and impedance.

(b) Threat of displacement and impedance

1069. In addition to its requests for consequential reversal (deriving from the alleged flaws in the finding of lost sales) of the Panel's finding that the aeronautics R&D subsidies caused a threat of displacement and impedance of exports of Airbus aircraft in the "third-country markets" of Ethiopia, Kenya, and Iceland, the United States also independently appeals that finding.²²⁰⁰ The United States alleges that the Panel failed to establish that Ethiopia, Kenya, and Iceland constitute "third-country markets" within the meaning of Article 6.3(b)²²⁰¹, and that this failure constitutes legal error because, as the Appellate Body has previously found, panels considering a claim of displacement or impedance have an "obligation to assess the relevant market" under Article 6.3(b).²²⁰² Moreover, the

²¹⁹⁸United States' other appellant's submission, para. 289 (quoting Panel Report, footnote 3725 to para. 7.1786).

²¹⁹⁹United States' other appellant's submission, para. 289.

²²⁰⁰We note that the United States has not appealed the Panel's finding of a threat of displacement and impedance of the European Union's exports in Australia.

²²⁰¹United States' other appellant's submission, para. 295.

²²⁰²United States' appellee's submission, para. 295 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1131).

United States asserts that the Panel's threat of displacement and impedance finding for those countries contradicts its legal finding elsewhere that treating a single sales campaign as a "market" nullifies the meaning of that term.²²⁰³ The United States also argues that the low volume of orders involved in the sales campaigns involving Ethiopia, Iceland, and Kenya demonstrates that there was no "trend" of Airbus exports being threatened with displacement and impedance.²²⁰⁴

1070. The European Union supports the Panel's finding that it did not need to "consider whether the European Communities ha{d} established the existence of such country markets"²²⁰⁵ because, in this dispute, both parties accepted that the relevant product market was 200-300 seat LCA market, and the relevant geographic markets of Ethiopia, Kenya, and Iceland were "indisputable".²²⁰⁶ Moreover, even if the Panel were under an obligation to make findings on the extent of the market within a third country, the European Union maintains that the Panel was still correct since the unappealed finding that there was a world market for 200-300 seat LCA means there could not be multiple geographic markets within each country.²²⁰⁷

1071. Before addressing the specific arguments on appeal, we recall the meaning of the concepts of displacement and impedance as previously stated by the Appellate Body. In *EC and certain member States – Large Civil Aircraft*, the Appellate Body explained that "displacement" refers to an economic mechanism in which exports of a like product are replaced by the sales of the subsidized product.²²⁰⁸ Specifically, it found that "displacement" connotes that there is "a substitution effect between the subsidized product and the like product of the complaining Member" and, in the context of Article 6.3(b), "displacement arises where exports of the like product of the complaining Member are substituted in a third country market by exports of the subsidized product."²²⁰⁹ The existence of displacement depends upon there being a competitive relationship between these two sets of products in that market and, when this is the case, certain behaviour such as "{a}ggressive pricing" may "lead to displacement of exports ... in {that} particular market".²²¹⁰ An analysis of displacement should assess whether this phenomenon is discernible by examining trends in data relating to export volumes and market shares over an appropriately representative period.²²¹¹ With respect to "impedance", the Appellate Body expressed the view that this concept may involve a broader range of situations than

²²⁰³United States' other appellant's submission, para. 295 (referring to Panel Report, para. 7.1675).

²²⁰⁴See United States' appellee's submission, paras. 299-301.

²²⁰⁵Panel Report, para. 7.1674.

²²⁰⁶European Union's appellee's submission, para. 464.

²²⁰⁷European Union's appellee's submission, para. 465.

²²⁰⁸Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1119.

²²⁰⁹Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1160.

²²¹⁰Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1119.

²²¹¹See Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1165, 1166, and 1170.

displacement and arises both in "situations where the exports or imports of the like product of the complaining Member would have expanded had they not been 'obstructed' or 'hindered' by the subsidized product", as well as when such exports or imports "did not materialize at all because production was held back by the subsidized product".²²¹² While there may be some overlap between the concepts, "displacement" and "impedance" are therefore not interchangeable concepts.

1072. In this dispute, the Panel's finding of a threat of displacement and impedance was based on delivery data for the four countries where the sales campaigns on which its lost sales finding was based took place.²²¹³ The Panel had found earlier in its analysis that the existence of the serious prejudice phenomena of displacement and impedance of imports or exports could only be definitely established by relevant delivery data, and that orders for LCA represent, by and large, deliveries that will occur some years subsequently.²²¹⁴ For the Panel, evidence concerning orders obtained in 2004-2006 was capable of showing that future imports or exports would be displaced or impeded and, therefore, of establishing the existence of a *threat* of serious prejudice.²²¹⁵

1073. The evidence on which the Panel relied for its finding of a threat of displacement and impedance in the 200-300 seat LCA market included actual delivery data (up to and including 2006) and projected future deliveries (for 2007 onwards), which were based on actual order data.²²¹⁶ The Panel explained that, given the delay between the order of aircraft and their delivery, the impact of the aeronautics R&D subsidies would not be reflected in delivery data until the 787 was delivered some years after 2006.²²¹⁷

²²¹²Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1161. The Appellate Body noted that it was not required to consider the meaning of impedance in that appeal. Nevertheless, the Appellate Body considered that this concept, which is found within the same provision of the *SCM Agreement*, serves as relevant context for "a better understanding of displacement". (*Ibid.*)

²²¹³Having concluded that the orders obtained by Boeing in the Qantas, Icelandair, Kenya Airways, and Ethiopian Airlines sales campaigns demonstrated significant lost sales, the Panel noted the European Communities' argument that, to the extent that it had identified orders as the cause of displacement or impedance, but such orders had not yet resulted in deliveries, those orders constituted evidence of a *threat* of displacement and impedance. (Panel Report, para. 7.1789 (referring to European Communities' first written submission to the Panel, paras. 1455-1458, 1466-1468, 1552-1555, 1562, 1640-1643, 1650, and 1651; and European Communities' oral statement at the first Panel meeting (BCI), para. 90))

²²¹⁴The Panel's focus on evidence of future deliveries of aircraft was consistent with an earlier finding that, for purposes of its displacement and impedance findings under Article 6.3(a) and (b) of the *SCM Agreement*, the reference to "imports" and "exports" in these provisions suggested that these forms of serious prejudice could arise only on delivery of the aircraft to customers. (See Panel Report, para. 7.1685)

²²¹⁵Panel Report, para. 7.1686. Although the word "threat" is not expressly included in the text of Article 6.3(b), the Appellate Body in *EC and certain member States – Large Civil Aircraft* explained that a finding under that provision could include situations in which displacement was only threatened. (Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1171)

²²¹⁶Panel Report, para. 7.1790 (referring to "Airbus and Boeing LCA Deliveries and Projected Deliveries in the Challenged Markets – Projected deliveries as of 31 December 2006" (Panel Exhibit EC-1173)).

²²¹⁷Panel Report, para. 7.1791.

Table 5. Actual and projected future deliveries of Airbus and Boeing LCA

		Airbus		Boeing	
Australia	2002	2	100%	--	--
	2003	4	100%	--	--
	2004	5	100%	--	--
	2005	3	100%	--	--
	2006	1	100%	--	--
	2007	4	100%	--	--
	2008	4	50%	4	50%
	2009	3	27%	8	73%
	2010	1	10%	9	90%
	2011	--	--	7	100%
	2012	--	--	14	100%
	2013	--	--	3	100%
Ethiopia	2003	--	--	1	100%
	2004	--	--	1	100%
	2005	--	--	1	100%
	2006	--	--	--	--
	2008	--	--	1	100%
	2009	--	--	1	100%
	2010	--	--	3	100%
	2011	--	--	2	100%
Kenya	2001	--	--	3	100%
	2010	--	--	2	100%
	2011	--	--	4	100%
	2012	--	--	3	100%
Iceland	2010	--	--	2	100%
	2012	--	--	2	100%

Source: Panel Report, Table at para. 7.1790; Panel Exhibit EC-1173, Figure 1.

1074. Having set out the above table, the Panel considered it "clear" that, after 2006, the European Communities would "suffer serious prejudice in the form of displacement and impedance of its exports from these third country markets".²²¹⁸

1075. The first argument of the United States in this part of its appeal concerns the proper meaning to be attributed to the term "market" in Article 6.3(b) of the *SCM Agreement*. That provision requires a demonstration that the effect of the subsidy is to "displace or impede" the exports of a like product of another Member from a "third country market".

1076. In *EC and certain member States – Large Civil Aircraft*, the Appellate Body clarified that a "market", within the meaning of Article 6.3(a) and (b) of the *SCM Agreement*, is a particular set of products that are in actual or potential competition with each other within a particular geographical area. An assessment of the competitive relationship between products in the market is required in

²²¹⁸Panel Report, para. 7.1791.

order to determine "whether and to what extent one product may displace another".²²¹⁹ There is "both a geographic and product market component to the assessment of displacement"²²²⁰ and, by implication, impedance.²²²¹ In principle, the manner in which the geographic dimension of a market is determined will depend on a number of factors: in some cases, the geographic market may extend to cover the entire country concerned; in others, an analysis of the conditions of competition for sales of the product in question may provide an appropriate foundation for a finding that a geographic market exists *within* that area, for example, a region. There may also be cases where the geographic dimension of a particular market exceeds national boundaries or could be the world market.²²²² A plain reading of Article 6.3(b), however, reveals that a finding of displacement or impedance under that provision is to be limited to the territory of the third country at issue. Accordingly, findings of displacement and impedance are to be made only with respect to the territory of the third country involved, even though, from an economic perspective, the geographic market may not be national in scope. Thus, the Appellate Body explained that, even in cases where the geographic dimension of a particular market exceeds national boundaries or is worldwide, a panel faced with a claim under Article 6.3(b) should "focus the analysis of displacement and impedance on the territory of the ... third countries involved."²²²³

1077. In this dispute, the Panel found that the LCA market is a global market geographically and that competition in each of the three LCA product markets that it had identified takes place on a worldwide basis.²²²⁴ The Panel also recognized that Article 6.3(b) expressly requires the examination of displacement and impedance on the basis of "a third country market". Thus, the Panel considered that, in assessing the European Communities' claim of displacement and impedance, it was "not required to consider whether the European Communities ha{d} established the existence of such country markets".²²²⁵ Rather, the Panel considered the issue before it as being whether, "based on evidence of sales occurring in those countries, {it was} satisfied that there ha{d} been displacement and impedance ... in the particular country market."²²²⁶

²²¹⁹ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1119.

²²²⁰ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1168.

²²²¹ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, footnote 2466 to para. 1119.

²²²² Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1117. Where the geographic dimension of the market is smaller in scope than the entire territory of the third-country Member concerned, the wording of Article 6.3(b) suggests that a panel will nonetheless have to ensure that any finding reached relates to that territory as a whole, and explain why this is so.

²²²³ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1117.

²²²⁴ Panel Report, paras. 7.1671 and 7.1674.

²²²⁵ Panel Report, para. 7.1674.

²²²⁶ Panel Report, para. 7.1674.

1078. We see no error in this approach of the Panel. As we have noted, the Panel found that competition between Boeing and Airbus for sales in the 200-300 seat LCA market takes place on a global basis. Both parties accepted the Panel's identification of the 200-300 seat LCA market and did not dispute that it is a global market.²²²⁷ The United States did not suggest to the Panel, and has not argued before us, that Kenya, Iceland, and Ethiopia do not form part of such a global market, or pointed to any reason why the conditions of competition within the territory of any of these Members would differ from the conditions of competition on the worldwide market. The sales campaign evidence relied upon by the European Communities to support its claim related to, *inter alia*, sales in Ethiopia, Iceland, and Kenya, and both Boeing and Airbus competed in these sales campaigns. The Panel was clearly aware that Article 6.3(b) requires an analysis of displacement and impedance to focus on a particular country market and deemed it unnecessary to establish separately the existence of a third-country market. Such an approach accords with Article 6.3(b) and with the Appellate Body's understanding of that provision as set out in *EC and certain member States – Large Civil Aircraft*. For these reasons, we do not accept the contention of the United States that, in its analysis of displacement and impedance, the Panel erred in assuming the existence of third-country markets, and failed to establish that they existed.

1079. We also reject the argument of the United States that, by relying on individual sales campaigns for its displacement and impedance finding with respect to Ethiopia, Kenya, and Iceland, the Panel contradicted its own legal conclusion that treating a single sales campaign as a "market" nullifies the meaning of that term.²²²⁸ This argument by the United States appears to us to misconstrue the Panel's finding and to conflate distinct issues. While it is true that the Panel declined to accept an argument by the European Communities that a single LCA sales campaign could be considered a relevant market, in doing so it was considering the definition of "market" under Article 6.3(c), and not under Article 6.3(b), of the *SCM Agreement*. Under Article 6.3(b), the Panel was required to focus its analysis on sales occurring within the territory of each relevant third-country Member, irrespective of how many sales campaigns took place in that territory during the reference period.

²²²⁷Panel Report, paras. 7.1670 and 7.1671.

²²²⁸See Panel Report, para. 7.1675.

1080. A second argument by the United States relates to the evidentiary basis for the Panel's finding of a threat of displacement and impedance in Ethiopia, Kenya, and Iceland. The United States contends that the volume of orders involved in these third-country market campaigns was too low to be capable of demonstrating a threat of displacement and impedance, and that there were insufficient "trends" of Airbus exports.²²²⁹

1081. We begin with the Panel's finding of displacement. We recall the guidance provided by the Appellate Body in *EC and certain member States – Large Civil Aircraft* as to the meaning of "displacement" in Article 6.3(a) and (b). Referring to Article 6.4 of the *SCM Agreement*, which provides, *inter alia*, that, for purposes of Article 6.3(a) and (b), changes in relative market shares shall be demonstrated "over an appropriately representative period sufficient to demonstrate clear trends in the development of the market for the product concerned", the Appellate Body considered that this suggests that the effect of a subsidy must be examined "'over a sufficiently long period of time and is not limited to the year in which it was paid' because consideration of developments over a longer period 'provides a more robust basis for a serious prejudice evaluation'."²²³⁰ The Appellate Body also noted that a panel assessing a claim of displacement would have to look at whether trends are discernible.²²³¹ The Appellate Body explained that the identification of a trend will be more accurate the larger the data set used in the analysis.²²³²

1082. The Appellate Body's analysis in *EC and certain member States – Large Civil Aircraft* suggests that the following characteristics will normally be necessary before a panel can reach a finding of displacement under Article 6.3(b): first, that at least a portion of the market share of the exports of the like product of the complaining Member must have been taken over or substituted by

²²²⁹ See United States' appellee's submission, paras. 299-301.

²²³⁰ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1166 (quoting Appellate Body Report, *US – Upland Cotton*, para. 478).

²²³¹ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1166.

²²³² Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1167.

the subsidized product; and second, it must be possible to discern trends in volume and market share.²²³³

1083. Although the Panel engaged in no analysis of the data before it, when we consider the data for the four markets for which the Panel found a threat of displacement, we find evidence of Boeing taking over Airbus' market share only in Australia. The data relied on by the Panel for Australia demonstrate that, after 2006, Boeing progressed from having no deliveries in Australia to having 50% of deliveries by 2008, and 100% of deliveries by 2011, thus supplanting Airbus in Australia. Airbus' market share progressively declined from 2002 to 2010, with deliveries projected to cease in 2011. The Panel's analysis of the Qantas sales campaign, of the Australian market, and its finding of a threat of displacement and impedance in Australia have not been appealed by the United States.

1084. The data further show that, in the other three third-country markets at issue, Boeing was the sole supplier in all years for which data was provided. In contrast to Australia, there is no evidence that Airbus made or was projected to make deliveries in any of these third-country markets prior to, during, or after the reference period. This means that there was no taking over or substituting by Boeing of Airbus' market share for 200-300 seat LCA in those third-country markets. Rather, while the number of deliveries fluctuated, Boeing held 100% of the market share in every year considered by the Panel. On this basis alone, we cannot sustain the Panel's finding of a threat of *displacement* in these third-country markets.

1085. In its discussion of displacement and impedance, the Panel did not distinguish between these concepts, even though the Appellate Body in *EC and certain member States – Large Civil Aircraft* stated that the principle of effective treaty interpretation suggests that there is a distinction between

²²³³The Appellate Body in *EC and certain member States – Large Civil Aircraft* reasoned that:
... displacement arises under Article 6.3(a) of the *SCM Agreement* where imports of a like product of the complaining Member are declining in the market of the subsidizing Member, and are being substituted by the subsidized product. Similarly, under Article 6.3(b), displacement arises where exports from the like product of the complaining Member are declining in the third country market concerned, and are being substituted by exports of the subsidized product. As noted above, displacement must be discernible. The identification of displacement under this approach should focus on trends in the markets, looking at both volumes and market shares. The trend has to be clearly identifiable and an assessment based on a static comparison of the situation of the subsidized product and the like product at the beginning and at the end of the reference period would be inadequate.

(Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1170) In that dispute, the Appellate Body explained how it would apply the test of displacement and stated that there could be no displacement either where sales of Boeing aircraft (the competitor of the subsidized product in that dispute) increased during the reference period in a particular product market, where Boeing made no sales in a product market throughout the reference period, or where Boeing was the sole supplier in a product market. (*Ibid.*, para. 1179)

them.²²³⁴ We also observe that, when making findings, the Panel always referred to both displacement and impedance. For this reason, we will proceed on the basis that the Panel meant that, in each of the countries it considered, there was a threat of both displacement and impedance. We therefore proceed to consider the Panel's finding of a threat of *impedance*.

1086. As we have noted above, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body explained that impedance refers to a situation where the exports or imports of the like product of the complaining Member would have expanded more had they not been "obstructed" or "hindered" by the subsidized product, or where exports or imports of the like product did not materialize at all because production was "held back" by the subsidized product.²²³⁵ We observe that Article 6.4 of the *SCM Agreement*, which applies to both phenomena referred to in Article 6.3(a) and (b), requires that, as with displacement, a finding of impedance should be supported by evidence of changes in the relative market share in favour of the subsidized product, over a sufficiently representative period, to demonstrate "clear trends" in the development of the market concerned. Since, unlike with displacement, however, impedance may not be a visible phenomenon, evidence of trends may not be dispositive, or may hold less probative value, for a finding of impedance.

1087. In this dispute, the Panel considered that there was evidence of a threat of impedance in Ethiopia, Kenya, and Iceland on the basis of the data provided in Table 5 above. Although no supporting reasons were provided, the Panel's finding appears to have followed from its perception that the data concerning actual and projected deliveries of Boeing LCA were sufficient to supply a basis for that finding. We observe, however, that, in each of these third-country markets, Boeing's market share remained at 100% over all the periods considered by the Panel, even though the number of annual deliveries fluctuated. The data for Iceland cover only the years 2010 and 2011, and Boeing deliveries remained stable at two per year, which, by any measure, cannot constitute a *trend*. The data for Kenya relate to the years 2001, 2010, 2011, and 2012. There were three deliveries in 2001, two projected for 2010, four projected for 2011, and three projected for 2012. We do not consider that this represents a clear trend either.

1088. The picture for Ethiopia is more mixed. There was one delivery per year from 2003 through 2009 (with the exception of 2006, when there were none). Projected deliveries rose to three for 2010, two for 2011, and three for 2012. Although there was an increase in the number of deliveries in Ethiopia from 2009 to 2010, and this increase was projected to be sustained in the following years,

²²³⁴ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, footnote 2548 to para. 1161 (referring to Appellate Body Report, *US – Gasoline*, p. 23, DSR 1996:I, 3, at 21; and Appellate Body Report, *Japan – Alcoholic Beverages II*, p. 12, DSR 1997:I, 97, at 106).

²²³⁵ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1161.

deliveries were projected to fluctuate between two and three for 2011 and 2012. We are not entirely convinced that this is a clear trend.

1089. Consequently, we consider that the data are insufficient to demonstrate "clear trends" in any of the third-country markets concerned, as required by Article 6.4 of the *SCM Agreement*. Moreover, the Panel did not provide a specific explanation or reasoning as to how it reached its finding of a threat of impedance. For these reasons, we are unable to sustain the Panel's finding of a threat of displacement and impedance of exports of Airbus LCA with respect to the three relevant third-country markets.

1090. Based on the above analysis, we reject the United States' appeal that the Panel erred by failing to identify and establish third-country "markets" in Iceland, Kenya, and Ethiopia within the meaning of Article 6.3(b) of the *SCM Agreement*. However, we *reverse* the Panel's finding that there was a threat of displacement and impedance in those same third-country markets.²²³⁶

(c) Significant price suppression

1091. The United States advances three separate arguments as to why the Panel's finding of price suppression should be reversed. Before turning to these arguments, we recall that the Appellate Body has provided the following definition of price suppression:

"{P}rice suppression" refers to the situation where "prices" ... either are prevented or inhibited from rising (i.e. they do not increase when they otherwise would have) or they do actually increase, but the increase is less than it otherwise would have been. *Price depression* refers to the situation where "prices" are pressed down, or reduced.²²³⁷ (original emphasis)

1092. Price suppression is therefore concerned with "whether prices are less than they would otherwise have been in consequence of ... the subsidies".²²³⁸ For this reason, a counterfactual analysis is likely to be of particular utility for panels faced with claims that subsidies have caused price suppression.

²²³⁶We recall that the United States has not appealed the Panel's finding of a threat of displacement and impedance of Airbus LCA in Australia.

²²³⁷Appellate Body Report, *US – Upland Cotton*, para. 423 (quoting Panel Report, *US – Upland Cotton* para. 7.1277). Like the panel in *US – Upland Cotton*, we use the term "price suppression" to refer both to an actual decline (which otherwise would not have declined, or would have done so to a lesser degree) and an increase in prices (which otherwise would have increased to a greater degree). (Appellate Body Report, *US – Upland Cotton*, para. 423; Panel Report, *US – Upland Cotton*, footnote 1388 to para. 7.1277)

²²³⁸Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 351.

1093. Turning to this dispute, we recall briefly the claims made by the European Communities to the Panel. In its first written submission, the European Communities set out its arguments with respect to the alleged significant price suppression of the A330 family separately from its arguments with respect to the alleged significant price suppression of the A350 family (including both the Original A350 and the A350XWB-800), and explained that the aeronautics R&D subsidies affected these two LCA families "somewhat differently".²²³⁹

1094. The main difference between the evidence that the European Communities submitted with respect to the A330 family and to the A350 family was that, for the A330 family alone, the European Communities submitted a chart reflecting actual data on annual A330 orders and indexed prices-per-seat for that aircraft from 2000 through 2006.²²⁴⁰ Another difference was that, because the Original A350 was not launched until 2005, the European Communities used a two-year (2005-2006)²²⁴¹ rather than a three-year (2004-2006) reference period for the A350 family. Overall, however, there were many common elements in the arguments and evidence submitted by the European Communities to prove that the prices of the A330 and A350 families had been suppressed. First, the European Communities based both of its price suppression arguments on the alleged effects of *all* of the subsidies at issue, rather than on the effects of the aeronautics R&D subsidies alone. Second, the European Communities adduced, as evidence of price suppression for both the A330 and the A350 families, evidence relating to: (i) the nature of the subsidies; (ii) the magnitude of the subsidies (as calculated by the International Trade Resources LLC (the "ITR")); (iii) the estimated price effects of the subsidies (as calculated in part in the report by Professor Luís Cabral²²⁴² (the "Cabral Report")); (iv) the conditions of competition in the 200-300 seat LCA market; and (v) the results of a number of specific sales campaigns (as set out in Annex D to the European Communities' first written submission to the Panel).²²⁴³

1095. The evidence and arguments relating to each of these five elements were broadly similar or even identical (in particular the conditions of competition in the 200-300 seat LCA market for both the A330 and A350 families). The European Communities provided additional empirical information with respect to the A330 family in the form of charts mapping the counterfactual A330 prices that would have prevailed absent the subsidies: assuming that the full per-aircraft subsidy magnitude

²²³⁹European Communities' first written submission to the Panel, para. 1387.

²²⁴⁰European Communities' first written submission to the Panel, para. 1389 and graph provided at Figure 30 (BCI) to para. 1389. The European Communities also submitted a graph (BCI) reflecting actual data on 200-300 seat LCA orders and indexed prices-per-seat from 2000 through 2006. (European Communities' response to Panel Question 306, para. 784, Figure 3)

²²⁴¹See European Communities' first written submission to the Panel, para. 1409.

²²⁴²Professor L.M.B. Cabral, "Impact of Development Subsidies Granted to Boeing" (New York University and CEPR, March 2007) (Panel Exhibit EC-4).

²²⁴³European Communities' first written submission to the Panel, para. 1409.

calculated by the ITR was used by Boeing to lower its 787 pricing; and absent the price effects of the subsidies, as calculated in part in the Cabral Report. Although no such information was provided for the Original A350, the European Communities' arguments under the fifth factor, relating to the results of specific sales campaigns, were more elaborated for the A350 family than for the A330 family.

1096. In support of its claims of price suppression with respect to both the A330 and A350 families, the European Communities set out the details of three LCA sales campaigns in Annex D. The sales campaigns in question, which were all concluded in 2005, involved the International Lease Finance Corporation ("ILFC"), CIT Group, and Air Europa.²²⁴⁴ The European Communities relied on two of these campaigns as evidence of price suppression of *both* the A330 and the A350 families; and on one of them as evidence of price suppression of the A350 family alone. More specifically:

- [***

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- [***

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- [***

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²²⁴⁴Panel Report, footnote 3411 to para. 7.1622.

²²⁴⁵European Communities' first written submission to the Panel, Annex D (BCI version), para. 99. (footnote omitted)

²²⁴⁶European Communities' first written submission to the Panel, Annex D (BCI version), para. 101.

²²⁴⁷European Communities' first written submission to the Panel, Annex D (BCI version), para. 83.

²²⁴⁸European Communities' first written submission to the Panel, Annex D (BCI version), para. 84.

²²⁴⁹European Communities' first written submission to the Panel, Annex D (BCI version), para. 92.

²²⁵⁰European Communities' first written submission to the Panel, Annex D (BCI version), para. 93.

The total number of sales arising from these three sales campaigns during the reference period is 31 Original A350s and four A330s.

1097. The vast majority of the arguments and evidence submitted by the European Communities pertaining to the A350 family related only to the Original A350. With respect to price suppression of the A350XWB-800—which was not launched until December 2006—the European Communities' claim was that the price suppression of the Original A350 in turn affected the pricing of the A350XWB-800 as [

***], and therefore the prices of the A350XWB-800 were also suppressed.²²⁵¹

1098. In its analysis of the European Communities' price suppression claim, the Panel appears to have segmented its analysis between the various Airbus LCA models. The evidentiary basis for the Panel's finding of price suppression differed for the A330 and the Original A350. As regards the A350XWB-800, the Panel made no findings as it considered that the European Communities had presented no evidence as to the price trends for that model, and no evidence concerning the actual pricing of that model in the context of specific LCA sales campaigns.²²⁵²

1099. As regards the A330, the Panel relied on data provided by the European Communities showing, *inter alia*, the evolution in the indexed prices-per-seat of the A330 for the period 2000-2006.

Orders for 200-300 seat LCA vs. price per seat of A330 family LCA in constant dollars: 2000-2006



Source: Graph provided at Panel Report, para. 7.1782 (based on European Communities' response to Panel Question 306, para. 784, Figure 3 (BCI)). The Panel noted that the pricing information here is based on Airbus proprietary data. Order information is based on Airclaims CASE Database, query as of 19 January 2007 (Panel Exhibit EC-3). (Panel Report, footnote 3719 to para. 7.1782)

²²⁵¹European Communities' first written submission to the Panel, paras. 1408, 1409, and 1424. In support of its argument, the European Communities relied on a statement by C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI), para. 114.

²²⁵²Panel Report, para. 7.1793.

The Panel also compiled and presented order data with respect to the A330 and Original A350 (combined) and the 767 and 787 (combined) to illustrate the global market share for these LCA orders in the period 2000-2006.

Table 6. Market share in the 200-300 seat wide-body LCA market (based on order data): 2000-2006

Year	Airbus A330 and Original A350	Airbus market share	Boeing 767 and 787	Boeing market share
2000	95	91%	9	9%
2001	52	57%	40	43%
2002	24	75%	8	25%
2003	49	82%	11	18%
2004	51	46%	59	54%
2005	129	34%	251	66%
2006	117	40%	173	60%

Source: Table provided at Panel Report, para. 7.1783 (referring to data compiled from Airclaims CASE Database, query as of 19 January 2007, 2004-2006 Orders (Panel Exhibit EC-1287) and Airclaims CASE Database, query as of 19 January 2007 (Panel Exhibit EC-3)).

1100. Based on this evidence, the Panel noted that:

{the} erosion of the dominance of the A330 in {the 200-300 seat LCA} product market coincides with the introduction of the 787 in 2004. The evidence concerning the pricing trends for the A330, combined with the market share data, are consistent with what we would expect to occur from the introduction of a technologically-superior aircraft, offering operating cost advantages over older-technology aircraft, for around the same price. Clearly, one would expect that prices of the A330 would fall, and that it would lose market share, even in the face of significantly increased demand in that product market.²²⁵³ (footnote omitted)

1101. In concluding that there was significant price suppression in the 200-300 seat LCA market, the Panel also relied on evidence from the three sales campaigns detailed in Annex D.²²⁵⁴ The Panel noted that, for "certain sales campaigns", Airbus had been able to secure sales by offering [***
***] in order to offset the technological advantages and operating cost savings offered by the 787.²²⁵⁵ The Panel was therefore "satisfied" that the technologies applied to the 787 resulted in an aircraft that offered substantial operating cost reductions to customers, and that the combination of the superior technology and lower operating costs of the 787 "clearly affected the comparative value of

²²⁵³ Panel Report, para. 7.1785.

²²⁵⁴ See *supra*, bullet points at para. 1096.

²²⁵⁵ Panel Report, para. 7.1792.

Airbus' A330 and Original A350, leaving Airbus no other option but to reduce the prices of its aircraft in order to compete".²²⁵⁶ The Panel also highlighted that the evidence concerning the *degree* of price concessions that Airbus offered in order to secure sales of its A330 and Original A350 indicated that a further effect of the aeronautics R&D subsidies was "significant" price suppression with respect to the A330 and Original A350.²²⁵⁷

(i) *The United States' Appeal*

1102. The United States seeks reversal of what it characterizes as "three findings" made by the Panel with respect to significant price suppression, namely: (i) that an effect of the aeronautics R&D subsidies is significant price suppression with regard to the A330 in the world market; (ii) that an effect of the aeronautics R&D subsidies is significant price suppression with regard to the Original A350 in the world market; and (iii) that an effect of the aeronautics R&D subsidies is significant price suppression with regard to Airbus 200-300 seat LCA.²²⁵⁸

1103. As a preliminary matter, we are not persuaded that the United States is correct by referring to "three" Panel findings. The ultimate conclusion that the Panel reached was that "the effect of the aeronautics R&D subsidies is ... significant price suppression, within the meaning of Article 6.3(c) of the SCM Agreement with respect to" the 200-300 seat LCA market.²²⁵⁹ This finding was in turn based on the Panel's conclusion that the evidence before it showed that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787 and that, as a result, *but for* the effects of these subsidies ... prices of the A330 and the Original A350 in the 2004 to 2006 period would have been significantly higher, and to that extent, Airbus would not have suffered significant price suppression in the 200-300 seat wide-body LCA product market, within the meaning of Article 6.3(c) of the SCM Agreement."²²⁶⁰ Although, as described above, the evidence that the Panel relied upon with respect to A330 prices was not entirely coextensive with the evidence relied upon with respect to the Original A350 prices, we do not see that, as the United States seems to suggest, the Panel made separate findings with respect to A330 prices, on the one hand, and Original A350 prices, on the other hand. In any event, we consider each of the three arguments presented by the United States on this ground of appeal.

²²⁵⁶Panel Report, para. 7.1792. (footnote omitted)

²²⁵⁷Panel Report, para. 7.1792. The Panel noted that Airbus sold the Original A350 to one customer for significantly less than it had sold the A330 to that same customer several years earlier. (*Ibid.*, footnote 3733 thereto (referring to European Communities' second written submission to the Panel, Full Version HSBI Appendix, para. 71))

²²⁵⁸United States' other appellant's submission, para. 314.

²²⁵⁹Panel Report, para. 7.1797; see also para. 8.3(a)(i).

²²⁶⁰Panel Report, para. 7.1794.

(ii) *Whether the Panel improperly relied on a perceived coincidence between the 2004 launch of the 787 and a decline of prices for the A330*

1104. The United States argues that, in its analysis of price suppression, the Panel improperly relied on a perceived coincidence between the launch of the 787 in 2004, and a decline in A330 prices during the reference period. The United States asserts that there is no such correlation. Although its arithmetic is correct, the Panel failed to look "more rigorously" at the evolution of these trends, which reveals "no discernible correlation" between the 787's presence in the market and the A330 prices.²²⁶¹ Relying on the A330 pricing and market share data set out by the Panel²²⁶², the United States argues, for instance, that:

- the A330's share of the market for 200-300 seat LCA in 2004 declined by 36% from 2003 as the 787 attained a significant market presence upon its introduction. Yet, A330 order prices [***];
- Airbus' market share declined to a far lesser extent in 2005 from 2004, yet A330 prices [***]. The difference in 2005 that explains these developments is that Airbus marketed the Original A350 [***]; and
- Airbus' market share in 2006 increased by 6% from 2005, yet A330 prices [***]. Considering that the 787's market share had decreased to within 6% of its 2004 level, this can be explained on the basis that Airbus was offering [***] the Original A350.²²⁶³

1105. The European Union responds on appeal that the United States seeks to reargue the facts by focusing on discrete data points rather than clear trends over time. The European Union argues that an examination of the evidence as a whole demonstrates that there is a direct correlation between the 787 launch and the drop in A330 prices.²²⁶⁴ The European Union adds that, even accepting the United States' focus on isolated data points, its arguments cannot succeed.²²⁶⁵ In this regard, the European Union explains that the launch of the 787 in April 2004 had no [***] impact on A330 prices in 2004, because the 787 first needed to gain the confidence of the market and

²²⁶¹United States' other appellant's submission, para. 302.

²²⁶²See *supra*, para. 1099.

²²⁶³United States' other appellant's submission, para. 302 (referring to Panel Report, paras. 7.1782 and 7.1783; and C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), paras. 101-104 and 106).

²²⁶⁴European Union's appellee's submission, para. 468.

²²⁶⁵European Union's appellee's submission, para. 470.

potential buyers that the 787's composite structure was indeed as good as advertised by Boeing.²²⁶⁶ Once Boeing had successfully convinced customers of the significant operating cost advantages of the composite 787, A330 prices in 2005 and 2006 [***]. According to the European Union, the launches of the Original A350 and the A350XWB-800 were responses to that fundamental cause of the price effects, not independent causes of [***] A330 prices.²²⁶⁷

1106. We understand the United States to suggest that, in order to draw conclusions about the existence of price suppression, the Panel was required to establish a direct and continuous correlation between the 787's share of the market in the reference period and the A330 prices during these years. In this regard, the United States refers to specific figures relating to the 787's market share and A330 prices during the reference period, which it explains on the basis of reasons other than those given by the Panel in reaching its conclusion.

1107. We note that the Panel drew its conclusions about the effects of the 787 on A330 prices on the basis of the *overall* trends demonstrating erosion of Airbus' market share as compared with the preceding four years, together with decreases in the (indexed) A330 prices during the reference period. According to the Panel:

{t}he ... market share figures show the rather dramatic erosion of Airbus' market share in the 2004 to 2006 period, compared with the 2000 – 2003 period. This erosion of the dominance of the A330 in this product market coincides with the introduction of the 787 in 2004. *The evidence concerning the pricing trends for the A330, combined with the market share data, are consistent with what we would expect to occur from the introduction of a technologically-superior aircraft, offering operating cost advantages over older-technology aircraft, for around the same price.* Clearly, one would expect that prices of the A330 would fall, and that it would lose market share, even in the face of significantly increased demand in that product market.²²⁶⁸ (footnote omitted; emphasis added)

1108. From the above quote, it is clear that the Panel considered the relevance of the trends in the light of its economic logic, which dictated that the introduction of a superior product at comparable prices would normally be accompanied by decreases in prices of the incumbent competing product.

1109. Elsewhere in its analysis, the Panel explained why the A330 prices could be expected to, and did, fall upon the introduction of the 787, namely, that "the combination of the superior technology and lower operating costs of the 787 clearly affected the comparative value of Airbus' A330 ...,"

²²⁶⁶European Union's appellee's submission, para. 470 (referring to European Communities' first written submission to the Panel, Annex C, paras. 22-25).

²²⁶⁷European Union's appellee's submission, para. 470.

²²⁶⁸Panel Report, para. 7.1785.

leaving Airbus no other option but to reduce the prices of its aircraft in order to compete".²²⁶⁹ The United States does not dispute this economic logic and line of reasoning employed by the Panel. We consider that the Panel's explanation of the inferences and conclusions that it drew from the movements in A330 prices over the reference period, following the launch of the 787, in the light of the strong surge in demand and Boeing's increasing market share, are consistent with and find a basis in the evidence.

1110. Furthermore, we do not see any basis for the United States' assertion that the Panel was required to attach decisive weight to specific data points in particular years of the reference period that, when viewed in isolation, appear to be at odds with the Panel's economic reasoning and with the data taken as a whole. The Panel set out its theory as to how the entry of the 787 into the market affected competing LCA, which the United States does not contest on appeal. The Panel tested its theory against the evidence before it. As we see it, the Panel provided a coherent and reasoned explanation of how the evidence of market share and price trends, both within the reference period, and as compared to the preceding period, supported and confirmed its theory of causation. The United States argues that there is no "discernible correlation"²²⁷⁰ between the 787's market presence and the A330 prices by comparing A330's 36% decrease in market share from 2003-2004 with the much [***] in A330 prices during those years. Yet, the fact that the A330 prices were not affected immediately by the launch of the 787, or did not drop to the same degree as Airbus' market share declined, may well reflect the fact that Airbus did not change its pricing strategy immediately upon the introduction of the 787, but did so with a time-lag, and only after appreciating the extent of the market share acquired by Boeing. The United States also argues that Airbus' market share declined to a far less extent in 2005 from 2004 than in the previous year, yet A330 prices [***]. Similarly, the United States argues that in 2006 A330 prices [***] even though Airbus' overall share of the 200-300 seat LCA market increased by 6% from 2005, and the share of that market held by the 787 decreased by 6% from what it had been in 2004. As we see it, the [***] in the A330 prices between 2005 and 2006 may explain why Airbus was able to recover some market share. Moreover, the United States does not explain why the temporary loss of market share within an overall trend of significantly increasing market share or the extent of the decrease in A330 prices means that the Panel could not properly have concluded that the effect of the aeronautics R&D subsidies was significant price suppression.

²²⁶⁹Panel Report, para. 7.1792.

²²⁷⁰United States' other appellant's submission, para. 302.

1111. Even accepting that the evidence of market share and price trends referred to by the United States do not support the Panel's reasoning—which we do not necessarily agree is so—we do not consider that the points of criticism raised by the United States undermine the Panel's theory or analysis of the evidence in its totality, or establish that the Panel could not have reached the conclusion that it did. Moreover, the arguments made by the United States on appeal take no account of the broader data set or of the clear and steep decline in Airbus market share [***] during the reference period, as compared to the 2000-2003 period.

1112. Finally, and in any event, we note that these arguments of the United States seek to have us draw different inferences from the data than the Panel did. The reasons offered by the United States for the movements in A330 prices may not be unreasonable inferences to be drawn from the data; yet, we cannot, for this reason alone, substitute them for the Panel's own appreciation of the evidence and reasoning over the facts before it. Accordingly, we see no basis upon which to interfere with the Panel's finding. We also note that no claim by the United States has been raised under Article 11 of the DSU.

1113. For these reasons, we do not consider that the conclusions drawn by the Panel from the data concerning the 787 market share and the A330 prices during the reference period are in error or indicate that the Panel erred in concluding that the effect of the aeronautics R&D subsidies was significant price suppression in the 200-300 seat LCA market.

(iii) *Whether the Panel's findings are insufficient to support conclusions about overall pricing levels for the Original A350*

1114. Second, the United States asserts that the Panel's finding of price suppression for the Original A350 must be reversed because, with "no pricing data of any kind" and "anecdotal evidence" that covered "barely 30%" of sales of the Original A350 in the 200-300 seat LCA market, the evidence is insufficient to support any conclusion about overall pricing levels.²²⁷¹ In the United States' view, the absence of "critical pieces of information" reflects, in the first place, a failure by the European Communities to establish a *prima facie* case.²²⁷² The United States also argues that the information relied upon by the Panel does not explain what happened with Original A350 pricing in the majority of sales of that aircraft, and that it is therefore impossible to infer that Original A350 prices were suppressed or that the degree of price suppression was "significant".²²⁷³

²²⁷¹United States' other appellant's submission, para. 304.

²²⁷²United States' other appellant's submission, para. 304.

²²⁷³United States' other appellant's submission, para. 310.

1115. The European Union responds that, in order to establish a *prima facie* case, it was not required to present the level of detailed pricing information for the Original A350 that the United States demands. In any event, the European Union asserts that it did present evidence of total Original A350 prices in the context of its lost sales and price suppression sales campaign evidence.²²⁷⁴ In addition, the European Union argues that, whereas the Panel's detailed analysis of A330 prices was important—because it confirmed the [***] impact of the 787 launch on those prices—for other Airbus models (the Original A350 and A350XWB-800), such evidence was less important, because the effect of the aeronautics R&D subsidies, through the launch of the 787, would not be as visible given that those Airbus models were launched only *after* the 787.²²⁷⁵ As prices for these two types of aircraft were never unaffected by the existence of the 787, precise pricing information would not have revealed the price effects of the aeronautics R&D subsidies.

1116. Here, we understand the United States to argue that the Panel did not have a sufficient basis on which to base a finding of price suppression with respect to the Original A350, and to suggest that the Panel was required to rely on price *trend* data for the Original A350 to reach such a finding. We disagree. We recall that, in contrast to its reasoning with respect to the A330, the Panel did not refer to pricing trend data in its reasoning with respect to the Original A350. Rather, the Panel noted that the European Communities had identified "certain sales that Airbus was able to secure by offering [***] in order to offset the technological advantages and operating cost savings offered by the 787".²²⁷⁶ It appears from the evidence submitted by the European Communities to the Panel that the Panel was referring to the three sales campaigns involving the ILFC, CIT Group, and Air Europa.²²⁷⁷ As we noted above, the total number of orders of the Original A350 resulting from these sales campaigns was 31. The United States notes that these sales account for 30.4% of the total number of Original A350 sales during the reference period (given that the total number of sales of Original A350s during that time was 102).²²⁷⁸ In our view, evidence from sales campaigns accounting for about one third of Original A350 sales during the reference period constitutes direct and sufficiently representative evidence of what was happening to the prices of the Original A350 during the reference period. We see no reason why evidence relating to such sales could not, in this market, supply a sufficient basis upon which the Panel could conclude that there was price suppression with respect to the Original A350.

²²⁷⁴European Union's appellee's submission, paras. 471 and 477.

²²⁷⁵The European Union notes that Airbus started offering the Original A350 in December 2004 and the A350XWB in July 2006. (European Union's appellee's submission, para. 476 and footnote 933 thereto (referring to Panel Report, paras. 4.279 and 4.280))

²²⁷⁶Panel Report, para. 7.1792.

²²⁷⁷See *supra*, para. 1096.

²²⁷⁸See United States' other appellant's submission, para. 310.

1117. Turning to the United States' assertion that the Panel was required to have before it price trend data in order to conclude that there was price suppression for the Original A350, we note that the United States relies upon a statement by the Appellate Body in *US – Upland Cotton* that "{a}n assessment of 'general price trends' is clearly relevant to significant price suppression (although, as the {p}anel itself recognized, price trends alone are not conclusive)."²²⁷⁹ Yet this statement itself shows that, while the Appellate Body has found price trend data relevant, it has also declined to deem such evidence conclusive of the existence of price suppression. Moreover, we agree with the European Union that the Appellate Body's statement in *US – Upland Cotton* that general price trends are "clearly relevant" was a function of the particular counter-cyclical and price-contingent nature of the subsidies at issue in that dispute.²²⁸⁰ Finally, we see some merit in the argument of the European Union that pricing trends for the Original A350 would not have been particularly probative in this dispute given that prices for the Original A350 were never unaffected by the existence of the 787. Since the Original A350 was launched in a market where the effects of the subsidies—through the presence of the 787—were already being felt, any subsequent price trends would not have been particularly probative as to the effects on Airbus prices of the aeronautics R&D subsidies.²²⁸¹

1118. The United States further argues that the evidence relied on by the Panel with respect to the Original A350 fails to demonstrate that any price suppression was "significant".²²⁸² We note the Panel's explanation that the "degree of price concessions" that Airbus had to offer to secure sales of the A330 and Original A350 meant that a further effect of the aeronautics R&D subsidies was significant price suppression.²²⁸³ The United States does not appeal this aspect of the Panel's finding, and we find no error in this finding of the Panel, which was based on the sales campaign evidence set out in Annex D to the European Communities' first written submission.

²²⁷⁹United States other appellant's submission, para. 306 (quoting Appellate Body Report, *US – Upland Cotton*, para. 434).

²²⁸⁰Because the amount of the cotton subsidies increased with falling world prices, tracking price trends was of particular relevance in understanding the price suppressive effects of subsidization granted to the US cotton industry. (See European Union's appellee's submission, paras. 472-474)

²²⁸¹European Union's appellee's submission, para. 476.

²²⁸²United States' other appellant's submission, para. 310. We have noted above that the Appellate Body has understood "significant" to mean "important, notable or consequential", and that an assessment of that term has both quantitative and qualitative dimensions. (*Supra*, para. 1052)

²²⁸³Panel Report, para. 7.1792. In an accompanying footnote to its finding, the Panel noted that Airbus sold the Original A350 to one customer for significantly less than it had sold the A330 to that same customer several years earlier. (*Ibid.*, footnote 3733 thereto (referring to European Communities' second written submission to the Panel, Full HSBI Appendix, para. 71))

1119. For these reasons, we reject the United States' request to reverse the Panel's finding that the aeronautics R&D subsidies caused significant price suppression in the 200-300 seat LCA market because of the alleged insufficiency of pricing data concerning the Original A350.

- (iv) *Whether the Panel was required, but failed, to determine the existence of significant price suppression for the product as a whole*

1120. The final argument of the United States is that the Panel was required, but failed, to determine the existence of significant price suppression for the product "as a whole".²²⁸⁴ In support, the United States recalls that the panel in *Korea – Commercial Vessels* observed that Article 6.3(c) of the *SCM Agreement* does not require a panel to assess price suppression by examining each model comprising the complaining Member's product but it does require that the ultimate conclusion relate to the complaining Member's product as a whole.²²⁸⁵ The United States argues that the "product in question" consists of all three of the 200-300 seat Airbus models identified by the European Communities: the A330, Original A350, and A350XWB-800. Accordingly, "a finding in favour of the {European Union} ... would be valid only if the effect of the subsidy is significant price suppression generally for Airbus 200-300 seat aircraft."²²⁸⁶ The United States observes, however, that the Panel chose to examine prices on a model basis and made findings that were based on actual prices for only one model (that is, the A330), which accounted for about two thirds of Airbus' sales in the 200-300 seat LCA market.

1121. The European Union responds that the Panel properly found price suppression based on detailed pricing information for the A330, and some pricing information for the Original A350. With respect to the A350XWB-800, the European Union points out that, since that aircraft was launched only in 2006, the Panel would have been able to assess only a single data point, which would have been of limited relevance.²²⁸⁷

1122. First, we observe that, in support of its argument, the United States relies on a finding of the panel in *Korea – Commercial Vessels*.²²⁸⁸ In particular, it refers to a statement by the panel that, in an assessment of the existence of a causal relationship between the subsidy and the movements in prices of products of concern to the complaining party, a "main focus of the analysis would be levels and trends in the price for the product in question, as a whole, in the relevant market (i.e., 'the same

²²⁸⁴United States' other appellant's submission, paras. 312 and 313.

²²⁸⁵United States' other appellant's submission, para. 312 (referring to Panel Report, *Korea – Commercial Vessels*, para. 7.557).

²²⁸⁶United States' other appellant's submission, para. 313.

²²⁸⁷European Union's appellee's submission, para. 478.

²²⁸⁸United States' other appellant's submission, para. 312.

market'), as a whole, and the various reasons behind them."²²⁸⁹ We are not entirely persuaded of the United States' interpretation of the panel's reasoning in *Korea – Commercial Vessels*, nor, for that matter, of whether that panel's reasoning should be applied outside the particular facts of that dispute.²²⁹⁰

1123. Even assuming, however, that a finding of price suppression should have been made for Airbus' "product as a whole" in the 200-300 seat LCA market, we do not see any error in the Panel's approach in this dispute. It is true that the Panel's ultimate finding of price suppression was based upon its analysis of the A330 and the Original A350, and not upon evidence as to price effects on the A350XWB-800. However, the United States does not point to any evidence on the Panel record suggesting that the sales or the price levels of the A350XWB-800 during the reference period were so significant that, had they been taken into account, they would have prevented the Panel from reaching the finding that it did on the basis of its examination of A330 and Original A350 prices. Indeed, the Panel noted that the A350XWB-800 was not launched until the very end of the reference period, in December 2006²²⁹¹, and thus was not present in the relevant market for virtually the entirety of the reference period.²²⁹² We fail to see, and the United States does not explain, how consideration of the A350XWB-800 could have altered the Panel's analysis of, or findings regarding, price suppression in the 200-300 seat LCA market.

1124. Second, the European Communities submitted price trend data in respect of all sales of the A330 during the reference period. According to the United States' own estimates, sales of the A330 accounted for 65.7% of total sales of Airbus aircraft during that time.²²⁹³ Moreover, as we have explained above, the Panel's ultimate finding was not based exclusively on sales data for the A330, but also on data relating to certain sales involving the Original A350. We have already determined the data relied on by the Panel for the Original A350 to be sufficient. Those data comprised sales campaign evidence with respect to the Original A350, accounting for 30.4% of total Original A350 sales, or 10.4% of overall Airbus orders for 200-300 seat LCA during the reference period.²²⁹⁴ Taken

²²⁸⁹Panel Report, *Korea – Commercial Vessels*, para. 7.557.

²²⁹⁰We note, for example, that in *US – Upland Cotton* the Appellate Body found that the panel had not erred in examining only world cotton prices in general, and in not separately examining the prices of the complainant in the world market. (Appellate Body Report, *US – Upland Cotton*, paras. 416-418)

²²⁹¹Panel Report, para. 7.1777.

²²⁹²The Panel noted that, in December 2006, Airbus announced the launch of the redesigned A350XWB programme, first deliveries of which were scheduled to be made in 2013. (Panel Report, para. 7.1777)

²²⁹³United States' other appellant's submission, para. 313 (referring to Panel Report, para. 7.1783 and Airclaims CASE Database, query as of 19 January 2007 (Panel Exhibit EC-3)). The United States asserts that, of the 297 total sales of the A330 and Original A350 in the reference period, there were 195 orders for the A330.

²²⁹⁴The 31 orders for the Original A350 accounted for 10.4% of the total 297 Airbus orders during the reference period. (See United States' other appellant's submission, para. 310 and footnote 486 to para. 313)

cumulatively, the pricing data for the A330 and Original A350 considered by the Panel would account for roughly three quarters of Airbus' sales in the 200-300 seat LCA market during the reference period.²²⁹⁵ We therefore cannot accept the United States' argument that the Panel failed to undertake a price suppression analysis in the 200-300 seat LCA market that related to Airbus' "product as a whole".

1125. For the above reasons, we do not agree with the United States that the Panel erred in its treatment of the evidence concerning the prices of Airbus LCA in the 200-300 seat LCA market, and in concluding overall that the effect of the aeronautics R&D subsidies is significant price suppression with respect to the 200-300 seat LCA product market.²²⁹⁶

(d) Conclusion

1126. We have found that, in its analysis of the technology effects of the aeronautics R&D subsidies in the 200-300 seat LCA market, the Panel did not err in its interpretation and application of Articles 5(c) and 6.3 of the *SCM Agreement* by finding that the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787. We have further found that the United States has not established that the Panel erred in its counterfactual analysis of the effects of the aeronautics R&D subsidies on Boeing's or on Airbus' prices and sales. We have found no reason to disturb the Panel's findings that the effects of the aeronautics R&D subsidies are significant lost sales and significant price suppression within the meaning of Article 6.3(c) of the *SCM Agreement*. With respect to the Panel's finding of a threat of displacement and impedance within the meaning of Article 6.3(b) of the *SCM Agreement*, we have found that the Panel did not err in failing to establish separately the existence of "third-country markets" with respect to Kenya, Iceland, and Ethiopia, and did not, in reaching that finding, contradict its own articulation of the meaning of an LCA "market". We have nevertheless reversed the Panel's finding that the aeronautics R&D subsidies caused a threat of displacement and impedance of EC exports, to the extent that such finding relates to the third-country markets of Kenya, Iceland, and Ethiopia (but not insofar as it relates to Australia), because the Panel did not identify clear trends demonstrating such a threat.

1127. For these reasons, we *modify* and *uphold* the Panel's overall conclusion, in paragraphs 7.1797, 7.1854(a), and 8.3(a)(i) of the Panel Report, that the aeronautics R&D subsidies, through their technology effects, caused serious prejudice to the interests of the European Communities within the

²²⁹⁵As the European Union points out, given that the A350XWB-800 was launched only in December 2006 (the end of the reference period), the Panel would have been able to assess only one single data point for that model. (See European Union's appellee's submission, para. 478)

²²⁹⁶Panel Report, para. 8.3(a)(i).

meaning of Article 5(c) and Article 6.3(b) and (c) of the *SCM Agreement* with respect to the 200-300 seat LCA market.

C. *Article 11 of the DSU*

1128. We now turn to the European Union's claim that the Panel failed to conduct an objective assessment of the matter as required under Article 11 of the DSU. In particular, the European Union contends that the Panel failed to ensure due process in finding, in paragraph 7.1701 of its Report, that, save for the ManTech and DUS&T programmes, there was insufficient evidence to determine whether the USDOD RDT&E programmes funded "predominantly" assistance instruments, as opposed to procurement contracts, or a mixture of assistance instruments and procurement contracts.

1129. Before proceeding to our analysis of the European Union's arguments, we lay out the background against which the Panel reached this finding in paragraph 7.1701 of its Report. In its analysis of financial contribution regarding the USDOD RDT&E programmes, the Panel found that payments and access to facilities pursuant to USDOD *procurement contracts* did not constitute financial contributions within the meaning of Article 1.1(a)(1) of the *SCM Agreement*, whereas payments and access to facilities through USDOD *assistance instruments* did constitute direct transfers of funds and provisions of goods or services under Article 1.1(a)(1)(i) and (iii), respectively.²²⁹⁷ The Panel further found that at least two of the 23 USDOD RDT&E programmes at issue—namely, ManTech and DUS&T—were funded "primarily if not exclusively" through assistance instruments.²²⁹⁸ The Panel recalled these findings later in its analysis, in paragraph 7.1701, when it turned to assess whether the NASA and USDOD aeronautics R&D subsidies caused serious prejudice to the interests of the European Communities.

1130. In paragraph 7.1701 of its Interim Report, the Panel recalled its findings that only assistance instruments, and not procurement contracts, were specific subsidies, and that two of the 23 USDOD RDT&E programmes—ManTech and DUS&T—"were funded through cooperative agreements or other cost shared arrangements".²²⁹⁹ As regards the other 21 USDOD RDT&E programmes, the Panel found that, given the absence of evidence necessary to determine which transactions between the USDOD and Boeing were made under assistance instruments, as opposed to procurement contracts, it would not consider the assistance instruments funded through these other 21 USDOD RDT&E programmes as part of its serious prejudice analysis. Accordingly, the Panel conducted its adverse

²²⁹⁷Panel Report, para. 7.1171. See Part VI of this Report.

²²⁹⁸Panel Report, para. 7.1165. The Panel also found that the ManTech and DUS&T programmes had the explicit objective of developing "dual-use" R&D, that is, technology that could be used both in military and in commercial aircraft. (*Ibid.*, paras. 7.1148 and 7.1740)

²²⁹⁹Panel Interim Report, para. 7.1701, referring to para. 7.1148.

effects analysis relating to the USDOD RDT&E programmes only with respect to the ManTech and DUS&T programmes.²³⁰⁰

1131. In its comments on the Interim Report, the European Communities requested the Panel to expand its adverse effects analysis to all assistance instruments funded through any of the USDOD RDT&E programmes at issue—and not only ManTech and DUS&T—because there was evidence on the record indicating which transactions under such programmes were funded pursuant to assistance instruments.²³⁰¹ The European Communities therefore requested the Panel to include in its adverse effects analysis "*any of the challenged RDT&E {programmes} to the extent that the {programme} has funded assistance instruments with Boeing*".²³⁰²

1132. In its Final Report, the Panel addressed the comments that the European Communities had made at the interim review stage on the Panel's approach, and on its exclusion of all but two USDOD RDT&E programmes for purposes of its adverse effects analysis. In particular, the Panel recognized that the record included certain assistance instruments funded through the other USDOD programmes, and stated that it would reformulate paragraph 7.1701 of its Report to clarify "that its serious prejudice evaluation includes assistance instruments funded under the ManTech and DUS&T programmes as well as under the 21 other programmes under the RDT&E Program".²³⁰³ In the final version of that paragraph, the Panel identified "the need to ensure that it consider{ed} the effects only of those {USDOD} measures that it ha{d} found constitute specific subsidies", notwithstanding that the European Communities had presented its serious prejudice arguments "without distinguishing between effects which are attributable to procurement contracts under {the USDOD} programmes and those which are attributable to assistance instruments".²³⁰⁴ Although the Panel acknowledged that there was some evidence on the record of specific assistance instruments used to provide funding, it considered that, generally, there was insufficient evidence of the effects of those assistance instruments as distinct from the overall effects of the RDT&E programmes. The Panel recalled, however, that it had found in paragraph 7.1148 of its Report that the ManTech and DUS&T programmes "were predominantly funded through cooperative agreements or other assistance

²³⁰⁰Panel Interim Report, para. 7.1701.

²³⁰¹The European Communities submitted that there was sufficient evidence on the record to enable the Panel to determine which transactions were USDOD procurement contracts and which were USDOD assistance instruments. The European Communities further identified a large number of discrete assistance instruments on the record, and attached a chart setting out several of these USDOD assistance instruments. On this basis, the European Communities affirmed that "{a}ll of this information on the record makes clear that several {USDOD} RDT&E {programme} *other than* the ManTech and DUS&T programmes funded assistance instruments with Boeing". (European Communities' comments on the Interim Report, p. 22 (original emphasis))

²³⁰²Panel Report, para. 6.117 (quoting European Communities' request for interim review, p. 24). (emphasis added by the Panel)

²³⁰³Panel Report, para. 6.124.

²³⁰⁴Panel Report, para. 7.1701.

instruments", and considered that, for this reason, it was "highly likely that the effects of {those two} programmes pertain to the effects of assistance instruments funded through those programmes".²³⁰⁵ The Panel, here, added the adverb "predominantly", which had not appeared in the corresponding sentence of its Interim Report.

1133. The Panel, however, found itself unable to take the same approach for the other 21 USDOD RDT&E programmes, that is, to assume that the effects of those programmes pertained to the effects of assistance instruments, as opposed to procurement contracts. Rather, the Panel considered that there was "insufficient evidence on the record that those other RDT&E programmes funded predominantly assistance instruments".²³⁰⁶ Therefore, the Panel explained, the "end result is that the European Communities has not advanced sufficient argument or evidence regarding the effects of assistance instruments funded through RTD&E programmes other than in relation to the ManTech and DUS&T programmes".²³⁰⁷ In its subsequent analysis of the adverse effects of the USDOD DUS&T programmes, the Panel took account only of the ManTech and DUS&T programmes.

1134. On appeal, the European Union contends that, in setting out its "predominance" approach in paragraph 7.1701 of the Final Report, the Panel failed to ensure due process on two grounds. First, the Panel's "predominance" approach, set out for the first time in the Final Report, could not have been anticipated and, consequently, the European Communities did not have a "meaningful opportunity to respond to" this approach.²³⁰⁸ Second, the European Union argues that, despite recognizing that it had insufficient evidence to ascertain the effects of assistance instruments alone, the Panel failed to seek the necessary information from the United States, even though the Panel was aware that the United States had consistently ignored the European Communities' requests to produce information that would have permitted a contract-by-contract analysis.²³⁰⁹ For the European Union, the Panel was required, but failed, to direct inquiries to the United States under Article 13 of the DSU,

²³⁰⁵Panel Report, para. 7.1701.

²³⁰⁶Panel Report, para. 7.1701.

²³⁰⁷Panel Report, para. 7.1701.

²³⁰⁸European Union's appellant's submission, para. 244 (quoting Appellate Body Report, *US – Gambling*, para. 273). The European Union argues that, in the Interim Report, the Panel explained that the only reason for excluding all but two USDOD RDT&E programmes was the insufficient evidence about whether they funded assistance instruments or procurement contracts. In the Final Report, however, the Panel introduced a different approach, namely, that its analysis was confined to the ManTech and DUS&T programmes as those were the only programmes that "*funded predominantly assistance instruments*". (*Ibid.*, para. 246 (quoting Panel Report, para. 7.1701) (emphasis added by the European Union))

²³⁰⁹European Union's appellant's submission, paras. 251 and 255.

and to draw adverse inferences from instances of the United States' non-cooperation in disclosing relevant contracts.²³¹⁰

1135. In response, the United States argues that parties are not entitled to comment on a panel's revision to its interim report because, otherwise, the interim review stage would turn into "a potentially indefinite cycle of comments and changes".²³¹¹ Moreover, the Panel's approach in paragraph 7.1701 was not "unexpected"²³¹² or "surprising"²³¹³, because the European Communities had "early and clear notice", including through certain of the Panel's questions, that the USDOD RDT&E programmes funded different categories of contracting instruments and that such categories could be treated differently under Article 1 of the *SCM Agreement*.²³¹⁴ The United States emphasizes that the Panel was not obliged, under Article 13 of the DSU, to "develop information on behalf of the complaining party".²³¹⁵ The United States further asserts that it did not fail to cooperate with the information-gathering process²³¹⁶ and the Panel did not fail to request necessary information from the United States.²³¹⁷ Finally, the United States considers that the European Union "misunderstands" the Panel's adverse effects finding, in that the Panel did not imply that it needed more contracts to be placed on the record in order to permit it to make findings with respect to more programmes, but, rather, that it lacked arguments and evidence from the European Communities "relating to the effects of the assistance instruments that the United States had placed on the record years earlier".²³¹⁸

²³¹⁰European Union's appellant's submission, paras. 256 and 257. While the European Union requests the Appellate Body to reverse the Panel's finding that the USDOD RDT&E programmes—other than ManTech and DUS&T—do not cause the same effects as the other R&D subsidies, the European Union states that it does not request the Appellate Body to complete the analysis. (*Ibid.*, para. 259)

²³¹¹United States' appellee's submission, para. 223. The United States further argues that, in any event, the European Communities had every opportunity to present arguments and evidence to support its *prima facie* case. (*Ibid.*, para. 226)

²³¹²United States' appellee's submission, para. 227 (quoting European Union's appellant's submission, para. 244).

²³¹³United States' appellee's submission, para. 227 (quoting European Union's appellant's submission, para. 247).

²³¹⁴United States' appellee's submission, para. 227 (quoting European Union's appellant's submission, paras. 244 and 247).

²³¹⁵United States' appellee's submission, para. 239.

²³¹⁶The United States contends that it "complied with the relevant decisions and rulings of the DSB, the representative of the DSB in the information-gathering process under Annex V of the SCM Agreement in *US – Large Civil Aircraft ...* and the Panel in *US – Large Civil Aircraft (Second Complaint)*." The United States adds that it went to "great lengths to identify, assemble, and provide as many responsive documents as possible", and that it "discussed individual contracts and assistance instruments at length". (United States' appellee's submission, para. 240 (footnote omitted))

²³¹⁷The United States contends that the Panel "asked numerous questions about the contracts and assistance instruments submitted by the United States". (United States' appellee's submission, para. 241 (referring to Panel Questions 131, 190-192, 194, 195, 205, 210, 212, 213, 321, and 360))

²³¹⁸United States' appellee's submission, para. 243; see also para. 236.

1136. At the outset of our analysis, we observe that the European Union styles its claim under Article 11 of the DSU as a "due process" claim.²³¹⁹ In this respect, the Appellate Body has recognized the central role of due process in WTO dispute settlement, noting that:

... {due process} informs and finds reflection in the provisions of the DSU. In conducting an objective assessment of a matter, a panel is "bound to ensure that due process is respected". Due process is intrinsically connected to notions of fairness, impartiality, and the rights of parties to be heard and to be afforded an adequate opportunity to pursue their claims, make out their defences, and establish the facts in the context of proceedings conducted in a balanced and orderly manner, according to established rules. The protection of due process is thus a crucial means of guaranteeing the legitimacy and efficacy of a rules-based system of adjudication.²³²⁰
(footnotes omitted)

1137. The first of the European Union's arguments in support of its due process claim is that the Panel introduced the "predominance" approach for the first time in paragraph 7.1701 of its Final Report, thereby depriving the European Communities of any meaningful opportunity to comment on such a "novel theory".²³²¹ We understand that, on this ground of appeal, the European Union does not take issue with the Panel's use of the predominance test *per se* but, rather, with the fact that it appeared for the first time in the Final Report. We observe, in this respect that the predominance test appears to have emerged from repeated exchanges between the parties and the Panel over the course of the Panel proceedings. Even if the word "predominantly" was not used in the Interim Report, the essence of this test could be discerned from earlier parts of the Interim Report, notably paragraphs 7.1148 and 7.1165.²³²² We therefore do not accept the European Union's assertion that the Panel's predominance approach was unexpected because it appeared only in the Final Report. In any

²³¹⁹European Union's appellant's submission, paras. 235 and 258. The European Union confirmed at the oral hearing that it is presenting a single due process claim consisting of two arguments.

²³²⁰Appellate Body Report, *Thailand – Cigarettes (Philippines)*, para. 147.

²³²¹European Union's appellant's submission, para. 258. The European Union clarified at the oral hearing that its claim concerning the Panel's finding in paragraph 7.1701 of the Final Report relates exclusively to whether the Panel violated due process, and not whether the Panel acted inconsistently with Article 15 of the DSU.

²³²²In the Interim Report, the Panel had set out that it would take into account only two USDOD RDT&E programmes—namely, the ManTech and DUS&T programmes—since they "were funded through {assistance instruments}". (Interim Report, para. 7.1701) In the Final Report, the Panel confirmed this approach but clarified that the reason for considering only the ManTech and DUS&T programmes in its analysis was because they "funded *predominantly* assistance instruments". (Panel Report, para. 7.1701 (emphasis added)) It is true that the Panel added the word "predominantly" to qualify its statement in the Interim Report that the ManTech and DUS&T programmes funded assistance instruments. Yet the Panel had previously found in paragraph 7.1165—a paragraph that was identical in both the Interim and the Final Report—that the ManTech and DUS&T programmes were "funded *primarily if not exclusively* through cooperative agreements or other cost-shared 'assistance instruments'". (emphasis added) Thus, even at the interim review stage, the European Communities would have been aware of the Panel's view that these two programmes "primarily" funded assistance instruments, as opposed to procurement contracts.

event, although a panel must fully explore with the parties all pertinent issues arising in the dispute over the course of the proceedings, this does not imply that it is required to engage with the parties upon the findings and conclusions that it intends to adopt in resolving the dispute.²³²³ Indeed, it would be impossible to do so, in particular since the panel's views may evolve over the course of the proceedings. Accordingly, we do not agree with the European Union that the mere inclusion of new language in paragraph 7.1701 of the Final Report means that the Panel acted inconsistently with Article 11 of the DSU by failing to provide the parties with an opportunity to comment on the alleged "novel" approach in paragraph 7.1701 of the Final Report.

1138. The European Union further contends that the Panel failed to comply with its duties under Article 11 of the DSU by not seeking out factual information from the United States that would have enabled it to "consider the evidence necessary to reach a conclusion based on {the predominance} theory".²³²⁴ We observe that, under Article 13 of the DSU, panels are endowed with the authority to request information from relevant sources, including from WTO Members.²³²⁵ We recall, moreover, that the exercise of this authority may prove "indispensably necessary" to enable a panel to objectively assess the matter before it.²³²⁶ Furthermore, a panel may need to seek information "in order to evaluate evidence already before it" so as to make an objective assessment of whether the complaining party has established a *prima facie* case".²³²⁷

1139. In our view, the extent to which Article 11 of the DSU may require a panel to exercise its authority to seek out further information is a function of the particular facts and circumstances of each dispute. It is of course indisputable that parties carry the burden of adducing evidence in support of their claims or defences.²³²⁸ Indeed, it is because the parties have such a burden that we can conceive of circumstances in which a party cannot reasonably be expected to meet that burden by adducing all relevant evidence required to make out its case, most notably when that information is in the exclusive possession of the opposing or a third party. In such circumstances, a panel may be unable to make an objective assessment of the matter without exercising its authority under Article 13 of the DSU to

²³²³We note that, even if a panel is not required to ventilate its intended analysis in advance of rendering its decision, a panel should not, in adopting an approach that departs radically from the cases put forward by the parties, "leave it to the parties to guess what proof it will require". (Appellate Body Report, *US – Continued Zeroing*, para. 347)

²³²⁴European Union's appellant's submission, para. 258.

²³²⁵Appellate Body Report, *Canada – Aircraft*, para. 185.

²³²⁶Appellate Body Report, *Japan – Agricultural Products II*, para. 127 (quoting Appellate Body Report, *US – Shrimp*, paras. 104 and 106).

²³²⁷Appellate Body Report, *US – Continued Zeroing*, para. 347 (quoting Appellate Body Report, *Canada – Aircraft*, para. 192).

²³²⁸Appellate Body Report, *EC – Hormones*, para. 109 (referring to Appellate Body Report, *US – Wool Shirts and Blouses*, pp. 14-16, DSR 1997:I, 323, at 335-338).

seek out that information, in particular if the party that needs this evidence can show that it has diligently exhausted all means to acquire it, to the extent such means exist.

1140. We note, in this regard, that one aspect of ensuring that the proceedings are fairly conducted is that each party must be entitled to know the case that it has to make or to answer and must be afforded a fair and reasonable opportunity to do so. In general, panels are best situated to determine how this should be accomplished in the particular circumstances of each case²³²⁹, including through the exercise of their authority to seek information. The use of this authority, however, is not untrammelled. In considering whether to exercise its authority under Article 13 of the DSU—in particular when a party has made an explicit request that it do so—a panel should have regard to considerations such as what information is needed to complete the record, whose possession it lies within, what other reasonable means might be used to procure it, why it has not been produced, whether it is fair to request the party in possession of the information to submit it, and whether the information or evidence in question is likely to be necessary to ensure due process and a proper adjudication of the relevant claim(s).

1141. The issue before us is whether, in the circumstances of this dispute, the Panel was required to request certain information from the United States before applying the predominance test articulated in paragraph 7.1701 of the Final Report. As noted above, the Panel decided not to include the effects of the USDOD RDT&E programmes—save for ManTech and DUS&T—in its analysis of adverse effects on the basis that there was insufficient evidence establishing that these programmes funded predominantly assistance instruments, as opposed to procurement contracts. This was the consequence of the Panel's earlier decision to conduct an analysis based on the type of contract used—that is, to distinguish between the characterization under Article 1.1(a)(1) of the *SCM Agreement* of procurement contracts and that of assistance instruments—rather than conducting a programme-based analysis of the USDOD RDT&E programmes. Although it decided to pursue an analysis based on contract type, the Panel did not exercise its authority under Article 13 of the DSU to request information and evidence from the parties regarding the extent to which different contract types were used under each programme.²³³⁰

1142. We also note certain other circumstances of this dispute that we consider relevant to the issue before us. We recall, for example, the Panel's Preliminary Ruling of 30 July 2007, in which the Panel rejected requests by the European Communities to find that an Annex V procedure had been initiated

²³²⁹ Appellate Body Report, *Thailand – Cigarettes (Philippines)*, para. 150.

²³³⁰ Although the Panel appears to have posed certain questions regarding the differences between assistance instruments and procurement contracts, these enquiries related to the issue of financial contribution and benefit under Article 1 of the *SCM Agreement*. (See, for instance, Panel Questions 19, 20, 154, 191, 192, 195, and 321)

or, in the alternative, to exercise its authority under Article 13 of the DSU to seek out certain information from the United States.²³³¹ The European Communities had attached to its request for preliminary rulings questions that it had sought to pose to the United States in an Annex V procedure. In its alternative request, the European Communities sought to have the Panel pose these questions to the United States. The European Communities explicitly asked for a "list of all contracts ... involving Boeing or {McDonnell Douglas} from FY 1991 through present" related to the USDOD RDT&E programmes at issue including an indication of "the nature or subject" of each such contract.²³³² The European Communities further requested the contracts themselves.²³³³ Moreover, the European Communities repeatedly argued before the Panel that there was information in the United States' exclusive possession that was central to its subsidy and adverse effects claims regarding the USDOD RTD&E programmes.²³³⁴ The Panel, however, did not advert to any of these circumstances in finding that "the European Communities ha{d} not advanced sufficient argument or evidence regarding the effects of assistance instruments funded through RTD&E programmes other than in relation to the ManTech and DUS&T programmes".²³³⁵ Nor did the Panel acknowledge in any way that the "insufficient evidence on the record"²³³⁶ was at least in part the consequence of its own passivity.

1143. In short, the Panel's use of a contract-type analysis meant that information as to the extent to which assistance instruments were used under each of the USDOD programmes was critical to enable application of the test that it had articulated. Information regarding the extent to which different kinds of contracts were used under each of the USDOD programmes was within the exclusive possession of the United States. The European Communities had sought to obtain this information and, when it was unable to do so, had explicitly requested the Panel to do so. In such circumstances, the only way in

²³³¹ See Part V of this Report.

²³³² European Communities' questions for the United States pursuant to Annex V of the *SCM Agreement* (Panel Exhibit EC-1), questions 127 and 128.

²³³³ See, for example, European Communities' questions for the United States pursuant to Annex V of the *SCM Agreement* (Panel Exhibit EC-1), questions 130, 131, and 138. In response to the European Communities' request for the Panel to pose, under Article 13 of the DSU, all or some of the questions originally intended under Annex V to the United States, the Panel declined to do so on the grounds that:

... the Panel does not consider it necessary or appropriate to use its discretion under Article 13 of the DSU to remedy the parties' inability to reach agreement on the initiation of an Annex V procedure, or to remedy the parties' inability to reach agreement on a means for transferring the information obtained during the DS317 Annex V procedure to the present Panel.

(Panel Report, para. 7.23)

²³³⁴ We observe that, on numerous occasions before the Panel, the European Communities voiced its concern that critical evidence in relation to, *inter alia*, the USDOD RDT&E programmes was exclusively in the United States' possession. See, for instance, Panel Report, paras. 7.1056, 7.1103, and 7.1203, where the European Communities maintained that information before the Panel regarding the NASA and USDOD R&D measures was insufficient to make out its claims "unless the United States disclose{d} evidence".

²³³⁵ Panel Report, para. 7.1701.

²³³⁶ Panel Report, para. 7.1701.

which the Panel could have afforded the European Communities a fair opportunity to produce evidence necessary to make out its *prima facie* case was through the exercise of its authority under Article 13 of the DSU by requesting the United States to submit the information that would have enabled the Panel to assess the claim of serious prejudice before it using its chosen approach.

1144. Overall, we consider that the particular circumstances of this dispute demanded that the Panel assume an active role in pursuing a train of inquiry that would enable it to apply its predominance approach. In failing to seek additional information regarding the use of assistance instruments under all of the USDOD programmes, the Panel compromised its ability to assess properly whether the effects of all 23 RDT&E programmes, and not only ManTech & DUS&T, caused adverse effects to the interests of the European Communities. Had the Panel sought information from the United States regarding the extent to which each USDOD RDT&E programme was funded by assistance instruments, as opposed to procurement contracts, then it would have been able to determine the extent to which those programmes funded assistance instruments, as opposed to procurement contracts. The Panel could have done so either on the basis of information provided by the United States or, perhaps, in the event that such information was not forthcoming, on the basis of adverse inferences.

1145. In the light of the above, we *find* that, by failing to exercise its authority to seek out relevant information to satisfy its predominance approach in assessing the claim before it, the Panel acted inconsistently with its obligation under Article 11 of the DSU to make an objective assessment of the matter before it in finding, in paragraph 7.1701 of the Panel Report, that there was "insufficient evidence on the record that {the USDOD RDT&E programmes other than ManTech and DUS&T} funded predominantly assistance instruments, as opposed to procurement contracts, or a mixture of assistance instruments and procurement contracts". The European Union requests that, if we find that the Panel acted inconsistently with Article 11 of the DSU, we reverse the Panel's finding, in paragraph 7.1701 of the Panel Report, that "the {US}DOD RDT&E programmes (other than ManTech and DUS&T) do not cause the same effects as the other aeronautics R&D subsidies" at least to the extent that those remaining USDOD RDT&E programmes are funded through assistance instruments.²³³⁷ We do not, however, see that the Panel made any such finding in that paragraph. To the contrary, we read the Panel as having recognized that the other 21 USDOD RDT&E programmes may well also have had adverse effects to the extent that they were funded through assistance instruments. Accordingly, there is no finding for us to reverse, and the European Union does not, in any event, seek to have us complete the analysis.

²³³⁷European Union's appellant's submission, para. 259.

D. *Price Effects*

1146. The United States also appeals the Panel's findings, in paragraph 8.3(a)(ii) and (iii) of its Report²³³⁸, that:

(ii) the effects of the FSC/ETI subsidies and the B&O tax subsidies provided by the State of Washington under {House Bill} 2294 are significant price suppression, significant lost sales and displacement and impedance of exports from third country markets, with respect to the 100-200 seat single-aisle LCA product market; {and}

(iii) the effects of the FSC/ETI subsidies and the B&O tax subsidies provided by the State of Washington under {House Bill} 2294 and by the City of Everett are significant price suppression, significant lost sales and displacement and impedance of exports from third country markets, with respect to the 300-400 seat wide-body LCA product market{.}

1147. The United States requests us to reverse these findings on the grounds that, in reaching them, the Panel erred in its interpretation and application of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*.²³³⁹ According to the United States, the Panel failed to undertake a proper analysis of these subsidies, and therefore did not establish a genuine and substantial relationship of cause and effect between the subsidies and the adverse effects alleged by the European Communities. The United States also argues that the Panel committed specific errors in reaching its findings of significant price suppression, significant lost sales, and displacement and impedance.

1148. The European Union responds that each of these allegations by the United States is baseless. In the view of the European Union, the United States is improperly using its appeal to repeat its arguments before the Panel, including with respect to the evidence that it advanced unsuccessfully. The European Union also maintains that the United States' appeal presents an incomplete account of the Panel's analysis and findings. The European Union considers that, contrary to what the United States claims, the Panel reached findings that complied with the relevant requirements of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*.

²³³⁸See also Panel Report, paras. 7.1823, 7.1833, and 7.1854(b) and (c).

²³³⁹These provisions are set out in full in section X.B.7 of this Report.

1149. The United States' appeal thus concerns the Panel's analysis of the price effects²³⁴⁰ of the tied tax subsidies—namely, the FSC/ETI subsidies and the Washington State and the City of Everett B&O tax rate reductions. The Panel's finding that the price effects of these subsidies led to serious prejudice within the meaning of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*²³⁴¹, and the United States' appeal, are limited to the 100-200 seat and 300-400 seat LCA markets. Our analysis of the issues relating to the price effects of the tied tax subsidies likewise focuses only on these two product markets.

1150. In order to evaluate the United States' claims of error, we consider it useful, first, to set out, in subsection 1, certain background on the 100-200 seat and 300-400 seat LCA markets. In subsection 2, we outline the structure of the European Communities' claim before the Panel. In subsection 3, we recount the Panel's analysis and findings regarding the tied tax subsidies. Finally, in subsection 4, we address the United States' appeal.

1. Background on the 100-200 Seat and 300-400 Seat LCA Markets

1151. We set out below certain basic features regarding the two relevant LCA product markets on the basis of common cause facts on the Panel record.

²³⁴⁰We note that the concept of "price effects", as used in this dispute, should be distinguished from the concept of "price suppression" under Article 6.3(c) of the *SCM Agreement*. When the European Communities referred to the "price effects" of subsidies before the Panel, it was referring to the effects of the subsidies on Boeing's LCA prices. (Panel Report, paras. 4.305, 7.1598, 7.1697, and 7.1699; see also footnote 3388 to para. 7.1613 and footnote 4139 to para. 6 of Appendix VII.F.2 – The Cabral Model, p. 758) The European Communities further argued that, "through the mechanism of price effects", the subsidies caused various of the market phenomena set out in Article 6.3 of the *SCM Agreement*, including significant price suppression within the meaning of Article 6.3(c). (*Ibid.*, para. 4.314) As did the Panel, we use the term "price effects" to refer to the effects of the subsidies on Boeing's LCA prices.

²³⁴¹Although the European Communities had argued that these subsidies caused serious prejudice by reason of their price effects in all three of the relevant LCA product markets, the Panel was not satisfied that these subsidies caused significant price suppression, significant lost sales, or displacement or impedance in the 200-300 seat LCA market. As explained *supra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market. Therefore, in assessing the effects of the tied tax subsidies in the 200-300 seat LCA market, the Panel considered the price effects of only the B&O tax rate reductions, and *not* of the FSC/ETI subsidies. The Panel found that there was "insufficient evidence ... to conclude that {the B&O tax rate reductions} are of a magnitude that would enable them, on their own, to have such an effect on Boeing's prices of the 787 as would lead to a finding {of serious prejudice} in the 200-300 seat wide-body market". (*Ibid.*, para. 7.1824) The European Union has appealed this finding, and contends that the Panel erred in failing to undertake an assessment of the collective effects of the aeronautics R&D subsidies and the B&O tax rate reductions in the 200-300 seat LCA market. Our evaluation of this claim of error on appeal is set out in section X.E of this Report.

(a) 100-200 seat LCA market

1152. This product market consists of single-aisle aircraft with a capacity of 100 to 200 passengers in a two-class configuration (or the respective cargo equivalent), and flown on routes with a short to medium range.²³⁴² The relevant aircraft families meeting these specifications include the Boeing 737NG and the Airbus A320.²³⁴³

1153. The parties accepted that the 737NG and A320 are in direct competition.²³⁴⁴ They further acknowledged that price was a major factor influencing sales campaign outcomes in this product market, although in some campaigns, differences in capacity, operating costs, or delivery dates may have been decisive.²³⁴⁵ In late 2004 or early 2005, Boeing altered its pricing strategy and became more "aggressive" on price.²³⁴⁶

1154. In 2006, the list prices of the A320 family ranged from \$50,200,000 to \$79,400,000, while those of the 737NG family ranged from \$47,000,000 to \$70,000,000.²³⁴⁷ Based on data supplied by the parties, the overall size of the market for 100-200 seat LCA, as well as Boeing's share of that market in terms of orders, increased over the reference period.²³⁴⁸

²³⁴²Panel Report, para. 7.1669.

²³⁴³Panel Report, para. 7.1670.

²³⁴⁴The European Communities stated that the 737NG and A320 families "closely resemble{d}" one another and competed on the basis of their "size, number of seats, range, and other characteristics" (European Communities' first written submission to the Panel, para. 1167); "competed equally on technical and performance characteristics" (European Communities' response to Panel Question 81, para. 324); and are characterized by "very close substitutability" (European Communities' first written submission to the Panel, para. 1506) and "close inter-changeability" (European Communities' comments on the United States' response to Panel Question 282, para. 433). The United States also recognized the close competition between the A320 and 737NG. (See, for example, United States' first written submission to the Panel, paras. 1027-1038)

²³⁴⁵Panel Report, para. 7.1694; European Communities' response to Panel Question 81, paras. 323 and 324; United States' first written submission to the Panel, paras. 1027-1038; United States' comments on the European Communities' responses to Panel Question 287, para. 532 and Panel Question 288, para. 535.

²³⁴⁶Panel Report, Appendix VII.F.2 – The Cabral Model, p. 777, para. 68 and footnote 4250 thereto.

²³⁴⁷List Price, Airclaims CASE database, query as of 23 November 2006 (Panel Exhibit EC-663). These price ranges reflect the fact that the A320 and 737NG families were composed of differentiated models. As explained *supra*, para. 907, due to credits and price concessions offered to customers by LCA manufacturers, the airframe prices negotiated at the time LCA are ordered are typically lower than list prices.

²³⁴⁸According to the United States, the total number of LCA ordered in the 100-200 seat LCA market during the reference period was as follows: 457 in 2004; 1,410 in 2005; and 1,558 in 2006. Boeing's share of these orders was: 32% in 2004; 40% in 2005; and 47% in 2006. (United States' first written submission to the Panel, para. 1095) The European Communities, however, asserted that Boeing's world market share of orders increased between 2005 and 2006 from 47% to 52%. (European Communities' comments on the United States' response to Panel Question 299, para. 551) The United States additionally claimed that, in terms of deliveries, Boeing's market share was: 46% in 2004; 42% in 2005; and 47% in 2006. (United States' first written submission to the Panel, para. 1095)

(b) 300-400 seat LCA market

1155. This product market consists of twin-aisle aircraft with a capacity of 300 to 400 passengers in a three-class configuration (or the respective cargo equivalent), and flown on routes with a long to ultra-long range.²³⁴⁹ The relevant aircraft families meeting these specifications include the Boeing 777 and the Airbus A340.²³⁵⁰

1156. Despite the similarities of the 777 and A340 aircraft in terms of seating, range, and other characteristics²³⁵¹, the two-engine 777 is more fuel efficient than the four-engine A340.²³⁵² This advantage was accentuated when fuel prices increased during the 2004-2006 period.²³⁵³

1157. In 2006, the list prices of the A340 family ranged from \$192,800,000 to \$222,400,000, while those of the 777 family ranged from \$190,000,000 to \$237,000,000.²³⁵⁴ Based on data supplied by the parties, the overall size of the market for 300-400 seat LCA, as well as Boeing's share of that market in terms of orders, increased over the reference period from 2004 to 2006, peaking in 2005.²³⁵⁵

2. The European Communities' Price Effects Claim before the Panel

1158. Before we turn to the Panel's findings and the United States' appeal, we consider it useful to outline the structure of the European Communities' price effects claim before the Panel.

²³⁴⁹Panel Report, para. 7.1669.

²³⁵⁰Panel Report, para. 7.1670. The European Communities also advanced a claim of threat of significant price suppression in the 300-400 seat LCA market with respect to future orders of the A350XWB-900/1000 aircraft. (*Ibid.*, para. 7.1595) The Panel exercised judicial economy with respect to this claim. (*Ibid.*, para. 7.1851)

²³⁵¹European Communities' first written submission to the Panel, para. 1180.

²³⁵²European Communities' response to Panel Question 81, paras. 330 and 331; United States' first written submission to the Panel, paras. 1117 and 1139, referring to estimates that the 777 is 24% more fuel efficient than the A340.

²³⁵³European Communities' response to Panel Question 81, paras. 331 and 334; United States' first written submission to the Panel, paras. 715, 1139, and 1140, and para. 1113, referring to estimates that fuel prices increased by 125% between 2004 and 2006.

²³⁵⁴List Price, Airclaims CASE database, query as of 23 November 2006 (Panel Exhibit EC-663). These price ranges reflect the fact that the A340 and 777 families were composed of differentiated models. As noted earlier, however, actual airframe prices are often lower than the base list price. (See *supra*, para. 907)

²³⁵⁵According to the United States, the total number of LCA ordered in the 300-400 seat LCA market during the reference period was as follows: 70 in 2004; 169 in 2005; and 92 in 2006. Boeing's share of these orders was: 60% in 2004; 92% in 2005; and 84% in 2006. (Panel Exhibit US-364, containing order statistics for the 777 and A340, 1990-2006) A graphical depiction of world market share supplied by the European Communities appears consistent with this data. (European Communities' first written submission to the Panel, para. 1626) The United States additionally claimed that, in terms of deliveries, Boeing's market share was: 56% in 2004; 63% in 2005; and 73% in 2006. (United States' first written submission to the Panel, para. 1171)

1159. In presenting its claim of serious prejudice to the Panel in respect of the 100-200 seat and 300-400 seat LCA markets, the European Communities argued that all of the subsidies benefiting Boeing's 737NG and 777 families "have one principal effect: they allow Boeing to lower the prices at which it offers {these aircraft} (the 'price effects')".²³⁵⁶ According to the European Communities, "the evidence shows that since 2004, Boeing has focused its US subsidy benefits on offering exceptionally low prices".²³⁵⁷ As a result of these price effects, the European Communities asserted, Airbus has experienced displacement and impedance within the meaning of Article 6.3(b), and significant price suppression and significant lost sales within the meaning of Article 6.3(c) of the *SCM Agreement*.

1160. The European Communities structured its claim by addressing: (i) the nature of the subsidies; (ii) the magnitude of the subsidies; (iii) the price effects of the subsidies; and (iv) evidence from specific sales campaigns.

1161. With regard to the nature of the subsidies, the European Communities argued that the "structure, design, and operation"²³⁵⁸ of the subsidies operate through one of two price mechanisms. One group of subsidies—the tied tax subsidies—has the effect of lowering the taxes and fees paid by Boeing with respect to the production and sale of LCA, rendering receipt of these subsidies contingent on the production and sale of individual LCA. The European Communities thus claimed that the tied tax subsidies directly reduce Boeing's marginal unit costs for the production and sale of individual LCA.²³⁵⁹ The European Communities maintained that the tied tax subsidies "have particularly strong price effects, allowing Boeing to lower its LCA prices by \$1 for each dollar of subsidies received".²³⁶⁰ The European Communities further maintained that, because the tied tax subsidies are prohibited subsidies, they are "particularly pernicious in causing adverse effects to EC interests given their promotion of Boeing LCA exports outside the United States".²³⁶¹ The other subsidies—that is, those other than the tied tax subsidies²³⁶²—are not triggered by the production and sale of individual LCA.

²³⁵⁶European Communities' first written submission to the Panel, paras. 1471 and 1565.

²³⁵⁷European Communities' first written submission to the Panel, paras. 1471 and 1565.

²³⁵⁸European Communities' first written submission to the Panel, paras. 1474 and 1568.

²³⁵⁹European Communities' first written submission to the Panel, para. 1234.

²³⁶⁰European Communities' first written submission to the Panel, paras. 1477 and 1571.

²³⁶¹European Communities' first written submission to the Panel, paras. 1477 and 1571.

²³⁶²These subsidies consist of the following: (i) the aeronautics R&D subsidies; (ii) the property and sales tax abatements provided to Boeing pursuant to IRBs issued by the City of Wichita, Kansas; (iii) the Washington State B&O tax credits for preproduction development, computer software and hardware, and property taxes; (iv) the Washington State sales and use tax exemptions for computer hardware, peripherals, and software; (v) the Washington State workforce development programme and Employment Resource Center; (vi) the reimbursement of a portion of Boeing's relocation expenses by the State of Illinois; (vii) the 15-year EDGE tax credits provided by the State of Illinois; (viii) the abatement or refund of a portion of Boeing's property taxes provided by the State of Illinois; and (ix) the payment to retire the lease of the previous tenant of Boeing's new headquarters building in Chicago.

Rather, these subsidies are considered "fungible"²³⁶³ resources that provide Boeing with additional cash flow "that Boeing can invest in lower prices and additional R&D so as to lower its costs of research, development, production, and sale of { } LCA".²³⁶⁴

1162. The European Communities also submitted that the magnitude of the subsidies was "large enough to have adversely impacted Airbus"²³⁶⁵, and that this was so whether magnitude was viewed in terms of all LCA orders within a particular product market, or only LCA orders from competitive campaigns. The European Communities distinguished between "competitive" and "non-competitive" sales campaigns, defining a competitive campaign as one in which both Airbus and Boeing are actively involved.²³⁶⁶ The European Communities argued that Boeing's incentive to price down LCA is "far greater in competitive campaigns than in non-competitive campaigns".²³⁶⁷ The European Communities thus calculated the magnitude of per-LCA subsidies on the basis of all orders²³⁶⁸, as well as on the basis of only competitive orders.²³⁶⁹ The European Communities considered that "these represent two extremes, with the likely reality being that Boeing uses its subsidy benefits to price down its LCA in both competitive and non-competitive campaigns, but does so to a greater extent in competitive campaigns".²³⁷⁰

²³⁶³European Communities' first written submission to the Panel, para. 1279.

²³⁶⁴European Communities' first written submission to the Panel, paras. 1480 and 1574.

²³⁶⁵European Communities' first written submission to the Panel, paras. 1485 and 1583.

²³⁶⁶European Communities' first written submission to the Panel, para. 1222: "the European Communities uses the term 'competitive campaign' to mean a campaign in which both Airbus and Boeing were actively involved, and where Airbus [***]."

²³⁶⁷European Communities' first written submission to the Panel, para. 1224: "{G}iven the economies of scale that result from a high order volume, and the price-sensitive nature of campaigns involving substitutable Airbus and Boeing LCA in a highly-competitive duopolistic market, Boeing has every incentive to lower its prices to try to win sales at Airbus' expense in competitive campaigns."

²³⁶⁸Attributing the total amount of subsidies to all campaigns, the European Communities calculated a per-LCA magnitude during the reference period of \$[***] million (approximately [***]% of aircraft price) in the 100-200 seat LCA market, and \$[***] million (approximately [***]% of aircraft price) in the 300-400 seat LCA market. (European Communities' first written submission to the Panel, paras. 1486 and 1590 (referring to International Trade Resources LLC, "Calculating on a Per-Aircraft Basis the Magnitude of the Subsidies Provided to US Large Civil Aircraft" (20 February 2007) (Panel Exhibit EC-13)); see also *ibid.*, Annex E – 737NG Campaign Annex (HSBI), paras. 58 and 133; and Annex F – 777 Campaign Annex (HSBI), paras. 32 and 51)

²³⁶⁹Attributing the total amount of subsidies to only competitive campaigns, the European Communities calculated the per-LCA magnitude during the reference period at \$[***] million (approximately [***]% of aircraft price) in the 100-200 seat LCA market, and \$[***] million (approximately [***]% of aircraft price) in the 300-400 seat LCA market. (European Communities' first written submission to the Panel, paras. 1486 and 1590 (referring to International Trade Resources LLC, "Calculating on a Per-Aircraft Basis the Magnitude of the Subsidies Provided to US Large Civil Aircraft" (20 February 2007) (Panel Exhibit EC-13)); see also *ibid.*, Annex E – 737NG Campaign Annex (HSBI), paras. 60 and 134; and Annex F – 777 Campaign Annex (HSBI), paras. 33 and 53)

²³⁷⁰European Communities' first written submission to the Panel, paras. 1485 and 1583.

1163. The European Communities argued that, whether viewed in terms of all campaigns or only competitive campaigns, the magnitude of the United States' subsidies shows "the extent to which the full use of these subsidies {has} the potential to cause significant price suppression of Airbus' A320 family LCA".²³⁷¹ Likewise, for the Airbus A340, the European Communities made arguments based on the assumption that Boeing "uses all of its subsidy benefits to reduce prices for all ordered 777 family LCA by an identical amount".²³⁷²

1164. The European Communities then presented its arguments regarding the price effects of the various US subsidies, taken together. In doing so, the European Communities distinguished between, on the one hand, the price effects of the tied tax subsidies and, on the other hand, the price effects of the subsidies alleged to increase Boeing's non-operating cash flow. As the European Communities explained, the tied tax subsidies "have a price effect commensurate with their amount" such that each subsidy dollar "has the effect of reducing the price of a Boeing {} LCA by exactly \$1".²³⁷³ As for the subsidies alleged to increase Boeing's cash flow, the European Communities introduced the Cabral Report, which relied on an economic model to quantify the extent to which Boeing was able to reduce its LCA prices in 2004-2006 as a result of these subsidies.²³⁷⁴

1165. Finally, the European Communities set out evidence of individual sales campaigns in HSBI annexes to its first written submission. The evidence set out in these annexes was intended to illustrate and support the claim that Boeing's subsidy-enabled low prices have caused serious prejudice. Annex E identifies 11 sales campaigns in the 100-200 seat LCA market—five of which

²³⁷¹European Communities' first written submission to the Panel, para. 1503. On the basis of its calculations of the per-LCA subsidy magnitudes, the European Communities depicted in several graphs what it considered to be the counterfactual prices for the A320 in the absence of subsidies by adding the per-LCA subsidy amount to indexed prices for those LCA. (*Ibid.*, paras. 1501-1505)

²³⁷²European Communities' first written submission to the Panel, para. 1597. The European Communities also depicted in several graphs what it considered to be the counterfactual prices for the A340 in the absence of subsidies by adding the per-LCA subsidy amount to indexed prices for those LCA. (*Ibid.*, paras. 1597-1601)

²³⁷³European Communities' first written submission to the Panel, paras. 1490 and 1588.

²³⁷⁴According to the Cabral Report, of every subsidy dollar that increases Boeing's cash flow: 15 cents would be allocated to increased dividends; 12 cents towards more aggressive pricing to advance down the learning curve; 47 cents towards more aggressive pricing to overcome switching costs; and 26 cents towards R&D. (European Communities' first written submission to the Panel, paras. 1315 and 1321) The Cabral Report calculated that the price effect generated by the \$19.1 billion of subsidies, taken together, both across-the-board, as well as when those price effects were concentrated in competitive sales campaigns. According to those calculations, during the reference period, the across-the-board price effects amounted to approximately \$1 million per 737, and just over \$2 million per 777. The Cabral Report further estimated that, if the price effects were applied only in competitive sales campaigns, they would amount to roughly \$2.5 million per 737, and \$5.5-6 million per 777. (European Communities' first written submission to the Panel, figures 22 and 23, referred to in Panel Report, Appendix VII.F.2 – The Cabral Model, p. 758, footnote 4139 to para. 6; Cabral Report, *supra*, footnote 2242)

were offered in support of the European Communities' claim of significant lost sales²³⁷⁵; and six that were advanced in support of its claim of significant price suppression.²³⁷⁶ Annex F identifies four sales campaigns in the 300-400 seat LCA market—three of which were offered in support of the European Communities' claim of significant lost sales²³⁷⁷; and one that was advanced in support of its claim of significant price suppression.²³⁷⁸

3. The Panel's Analysis and Findings

1166. We now set out the Panel's analysis and findings with regard to whether the price effects of the challenged subsidies have caused serious prejudice.

1167. We recall aspects of the Panel's overall approach to its adverse effects analysis. First, we note that the Panel indicated that it would conduct a "unitary" approach to establishing causation, in which the effects of the subsidies are not assessed in isolation, but rather as part of an integrated analysis of causation.²³⁷⁹ Second, the Panel stated that it would conduct a counterfactual analysis, and that it would do so in two stages by examining the effects of the subsidies on Boeing's prices, and, as a consequence, on Airbus' prices and sales in the specific product markets.²³⁸⁰ Third, the Panel added that it would undertake an evaluation of possible non-attribution factors at both stages of its causation analysis.²³⁸¹ The Panel considered that proceeding with the approach outlined above would enable it to determine whether "there is a genuine and substantial relationship of cause and effect between the subsidy in question and the displacement or impedance, significant lost sales, or significant price suppression".²³⁸²

²³⁷⁵Panel Report, para. 7.1622 and footnote 3412 thereto. The *lost sales* evidence in the 100-200 seat LCA market consisted of the following sales campaigns: Ryanair (2000-2002); Japan Airlines (2005); Singapore Airline Leasing Enterprise (2005); Lion Air (2005); and DBA (2005). The European Communities also explained that these campaigns were evidence of displacement and impedance of A320 exports in the third-country markets of Japan, Singapore, and Indonesia.

²³⁷⁶Panel Report, para. 7.1622 and footnote 3410 thereto. The *price suppression* evidence in the 100-200 seat LCA market consisted of the following sales campaigns: easyJet (2002); Air Berlin (2004); Iberia (2005); Aegean (2005); Air Asia (2005); and Hamburg International (2005).

²³⁷⁷Panel Report, para. 7.1622 and footnote 3414 thereto. The *lost sales* evidence in the 300-400 seat LCA market consisted of the following sales campaigns: Singapore Airlines (2004); Air New Zealand (2004); and Cathay Pacific (2005). The European Communities also explained that these campaigns were evidence of displacement and impedance of A340 exports in the third-country markets of Singapore, New Zealand, and Hong Kong, China.

²³⁷⁸Panel Report, para. 7.1622. The *price suppression* evidence in the 300-400 seat LCA market consisted of a single sales campaign involving Lufthansa (2004).

²³⁷⁹Panel Report, para. 7.1658.

²³⁸⁰Panel Report, para. 7.1659; see also paras. 7.1798-7.1800.

²³⁸¹Panel Report, para. 7.1660.

²³⁸²Panel Report, para. 7.1662.

1168. The Panel explained that the European Communities' analytical framework for evaluating the effects of the subsidies on Boeing's pricing behaviour, and consequently on Airbus' prices and sales, focused on several key factors, namely:

(i) the nature of the subsidies, in terms of their structure, design and operation; (ii) an economic model developed by Professor Luís Cabral concerning the effect of what he refers to as "development subsidies", which purports to quantify the degree to which Boeing was able to reduce its LCA prices in 2004-2006; (iii) the subsidy amounts and "magnitudes"; (iv) the conditions of competition in the LCA markets; (v) the financial condition, or "economic viability" of Boeing's LCA division in the absence of the subsidy amounts; and (vi) selected individual LCA sales campaigns in each of the three LCA product markets, which are alleged to demonstrate the serious prejudice in terms of Airbus' prices and sales.²³⁸³

1169. The Panel noted that, although the European Communities had challenged all of the subsidies by reason of their price effects, it would analyze the price effects of the tied tax subsidies separately from the price effects of the other subsidies.²³⁸⁴ The Panel did not accept the arguments and evidence of the European Communities with respect to items (ii)²³⁸⁵ and (v)²³⁸⁶ quoted above. Thus, in its analysis of the tied tax subsidies, the Panel was left to consider the European Communities' evidence

²³⁸³Panel Report, para. 7.1611.

²³⁸⁴Panel Report, para. 7.1800. The Panel later concluded that, in the light of its findings as to the technology effects of the aeronautics R&D subsidies, it would not analyze the price effects of that group of subsidies because to do so would amount to "over-counting". (*Ibid.*, para. 7.1826)

²³⁸⁵With respect to the Cabral Report, the Panel concluded as follows:

... Professor Cabral's model does not support the existence of a causal link between the receipt by Boeing of "development subsidies", and lower Boeing LCA pricing. The Panel is not convinced that the assumptions underlying Professor Cabral's model are an appropriate representation of Boeing's actual commercial behaviour. As we are unable to accept the assumptions on which the model is based, we do not consider the model to provide evidentiary support for the European Communities' argument that Boeing's receipt of the subsidies enables it to lower the prices of its LCA.

(Panel Report, Appendix VII.F.2 – The Cabral Model, p. 780, para. 76)

²³⁸⁶With respect to the European Communities' argument and evidence that, without the subsidies, Boeing would have not been economically viable unless it altered its prices or product development behaviour, the Panel stated that it was "not persuaded that the European Communities has demonstrated that Boeing inherently lacked the financial means to price and develop its LCA in the manner in which it did". (Panel Report, para. 7.1759; see also paras. 7.1829-7.1831) The Panel explained that the parties had each presented "complex financial information" on the issue of "whether the Boeing LCA division's pricing and product development behaviour would have been possible had it not received an alleged \$19.1 billion in subsidies between 1989 and 2006". (*Ibid.*, para. 7.1830) The Panel considered that, in the light of its finding that the total amount of subsidies received by Boeing over this period was not the \$19.1 billion amount alleged, but a much smaller amount, "the argument that Boeing's LCA division would not have been 'economically viable' in the absence of the subsidies unless it altered its prices or product development behaviour becomes untenable, whichever basis for assessing economic viability is used." (*Ibid.*, para. 7.1831)

as it related to the nature and the amount²³⁸⁷ of the tied tax subsidies, the conditions of competition in the LCA market, and the evidence of individual sales campaigns as set out in Annexes E and F to the European Communities' first written submission.

1170. The Panel examined the two categories of tied tax subsidies. The Panel noted that FSC/ETI exemptions and exclusions are realized on the delivery of every LCA that Boeing exports, as well as on LCA that Boeing produces and sells to domestic carriers and leasing companies for use predominantly on foreign routes.²³⁸⁸ The FSC/ETI subsidies thus relate directly to revenue realized from export LCA sales and operate to reduce the revenues that were subject to taxation, thereby lowering Boeing's taxes and increasing its after-tax profits.²³⁸⁹ The Panel further noted that the B&O tax rate reductions consist of tax incentives designed to reduce Boeing's cost structure and improve Boeing's competitiveness, and that they apply to the production and sale of each LCA manufactured in Washington State.²³⁹⁰

1171. The Panel considered that it was appropriate to aggregate the FSC/ETI subsidies and the B&O tax rate reductions for purposes of its analysis, and that, in doing so, "it should be possible to discern from their structure, design and operation that they affect Boeing's behaviour in a similar way."²³⁹¹ The Panel noted that the parties disagreed about the precise mechanism by which the tied tax subsidies could affect pricing decisions.²³⁹² Nevertheless, both parties appeared to accept, and the Panel found, that the subsidies in question are "directly tied to sales of individual LCA"²³⁹³ and that

²³⁸⁷The Panel found that the total FSC/ETI subsidies received by Boeing between 1989 and 2006 amounted to approximately \$2.2 billion, and that the amounts allocated to the reference period years from 2004 to 2006 consisted of \$153 million, \$142 million, and \$140 million, respectively. The Panel also found that the B&O tax rate reductions granted through 2006 by the State of Washington and the City of Everett amounted to \$13.8 and \$2.2 million, respectively. (Panel Report, para. 7.1811) However, with respect to the calculations of the per-LCA magnitudes performed by ITR, the Panel stated: "ITR's per-LCA subsidy 'magnitude' estimates play no part in the Panel's analysis of the effects of the subsidies." (*Ibid.*, para. 7.1813)

²³⁸⁸Panel Report, para. 7.1802.

²³⁸⁹As explained *supra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market. The Panel thus examined the effects of these subsidies only with respect to Boeing's pricing of its LCA within the 100-200 seat and 300-400 seat LCA markets. (Panel Report, para. 7.1802)

²³⁹⁰Panel Report, para. 7.1803. The Panel noted that the Washington State B&O tax rate reduction applies to the production and sale of LCA manufactured in Washington State, and therefore potentially affects the 737NG, 777, and 787. The City of Everett B&O tax rate reduction affects the production and sale of LCA manufactured in Everett, and therefore applies to the 777 and 787, but not to the 737NG. (*Ibid.*)

²³⁹¹Panel Report, para. 7.1805.

²³⁹²The European Communities argued that the subsidies are realized on the production and delivery of individual LCA, and thereby reduce Boeing's marginal unit costs for each individual LCA. The United States considered it inaccurate to describe the subsidies as reducing Boeing's marginal unit costs, but agreed that the subsidies lead to an increase in revenues arising in respect of the sale of each LCA. (Panel Report, para. 7.1806)

²³⁹³Panel Report, para. 7.1806.

they operate to "lower taxes that Boeing pays and thereby increase Boeing's after-tax profits".²³⁹⁴ The Panel further considered that the tied tax subsidies lower taxes that Boeing pays and thereby increase the profitability of LCA sales "in a way that enables Boeing to price its LCA at a level that would not otherwise be commercially justified".²³⁹⁵ In this respect, the Panel concluded that the tied tax subsidies "clearly have a far more direct and immediate relationship to aircraft prices and sales than other subsidies at issue in this dispute, such as the aeronautics R&D subsidies".²³⁹⁶

1172. In respect of the FSC/ETI subsidies in particular, the Panel made a few further observations. First, the Panel stated that, "by virtue of their very nature as export subsidies", the FSC/ETI subsidies are "more likely to cause adverse trade effects".²³⁹⁷ The Panel then proceeded to note statements in prior WTO disputes addressing the effects-related implications of prohibited subsidies. The Panel noted that the Appellate Body in *Canada – Aircraft* referred to prohibited export subsidies as ones "for which the adverse effects are presumed"²³⁹⁸, and that the panel in *Brazil – Aircraft* stated that prohibited subsidies "are specifically designed to affect trade".²³⁹⁹ The Panel concluded that, "precisely because the FSC/ETI subsidies are contingent on Boeing making export sales, {it was} entitled to determine, absent reliable evidence to the contrary, that by their very nature, they will have trade distortive effects".²⁴⁰⁰

1173. The Panel recalled its prior calculations that the amount received from FSC/ETI tax exemptions and exclusions from 1989 through 2006 was approximately \$2.2 billion, and that the European Communities had estimated that Boeing received FSC/ETI subsidies of approximately \$153 million, \$142 million, and \$140 million, respectively, in the years 2004, 2005, and 2006. The Panel also recalled its calculations that, through 2006, Boeing received \$13.8 million and \$2.2 million in B&O tax rate reductions from the State of Washington and the City of Everett, respectively. The Panel further recalled its view that, "given the particularities of LCA production and sale, the effects of the subsidies should be understood to begin at the time at which an LCA order is obtained (or an order is lost) and to continue up to and including the time at which that aircraft is delivered (or not

²³⁹⁴Panel Report, para. 7.1807.

²³⁹⁵Panel Report, para. 7.1807.

²³⁹⁶Panel Report, para. 7.1807.

²³⁹⁷Panel Report, para. 7.1808.

²³⁹⁸Panel Report, para. 7.1808 (quoting Appellate Body Report, *Canada – Aircraft*, para. 202).

²³⁹⁹Panel Report, para. 7.1809 (quoting Panel Report, *Brazil – Aircraft*, para. 7.26). The Panel also referred to the following statement of the arbitrator in *US – FSC (Article 22.6 – US)*: "Export subsidies do, after all, have 'adverse effects' on third parties. Systemically speaking they are, as a category of subsidy, more inherently prone to do so than any other". (Decision by the Arbitrator, *US – FSC (Article 22.6 – US)*, para. 5.35)

²⁴⁰⁰Panel Report, para. 7.1810. The Panel added that, in any event, there was in this case "reliable evidence which confirms that determination". (*Ibid.*, footnote 3763 to para. 7.1810, referring to paras. 7.1806, 7.1807, 7.1811, and 7.1817-7.1823)

delivered).²⁴⁰¹ The Panel affirmed that it would consider the existence of serious prejudice within the reference period from 2004 to 2006 as identified by the European Communities, but would "not limit the temporal scope of the evidence that it considers in undertaking that assessment".²⁴⁰²

1174. The Panel proceeded to analyze "whether the availability of FSC/ETI subsidies and B&O tax subsidies enabled Boeing to compete on price in individual sales, and secure sales that it would not otherwise have made, and where it did not win those sales, led to Airbus securing those sales at lower prices than it would otherwise have obtained".²⁴⁰³ The Panel set out evidence introduced by the parties concerning the magnitude of subsidization in relation to Boeing's revenues. The Panel noted the United States' contention that the FSC/ETI subsidies received by Boeing were too small relative to Boeing's order revenues to have affected Boeing's pricing in a manner causing adverse effects. The Panel also noted the European Communities' argument that, when based on the more relevant measure of Boeing's delivery revenues, the *ad valorem* rates of subsidization are significant. The Panel did not consider, however, that "either measure is particularly informative or illustrative of the capacity for the FSC/ETI subsidies to have affected Boeing's prices, and by extension, Airbus' prices and sales."²⁴⁰⁴

1175. The Panel considered it "important to bear in mind that the FSC/ETI subsidies are export subsidies that are designed to increase Boeing's competitiveness through its pricing of LCA for export".²⁴⁰⁵ The Panel referred to: (i) evidence from a 1996 sales campaign, in which an Airbus negotiator stated that a customer requested a further price reduction of \$4 million per aircraft due to Boeing's receipt of FSC subsidies; (ii) a statement by the US Trade Representative describing the purpose of the FSC/ETI provisions as enhancing the international competitiveness of US companies; (iii) a 2003 report on FSC/ETI beneficiaries indicating that, over the six-year period ending in 2002, Boeing was the largest FSC/ETI beneficiary; and (iv) evidence that a Boeing official regarded the FSC/ETI measures as important to Boeing's ability to compete.²⁴⁰⁶ The Panel found that these considerations "point quite clearly to the significance of the FSC/ETI subsidies to Boeing's ability to compete on price against Airbus".²⁴⁰⁷

²⁴⁰¹Panel Report, para. 7.1812.

²⁴⁰²Panel Report, para. 7.1679.

²⁴⁰³Panel Report, para. 7.1814.

²⁴⁰⁴Panel Report, para. 7.1816.

²⁴⁰⁵Panel Report, para. 7.1817.

²⁴⁰⁶Panel Report, para. 7.1817.

²⁴⁰⁷Panel Report, para. 7.1818.

1176. The Panel then explained that it had:

... no doubt that the availability of the FSC/ETI subsidies, in combination with the B&O tax subsidies, enabled Boeing to lower its prices beyond the level that would otherwise have been economically justifiable, and that in some cases, this led to it securing sales that it would not otherwise have made, while in other cases, it led to Airbus being able to secure the sale only at a reduced price.²⁴⁰⁸

1177. The Panel added that the subsidies have also "served to entrench Boeing as the incumbent supplier, thereby putting it at an important switching cost advantage over Airbus in future sales of aircraft of the same family to that same customer".²⁴⁰⁹

1178. The Panel stated that, because the FSC/ETI programme had already been in operation prior to 2000, it was not possible for the Panel to ascertain the effects of the subsidies from direct observation of market share and pricing trend data over the 2000-2006 period. The Panel further considered that factors other than the FSC/ETI subsidies that, in the United States' view, explained the prices and performance of Airbus LCA in the 2004-2006 period "do not reverse or attenuate the pervasive and consistent pricing advantage that Boeing had in LCA campaigns in the 2001-2003 period due to the availability of the FSC/ETI subsidies".²⁴¹⁰ The Panel acknowledged that, in such circumstances, one potential option would be for it to decline to make a serious prejudice finding due to the difficulty of precisely calculating the degree to which Boeing's pricing of the 737NG and the 777 was affected by the tied tax subsidies. The Panel was, however, of the view that such an approach would be inconsistent with its obligations to make an objective assessment of the matter as required by Article 11 of the DSU, "as well as contrary to considerations of basic commonsense and reason".²⁴¹¹ Instead, the Panel considered it "necessary and appropriate to deduce the effects of the FSC/ETI subsidies and the B&O tax subsidies on Airbus' sales and prices over the 2004-2006 period based on commonsense reasoning and the drawing of inferences" from its conclusions regarding the nature of the subsidies, the duration of the FSC/ETI subsidies, and the nature of the competition between Boeing and Airbus.²⁴¹²

²⁴⁰⁸Panel Report, para. 7.1818.

²⁴⁰⁹Panel Report, para. 7.1818.

²⁴¹⁰Panel Report, para. 7.1819 (referring to the United States' first written submission to the Panel, paras. 1064-1080 and 1138-1155).

²⁴¹¹Panel Report, para. 7.1821.

²⁴¹²Panel Report, para. 7.1820.

1179. In applying this approach, the Panel reasoned as follows:

The Panel considers that it is reasonable to infer, based on the fact that the effects of the subsidies on Airbus' prices would be most acutely felt in particular sales campaigns of strategic importance to Boeing and/or Airbus, that the effects of the subsidies are therefore significant in the sense that Boeing's success in such sales campaigns necessarily constitutes a significant lost sale to Airbus, and that such sales secured by Airbus in the face of Boeing's reduced prices necessarily constitute sales secured at significantly suppressed prices. It is thus inescapable to also arrive at the conclusion that in law the effects of the subsidies on Airbus' prices and sales constitute significant lost sales and significant price suppression, within the meaning of Article 6.3(c) of the SCM Agreement, as well as displacement and impedance of exports from third-country markets, within the meaning of Article 6.3(b).²⁴¹³

1180. On this basis, the Panel concluded that the effects of the FSC/ETI subsidies and the Washington State B&O tax rate reduction in the 100-200 seat LCA market²⁴¹⁴, and the effects of the FSC/ETI subsidies and the Washington State and City of Everett B&O tax rate reductions in the 300-400 seat LCA market, were: (i) to significantly suppress Airbus' prices in sales in which it competed against Boeing; (ii) to cause Airbus to lose significant sales; and (iii) to displace and impede EC exports in third-country markets.²⁴¹⁵

1181. The Panel did not, in its analysis of the price effects of the tied tax subsidies in the 200-300 seat LCA market, take account of the FSC/ETI subsidies.²⁴¹⁶ For the 200-300 seat LCA market, the Panel therefore considered the price effects of only the Washington State and the City of Everett B&O tax rate reductions, and found that there was insufficient evidence to conclude that these subsidies were of a magnitude that would enable them, on their own, to have such an effect on Boeing's prices of the 787 so as to cause Airbus to suffer serious prejudice.²⁴¹⁷

²⁴¹³Panel Report, para. 7.1822.

²⁴¹⁴The Panel determined that the City of Everett B&O tax rate reduction applies to the 777 and 787 families, but not to the 737NG family. (Panel Report, para. 7.1803)

²⁴¹⁵Panel Report, para. 7.1823.

²⁴¹⁶As explained *supra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market.

²⁴¹⁷Panel Report, para. 7.1824. The European Union has appealed this finding, and contends that the Panel erred in failing to undertake an assessment of the collective effects of the aeronautics R&D subsidies and the B&O tax rate reductions in the 200-300 seat LCA market. Our evaluation of this claim of error on appeal is set out in section X.E of this Report.

4. Assessment of the Panel's Causation Analysis under Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*

1182. We now turn to the United States' appeal. First, we address general aspects of the Panel's causation analysis by focusing on the United States' allegation that the Panel relied on an "impermissible presumption"²⁴¹⁸ that subsidies prohibited under Part II of the *SCM Agreement* cause serious prejudice for purposes of Part III, as well as on the United States' arguments relating to the Panel's treatment of the magnitude of the tied tax subsidies, its counterfactual analysis, and its consideration of the other factors advanced by the United States to explain the alleged market effects. Second, we address the United States' contention that the Panel committed specific errors in reaching its findings of significant price suppression, significant lost sales, and displacement and impedance. We note that the various elements of the United States' claim relate to different aspects of the Panel's "unitary" analysis of the price effects of the tied tax subsidies. Therefore, we analyze independently each of these elements below and, once we have considered them all, we provide an overall assessment of the Panel's causation analysis.

(a) Whether the Panel conducted a proper causation analysis

(i) *Nature of the tied tax subsidies*

1183. As part of its causation analysis, the Panel considered several aspects of the nature of the tied tax subsidies. As we have noted, the Panel found that, because both the FSC/ETI subsidies and B&O tax rate reductions were tied to sales of individual LCA, they increase the profitability of LCA sales.²⁴¹⁹ The Panel also examined the amount and duration of the FSC/ETI subsidies, totalling \$2.2 billion over the period from 1989 to 2006, and \$435 million during the reference period from 2004 to 2006.²⁴²⁰ Furthermore, the Panel referred to evidence consisting of statements by Airbus and Boeing executives and the US Trade Representative indicating that FSC/ETI subsidies were essential to enhancing the international competitiveness of Boeing versus its foreign competitors.²⁴²¹ None of these aspects of the Panel's analysis is challenged on appeal by the United States.

1184. In addition, we noted the Panel's conclusion that, "precisely because the FSC/ETI subsidies are contingent on Boeing making export sales, {it was} entitled to determine, absent reliable evidence to the contrary, that by their very nature, they will have trade distortive effects".²⁴²² In respect of this analysis, the United States contends that the Panel erred in relying on a presumption that subsidies

²⁴¹⁸United States' other appellant's submission, heading VI.C.2, p. 134.

²⁴¹⁹Panel Report, paras. 7.1806 and 7.1807.

²⁴²⁰Panel Report, para. 7.1811.

²⁴²¹Panel Report, para. 7.1817.

²⁴²²Panel Report, para. 7.1810.

found to be prohibited under Part II of the *SCM Agreement* cause adverse effects within the meaning of Part III. According to the United States, by relying on its finding that FSC/ETI subsidies are prohibited export subsidies under Article 3.1(a) to reach its finding that the tied tax subsidies caused serious prejudice under Article 6.3, the Panel established a presumption that is not permitted under the *SCM Agreement*. The European Union does not address the issue of whether such a presumption exists, but rather argues that the Panel did not rely on any such presumption. In the European Union's view, the Panel referred to the FSC/ETI subsidies as export subsidies only to support its characterization of the nature of those subsidies, and ultimately relied on other findings and conclusions to reach its finding of serious prejudice.

1185. In our view, the Panel's reasoning, considered in its totality, does not show that it applied a presumption of the sort claimed by the United States. The Panel referred to its findings, as well as the findings of previous panels, that the FSC/ETI subsidies are prohibited export subsidies within the meaning of Article 3.1(a) of the *SCM Agreement*.²⁴²³ The Panel did not, however, express the view that the legal status of subsidies under Article 3.1(a) of the *SCM Agreement* is determinative of the characterization of the effects of such subsidies for purposes of Article 6.3 of that Agreement. Rather, the Panel stated that the FSC/ETI subsidies are, "by virtue of their very nature as export subsidies, *more likely to cause adverse trade effects*".²⁴²⁴ This general proposition is in itself unobjectionable. The Panel further indicated that it was the fact that the FSC/ETI subsidies are "contingent on Boeing making export sales" that "entitled" the Panel to determine, "absent reliable evidence to the contrary", that those subsidies, "by their very nature", will have trade distortive effects.²⁴²⁵ Notwithstanding certain ambiguities in this statement, we do not understand the Panel's reference to "trade distortive effects" as equating the existence of such effects to establishing "serious prejudice" or "adverse effects" within the meaning of Articles 5(c) and 6.3 of the *SCM Agreement*. Rather, the Panel seems to have been elaborating upon its view that the nature of the FSC/ETI subsidies increases the likelihood that they will produce adverse effects, and indicating that it would, for that reason, accord this factor considerable weight in its analysis of such effects and of whether they demonstrated serious prejudice. The Panel's statement also follows logically from the reasoning that immediately preceded it, in which the Panel referred to both "the inherently trade-distorting nature of export subsidies"²⁴²⁶ and to the fact that the FSC/ETI subsidies have a "direct and immediate relationship to aircraft prices and sales".²⁴²⁷ To the extent that the arguments raised by the United States on appeal suggest that the

²⁴²³Panel Report, para. 7.1808, referring to paras. 7.1452-7.1455 (in turn referring to the panel and Appellate Body reports in *US – FSC*, *US – FSC (Article 21.5 – EC)*, and *US – FSC (Article 21.5 – EC II)*).

²⁴²⁴Panel Report, para. 7.1808. (emphasis added)

²⁴²⁵Panel Report, para. 7.1810.

²⁴²⁶Panel Report, para. 7.1809.

²⁴²⁷Panel Report, para. 7.1807.

Panel was not "entitled" to attach significance to the export-contingent nature of the FSC/ETI subsidies, we disagree. We recall, in that connection, that the Panel found, and both parties accepted, that the nature of a challenged subsidy is a relevant factor to take into consideration in determining whether it has caused adverse effects. Indeed, we consider that an analysis of the export-contingent nature of a subsidy may reveal elements that are highly pertinent to an assessment of its trade effects; at the same time, a finding of export-contingency would not, by itself, establish the existence of adverse effects phenomena such as those at issue in this appeal.

1186. In sum, we do not view the Panel as having made a legal finding that, for purposes of analyzing a claim of serious prejudice under Part III of the *SCM Agreement*, subsidies that have been found to be export-contingent within the meaning of Part II of that Agreement *must be presumed* to cause adverse effects.²⁴²⁸ Furthermore, we note that the Panel itself, in a footnote to the Panel's reasoning that is challenged by the United States, referred to various other factors, in addition to the export-contingent nature of the FSC/ETI subsidies, that supported its findings regarding the effects of the tied tax subsidies.²⁴²⁹ This, too, demonstrates that the Panel did not reach its ultimate finding solely as a consequence of its finding, in a previous section of its Report, that the FSC/ETI subsidies "are export-contingent subsidies to Boeing's LCA division prohibited under Articles 3.1(a) and 3.2 of the *SCM Agreement*."²⁴³⁰

(ii) *Magnitude of the tied tax subsidies*

1187. The United States also contends that the Panel erred in its consideration of the magnitude of the FSC/ETI subsidies in relation to LCA values and, in particular, that it failed to take proper account of the small magnitude of those subsidies. The United States challenges the Panel's conclusion that, although both parties submitted evidence demonstrating that FSC/ETI benefits amounted to less than

²⁴²⁸The Panel referred to a statement by the Appellate Body in *Canada – Aircraft* contrasting actionable subsidies, which "may be illegal if they have certain trade effects", with "prohibited export subsidies for which the adverse effects are presumed". (Appellate Body Report, *Canada – Aircraft*, para. 202 (quoted in Panel Report, para. 7.1808)) This statement, which was made in the course of an analysis of how a panel should adjudicate a claim under Article 3.1(a) of the *SCM Agreement*, refers to the fact that a complainant bringing a claim under Article 3.1(a) of the *SCM Agreement* is entitled to a finding of inconsistency if it can establish that the challenged subsidy is contingent upon export performance. Unlike a complainant seeking to establish a claim of adverse effects under Part III of the *SCM Agreement*, a complainant raising an Article 3.1(a) claim is not required in addition to establish the effects of that subsidy.

²⁴²⁹Panel Report, footnote 3763 to para. 7.1810 (referring to its reasoning in paras. 7.1806, 7.1807, 7.1811, and 7.1817-7.1823).

²⁴³⁰Panel Report, para. 7.1464; see also para. 8.2(a). We recall that this finding of the Panel has not been appealed.

1% of the value of Boeing's sales, that evidence was not "particularly informative or illustrative" of the capacity for the FSC/ETI subsidies to have affected LCA prices and sales.²⁴³¹

1188. The European Union contends that the Panel conducted a thorough assessment of magnitude, taking into account important contextual factors relating to the nature and duration of the subsidies, as well as the conditions of competition. In doing so, the Panel "explained the significance of highly-trade-distorting tax subsidies of relatively small magnitude".²⁴³² The European Union argues that the Panel's approach reflected a qualitative assessment of the magnitude of the subsidies, which was within its discretion in reaching its findings of causation.

1189. As explained above, the Panel's assessment of magnitude comprised several elements. The Panel quantified the absolute amounts of the tied tax subsidies, and allocated amounts to the reference period.²⁴³³ The Panel considered that, given the particularities of LCA production and sale, "the effects of the subsidies should be understood to begin at the time at which an LCA order is obtained (or an order is lost) and to continue up to and including the time at which that aircraft is delivered (or not delivered)."²⁴³⁴ The Panel rejected certain aspects of the allocation methodology proposed by the European Communities.²⁴³⁵ The Panel then noted the United States' argument that the FSC/ETI amounts were too small relative to LCA order revenues to have affected Boeing's pricing to a degree that would lead it to win sales that it would not otherwise have won, or to force Airbus to win sales only at lower prices than it would otherwise have obtained. The Panel also referred to the European Communities' response, notably its contention that the significance of the size of the FSC/ETI subsidies should be measured by *ad valorem* rates of subsidization based, not on order values but, rather, on the sales revenue from LCA deliveries against which the subsidies accrued. The Panel reproduced the tables submitted by each party in this regard, which contained the following data:

²⁴³¹United States' other appellant's submission, para. 324 (quoting Panel Report, para. 7.1816).

²⁴³²European Union's appellee's submission, para. 573.

²⁴³³Panel Report, para. 7.1811.

²⁴³⁴Panel Report, para. 7.1812.

²⁴³⁵Panel Report, paras. 7.1812 and 7.1813.

Table 7. Relative amounts of FSC/ETI subsidies

Year	Amount of FSC/ETI subsidies (\$m)	United States		European Communities	
		Value of orders (\$m)	FSC/ETI subsidies as % of order value	Delivery revenue (\$m)	FSC/ETI subsidies as % of delivery revenue
2000	266	32,591	0.82	24,792	1.07
2001	197	16,588	1.19	27,251	0.72
2002	179	12,585	1.42	22,100	0.81
2003	107	9,771	1.10	16,637	0.64
2004	153	16,650	0.92	15,905	0.96
2005	142	67,193	0.21	14,777	0.96
2006	140	61,579	0.23	21,562	0.65

Source: Panel Report, paras. 7.1814 (referring to United States' first written submission to the Panel, para. 815) and 7.1815 (referring to International Trade Resources LLC, "Response to US Criticisms of ITR Subsidy Magnitude Report" (1 November 2007) (Panel Exhibit EC-1181), para. 16).

1190. Having referred to this data, the Panel expressed the view that neither data set was "particularly informative or illustrative of the capacity for the FSC/ETI subsidies to have affected Boeing's prices, and by extension, Airbus' prices and sales."²⁴³⁶ The Panel then went on to examine evidence that it considered "point{s} quite clearly to the significance of the FSC/ETI subsidies to Boeing's ability to compete on price against Airbus".²⁴³⁷ The Panel thus appears to have considered that the tied tax subsidies were capable of producing price effects notwithstanding the United States' contention that they were too small to have had such effects.

1191. On appeal, the United States does not challenge the Panel's findings regarding the *absolute* amounts of the FSC/ETI subsidies, constituting \$2.2 billion between 1989 and 2006, and \$435 million during the reference period. Rather, the United States asserts that the Panel failed to take proper account of the *relative* size of the FSC/ETI subsidies in relation to LCA values over the reference period. We understand the United States' argument to be that the Panel could not, in the light of the relatively small magnitude of these subsidies, have made the findings that it did regarding the clear "significance of the FSC/ETI subsidies to Boeing's ability to compete on price against Airbus".²⁴³⁸

1192. We recall that the Appellate Body addressed issues relating to the amounts of the subsidies at issue in *US – Upland Cotton*. In that dispute, the Appellate Body rejected the United States' contention that Article 6.3(c) requires a panel to quantify precisely the amount of the challenged subsidy benefiting the product at issue in every case. The Appellate Body nevertheless stressed that, in analyzing a claim of significant price suppression, "a panel will need to consider the effects of the subsidy on prices" and that, in doing so, "it may be difficult to decide" whether the effect of a subsidy

²⁴³⁶Panel Report, para. 7.1816.

²⁴³⁷Panel Report, para. 7.1818.

²⁴³⁸Panel Report, para. 7.1818.

is significant price suppression without having regard to "the magnitude of the challenged subsidy and its relationship to prices of the product in the relevant market."²⁴³⁹ Moreover, although "{t}he magnitude of the subsidy is an important factor"²⁴⁴⁰, a panel needs to take into account "all relevant factors"²⁴⁴¹ in determining the effects of subsidies on prices.

1193. In our view, both the absolute and the relative magnitudes of subsidies are likely to be relevant to a panel's analysis of the effects of subsidies on prices. Both considerations may shed light on the impact that those subsidies have on price, although the extent to which either or both considerations shed light on this relationship will depend on the particular subsidies, products, and markets at issue. Through scrutinizing magnitude in the light of and as part of an analysis of the particular subsidies, the particular products, and the particular characteristics of the market within which those products compete, a panel can gain an understanding of the effects that the subsidies have on prices, and of the relevance of the subsidies' magnitude to such effects. In other words, what it means to take account of considerations of "magnitude" will also depend upon the circumstances of each case and the market phenomenon at issue.²⁴⁴² Depending on the circumstances of each case, an assessment of whether subsidy amounts are significant should not necessarily be limited to a mere inquiry into *what* those amounts are, either in absolute or per-unit terms. Rather, such an analysis may be situated within a larger inquiry that could, for instance, entail viewing these amounts against considerations such as the size of the market as a whole, the size of the subsidy recipient, the per-unit price of the subsidized product, the price elasticity of demand, and, depending on the market structure, the extent to which a subsidy recipient is able to set its own prices in the market, and the extent to which rivals are able or prompted to react to each other's pricing within that market structure. Considerations of some of these elements formed part of the Appellate Body's analysis of the magnitude of price-contingent subsidies in *US – Upland Cotton (Article 21.5 – Brazil)*²⁴⁴³, and of the submissions that each of the parties made before the Panel in this dispute regarding the amount of the FSC/ETI subsidies relative to Boeing's delivery and order revenues.

²⁴³⁹ Appellate Body Report, *US – Upland Cotton*, paras. 461 and 467.

²⁴⁴⁰ Appellate Body Report, *US – Upland Cotton*, para. 461. Moreover, the Appellate Body noted: "A large subsidy that is closely linked to prices of the relevant product is likely to have a greater impact on prices than a small subsidy that is less closely linked to prices." (*Ibid.*)

²⁴⁴¹ Appellate Body Report, *US – Upland Cotton*, para. 461.

²⁴⁴² Like the Panel, we use the term "magnitude" here in its broad sense ("{t}he 'magnitude' of something is generally understood as a reference to its size, extent, degree, or numerical quantity or value") and not in the specialized sense that it was at times used by the European Communities before the Panel, meaning a per-LCA aircraft amount calculated by allocating the total amounts of subsidies over time and across aircraft models. (Panel Report, footnote 3390 to para. 7.1615; see also para. 7.1616)

²⁴⁴³ The Appellate Body explained that the panel in that case had found that the "magnitude of the marketing loan and counter-cyclical payments {was} significant not only in absolute terms, but also as a share of United States producers' total revenues". (Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 362 (referring to Panel Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 10.111))

1194. Like that of the panel in *US – Upland Cotton*²⁴⁴⁴, the reasoning of the Panel in this dispute with respect to the magnitude of the subsidies is somewhat opaque, and could have been more clearly elaborated. It may well be that, in considering magnitude, the Panel relied primarily on its findings regarding the *absolute* amounts of the tied tax subsidies. In this case, however, the parties also presented arguments and evidence regarding the *relative* significance of the subsidies and, in particular, on the issue of whether those subsidies were of a size that, when considered in relation to product values or prices, could produce market effects amounting to serious prejudice. We do not exclude that subsidies of a relatively small magnitude in relation to product values or prices could have such effects, or that the Panel could have reasoned to that conclusion in the circumstances of this case. Instead, however, the Panel dismissed the evidence advanced by the parties as not "particularly informative or illustrative" of the capacity of these subsidies to affect Boeing's prices, without explaining why it considered this to be so. Given that a comparison of the magnitude of the FSC/ETI subsidies in relation to LCA values was a relevant matter clearly put before the Panel, we consider that the Panel should have offered more of an explanation as to why it rejected the relevance of such data for its analysis.

1195. At the same time, however, we note that, after dismissing the parties' submissions regarding the relative magnitude of the FSC/ETI subsidies as compared to order values and revenues, the Panel did provide other reasons, arguably relating to the magnitude of these subsidies, for its finding in paragraph 7.1818 regarding the clear "significance of the FSC/ETI subsidies to Boeing's ability to compete on price against Airbus". Among the other considerations that the Panel identified, at least one concerned the relative amount of the FSC/ETI subsidies for individual LCA.²⁴⁴⁵ Furthermore, earlier in its analysis, the Panel had identified elements other than magnitude and, notably, stressed the nature of the FSC/ETI subsidies as export subsidies, which are "more likely to cause adverse trade effects" and which have a "more direct relationship to Boeing's LCA prices than the aeronautics R&D subsidies".²⁴⁴⁶

²⁴⁴⁴Although the Appellate Body accepted that panel's characterization of the magnitude of the subsidies as "very large amounts", it nonetheless observed that the panel "could have been more explicit and specified what it meant" in that regard. (Appellate Body Report, *US – Upland Cotton*, para. 468)

²⁴⁴⁵The Panel referred to, and appears to have accepted, evidence of comments made by an Airbus customer during a 1996 sales campaign suggesting that Airbus needed to lower its prices by as much as \$4 million per aircraft to match the prices that Boeing was able to offer as a result of the FSC subsidies. (Panel Report, para. 7.1817 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), para. 56))

²⁴⁴⁶Panel Report, para. 7.1808. The Panel explained that they are, by their "very nature as export subsidies, more likely to cause adverse trade effects". (*Ibid.*; see also para. 7.1817)

(iii) *The Panel's counterfactual analysis*

1196. The United States further argues that the Panel did not apply a proper counterfactual analysis, because it failed to establish that, absent the tied tax subsidies, Boeing's LCA prices would have been higher. In response to the United States' argument before the Panel that Boeing's pricing decisions were commercially rational and profit-maximizing, the European Communities contended that Boeing would not have had the resources to act on its commercial incentives without subsidies. In the United States' view, the parties' argumentation and evidence thus narrowed the counterfactual question "to whether, *but for* the subsidies, Boeing would have had the resources to act in an economically rational manner".²⁴⁴⁷ The United States considers that, because the Panel rejected the European Communities' argument that Boeing lacked the financial means to price and develop its LCA in the manner in which it did, the Panel's findings and the undisputed facts on the record lead to the conclusion that Boeing's prices would not have been different without subsidies.

1197. The European Union contends that the Panel "engaged in a comprehensive counterfactual analysis".²⁴⁴⁸ That analysis, the European Union maintains, consisted of the nature, magnitude, and duration of the tied tax subsidies, as well as the conditions of competition in the LCA industry. The European Union also points to the Panel's finding that the United States agreed that tied tax subsidies have an impact on output and prices²⁴⁴⁹, and argues that the Panel's findings and the facts on the Panel record do not support the contention that Boeing had the ability to lower its LCA prices in the absence of subsidies.

1198. The Panel stated at the outset of its adverse effects analysis that it would conduct a counterfactual analysis.²⁴⁵⁰ In its analysis of the price effects of the tied tax subsidies, however, the Panel did not expressly refer to a counterfactual analysis, or provide a discussion of what market situation would have existed in the absence of the challenged subsidies.²⁴⁵¹ As we have set out above, the Panel explained that the nature of the tied tax subsidies, in particular, the export-contingent FSC/ETI subsidies, was more likely to produce trade-distortive effects. We also noted the Panel's consideration of arguments and evidence concerning the amount and duration of the tied tax subsidies—including the total amount of FSC/ETI subsidies granted to Boeing between 1989 and

²⁴⁴⁷United States' other appellant's submission, para. 109, p. 129. (original emphasis) We note that the United States' other appellant's submission contains two paragraphs numbered 109; our reference is to the second of those paragraphs.

²⁴⁴⁸European Union's appellee's submission, para. 530.

²⁴⁴⁹Panel Report, para. 7.1806.

²⁴⁵⁰Panel Report, para. 7.1659.

²⁴⁵¹As we have noted, the European Communities had estimated, on the basis of its calculations of per-LCA subsidy magnitudes, counterfactual prices for the A320 and A340 in the absence of subsidies by adding the per-LCA subsidy amounts to indexed prices for those LCA. (See *supra*, footnotes 2371 and 2372)

2006, and during each year of the reference period from 2004 to 2006—as well as anecdotal evidence consisting of statements by Airbus and Boeing executives and the US Trade Representative indicating that FSC/ETI subsidies were essential to enhancing the international competitiveness of Boeing versus its foreign competitors.

1199. On this basis, the Panel concluded, in paragraph 7.1818 of its Report, as follows:

We have no doubt that the availability of the FSC/ETI subsidies, in combination with the B&O tax subsidies, enabled Boeing to lower its prices beyond the level that would otherwise have been economically justifiable, and that in some cases, this led to it securing sales that it would not otherwise have made, while in other cases, it led to Airbus being able to secure the sale only at a reduced price.

1200. We recall that a core element of the European Communities' causation theory was that, although the tied tax subsidies gave Boeing the potential to use those benefits to lower LCA prices by up to the amount of the subsidy, Boeing was more likely to do so in what the European Communities referred to as competitive sales campaigns. Thus, although the tied tax subsidies have the potential to produce trade-distortive effects, this does not establish under what circumstances, or to what extent, they will do so in particular sales campaigns. On that basis we understand that, when the Panel concluded that the tied tax subsidies "enabled Boeing to lower its prices beyond the level that would otherwise have been economically justifiable", the Panel considered that these subsidies only established the possibility or likelihood that Boeing would do so in particular sales campaigns. In addition, although the Panel concluded that this possibility would lead "in some cases" to lost sales, and "in other cases" to price suppression, the Panel did not explain the circumstances in which, or the extent to which, it considered that such phenomena would occur.

1201. For these reasons, we are unable to discern the precise meaning or scope of the Panel's statement that the tied tax subsidies enabled Boeing to lower its prices "beyond a level that would otherwise have been economically justifiable". The Panel did not, in so finding, discuss LCA prices for Boeing or Airbus, or explain what would have constituted "economically justifiable" behaviour for Boeing in the absence of subsidies, and compare that with Boeing's actual pricing behaviour. The Panel referred to evidence attesting to the significance of the FSC/ETI subsidies in increasing Boeing's competitiveness, but the only evidence that relates to pricing was a statement by an Airbus negotiator regarding a sales campaign in 1996, eight years prior to the reference period in this dispute, in which Airbus was asked by a customer to reduce its price by \$4 million per aircraft due to Boeing's

receipt of FSC subsidies.²⁴⁵² We therefore consider that, because the Panel did not provide reasoning or discuss under what circumstances the tied tax subsidies led Boeing to lower its prices beyond the level that would otherwise have been economically justifiable in LCA sales campaigns, it could not conclude on a generalized basis that these subsidies led Boeing to lower its prices in a manner causing Airbus to lose sales or to secure sales only at reduced prices.

1202. The United States argues that the Panel was unconvinced that Boeing lacked the financial means without subsidies to price the LCA in the manner in which it did.²⁴⁵³ Before the Panel, the United States had maintained that the subsidies had no such effect, because Boeing was able to engage in the pricing and product development behaviour it did without the need for subsidies. The European Communities argued that Boeing would have had insufficient resources in the absence of subsidies to sustain its pricing levels. The parties submitted extensive information concerning the appropriate basis on which to conduct a counterfactual analysis of whether the Boeing LCA division's pricing and product development behaviour would have been possible had it not received an alleged \$19.1 billion in subsidies between 1989 and 2006.²⁴⁵⁴ The Panel concluded that, because the total subsidies found by the Panel amounted to at least \$5.3 billion, rather than the \$19.1 billion amount claimed, the argument that Boeing could not have engaged in the pricing and product development behaviour it did without subsidies was "untenable".²⁴⁵⁵ On that basis, the Panel concluded that it was "not persuaded that the European Communities has demonstrated that Boeing inherently lacked the financial means to price and develop its LCA in the manner in which it did".²⁴⁵⁶

1203. The European Union argues that, on appeal, the United States now posits an "alternative counterfactual"²⁴⁵⁷, and that the Panel's rejection of the European Communities' argument concerning the ability of Boeing absent the subsidies to price and develop its LCA in the manner in which it did "is *not* tantamount to a finding that Boeing had 'unfettered access' to capital, which would have allowed Boeing to make its pricing decisions independently of US subsidy payments".²⁴⁵⁸ The European Union further contends that the Panel's findings and the facts on the record do not support the United States' position that Boeing could have financed actual LCA price levels without subsidies. According to the European Union, "there is considerable evidence before the Panel supporting the

²⁴⁵²Panel Report, para. 7.1817 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), para. 56).

²⁴⁵³See, for example, Panel Report, paras. 7.1759, 7.1830, and 7.1831.

²⁴⁵⁴Panel Report, footnote 3787 to para. 7.1830.

²⁴⁵⁵Panel Report, para. 7.1831.

²⁴⁵⁶Panel Report, para. 7.1759.

²⁴⁵⁷European Union's appellee's submission, para. 543.

²⁴⁵⁸European Union's appellee's submission, para. 547. (original emphasis)

conclusion that Boeing is unable to take pricing decisions unconstrained by variations in its cash flow, thus preventing the company from pricing its LCA in a manner independent of US subsidies".²⁴⁵⁹

1204. In our view, the United States is not advancing an alternative counterfactual scenario, but rather is asserting that the Panel's own counterfactual analysis is internally inconsistent. If the Panel was unpersuaded that Boeing lacked the financial means without subsidies to price its LCA in the manner in which it did, that finding would appear to be in tension with the Panel's conclusion that the tied tax subsidies caused serious prejudice by altering Boeing's pricing behaviour. Moreover, although there was ample evidence before the Panel addressing the issue of whether Boeing could price LCA as it did in the absence of subsidies, we do not see that the Panel considered or discussed that evidence in its reasoning. These observations underscore our concern that the Panel did not adequately reason or explain the basis for its generalized finding that the tied tax subsidies led Boeing to lower its prices in a manner causing Airbus to lose sales or to secure sales only at reduced prices.

(iv) *The effects of other factors*

1205. Finally, the United States argues that the Panel failed to engage in a meaningful analysis of the effects of other factors on prices and sales of Boeing and Airbus LCA. The European Union maintains that the Panel considered other factors relevant to its unitary causation analysis and that it explicitly rejected the United States' arguments that these factors reverse or attenuate Boeing's pricing advantage due to its receipt of FSC/ETI subsidies.

1206. We have set out in section X.A our understanding of how a panel should proceed in the consideration of the effects of other factors. There we explained that, when confronted with multiple factors that may have contributed to the alleged adverse effects, a panel must seek to understand the interactions between the subsidies at issue and the various other factors, and make some assessment of their connection to, as well as the relative contribution of the subsidies and the other factors in bringing about, the relevant effect. Although a panel need not determine that a subsidy is the sole or the only substantial cause of that effect, it must ensure that the other factors do not dilute the causal link between those subsidies and the alleged adverse effects such that it is not possible to characterize that link as a genuine and substantial relationship of cause and effect.

1207. In setting out certain preliminary considerations relevant to its evaluation of the European Communities' claim of serious prejudice, the Panel in this case explained that it would take "potential non-attribution factors into account simultaneously with the effect of the subsidies and in

²⁴⁵⁹European Union's appellee's submission, para. 550. (footnote omitted)

the context of conditions of competition affecting the market".²⁴⁶⁰ In its subsequent analysis of the price effects of the tied tax subsidies, the Panel referred only briefly to the fact that the United States had identified other factors:

The FSC/ETI programme was in operation prior to 2000, and it is therefore not possible for the Panel to ascertain the effects of the subsidies from direct observation of market share and pricing trend data over the 2000-2006 period. The United States' explanations of factors that it considers explain the prices and performance of Airbus LCA relative to Boeing LCA in the 100-200 seat single aisle, and 300-400 seat wide-body product markets in the 2004-2006 period similarly do not reverse or attenuate the pervasive and consistent pricing advantage that Boeing had in LCA campaigns in the 2001-2003 period due to the availability of the FSC/ETI subsidies.²⁴⁶¹

{*original footnote 3777} E.g. United States' first written submission, paras. 1064-1080, 1138-1155.

1208. The Panel thus reasoned that, because the FSC/ETI programme was in effect before the reference period, this made it impossible for it to determine the effects of the subsidies through direct observation of market share and price trend data. This reasoning would suggest that any observations that could be made about LCA prices before and during the reference period would not have assisted the Panel in ascertaining the price effects of the subsidies since any such effects would have always been present during this period of sustained subsidization. For this reason, the Panel considered that the United States' evidence of other causal factors does not "reverse or attenuate the pervasive and consistent pricing advantage that Boeing had in LCA campaigns", a conclusion that would seem to apply not only to the period from 2001-2003, but also, under the Panel's logic, to the subsequent reference period from 2004-2006, as well as to periods prior to 2000.

1209. We do not agree with the suggestion of the Panel that considerations of market share and price trends during a period of sustained subsidization, and of "other factors" potentially contributing to such shares or trends, were of no assistance or relevance in analyzing the effects of the subsidies. As the Appellate Body has explained in the context of price suppression, although mere correlation between the payment of subsidies and significantly suppressed prices would be insufficient, without

²⁴⁶⁰Panel Report, para. 7.1660. (footnote omitted) There, the Panel explained that:
{i}n other words, in conducting our analysis of whether the subsidies affected Boeing's pricing and product offerings, we will also analyze the effects of other factors that are alleged to have affected that behaviour. Similarly, in analyzing the effects of the subsidies on Airbus' prices and sales, we will consider the effect of factors other than Boeing's pricing and product offerings on Airbus' prices and sales in each of the three product markets.

²⁴⁶¹Panel Report, para. 7.1819.

more, to prove the effects of the subsidies, "one would normally expect a discernible correlation between significantly suppressed prices and the challenged subsidies."²⁴⁶² In this dispute, the United States asserts that there is no correlation between subsidy levels and LCA price trends before and during the reference period, and that this is evidence of the lack of a causal relationship between the tied tax subsidies and Boeing's prices.²⁴⁶³ We consider that, even if the FSC/ETI subsidies were provided over a long period, the question as to whether there was a discernible correlation between subsidy levels and price trends was still a relevant one. Moreover, the lack of such a correlation would seem to have called for some explanation as to why this did not detract from or preclude the Panel from reaching a finding of a genuine and substantial causal relationship in this dispute. The Panel, however, did not discuss these considerations in its analysis.

1210. We further note that the Panel did not, in its reasoning, mention any specific other factors raised by the United States, or engage in any discussion of whether or to what extent such factors may have had an effect on Boeing's pricing of its LCA or on Airbus' prices and sales. In a footnote to its Report, the Panel cited to certain paragraphs of the United States' first written submission.²⁴⁶⁴ In those paragraphs, the United States had advanced other factors that, in its view, explained the pricing levels of Airbus and Boeing LCA. The United States points to those same factors on appeal. First, the United States claims that, in the years prior to and during the reference period, Airbus undercut Boeing prices in both the 100-200 seat and 300-400 seat LCA markets, which increased Airbus' market share and set customer expectations for low prices in subsequent campaigns. Second, the United States asserts that Boeing changed its LCA pricing policy in 2004 and 2005 to respond to low Airbus prices. Third, the United States argues that, with respect to the 300-400 seat LCA market, prices for Airbus' "four-engine A340 [

***]".²⁴⁶⁵

1211. The European Union argues that each of the other factors identified by the United States is unavailing. The European Union maintains that it was Boeing, not Airbus, that undercut prices in the 100-200 seat LCA market, and that, even if Boeing may have changed its pricing strategy, the tied tax

²⁴⁶²Appellate Body Report, *US – Upland Cotton*, para. 451.

²⁴⁶³The United States argues that LCA prices were [***] during a period of relatively higher subsidization from 2001-2003 than they were during a period of relatively lower subsidization from 2004-2006. (United States' other appellant's submission, para. 330)

²⁴⁶⁴Panel Report, footnote 3777 to para. 7.1819 (referring to, for example, United States' first written submission to the Panel, paras. 1064-1080 and 1138-1155).

²⁴⁶⁵United States' other appellant's submission (BCI), para. 332 (referring to United States' second written submission to the Panel, HSBI Appendix, Annex A – Additional Comments on Arguments Raised in the EC Confidential Oral Statement, para. 64).

subsidies nevertheless "*always* allowed Boeing to have an *additional* pricing advantage".²⁴⁶⁶ Regarding Boeing's fuel efficiency advantage in the 300-400 seat LCA market, the European Union argues that the tied tax subsidies still enabled Boeing to suppress 777 prices, even if the absolute prices for the 777 were higher than those for the A340. Again, the European Union argues, the provision of the tied tax subsidies meant that Boeing "*would always* have a pricing *advantage* because of the guaranteed FSC/ETI and B&O tax subsidies".²⁴⁶⁷

1212. Because the Panel did not discuss any of the specific other factors advanced by the United States, it did not consider whether any of the other factors were capable of attenuating a genuine and substantial relationship between the tied tax subsidies and the market effects. We recall that the theory of causation advanced by the European Communities and accepted by the Panel was that the tied tax subsidies led Boeing to lower its LCA prices, and that such price effects led to lost LCA sales and suppressed LCA prices for Airbus.²⁴⁶⁸ In evaluating such a claim in the context of a duopolistic market, it seems to us that the question is not *why* Boeing lowered its LCA prices in the context of particular sales campaigns but, rather, *whether* Boeing lowered its prices by using the tied tax subsidies.

1213. In our view, two of the general factors mentioned by the United States—that is, that it was Airbus that initiated the downward pricing trend, and that Boeing simply responded by becoming more competitive on price—merely reflect the competitive conditions in a duopolistic market whereby price changes by one firm affect the pricing behaviour of its competitor.²⁴⁶⁹ In sales campaigns that are waged and won principally on the basis of price, Boeing and Airbus typically set LCA prices through a series of successively lower offers until a final price is accepted by a customer. In this respect, whether it was Airbus or Boeing that first engaged in the lowering of prices would seem to have little bearing on the proper inquiry in respect of the end result of a competitive campaign, namely, whether the subsidies were used to effect additional price reductions of Boeing LCA, resulting in lost sales and price suppression for Airbus. In answering this latter question against the backdrop of the Panel's account of the nature, duration, and magnitude of the tied tax subsidies, and the duopolistic conditions in the LCA industry, we do not consider that, in sales campaigns that are more sensitive to price competition, an inquiry as to which LCA manufacturer initiated the first

²⁴⁶⁶European Union's appellee's submission, para. 606. (original emphasis) The European Union adds, "even assuming, *arguendo*, that Boeing decided to offer more competitive pricing, the FSC/ETI and B&O tax subsidies, independently, gave it an *additional* and persistent advantage and capability of lowering its prices further than would otherwise have been possible, in particular in strategic sales campaigns against Airbus." (*Ibid.*, para. 607 (original emphasis))

²⁴⁶⁷European Union's appellee's submission, para. 608. (original emphasis)

²⁴⁶⁸Panel Report, para. 7.1818.

²⁴⁶⁹Panel Report, para. 7.1688.

move in lowering prices, and which responded, would be determinative. We therefore are not persuaded that such observations constitute "other factors" that need to be assessed in relation to the causal work of the tied tax subsidies.

1214. Conversely, we consider that pertinent other factors for consideration could include those that explain the effects of lost sales or suppressed prices on Airbus through a mechanism *other than* the lowering of LCA prices by Boeing. Factors that suggest the existence of competitive dynamics that advantaged Boeing or disadvantaged Airbus in LCA sales campaigns, apart from a downward pressure on Boeing's LCA prices, would be important considerations to factor into the causal analysis. For example, the fact that Boeing's 777 benefits from a fuel burn efficiency would be an important factor to have taken into account in assessing whether Boeing used the subsidies to lower its prices and thereby to cause serious prejudice in the 300-400 seat LCA market. This operating cost advantage might suggest that Boeing was not subject to the same sort of pricing pressure in this product market as it was in other product markets where there was a less marked disparity between the performance characteristics of the competing LCA. Likewise, if Boeing were the incumbent supplier in a particular sales campaign, this might also constitute an advantage for Boeing indicating that it would not have been under the same pressure to lower prices as it would have been in a more competitive campaign. Since these factors suggest that the effects on Airbus' sales and prices did not result from the lowering of Boeing's prices, they each represent an "other factor" that potentially contributes to those effects. The Panel should have examined the role these other factors had in causing Airbus to lose sales or to reduce prices.

1215. In the light of the above, we consider that the Panel should have addressed these specific other factors raised by the United States and assessed whether they were capable of contributing to effects on Airbus' sales and prices and, if so, what their relative causal significance was in relation to that of the tied tax subsidies. As we have explained above, even when subsidies are provided over a long period, this does not excuse a panel from providing an examination and reasoned explanation as to what contribution, if any, other relevant factors may be making to the same effects.

1216. The Panel's failure to address the relative significance of the other causal factors to Boeing's price effects contrasts sharply with the Panel's consideration of such factors in respect of the effects of the aeronautics R&D subsidies in the 200-300 seat LCA market. There, the Panel considered the sales campaign evidence presented by the European Communities as set out in Annex D to its first written submission to the Panel. Having reviewed that evidence, the Panel concluded that, in several of the sales campaigns, factors other than the subsidy-enabled performance characteristics and the timing of launch and delivery of the 787 played a significant part in Boeing obtaining the sale. The

Panel expressly referred to such other causal factors, including: Boeing's relationship with the purchasing airline; the particular routes to be serviced and range of the aircraft; and the effect of the competition between the A340 and the 777 and the preference of the airline for a mixed fleet.²⁴⁷⁰ The Panel went on to find, however, that the performance characteristics of the 787 and/or its scheduled entry into service in 2008 were the decisive factors in the outcomes in four sales campaigns for which it concluded that the aeronautics R&D subsidies caused significant lost sales.²⁴⁷¹ We consider that, as the Panel did in respect of the 200-300 seat LCA market, the Panel should also have conducted an analysis of the other causal factors advanced by the United States in examining the effects of the tied tax subsidies in the 100-200 seat and 300-400 seat LCA markets.

- (b) Whether the Panel conducted a proper analysis of significant price suppression, significant lost sales, and displacement and impedance

1217. We now address the United States' appeal as it relates to the Panel's specific findings of significant price suppression, significant lost sales, and displacement and impedance within the meaning of Article 6.3(b) and (c) of the *SCM Agreement*.

1218. As we have noted, having concluded that the tied tax subsidies enabled Boeing to lower its prices below what would otherwise have been "economically justifiable", the Panel nevertheless found that it was impossible to ascertain the effects of the FSC/ETI subsidies from direct observation of market share and pricing trend data during the 2000-2006 period because the FSC/ETI programme was in operation prior to 2000.²⁴⁷²

1219. The Panel then considered that it had to proceed in one of two ways. It could "decline to make a serious prejudice finding because of the difficulty of calculating with mathematical certitude the precise degree to which Boeing's pricing of the 737NG and 777 families of aircraft was affected" by the tied tax subsidies.²⁴⁷³ Alternatively, the Panel explained, it could "deduce" the effects of those subsidies on Airbus' sales and prices during the reference period "based on commonsense reasoning and the drawing of inferences" from its conclusions regarding the nature of the subsidies, the duration of the FSC/ETI subsidies, and the nature of competition between Airbus and Boeing.²⁴⁷⁴

1220. We are puzzled by the Panel's apparent view that the particular circumstances of this dispute somehow forced upon it a choice between two diametrically opposed alternatives. Although such circumstances may have rendered the Panel's task of assessing the European Communities' claim of

²⁴⁷⁰Panel Report, para. 7.1786 and footnote 3725 thereto.

²⁴⁷¹Panel Report, paras. 7.1786 and 7.1787.

²⁴⁷²Panel Report, para. 7.1819.

²⁴⁷³Panel Report, para. 7.1821.

²⁴⁷⁴Panel Report, paras. 7.1820 and 7.1822.

serious prejudice difficult, the Panel still could have assessed whether it had arguments and evidence before it that would have allowed it to estimate the effects of the subsidies on Boeing's prices with something less than "mathematical certitude".²⁴⁷⁵ Even if it considered that further efforts to assess the effects of the subsidies in quantitative terms would not be fruitful, this would not have excused the Panel from evaluating whether the remainder of the extensive argumentation and evidence adduced by the European Communities could, to the extent that it was not rebutted by the competing arguments and evidence of the United States, have sufficed to support a finding of serious prejudice.²⁴⁷⁶

1221. Nor do we see that the use of common sense and inferences in the course of adjudicating a claim can be characterized as somehow exceptional. The adjudication of a claim of serious prejudice must, like a panel's adjudication of any other matter, be grounded in the application of the relevant provisions of the covered agreements, properly interpreted, to the relevant facts, properly identified

²⁴⁷⁵We recall, in this regard, the approach of the panel in *US – Upland Cotton (Article 21.5 – Brazil)*. That panel did not quantify the precise price effects of the subsidies, but it did refer to, and rely upon, a range of estimates of those price effects resulting from simulations submitted by both parties to that dispute. (See Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 365) According to the European Communities, a somewhat similar approach, relying on a range of estimated price effects, was taken by the arbitrator in the DSU Article 22.6 arbitration in *US – FSC*: "The arbitrator found that, in light of the close competition in the market, the pass-through effect of the US subsidies, and, therefore, the trade effects of the FSC/ETI scheme on the European Communities, lay at the upper end of a range between 75 percent and 100 percent." (European Communities' response to Panel Question 289, footnote 720 to para. 619 (referring to Decision by the Arbitrator, *US – FSC (Article 22.6 – US)*, paras. 6.53 and 6.54)) In this dispute, the European Communities consistently argued that the tied tax subsidies had "dollar-for-dollar" price effects. The European Communities further argued that, "even if—against all the available evidence—the Panel were to consider that the {se} subsidies ... did not have exactly a one-for-one price effect on Boeing's (and Airbus') prices, the evidence demonstrates that they have, at the very least, a very close to one-for-one price effect." (*Ibid.*, para. 624) The United States did not submit its own estimates of the price effects of the FSC/ETI subsidies. Rather, it acknowledged that, "{a}s a matter of economics, ... subsidies that are tied to sales have an impact on those sales ... and, therefore, {on} pricing" while, at the same time, contesting the European Communities' "dollar-for-dollar" pass-through argument. (United States' comments on the European Communities' response to Panel Question 289, para. 540; see also paras. 538 and 539) The United States argued that, because the European Communities' own evidence showed that only "a portion of tax rebates are passed on to the consumer", this evidence did not "support the EC assertion that *all* tax benefits are *100 percent* passed through". (*Ibid.*, para. 539 (original emphasis)) We do not see that the Panel engaged with these arguments or with the evidence submitted by the European Communities, or that it sought itself to estimate the extent to which the tied tax subsidies affected prices.

²⁴⁷⁶The Panel itself seems to have recognized its obligations in this regard with its statement that "{declining to make a serious prejudice finding because of the difficulty of calculating the price effects with mathematical certitude} would be inconsistent with our obligations under Article 11 of the DSU, as well as contrary to considerations of basic commonsense and reason". (Panel Report, para. 7.1821) Furthermore, the Panel had specifically asked the European Communities, on two occasions, whether its claim of serious prejudice depended upon its magnitude calculations, and the European Communities had responded that it did not. In its responses, the European Communities observed that "the Panel is free to adopt some other methodology for assessing the amount and magnitude of the US subsidies" and that "the degree of the resulting price effect will vary with the amount and magnitude of the US subsidies". (European Communities' response to Panel Question 376, paras. 329, 335, and 338) The European Communities further submitted that "a number of non-magnitude-related factors support a finding of causation in this dispute", and that "a level of price suppression as low as one percent *ad valorem*" would nevertheless constitute serious prejudice. (European Communities' response to Panel Question 279, paras. 545 and 551; see also European Communities' response to Panel Question 376, para. 330 and footnote 81 thereto)

and objectively assessed. To the extent that the Panel's ultimate findings of displacement and impedance, significant price suppression, and significant lost sales were based on inferences drawn from conclusions it had reached on the nature of the subsidies, the duration of the FSC/ETI subsidies, and the nature of competition between Airbus and Boeing, it was incumbent on the Panel not only to state that it was drawing inferences and using commonsense reasoning, but to identify clearly the relevant conclusions upon which it was relying, what factual or legal inferences it drew on the basis of those conclusions, why it considered such inferences to be reasonable or necessary, and how those inferences supported its ultimate findings. Thus, although it is not uncommon for a panel to draw inferences and conclusions from the evidence, it has to provide reasoning engaging with the evidence to support those inferences and conclusions. The various claims of error raised by the United States call into question the extent to which the Panel did so, as discussed further below.

1222. The Panel inferred from the fact that the subsidies' effects "would be most acutely felt in particular sales campaigns of strategic importance", that the results of such sales campaigns necessarily resulted in either significant lost sales (when Boeing obtained the order) or significant price suppression (when Airbus obtained the order).²⁴⁷⁷ This finding indicates that the tied tax subsidies caused serious prejudice only "in particular sales campaigns of strategic importance". As we have noted, before the Panel, the European Communities drew a distinction between competitive and non-competitive sales campaigns, and set out in Annexes E and F to its first written submission evidence of individual sales campaigns in which the challenged subsidies produced effects of significant price suppression, significant lost sales, or displacement and impedance.²⁴⁷⁸ The Panel, however, did not make findings as to whether these sales campaigns were "strategic", and did not refer in its analysis to the evidence in Annexes E and F in which the European Communities identified particular sales campaigns where such price competition is alleged to have occurred. It is therefore not clear whether the Panel, in referring to "particular sales campaigns of strategic importance", was referring to some or all of the individual sales campaigns evidence offered by the European Communities in Annexes E and F, more broadly to all competitive sales campaigns to which the European Communities referred, or perhaps to some other conception of what constituted "strategic" sales campaigns. We are also uncertain whether the Panel was referring to orders, or to deliveries, or whether it was referring to such orders or deliveries occurring inside or outside the

²⁴⁷⁷Panel Report, para. 7.1822.

²⁴⁷⁸European Communities' first written submission to the Panel, paras. 1507-1533 and 1603-1622.

reference period.²⁴⁷⁹ Whatever campaigns the Panel had in mind, the Panel did not indicate when they occurred, whether its findings were limited to those campaigns, or whether, based on the effects in those campaigns, the Panel was extrapolating from them to reach global findings in respect of the worldwide market for 100-200 seat and 300-400 seat LCA. These ambiguities make it difficult to discern the scope of, and the evidentiary basis for, the Panel's ultimate findings of serious prejudice.

(i) *Significant price suppression*

1223. The United States claims that the Panel erred in its analysis of significant price suppression because it undertook no analysis of prices in the 100-200 seat and 300-400 seat LCA markets. In failing to conduct such an analysis, the United States asserts, the Panel disregarded the effects of other relevant factors on LCA prices, and did not assess the degree of price suppression to determine whether it constituted *significant* price suppression.

1224. The European Union argues that a panel need not examine price trend data, particularly since such information is not probative as to whether there has been actual price suppression. In the European Union's view, the Panel focused its analysis on "various qualitative factors"²⁴⁸⁰ that allowed the Panel properly to reach a finding of significant price suppression. The European Union maintains that, in any event, the Panel did in fact take pricing and price trend data into consideration when it referred to such information in its summary of the European Communities' arguments, and in its analysis of pricing information in its examination of the technology effects of the aeronautics R&D subsidies in the 200-300 seat LCA market.²⁴⁸¹

1225. In our evaluation of the United States' appeal relating to the Panel's analysis of the technology effects of the aeronautics R&D subsidies, we identified certain considerations relevant to the evaluation of a price suppression claim, including the utility of a counterfactual analysis. We also consider that it will ordinarily be useful for a panel to take into account evidence relating to price trends in a price suppression analysis. At the same time, there may be circumstances in which such evidence is unavailable, unreliable, or unpersuasive. We do not exclude that, in such circumstances, it may nevertheless be possible to conduct an analysis and to reach a finding of significant price

²⁴⁷⁹We note that, in the section of its Report dealing with financial contribution, the Panel suggested that, in its serious prejudice analysis, it would consider the effects of the tied tax subsidies only with respect to LCA deliveries during the reference period from 2004-2006. (Panel Report, para. 7.157) Yet the Panel did not subsequently indicate what impact this had for its analysis of the effects of the tied tax subsidies. If anything, the comments made by the Panel in paragraphs 7.1685 and 7.1812 suggest that the Panel considered that *both* orders and deliveries were relevant for an analysis of lost sales and of price suppression, and that deliveries were critical to any finding of displacement or impedance.

²⁴⁸⁰European Union's appellee's submission, para. 644.

²⁴⁸¹European Union's appellee's submission, para. 635 and footnote 1247 thereto (referring to Panel Report, paras. 7.1618 and 7.1782).

suppression, provided that such a finding is properly supported by other evidence on the record. The United States' appeal calls for us to consider whether such circumstances prevailed in the context of the tied tax subsidies, where it is clear that the Panel did not rely on evidence of price trends in reaching its finding of significant price suppression.

1226. We have already expressed our disagreement with the Panel's view that, because Boeing had received benefits under the FSC/ETI programme over a long period of time, direct observation of market share and price trend data during the relevant period was of no assistance or relevance.²⁴⁸² While we recognize that the fact that Boeing received FSC/ETI benefits over a long period might have made the Panel's task more difficult because there was no prior, subsidy-free period against which to compare market share and price trend data occurring during the reference period, this does not mean that there is nothing to be gained from examining such data in a price suppression analysis. As we have noted, for example, the fact that prices of a subsidized product were lower during a period of lower subsidization might require further consideration or explanation in order to demonstrate a genuine and substantial relationship between the subsidies and any alleged price effects. In this dispute, the Panel made no reference to, and its reasoning contains no analysis of, any pricing information or market share data in the 100-200 seat and 300-400 seat LCA markets.

1227. We also do not consider that the fact that the Panel referred to such evidence in its summary of one party's arguments makes up for the lack of discussion of the pricing data in the Panel's reasoning on price effects.²⁴⁸³ Moreover, we do not see how the fact that the Panel took pricing information into account in its analysis of the technology effects of the aeronautics R&D subsidies demonstrates that it also did so in respect of the price effects of the tied tax subsidies.²⁴⁸⁴ To the contrary, we consider that the difference in the approach used by the Panel in these two sections of its Report only underscores the absence of any assessment of market share and price trend data in the Panel's analysis of the price effects of the tied tax subsidies.²⁴⁸⁵ We would have expected that, as the Panel did in respect of the technology effects of the aeronautics R&D subsidies in the 200-300 seat

²⁴⁸²Panel Report, para. 7.1819.

²⁴⁸³Panel Report, para. 7.1618.

²⁴⁸⁴Panel Report, para. 7.1782.

²⁴⁸⁵We further observe that, where the Panel noted that certain evidence was lacking—for example, with respect to global market share in the 200-300 seat LCA market over the 2000-2006 period—the Panel calculated those data on the basis of other data supplied by the European Communities. (Panel Report, para. 7.1783 (referring to Panel Exhibits EC-3 and EC-1287, consisting of data from the Airclaims CASE Database))

LCA market, the Panel would also have examined available market share and price trend data for the 100-200 seat and 300-400 seat LCA markets.²⁴⁸⁶

(ii) *Significant lost sales*

1228. The United States also submits that lost sales within the meaning of Article 6.3(c) of the *SCM Agreement* requires the identification of individual transactions in which sales were purportedly lost. The United States argues that, as opposed to the approach of the panel in *EC and certain member States – Large Civil Aircraft*, and the Panel in this case when it considered the 200-300 seat LCA market, the Panel did not identify the sales in the 100-200 seat and 300-400 seat LCA markets that it found to constitute significant lost sales. Accordingly, the United States considers that the Panel failed to meet the requirements of Article 6.3(c) for a finding of significant lost sales.

1229. The European Union responds that there is no legal requirement that panels specify and assess individual sales campaigns. The European Communities considers that the Panel examined lost sales on a "global basis"²⁴⁸⁷, and that this was consistent with the Appellate Body report in *EC and certain member States – Large Civil Aircraft*. The European Communities moreover contends that the Panel's approach was consistent with the manner in which the European Communities structured its claim, and that the Panel therefore properly established a global finding of significant lost sales taking into account all of the evidence before it.

1230. In considering this ground of appeal, we are called upon to address the question of what level of specification is required of a panel in identifying and analyzing evidence supporting a finding of significant lost sales under Article 6.3(c). We have outlined in section X.B prior jurisprudence regarding the analysis of lost sales. We further note that, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body stated that "an examination of specific sales campaigns may be appropriate given the particular characteristics of a market".²⁴⁸⁸ At the same time, the Appellate Body considered that the reference in Article 6.3(c) to lost sales "in the same market" means that it may be necessary to look beyond individual sales campaigns to understand the competitive dynamics at play in a particular market. The Appellate Body thus concluded that "an approach in which sales are aggregated by supplier or by customer, or on a country-wide or global basis ... is also

²⁴⁸⁶Although we consider that the Panel should have undertaken some examination of available price trend data in its price effects analysis, we do not agree with the United States' assertion that such data was "plainly inconsistent with a price suppression phenomenon". (United States' other appellant's submission (BCI), para. 369, pointing to the fact, for instance, that "[

***]" during the reference period.) Observations about the direction in which prices moved do not by themselves establish that, in the absence of the subsidies, the prices of Boeing and Airbus aircraft would not have been higher than they were.

²⁴⁸⁷European Union's appellee's submission, para. 649.

²⁴⁸⁸Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1217.

permissible".²⁴⁸⁹ Thus, a lost sales claim may be supported with evidence of lost sales taking place throughout a geographical and product market, or with evidence of particular sales campaigns occurring within that market. A panel's approach to the analysis of lost sales must therefore be keyed to the nature of the claim and evidence presented by a complainant, and the particular conditions of the market under scrutiny.

1231. In this dispute, the participants have divergent views regarding the scope of the Panel's finding, and whether the Panel ought to have identified and examined individual lost sales in the circumstances of this case. The United States asserts on appeal that it simply does not know to which lost sales the Panel's finding pertains.²⁴⁹⁰ The European Union contends that the Panel was acting within its discretion in making an overall assessment of significant lost sales without reference to particular sales campaigns. According to the European Union, "much as panels are not required to quantify price suppression, they may, but are not required to, precisely identify lost sales".²⁴⁹¹

1232. As we have explained, we find the scope of the Panel's lost sales finding to be unclear. In particular, we do not know whether the Panel, in referring to "particular sales campaigns of strategic importance", was referring to the individual sales campaigns evidence offered by the European Communities in Annexes E and F to its first written submission, more broadly to the "competitive sales campaigns" to which the European Communities referred in its submissions, or perhaps to some other conception of what the Panel considered to be "strategic" sales campaigns. We therefore do not see that the Panel's finding clearly evinces, as the European Communities claims, that it made a "global" finding of significant lost sales.

1233. Moreover, we are concerned by the fact that, irrespective of whether the Panel made a finding of significant lost sales on a global basis, or on the basis of individual sales campaigns, it did so without referring to, or discussing in its reasoning, any of the evidence relating to lost sales advanced by the European Communities in support of its lost sales claim.

1234. On appeal, the European Union explains that, because it brought a single claim of serious prejudice that was merely "illustrated" by evidence of lost sales in particular sales campaigns, the Panel acted within its discretion in making an overall assessment of significant lost sales without reference to particular sales campaigns.²⁴⁹² However, we do not consider the fact that a claim of serious prejudice may seek to rely on specific evidence to support a global finding of lost sales means that a panel is free to conduct its reasoning without any reference to, or analysis of, that evidence.

²⁴⁸⁹ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1217.

²⁴⁹⁰ United States' other appellant's submission, para. 362.

²⁴⁹¹ European Union's appellee's submission, para. 657.

²⁴⁹² European Union's appellee's submission, para. 655.

Indeed, where certain evidence forms the foundation for a claim, we would consider it all the more necessary for a panel to contend with that evidence and to explain why such evidence of a subset of sales supports a broader finding of lost sales. We note, moreover, that the European Communities argued before the Panel that the price effects of the subsidies depended on the extent of price competition in particular sales campaigns. Given the structure of the European Communities' claim, we consider that the manner in which the sales campaign evidence advanced by the European Communities "illustrated" under what circumstances, and to what extent, lost sales occurred is a matter that should have been addressed by the Panel.

1235. The European Union also argues that, although the sales campaign evidence was not referred to in the Panel's analysis, the Panel did rely on it. The European Union maintains that the Panel recognized that it was required by Article 11 of the DSU to evaluate the European Communities' serious prejudice claim on the basis of all of the evidence presented to it, and that the Panel referenced the lost sales evidence in its summary of the European Communities' submissions regarding the sales campaigns described in Annexes E and F.²⁴⁹³ We do not consider the fact that the Panel identified that it had a duty to consider all of the evidence before it²⁴⁹⁴, or that it acknowledged the existence of the European Communities' sales campaign evidence in its summary of the parties' arguments²⁴⁹⁵, is sufficient to demonstrate that it properly engaged with the evidence in its reasoning regarding lost sales. At no point in its analysis of the price effects of the tied tax subsidies did the Panel refer to the evidence of the European Communities, or the rebuttal of the United States, regarding lost sales allegations in respect of specific sales campaigns.

1236. The Panel's failure to engage in its reasoning with the lost sales evidence is particularly surprising given the different approach it took in analyzing the technology effects of aeronautics R&D subsidies in the 200-300 seat LCA market. In that analysis, the Panel's scrutiny of the relevant sales campaigns identified in Annex D to the European Communities' first written submission yielded a finding that evidence relating to six of those campaigns did not constitute evidence of significant lost sales caused by the relevant subsidies.²⁴⁹⁶ In contrast, the Panel concluded that there was sufficient evidence relating to the remaining four sales campaigns to support a conclusion of significant lost

²⁴⁹³European Union's appellee's submission, para. 658.

²⁴⁹⁴Panel Report, para. 7.1679.

²⁴⁹⁵Panel Report, para. 7.1622.

²⁴⁹⁶For six of the ten lost sales campaigns identified by the European Communities in Annex D to its first written submission to the Panel, the Panel concluded that "factors other than the performance characteristics of the 787 over the A330 or Original A350, and the 2008 delivery date for the 787, played a significant part in the Boeing sale". (Panel Report, para. 7.1786)

sales within the meaning of Article 6.3(c) of the *SCM Agreement*.²⁴⁹⁷ Even if we were to accept, which we do not, that the Panel's lack of any explicit reference to the lost sales evidence in Annexes E and F in its price effects analysis could be taken to mean that it considered all of that information to support a finding of significant lost sales, the absence of any reference to, or analysis of, lost sales in its reasoning stands in striking contrast to the Panel's explicit discussion of the reasons why particular sales campaigns amounted to significant lost sales arising from the technology effects of the aeronautics R&D subsidies in the 200-300 seat LCA market, whereas others did not.

(iii) *Displacement and impedance*

1237. The United States further submits that the Panel's findings of displacement and impedance of Airbus' LCA exports in third-country markets in the 100-200 seat and 300-400 seat LCA markets failed to meet the requirements of Article 6.3(b) of the *SCM Agreement*. The United States contends that the Panel failed to determine whether any of the countries in which the European Communities alleged displacement or impedance occurred constituted a "market". The United States also argues that, unlike the Panel's approach in considering the 200-300 seat LCA market, the Panel failed to identify the third countries in which displacement or impedance occurred.

1238. The European Union considers that the Panel correctly concluded that it was not required to determine whether the European Communities had established the existence of third-country markets, nor was it required to identify or address individual third-country markets in order to reach a finding of displacement or impedance.

1239. We recall the Panel's conclusion at the outset of its adverse effects analysis that, given the global nature of competition in each of the three LCA product markets, it was not required to consider whether the European Communities had established the existence of particular third-country markets.²⁴⁹⁸ The Panel also recognized, however, that it was nevertheless required to determine, "based on evidence of sales occurring in those countries", whether there has been displacement and impedance "in the particular country market".²⁴⁹⁹

1240. The Panel's entire assessment of the European Communities' displacement and impedance claim is limited to paragraph 7.1822 of its Report. Having found it reasonable to infer that the effects of the subsidies are significant in terms of lost sales and price suppression, the Panel concluded that

²⁴⁹⁷Panel Report, para. 7.1788. The Panel expressed the view that "the Qantas, Ethiopian Airlines and Icelandair campaigns in 2005 and the Kenya Airways campaign in 2006, are evidence of sales that Airbus did not secure due to the advanced technological features of the 787, the availability of which at that time was accelerated by the aeronautics R&D subsidies". (*Ibid.*, para. 7.1787)

²⁴⁹⁸Panel Report, para. 7.1674.

²⁴⁹⁹Panel Report, para. 7.1674.

such effects constitute significant lost sales and significant price suppression within the meaning of Article 6.3(c) of the *SCM Agreement*, "as well as displacement and impedance of exports from third-country markets, within the meaning of Article 6.3(b)".²⁵⁰⁰ We recall that, before the Panel, the European Communities had argued that, given the nature of the competition in the 100-200 seat and 300-400 seat LCA markets, every lost sale to Airbus in a particular country "necessarily resulted in the displacement or impedance of Airbus' market share in that third-country LCA market".²⁵⁰¹ Although the Panel did not address how the European Communities' claim of displacement and impedance relates to its claim of lost sales, its finding also appears premised on the dependent relationship between the two phenomena as asserted by the European Communities.

1241. We do not agree with the implication of the Panel's reasoning that the phenomena of displacement and impedance necessarily follow from a finding of significant lost sales. In *EC and certain member States – Large Civil Aircraft*, the Appellate Body acknowledged the potential overlap of lost sales, and displacement and impedance, in that both phenomena relate to a firm's sales. The Appellate Body, however, also identified distinctions between these concepts. For example, the Appellate Body observed that the assessment of displacement or impedance "has a well-defined geographic focus"²⁵⁰², whereas the relevant geographic market for assessing lost sales is not similarly confined, and may even extend to the world market. The Appellate Body also noted that the fact that lost sales must be "significant" implies that the assessment must have both quantitative and qualitative dimensions, whereas the assessment of displacement and impedance is primarily quantitative in nature.²⁵⁰³ We are similarly troubled by the Panel's failure to distinguish in its analysis between the phenomena of displacement and impedance. As we have explained in section X.B, these market phenomena may overlap, but they are not interchangeable concepts.

1242. In addition, we are concerned by the absence of any analysis by the Panel regarding the existence of displacement and impedance in particular third-country markets. Although we have already rejected the United States' argument that the Panel erred in failing to determine whether any of the countries in which the European Communities alleged displacement or impedance constituted a "market", we consider that the Panel erred in not identifying or discussing the third countries in which displacement or impedance occurred. We recall that the European Communities identified six specific sales campaigns that it alleged resulted in displacement and impedance in Singapore, Indonesia, and Japan with respect to the 100-200 seat LCA market; and in Singapore, New Zealand,

²⁵⁰⁰Panel Report, para. 7.1822.

²⁵⁰¹European Union's appellee's submission, para. 684.

²⁵⁰²Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1218.

²⁵⁰³Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1218.

and Hong Kong, China with respect to the 300-400 seat LCA market.²⁵⁰⁴ In its analysis of the price effects of the tied tax subsidies in the 100-200 seat and 300-400 seat LCA markets, however, the Panel neither referred to nor addressed any of the evidence regarding the specific sales campaigns set out in Annexes E and F to the European Communities' first written submission, or the relevant third-country markets in which those sales occurred. Thus, although the Panel properly recognized at the outset of its serious prejudice analysis that it was required to determine, "based on evidence of sales occurring in those countries", whether there had been displacement and impedance "in the particular country market"²⁵⁰⁵, it subsequently referred only generally to "displacement and impedance of exports from third country markets" without specifying to which sales occurring in which markets its findings apply.²⁵⁰⁶ Given the "well-defined geographic focus"²⁵⁰⁷ of Article 6.3(b), a panel's analysis of displacement and impedance must engage with the evidence of the particular third-country market or markets in which such market phenomena are alleged. Accordingly, we do not consider that it was appropriate for the Panel to conduct an analysis of displacement and impedance without any reference to or discussion of the specific countries or sales campaign evidence advanced by the European Communities in support of its claim.

1243. We further note that, although the Panel stated that its findings of displacement and impedance during the reference period "can only be definitely established by relevant delivery data"²⁵⁰⁸, the Panel did not refer to, or assess, any such data in its price effects analysis. Indeed, because the sales campaign evidence of the European Communities related to orders that were made *during* the reference period from 2004 to 2006, deliveries of certain LCA at issue would not have taken place until *after* the reference period. This may have been pertinent information in respect of a finding of *threat* of displacement and impedance, a finding the Panel did not make in connection with the effects of the tied tax subsidies in the 100-200 seat and 300-400 seat LCA markets.

1244. The Panel's failure to engage in its reasoning with evidence of individual sales campaigns in which the European Communities alleged displacement and impedance is particularly surprising given the different approach that it took in its analysis of the technology effects of the aeronautics R&D subsidies in the 200-300 seat LCA market. We recall that, having concluded that four of the sales campaigns constituted lost sales, the Panel proceeded to analyze order and delivery data regarding A330, Original A350, and 787 sales over a period from 2001 to 2013 in the third-country

²⁵⁰⁴Panel Report, para. 7.1622.

²⁵⁰⁵Panel Report, para. 7.1674.

²⁵⁰⁶Panel Report, paras. 7.1822, 7.1823, and 7.1833.

²⁵⁰⁷Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1218.

²⁵⁰⁸Panel Report, para. 7.1686.

markets of Australia, Ethiopia, Iceland, and Kenya.²⁵⁰⁹ Even if we were to accept, which we do not, that the Panel's lack of any explicit reference to campaign-specific evidence in Annexes E and F meant that it considered all of that information to support its findings of displacement and impedance, the absence of any reference to, or analysis of, specific countries or sales campaign evidence stands in striking contrast to the Panel's explicit discussion of the third country markets to which its findings pertain in its analysis of the technology effects of aeronautics R&D subsidies in the 200-300 seat LCA market.

(c) Overall assessment of the Panel's analysis of the price effects of the tied tax subsidies

1245. In the foregoing analysis, we examined various aspects of the Panel's assessment of the price effects of the tied tax subsidies.

1246. We reviewed features of the Panel's assessment of the effects of the tied tax subsidies on Boeing's and Airbus' LCA prices. In respect of the nature of the subsidies, we noted that it was accepted by the parties that the subsidies were tied to sales of LCA, and that the FSC/ETI subsidies amounted to \$2.2 billion over the period from 1989 to 2006, and \$435 million during the reference period from 2004 to 2006. We further noted that the Panel, in observing that subsidies contingent on export sales have trade-distortive effects, was indicating only that the nature of the FSC/ETI subsidies increased the likelihood that such effects will occur. Accordingly, we did not consider that the Panel was relying on a presumption that export subsidies cause adverse effects within the meaning of Part III of the *SCM Agreement*. We also considered that, although the Panel should have explained why it rejected the relevance of data showing the relative magnitude of the FSC/ETI subsidies in relation to LCA values, it nevertheless took into account other considerations concerning the magnitude of these subsidies in relation to the market effects.

1247. We further found that, although the Panel concluded that the tied tax subsidies established only the possibility or likelihood that Boeing would "lower its prices beyond the level that would otherwise have been economically justifiable", the Panel did not establish under what circumstances, or to what extent, this would occur in particular sales campaigns. Accordingly, the Panel did not provide a reasoned basis for its generalized finding that the tied tax subsidies led Boeing to lower its

²⁵⁰⁹Panel Report, para. 7.1790. The Panel set out delivery data for the years up to and including 2006, and projected future deliveries on the basis of order data for the years from 2007 onwards. (*Ibid.*) The Panel then assessed the implications of this evidence for the European Communities' claims of displacement and impedance, and threat of displacement and impedance. (*Ibid.*, para. 7.1791) The Panel concluded that, but for the aeronautics R&D subsidies, Airbus would have obtained additional LCA orders from customers in these sales campaigns, and thus would not have suffered the threat of displacement or impedance of its exports in third-country markets within the meaning of Article 6.3(b). (*Ibid.*, paras. 7.1791 and 7.1794)

prices in a manner causing Airbus to lose sales or to secure sales only at reduced prices. Moreover, we found that the Panel did not properly identify or discuss in its analysis any of the specific considerations and factors identified by the United States as other factors that explain the market effects on Airbus' sales and prices.

1248. We also addressed issues regarding the Panel's basis for establishing the existence of the discrete market effects under Article 6.3(b) and (c). We explained that the Panel reached its serious prejudice findings with respect to the 100-200 seat and 300-400 seat LCA markets without identifying or assessing: (i) any pricing or market share information supporting the existence of significant price suppression; (ii) any LCA sales or sales campaigns constituting significant lost sales; or (iii) any of the third-country markets in which the displacement or impedance of Airbus' LCA exports occurred. In our view, the Panel's failure to address these elements in its causation analysis undermined the basis for its conclusions that the tied tax subsidies caused significant price suppression, significant lost sales, and displacement and impedance within the meaning of Article 6.3(b) and (c).²⁵¹⁰

1249. Taken together, the deficiencies we have identified in the Panel's reasoning amount to legal error in the Panel's analysis of serious prejudice in the 100-200 seat and 300-400 seat LCA markets. In our view, the Panel did not provide a proper legal basis for its generalized findings that significant price suppression, significant lost sales, and displacement and impedance, within the meaning of Article 6.3(b) and (c) of the *SCM Agreement*, were the effects of: (i) the FSC/ETI subsidies and the Washington State B&O tax rate reduction in the 100-200 seat LCA market; and (ii) the FSC/ETI subsidies and the Washington State and the City of Everett B&O tax rate reductions in the 300-400 seat LCA market. We therefore *reverse* the Panel's findings, under Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*, in paragraphs 7.1823, 7.1833, 7.1854(b) and (c), and 8.3(a)(ii) and (iii) of the Panel Report.

(d) Completion of the analysis

1250. We now turn to consider whether we can complete the analysis and rule on the European Union's claim that the tied tax subsidies caused serious prejudice within the meaning of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*. In previous disputes, the Appellate Body has

²⁵¹⁰We note the United States' contention that the Panel, by failing to specify the third-country markets and lost sales in support of its findings under Article 6.3(b) and (c), respectively, did not comply with the requirements set out in Article 12.7 of the DSU. (United States' other appellant's submission, para. 363) Because we consider that the Panel's failure to specify lost sales and third-country markets in its reasoning undermined the basis for its findings of significant lost sales and displacement and impedance, we find it unnecessary to rule on this claim of the United States on appeal.

emphasized that it can complete the analysis "only if the factual findings of the panel, or the undisputed facts in the panel record" provide a sufficient basis for the Appellate Body to do so.²⁵¹¹

1251. We recall below findings and uncontested facts on the Panel record as they relate to the nature of the tied tax subsidies, their magnitude, the conditions of competition in the LCA industry, and the particular sales campaign evidence supplied by the European Communities.

1252. Regarding the nature of the tied tax subsidies, because the FSC/ETI subsidies and the B&O tax rate reductions lowered the taxes that Boeing paid in respect of revenue obtained on each LCA sale, they are directly tied to those sales.²⁵¹² The United States agreed that subsidies that are tied to sales have an impact on those sales.²⁵¹³ The Panel also pointed out that the United States had supplied an exhibit endorsing the view that subsidies tied to production can have a significant impact on prices and output.²⁵¹⁴ Because these subsidies lower the taxes incurred in connection with sales of LCA, they increase Boeing's after-tax revenue and profitability, and therefore have a more direct and immediate relationship to aircraft prices and sales than other subsidies at issue in this dispute, such as the aeronautics R&D subsidies.²⁵¹⁵

1253. We have, moreover, agreed with the Panel's assessment that the FSC/ETI subsidies are more likely to produce adverse trade effects in the market.²⁵¹⁶ Generally speaking, subsidies contingent on export modify the incentives faced by a domestic producer, reward discrimination in favour of production for export markets over the domestic market, and thereby reduce export prices. We also note the duration of the FSC/ETI subsidies, which the Panel believed to be a relevant

²⁵¹¹Appellate Body Report, *US – Hot-Rolled Steel*, para. 235. See also Appellate Body Reports in *EC – Hormones*, paras. 222 ff; *EC – Poultry*, paras. 156 ff; *Australia – Salmon*, paras. 117 ff and 193 ff; *US – Shrimp*, paras. 123 ff; *Japan – Agricultural Products II*, paras. 112 ff; and *EC – Asbestos*, paras. 133 ff. Where this has not been the case, the Appellate Body has declined to complete the analysis. See Appellate Body Reports in *Australia – Salmon*, paras. 209 ff, 241 ff, and 255; *Korea – Dairy*, paras. 91 ff and 102 ff; *Canada – Autos*, paras. 133 ff and 144 ff; *Korea – Various Measures on Beef*, paras. 128 ff; *EC – Asbestos*, paras. 78 ff; and *Canada – Dairy (Article 21.5 – New Zealand and US)*, paras. 98 ff.

²⁵¹²Panel Report, paras. 7.1806 and 7.1807.

²⁵¹³Panel Report, para. 7.1806 (referring to United States' comments on the European Communities' response to Panel Question 289, para. 540).

²⁵¹⁴Panel Report, para. 7.1806 (referring to United States' response to Panel Question 298, para. 522; and J.E. Stiglitz and B.C. Greenwald, "On the Question of the Impact of Subsidies on Supply and Prices in the LCA Market" (Panel Exhibit US-1309), p. 4). The United States also stated that "subsidies tied to the development, production and/or sale of particular aircraft are supply-creating in nature and, thus, have a direct, significant and lasting impact on competition". (United States' response to Panel Question 286, para. 501)

²⁵¹⁵Panel Report, para. 7.1807.

²⁵¹⁶See *supra*, para. 1185.

consideration.²⁵¹⁷ The initial FSC regime was enacted prior to the creation of the WTO, and the Panel's reasoning shows that Boeing had been a beneficiary of these subsidies for many years.²⁵¹⁸

1254. With respect to the magnitude of the tied tax subsidies, we recall that they amounted to \$2.2 billion over the period from 1989 to 2006.²⁵¹⁹ By far the majority of this amount was accounted for by the FSC/ETI subsidies, notably because Boeing began to receive the B&O tax rate reductions only during the reference period.²⁵²⁰ Boeing was the largest beneficiary of FSC/ETI subsidies for a six-year period through 2002.²⁵²¹ During the reference period, Boeing received \$435 million in FSC/ETI subsidies, \$13.8 million from the B&O tax rate reduction in the State of Washington, and \$2.2 million from the B&O tax rate reduction in the City of Everett.²⁵²² Particularly when taken together, these subsidy amounts appear substantial in absolute terms. At the same time, as we have already observed, the relative magnitude of subsidies may also be relevant to an analysis of the effects of subsidies on prices.²⁵²³ In this dispute, however, there is little on the Panel record that can assist us in determining, on a generalized basis, the relative significance of the magnitude of these subsidies when compared to, for example, prices in the relevant markets²⁵²⁴, Boeing's production costs, or the overall size of the relevant markets or of Boeing's sales in each such market.²⁵²⁵ While it is possible to observe, at a high level of generalization, that the annual value of Boeing's sales is many orders of magnitude greater than the annual value of the subsidies, this alone does not tell us much about the significance of these amounts, as the Panel also observed.²⁵²⁶ This is because even relatively small subsidies may have significant effects, depending on the nature of the subsidies, and the circumstances in which those subsidies are received, including the relevant market structure and conditions of competition in that market. In the circumstances of this dispute, for example, considerations that would appear to bear on the issue of the significance of these amounts include the nature of the subsidies as tied tax subsidies, the dynamics of price competition between Boeing and Airbus in a duopolistic market, and whether the benefits of the tied tax subsidies received by Boeing

²⁵¹⁷Panel Report, paras. 7.1811 and 7.1820.

²⁵¹⁸Panel Report, paras. 7.1811 and 7.1817.

²⁵¹⁹Panel Report, para. 7.1811.

²⁵²⁰The Washington State B&O tax rate reduction came into effect in 2003 (Panel Report, para. 7.43) and the City of Everett B&O tax rate reduction was passed in 2004 (*ibid.*, para. 7.308).

²⁵²¹Panel Report, para. 7.1817.

²⁵²²Panel Report, para. 7.1811.

²⁵²³See *supra*, para. 1193.

²⁵²⁴Generally speaking, the price information that is contained in the Panel record is not evidence of actual prices to specific customers in particular campaigns. While there is evidence of each manufacturer's list prices for its basic airframes, such catalogue prices are acknowledged to be higher than the prices actually negotiated with customers at the time that orders are placed, especially in competitive sales campaigns.

²⁵²⁵Various comparators were put before the Panel by the parties in order to demonstrate the relative significance (European Communities) or insignificance (United States) of the tied tax subsidies. The Panel, however, did not accept the European Communities' calculation of per-aircraft subsidy magnitudes (Panel Report, para. 7.1813), or attempt to make such a calculation itself.

²⁵²⁶Panel Report, para. 7.1816.

were applied to its prices across the board in all sales, or whether they were disproportionately applied to lower prices only in respect of certain sales.

1255. Although it might have been relevant for the Panel to compare the per-unit subsidy magnitudes to per-unit prices or production costs, the Panel does not appear to have pursued such an analysis. It did, however, cite to certain anecdotal evidence that it found to "point quite clearly to the significance of the FSC/ETI subsidies to Boeing's ability to compete on price against Airbus".²⁵²⁷ Certain elements of this evidence bear on the issue of the magnitude of those subsidies. The Panel pointed to evidence showing that, "over the six-year period end{ing} in 2002, Boeing was the largest FSC/ETI beneficiary".²⁵²⁸ In addition, the Panel referred to statements by Airbus and Boeing executives and the US Trade Representative suggesting that the purpose of the scheme was to enhance Boeing's competitiveness and that, without the FSC/ETI subsidies, Boeing would lose market share.²⁵²⁹ In other words, the Panel explained, this was evidence that Boeing itself "regarded the FSC/ETI measures {as} an important aspect of its ability to compete."²⁵³⁰ Taken together, these considerations persuaded the Panel that the tied tax subsidies "enabled Boeing to lower its prices beyond the level that would otherwise have been economically justifiable".²⁵³¹ On this basis, we consider that the record supports the view that the absolute amount of the tied tax subsidies was significant, and provides some support for the proposition that these amounts also had relative significance in that, when deployed strategically, the benefits were of a sufficient magnitude to contribute to Boeing's ability to win sales from, or suppress prices of, Airbus in particular campaigns.

1256. As the Panel recognized in its evaluation of the technology effects of the aeronautics R&D subsidies, "the particular conditions of competition in the LCA industry" are also a relevant factor in evaluating whether subsidies have caused serious prejudice in a particular market.²⁵³² Before the Panel, the European Communities contended that the conditions of competition in the relevant LCA industry provided Boeing with the incentive to "use the subsidies to lower its LCA prices in the three LCA product markets, most particularly in so-called 'competitive' sales campaigns."²⁵³³

²⁵²⁷Panel Report, para. 7.1818.

²⁵²⁸Panel Report, para. 7.1817.

²⁵²⁹Panel Report, para. 7.1817.

²⁵³⁰Panel Report, para. 7.1817.

²⁵³¹Panel Report, para. 7.1818.

²⁵³²Panel Report, para. 7.1765.

²⁵³³Panel Report, para. 7.1619. The European Communities identified the following key characteristics of the LCA market which it argued give rise to this pricing incentive: "duopoly structure characterized by heavy price and quality competition, increasing returns to scale, a steep learning curve, switching costs for customers, heterogeneous products, customer specific configurations, high order volumes and small batch outputs and the need for a continuous delivery stream." (*Ibid.* (referring to European Communities' comments on the United States' response to Panel Question 391, para. 334))

1257. Many characteristics of the LCA industry were the subject of findings by the Panel or are uncontested. We recall that each of the relevant LCA product markets operates as a duopoly, and that Airbus and Boeing each possess market power.²⁵³⁴ In addition, the Panel observed that each manufacturer may, through its supply and pricing decisions, influence the pricing of the other.²⁵³⁵ We understand this to mean that, although an LCA manufacturer will enjoy greater autonomy in its pricing decisions in sales campaigns that are less sensitive with respect to price, such flexibility will be constrained and influenced in more price-sensitive campaigns by the pricing behaviour of the rival LCA manufacturer. In this duopolistic market, the effects of one firm's commercial behaviour—including any price effects resulting from subsidies—will necessarily impact the rival firm.²⁵³⁶

1258. Differences in the price, capacity, and direct operating cost of competing LCA are the most significant factors that determine the outcome of LCA sales campaigns.²⁵³⁷ The relative importance of each of these factors, and the extent to which it may be determinative in a specific campaign, varies considerably.²⁵³⁸ Certain LCA sales campaigns are accordingly more competitive and more price-sensitive than others.²⁵³⁹ Both parties agreed that, because the performance characteristics of the competing LCA are fixed at the time of a sales campaign, the principal variables that can be modified during such a campaign are the price and price-related concessions.²⁵⁴⁰ Price concessions can offset disadvantages associated with non-price factors, although in some sales campaigns the amount of the price concession required to do so may be significant.²⁵⁴¹

1259. With regard to the level of price competition in particular sales campaigns, the Panel appears to have acknowledged that price competition is more intense in some campaigns than in others.²⁵⁴² The Panel, moreover, identified certain circumstances in which price considerations are more likely to

²⁵³⁴Panel Report, para. 7.1688.

²⁵³⁵Panel Report, para. 7.1688.

²⁵³⁶As opposed to a market structure in which the losses associated with the strategic behaviour of a particular firm can be spread among many suppliers, the effects of commercial action by a duopolist to, *inter alia*, lower price, expand production, or increase exports, will be borne solely by that firm's rival.

²⁵³⁷Panel Report, para. 7.1694. Customers calculate the net present value of LCA offers by comparing the present value of costs associated with aircraft acquisition against the present value of the revenue stream expected to be generated by the proposed fleet. (Panel Report, para. 7.1694 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), paras. 76-78))

²⁵³⁸Panel Report, para. 7.1694 and footnote 3568 thereto (referring to R.P. Muddle, Airline Capital Associates, Inc., "The Dynamics of the Large Civil Aircraft Industry" (March 2007) (Panel Exhibit EC-10), para. 49).

²⁵³⁹Panel Report, paras. 7.1694 and 7.1820.

²⁵⁴⁰European Communities' response to Panel Question 81, para. 321; United States' comments on the European Communities' response to Panel Question 81, para. 275.

²⁵⁴¹Panel Report, para. 7.1694 (referring to R.P. Muddle, Airline Capital Associates, Inc., "The Dynamics of the Large Civil Aircraft Industry" (March 2007) (Panel Exhibit EC-10), paras. 98-102).

²⁵⁴²Thus, for example, the Panel referred to "the price-sensitive nature of certain significant LCA sales campaigns". (Panel Report, para. 7.1820)

influence a customer's purchase decision, including when the buyer is a leasing company rather than an airline.²⁵⁴³ Moreover, we note that Boeing altered its overall pricing strategy in late 2004/2005 and became more "aggressive" on price.²⁵⁴⁴ Furthermore, price appears to have been a particularly important consideration in the 100-200 seat LCA market due to the relatively high degree of substitutability between the A320 and the 737NG²⁵⁴⁵, and the fact that many customers within this product market are low-cost carriers, which are particularly price-sensitive.²⁵⁴⁶ We also note that, in at least some instances, competition between rival LCA manufacturers is affected by "switching costs"—that is, the costs that buyers who operate one family of aircraft must incur to switch to a new supplier.²⁵⁴⁷ The existence of switching costs in a particular sales campaign implies that an incumbent supplier has a pricing advantage that the rival supplier will need to overcome in its overall offer.

1260. Generally speaking, a profit-maximizing firm will price its product at a level that ensures that it can cover its average cost of production plus a margin of profit, the magnitude of which will depend on the conditions of market competition.²⁵⁴⁸ All other things being equal, a firm provided with a subsidy that is tied to production or sale enjoys the ability to lower its price while nevertheless achieving the same profit margin. In effect, the subsidy enhances the firm's ability to lower its prices in order to obtain a sale, notwithstanding that the outcome of any given sale, and the importance of price to that outcome, will still be dictated by the prevailing competitive conditions, including the market power and the pricing strategies of the participants, in a particular market. In this dispute, we consider that, given the nature of the tied tax subsidies, their operation over time, their magnitude, and the competitive conditions in the LCA market, Boeing had both the ability and incentive to use the tied tax subsidies to lower prices, and that there was a substantial likelihood that this occurred in sales campaigns that were particularly competitive and sensitive in terms of price. On that basis, where it can be established that Boeing was under particular pressure to reduce its prices in order to secure LCA sales in particular sales campaigns, and there are no other non-price factors that explain Boeing's

²⁵⁴³Panel Report, footnote 3567 to para. 7.1694 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), para. 36), and footnote 3557 to para. 7.1689 (referring to R.P. Muddle, Airline Capital Associates, Inc., "The Dynamics of the Large Civil Aircraft Industry" (March 2007) (Panel Exhibit EC-10), para. 26).

²⁵⁴⁴Panel Report, Appendix VII.F.2 – The Cabral Model, p. 777, para. 68 and footnote 4250 thereto.

²⁵⁴⁵See *supra*, footnote 2344. Although airframe prices negotiated at the time LCA are ordered are typically lower than list prices, we note that there is a similar range of list prices for the 737NG and A320. (See *supra*, para. 1154)

²⁵⁴⁶European Communities' second written submission to the Panel, para. 889; United States' first written submission to the Panel, para. 1027.

²⁵⁴⁷Panel Report, footnote 3776 to para. 7.1818 (referring to R.P. Muddle, "The Dynamics of the Large Civil Aircraft Industry" (March 2007) (Panel Exhibit EC-10), para. 97; C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business From the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), para. 53; and Dr. J. Jordan and Dr. G. Dorman, "Reply to the Report of Professor Cabral" (NERA Economic Consulting, 2007) (Panel Exhibit US-3), p. 15).

²⁵⁴⁸In principle, a profit margin is expected in conditions of imperfect competition, such as a duopoly.

success in obtaining the sale or suppressing Airbus' pricing, we can conclude that the subsidies contributed in a genuine and substantial way to the lowering of Boeing's prices. We are moreover satisfied that the effect of such price reductions in the markets at issue was that Boeing either won the sale from Airbus, or that Airbus was forced to suppress its own price in order to secure the sale. Notwithstanding that we consider that this dynamic clearly manifested itself in LCA sales campaigns where price competition between LCA manufacturers was particularly intense, we are not persuaded that it can be assumed that this was so in each and every sales campaign in the relevant LCA markets.

1261. It follows from the above that we do not consider that the factual findings and uncontested facts drawn from the Panel record that relate to the nature and magnitude of the subsidies, and the conditions of competition in the relevant markets, themselves suffice to establish the requisite causal connection between the tied tax subsidies and the effects on Airbus' LCA sales and prices on a generalized basis. Instead, we can only reach a finding of serious prejudice based on the above if we can also identify uncontested facts on the Panel record that satisfy us that the pricing dynamic described above occurred in particular LCA sales campaigns.²⁵⁴⁹ Accordingly, we continue our examination of the relevant factual findings and uncontested facts and scrutinize, in particular, the Panel record as it relates to particular LCA sales campaigns during the reference period in the 100-200 seat and 300-400 seat LCA markets.²⁵⁵⁰

1262. We have examined the sales campaign evidence set out in HSBI Annexes E and F to the European Communities' first written submission to the Panel. These annexes set out individual sales campaigns which, the European Communities asserted, illustrate and support the claim that Boeing's subsidy-enabled low prices caused serious prejudice. Annex E identifies 11 sales campaigns in the 100-200 seat LCA market—five of which were offered in support of the European Communities' allegation of significant lost sales²⁵⁵¹; and six that were advanced in support of its allegation of significant price suppression.²⁵⁵² Annex F identifies four sales campaigns in the 300-400 seat LCA

²⁵⁴⁹See section VI.B.2 of this Report. This approach is analogous to the approach adopted by the Appellate Body in *EC and certain member States – Large Civil Aircraft*. (See Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 924-929, 1175, 1178, and 1180-1202)

²⁵⁵⁰We do not exclude the possibility that serious prejudice could have been established in these LCA product markets on some other basis, perhaps without relying on the circumstances of particular sales campaigns. However, based on the Panel record before us, we do not consider that we can complete the analysis and reach any finding of serious prejudice in the absence of such an examination.

²⁵⁵¹Panel Report, para. 7.1622. The *lost sales* evidence in the 100-200 seat LCA market consisted of the following sales campaigns: Ryanair (2000-2002); JAL (2005); Singapore Airline Leasing Enterprise (2005); Lion Air (2005); and DBA (2005). The European Communities also explained that these campaigns were evidence of displacement and impedance of Airbus A320 exports in the third-country markets of Japan, Singapore, and Indonesia.

²⁵⁵²Panel Report, para. 7.1622. The *price suppression* evidence in the 100-200 seat LCA market consisted of the following sales campaigns: easyJet (2002); Air Berlin (2004); Iberia (2005); Aegean (2005); Air Asia (2005); and Hamburg International (2005).

market—three of which were offered in support of the European Communities' allegation of significant lost sales²⁵⁵³; and one that was advanced in support of its allegation of significant price suppression.²⁵⁵⁴ We have also examined the subsequent submissions of the United States and the European Communities containing arguments and evidence relating to these various sales campaigns.²⁵⁵⁵ In its submissions, the European Communities recounted a competitive pricing dynamic for each of these campaigns in which Boeing and Airbus presented a series of progressively lower offers and counteroffers to customers. The United States did not contest the European Communities' factual description of the negotiation for each of these campaigns, in particular, the identity of the customer, when the campaign took place, the number of LCA orders obtained, or which manufacturer was successful in obtaining the orders. Nor did the United States dispute that, in each sales campaign, Boeing and Airbus both responded to the request for proposals from an airline or leasing company, and that they each presented more than one offer over the course of the negotiation.

1263. The parties, however, disagreed over the extent to which the tied tax subsidies contributed to the market effects experienced by Airbus in the 100-200 seat and 300-400 seat LCA markets. The European Communities maintained that price was a key element in the negotiations with customers, and that, in all of the sales campaigns, [***] ²⁵⁵⁶ In respect of the sales campaigns submitted as evidence of lost sales and displacement and impedance, the European Communities argued that Boeing offered its LCA at a net price that was lower than what Airbus was reasonably able to offer for its product, and that the magnitude of the subsidies at issue was enough to cover the margin of victory between the final net prices of Boeing and Airbus.²⁵⁵⁷ With regard to the sales campaigns submitted as evidence of price suppression, the European Communities argued that

²⁵⁵³Panel Report, para. 7.1622. The *lost sales* evidence in the 300-400 seat LCA market consisted of the following sales campaigns: Singapore Airlines (2004); Air New Zealand (2004); and Cathay Pacific (2005). The European Communities also explained that these campaigns were evidence of displacement and impedance of Airbus A340 exports in the third-country markets of Singapore, New Zealand, and Hong Kong, China.

²⁵⁵⁴Panel Report, para. 7.1622. The *price suppression* evidence in the 300-400 seat LCA market consisted of a single sales campaign involving Lufthansa (2004).

²⁵⁵⁵See European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI) and Annex F – 777 Campaign Annex (HSBI); United States' first written submission to the Panel, US Campaign Annex (HSBI); European Communities' second written submission to the Panel, Full HSBI Appendix; United States' second written submission to the Panel, Full HSBI Appendix.

²⁵⁵⁶European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), paras. 3-7 and 64-67; and Annex F – 777 Campaign Annex (HSBI), paras. 2-5 and 39-40.

²⁵⁵⁷See European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), paras. 14, 27, 36, 44, 56, and 57. See also, *ibid.*, Annex F – 777 Campaign Annex (HSBI), paras. 11, 21, 29, and 31.

Boeing was able to use its subsidy-enhanced financial strength in order to sustain downward pricing pressure on Airbus.²⁵⁵⁸

1264. In its rebuttal of the European Communities' sales campaign evidence, the United States identified a number of "other factors" that, in its view, undermined a causal link between the tied tax subsidies and the market effects on Airbus' LCA sales and prices. We explained that the Panel should have discussed whether the considerations and factors identified by the United States constitute "other factors" and, if so, how they, in relation to the tied tax subsidies, contributed to the effects on Airbus' LCA sales and prices. The Panel, however, did not do so. Where the United States advanced other factors in respect of particular sales campaigns that were capable of explaining the effects on Airbus' LCA sales and prices, we must treat as disputed whether or not the other factor or factors sufficed to attenuate a genuine and substantial relationship between the tied tax subsidies and those effects. Accordingly, in such circumstances, we will not be able to complete the analysis in respect of these sales campaigns.

1265. Other factors alleged by the United States included that: (i) customers with existing Boeing fleets factored switching costs into their decisions such that Airbus was required to lower its prices in order to offset the costs associated with converting to the operation of Airbus fleets²⁵⁵⁹; (ii) the technological inferiority of Airbus LCA played out in Airbus' need to reduce prices in order to remain competitive, particularly in the 300-400 seat LCA market²⁵⁶⁰; (iii) Airbus itself was responsible for customers' low price expectations due to the low prices that Airbus had offered to other customers in previous sales campaigns²⁵⁶¹; and (iv) some customers intended to acquire aircraft for various LCA markets, including the 200-300 seat LCA market, as part of the same order, and such customers ultimately chose Boeing's overall offer because of their preference for the 787.²⁵⁶²

²⁵⁵⁸See European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), paras. 80, 92, 101, 113, 123, 131, and 132. See also, *ibid.*, Annex F – 777 Campaign Annex (HSBI), para. 55.

²⁵⁵⁹See, for example, United States' first written submission to the Panel, US Campaign Annex (HSBI), paras. 82, 92, 105, 110, 127, 131, 135, and 139.

²⁵⁶⁰See, for example, United States' first written submission to the Panel, US Campaign Annex (HSBI), paras. 115, 129, 148, 156, 159, and 167.

²⁵⁶¹See, for example, United States' first written submission to the Panel, US Campaign Annex (HSBI), paras. 112 and 116.

²⁵⁶²See, for example, United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 148. This relates to the Air New Zealand campaign for which the United States also identified a potentially valid "other factor" relating to the fuel burn efficiency of the 777 versus the A340. See *infra*, para. 1268.

1266. In our view, certain other factors identified by the United States were clearly capable of attenuating a genuine and substantial relationship between the tied tax subsidies and effects on Airbus' LCA sales and prices, especially where they allowed Boeing to avoid making additional price concessions in particular sales campaigns.²⁵⁶³ For instance, the United States argued that, where Boeing was the incumbent supplier in certain sales campaigns, it benefited from a switching cost advantage. Similarly, the United States maintained that, for certain sales campaigns, Boeing benefited from other non-price advantages due to superior features of its aircraft, such as the higher fuel burn efficiency of the 777 versus the A340. As we have explained above, in cases where these conditions are present, it suggests that Boeing could have had an advantage that did not place it under the same pressure to lower LCA prices.²⁵⁶⁴ In those circumstances, we could not conclude that there was a genuine and substantial relationship between the tied tax subsidies and the market effects through the lowering of Boeing's prices, given that Airbus may have lost the sale or suppressed its prices for reasons other than Boeing's low prices.

1267. We have also explained that certain "other factors" may not be capable of attenuating a genuine and substantial relationship between the tied tax subsidies and the market effects if they reflect part of the competitive pricing dynamic in a duopolistic market.²⁵⁶⁵ In these circumstances, the sequence in which prices were reduced by Boeing and Airbus in particular sales campaigns or over time has little bearing on whether the subsidies were used to effect price reductions of Boeing LCA and lost sales and price suppression for Airbus. Rather, based on the Panel's account of the nature, duration, and magnitude of the tied tax subsidies, and the competitive conditions in the LCA industry, the fact that Boeing reduced prices under intense price competition in a duopoly market is paramount. Accordingly, we do not consider that such observations about the sequence of price reductions constitute "other factors" to be assessed in relation to the causal work of the tied tax subsidies.

²⁵⁶³See Panel Report, footnote 3569 to para. 7.1694 (referring to C. Scherer, Airbus SAS, "Commercial Aspects of the Aircraft Business from the Perspective of a Manufacturer" (March 2007) (Panel Exhibit EC-11 (BCI)), paras. 76-78). There, the Panel stated:

According to Scherer, most disadvantages compared with the proposal of the competing LCA manufacturer can be compensated for by providing additional concessions, subject to profitability constraints. Conversely, every advantage over the competitor's proposal can be used to avoid making additional concessions{.}

²⁵⁶⁴See *supra*, para. 1214.

²⁵⁶⁵See *supra*, para. 1213.

1268. For the four sales campaigns in the 300-400 seat LCA market, the United States maintained that Boeing benefited from a technological advantage sought by customers, consisting of the fuel burn efficiency enjoyed by the two-engine 777 versus the four-engine A340.²⁵⁶⁶ We consider this a potentially valid "other factor" contributing to the effects on Airbus' LCA sales and prices, but note that the causal significance of this factor is disputed between the parties, and that the Panel made no findings as to the relevance of this factor in particular sales campaigns. We therefore cannot complete the analysis with respect to these sales campaigns.

1269. For nine of 11 sales campaigns in the 100-200 seat LCA market, the United States maintained that Boeing benefited from a technological advantage sought by customers²⁵⁶⁷, or from a switching cost advantage.²⁵⁶⁸ These two contentions are also valid "other factors" potentially contributing to the effects on Airbus' LCA sales and prices. Because the causal significance of these factors is disputed between the parties, and given that the Panel made no findings as to their relevance in particular sales campaigns, we also cannot complete the analysis with respect to these campaigns.

1270. For two remaining sales campaigns in the 100-200 seat LCA market, both relating to alleged lost sales in the 100-200 seat LCA market, the United States did not specifically identify the above non-price advantages as "other factors" contributing to the effects on Airbus' sales and prices.

1271. With respect to the remaining two sales campaigns, we note that, in February 2005, Japan Airlines ("JAL") concluded an agreement with Boeing resulting in 30 firm orders, and 10 options, for 737NGs²⁵⁶⁹; and that Singapore Aircraft Leasing Enterprise ("SALE") concluded an agreement with Boeing in May 2005, resulting in 20 firm orders, and 20 purchase rights, for 737NGs.²⁵⁷⁰ With respect to both campaigns, the parties agreed that Boeing and Airbus were engaged in a negotiating

²⁵⁶⁶This relates to the following sales campaigns: Singapore Airlines (2004); Air New Zealand (2004); Lufthansa (2004); and Cathay Pacific (2005).

²⁵⁶⁷This relates to the following sales campaigns: Iberia (2005); and Lion Air (2005).

²⁵⁶⁸This relates to the following sales campaigns: easyJet (2002); Ryanair (2002); Air Berlin (2004); DBA (2005); Aegean (2005); Air Asia (2005); Lion Air (2005); and Hamburg International (2005).

²⁵⁶⁹European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 37; United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 120 (referring to JAL Press Release, *Japan Airlines Decided on Boeing 737 Next Generation Series* (4 February 2005) (Panel Exhibit US-1064 (HSBI))).

²⁵⁷⁰European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 8; United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 122 (referring to SALE Press Release, *SALE to order up to 40 Boeing Next-Generation 737 Aircraft* (26 May 2005) (Panel Exhibit US-1068 (HSBI))).

process that involved multiple offers.²⁵⁷¹ We further note BCI and HSBI statements on the Panel record, uncontested by the parties, that demonstrate the particularly price-sensitive nature of these campaigns, and the fact that both Boeing and Airbus had similar strategic incentives leading them to engage in intense competition in terms of price in order to win the sale.²⁵⁷² Moreover, the United States did not specifically identify other factors, such as switching costs, that could have demonstrated that Boeing had an advantage in these campaigns that would have led it to win the sale

²⁵⁷¹With regard to the JAL campaign, JAL accepted offers from both Boeing and Airbus. (United States' first written submission to the Panel, US Campaign Annex (HSBI), paras. 120-121; and European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), paras. 37-44) [

[[HSBI]]

[[HSBI]] [[HSBI]].

(European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), paras. 38, 40, and 42) [

[[HSBI]]

[[HSBI]]

[[HSBI]]. (*Ibid.*, paras. 38-42) With regard

to the SALE campaign, [

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(United States' first written submission to the Panel, US Campaign Annex (HSBI), paras. 122-125; European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), paras. 8-14) [

[[HSBI]].

(European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 9) [

[[HSBI]]. (United States' first written submission to the

Panel, US Campaign Annex (HSBI), para. 124) [

[[HSBI]]

[[HSBI]].

(European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 12)

²⁵⁷²With regard to the JAL campaign, the United States maintained that JAL sought to order replacement aircraft for its aging 737s, MD-80s, and MD-90s. [

[[HSBI]]

].

(United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 121) Given the implications of an Airbus win in this campaign, the United States argued, Boeing had every incentive to compete vigorously to retain JAL's business. (*Ibid.*) [

]. (European Communities' second written submission to the Panel, HSBI Annex, para. 125) [

[[HSBI]]

]. (European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 41) With regard to the SALE campaign, [

[[HSBI]]. (United States' first written

submission to the Panel, US Campaign Annex (HSBI), para. 124) [

[[HSBI]]

]. (*Ibid.*, para. 125) [

[[HSBI]]

]. (European Communities' first

written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 9) [

[[HSBI]]. (European Communities' second written submission to the

Panel, HSBI Annex, para. 129)

by reason other than price.²⁵⁷³ We have explained that, due to the nature of the tied tax subsidies, their operation over time, their magnitude, and the competitive conditions in the LCA market, Boeing had both the ability and incentive to use the tied tax subsidies to lower prices, and that there was a substantial likelihood that this occurred in sales campaigns that were particularly competitive and sensitive in terms of price. We have also explained that, where it can be established that Boeing was under particular pressure to reduce its prices in order to win an LCA sale in a particular sales campaign, and there were no other non-price factors that explain Boeing's success in obtaining the sale, we can conclude that the subsidies contributed in a genuine and substantial way to the lowering of Boeing's prices. The uncontroverted facts on the Panel record substantiate that Boeing was under particular pressure to reduce its prices in order to secure the sales in these two campaigns. Accordingly, we conclude that, through their contribution to the lowering of Boeing's prices, the FSC/ETI subsidies and the Washington State B&O tax rate reduction were a genuine and substantial cause of Airbus' loss of these sales to Boeing.

1272. In addition, we must assess whether the sales that Airbus lost in those two campaigns can be considered "significant".²⁵⁷⁴ The term "significant" has been understood by the Appellate Body as "something that can be characterized as important, notable or consequential".²⁵⁷⁵ The Appellate Body has also expressed the view that an assessment of whether a lost sale is significant can have both quantitative and qualitative dimensions.²⁵⁷⁶ We note that the SALE campaign involved 20 firm orders

²⁵⁷³With regard to the JAL campaign, we have noted *supra*, footnote 2572, the United States' contention that JAL sought to order replacement aircraft for its aging Boeing fleet, and that [

]. (United

States' first written submission to the Panel, US Campaign Annex (HSBI), para. 121) We do not believe this reflects a factor capable of attenuating the causal contribution of the tied tax subsidies in the circumstances of this campaign. The United States' recognition that both Boeing and Airbus were operating under similar strategic incentives to capture the sale reinforces the importance of price competition in this campaign. In addition, even accepting the argument that LCA manufacturers generally have a switching cost advantage in respect of incumbent customers, the United States argued that switching costs do not factor into sales of newer generation aircraft. (Panel Report, Appendix VII.F.2 – The Cabral Model, p. 772, para. 49 (referring to United States' first written submission to the Panel, para. 855)) With regard to the SALE campaign, the United States argued that [

]. (United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 122) We also do not consider that this reflects a factor capable of attenuating the causal contribution of the tied tax subsidies in the circumstances of this campaign. The Panel recognized that leasing companies, like SALE, typically purchase aircraft from both manufacturers. (See Panel Report, para. 7.1688) Moreover, we note that the United States asserted that leasing companies are not affected by switching costs, presumably because it is airlines, not leasing companies, that bear the operating costs of leased aircraft. (United States' response to Panel Question 95, para. 244 and footnote 286 thereto)

²⁵⁷⁴Appellate Body Report, *EC and certain Member States – Large Civil Aircraft*, para. 1215.

²⁵⁷⁵Appellate Body Report, *US – Upland Cotton*, para. 426 (referring to Panel Report, *US – Upland Cotton*, para. 7.1326).

²⁵⁷⁶Appellate Body Report, *EC and certain Member States – Large Civil Aircraft*, para. 1218.

and 20 purchase rights²⁵⁷⁷, whereas the JAL campaign involved 30 firm orders and 10 options.²⁵⁷⁸
[

²⁵⁷⁹

²⁵⁸⁰] In addition, as we have noted above, these campaigns were highly price-competitive, not only because of the direct consequence for LCA manufacturers in terms of revenue and production effects associated with the sale of multiple LCA, but also because of the strategic importance of securing a sale from a particular customer.²⁵⁸¹ For these reasons, we consider that these lost sales campaigns are significant within the meaning of Article 6.3(c) of the *SCM Agreement*.

1273. In these circumstances, we consider that there is a sufficient basis for us to complete the analysis and conclude that there is a genuine and substantial causal relationship between the FSC/ETI subsidies and the Washington State B&O tax rate reduction, through their effects on Boeing's prices, and the significant lost sales experienced by Airbus in these two sales campaigns.

²⁵⁷⁷European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 8; United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 122 (referring to SALE Press Release, *SALE to order up to 40 Boeing Next-Generation 737 Aircraft* (26 May 2005) (Panel Exhibit US-1068 (HSBI))).

²⁵⁷⁸European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 37; United States' first written submission to the Panel, US Campaign Annex (HSBI), para. 120 (referring to JAL Press Release, *Japan Airlines Decided on Boeing 737 Next Generation Series* (4 February 2005) (Panel Exhibit US-1064 (HSBI))).

²⁵⁷⁹European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 62. [

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²⁵⁸⁰[

]. (European Communities' first written submission to the Panel, Annex E – 737NG Campaign Annex (HSBI), para. 62)

²⁵⁸¹In *EC and certain Member States – Large Civil Aircraft*, the Appellate Body took note of the panel's view that, apart from losing direct revenue effects, lost sales are significant because they can deprive a manufacturer of the "ability to benefit from the important learning effects and economies of scale in this industry", and "the advantages {of} being the incumbent supplier with a given customer with respect to subsequent purchases". (Appellate Body Report, *EC and certain Member States – Large Civil Aircraft*, para. 1219 (quoting Panel Report, *EC and certain Member States – Large Civil Aircraft*, para. 7.1845))

5. Conclusion

1274. We have reversed the Panel's findings that the FSC/ETI subsidies and the B&O tax rate reductions caused significant price suppression, significant lost sales, and displacement and impedance in the 100-200 seat and 300-400 seat LCA markets, and therefore serious prejudice to the interests of the European Communities, within the meaning of Articles 5(c) and 6.3(b) and (c) of the *SCM Agreement*. In completing the analysis, we have found that, in two sales campaigns, the FSC/ETI subsidies and the Washington State B&O tax rate reduction caused, through their effects on Boeing's prices for the 737NG, significant lost sales to Airbus within the meaning of Article 6.3(c) of the *SCM Agreement*. We therefore *find* that the FSC/ETI subsidies and the Washington State B&O tax rate reduction caused serious prejudice in the 100-200 seat LCA market within the meaning of Articles 5(c) and 6.3(c) of the *SCM Agreement*.

E. *Collective Assessment of the Subsidies and Their Effects*

1. Introduction

1275. The European Union challenges two decisions taken by the Panel to assess separately the alleged effects of different groups of subsidies. With respect to each, the European Union asserts that, in refusing to conduct an integrated assessment of the effects of the relevant subsidies, the Panel erred in its interpretation and application of Articles 5(c) and 6.3 of the *SCM Agreement*. The specific errors alleged consist of: (i) the Panel's refusal to assess collectively the effects of the B&O tax rate reductions and the effects of the aeronautics R&D subsidies²⁵⁸²; and (ii) the Panel's failure to assess collectively the effects of the tied tax subsidies (the FSC/ETI subsidies and the B&O tax rate reductions) and the effects of eight other subsidy measures (the "remaining subsidies").

1276. With respect to the first alleged error, which relates only to the Panel's analysis of the 200-300 seat LCA market, the European Union requests us only to reverse the Panel's finding that it was not "appropriate to aggregate the effects of the B&O tax {rate reductions} on Boeing's pricing of the 787 with the effects of the aeronautics R&D subsidies on Boeing's development of technologies applied to the 787".²⁵⁸³ With respect to the *second* alleged error, which relates to the 100-200 seat and the

²⁵⁸²Panel Report, para. 7.1824.

²⁵⁸³Panel Report, para. 7.1824.

300-400 seat LCA markets²⁵⁸⁴, the European Union requests us to reverse the reasoning²⁵⁸⁵ that led the Panel to assess the effects of the remaining subsidies in isolation from the tied tax subsidies, as well as the Panel's ultimate conclusion that the remaining subsidies did not "give rise to serious prejudice to the European Communities' interests."²⁵⁸⁶ In addition, and as a consequence of this second alleged error, the European Union requests us to find that the Panel should have assessed the collective effects of these two groups of subsidies, and to complete the analysis and find that the tied tax subsidies and the remaining subsidies collectively cause adverse effects in the product markets at issue.²⁵⁸⁷

1277. Before turning to these grounds of appeal, we consider it useful to identify the Panel's overall approach to analyzing the large number of subsidy measures that were relevant to its analysis of serious prejudice. Specifically, the Panel analyzed the collective effects of several subsidy measures *within* each of the following three groups of subsidies.

1278. First, the Panel analyzed collectively the technology effects of the aeronautics R&D subsidies, which the Panel found to amount to at least \$2.6 billion and to consist of: (i) the payments made to Boeing and the access to NASA facilities, equipment, and employees provided to Boeing by NASA pursuant to procurement contracts and Space Act Agreements entered into under the eight aeronautics R&D programmes at issue; and (ii) the payments made to Boeing and the access to

²⁵⁸⁴ Although the European Union did not, in its appellant's submission, expressly indicate whether this ground of appeal relates to all three LCA product markets, or only to those two LCA product markets in which the Panel found that the tied tax subsidies caused adverse effects, we consider that this ground of appeal ultimately relates only to the latter two LCA product markets and not to the 200-300 seat LCA market. Our understanding is based on: (i) the fact that, as discussed *infra* paras. 1313 and 1327, the European Union has not appealed the Panel's decision not to examine the effects of the aeronautics R&D subsidies on Boeing's prices; and (ii) the European Union's clarification, at the oral hearing, that it does not seek completion of the analysis with respect to the issue of the causal relationship between the B&O tax rate reductions and Boeing's prices and the related issue of whether the effects of those subsidies could be cumulated with the effects of the aeronautics R&D subsidies within the 200-300 seat LCA market. It follows that, because there is no finding that the tied tax subsidies that applied in the 200-300 seat LCA market (the B&O tax rate reductions) had a genuine and substantial causal relationship with the adverse effects in that product market, and because the European Union has not argued that the effects of the remaining subsidies should be cumulated with the effects of the aeronautics R&D subsidies within the 200-300 seat LCA market, this ground of appeal does not pertain to the 200-300 seat LCA market.

²⁵⁸⁵ Panel Report, paras. 7.1827 and 7.1828.

²⁵⁸⁶ Panel Report, para. 7.1828.

²⁵⁸⁷ European Union's appellant's submission, para. 192.

USDOD facilities provided to Boeing by the USDOD pursuant to assistance instruments entered into under the 23 RDT&E programmes at issue.²⁵⁸⁸

1279. Second, the Panel analyzed collectively the price effects of the tied tax subsidies, which the Panel found to amount to approximately \$2.2 billion and to consist of: (i) the tax exemptions and tax exclusions provided to Boeing under FSC/ETI legislation²⁵⁸⁹; (ii) the Washington State B&O tax rate reduction²⁵⁹⁰; and (iii) the City of Everett B&O tax rate reduction.²⁵⁹¹

1280. Third, to the extent that it analyzed the price effects of the remaining subsidies, the Panel appears to have conducted a single analysis of their collective effects. Those eight subsidies, which the Panel found to amount to \$550 million in total, consist of²⁵⁹²: (i) the property and sales tax abatements provided to Boeing pursuant to IRBs issued by the City of Wichita, Kansas; (ii) the Washington State B&O tax credits for preproduction development, computer software and hardware, and property taxes; (iii) the Washington State sales and use tax exemptions for computer hardware, peripherals, and software; (iv) the Washington State workforce development programme and Employment Resource Center; (v) the reimbursement of a portion of Boeing's relocation expenses by the State of Illinois; (vi) the 15-year EDGE tax credits provided by the State of Illinois; (vii) the abatement or refund of a portion of Boeing's property taxes provided by the State of Illinois; and (viii) the payment to retire the lease of the previous tenant of Boeing's new headquarters building in Chicago.

1281. In contrast, the Panel decided not to conduct a collective assessment of the effects of certain groups of the subsidies at issue. In its analysis of the "price effects" of subsidies within the 200-300 seat LCA market, the Panel did not collectively assess the effects of the relevant tied tax subsidies

²⁵⁸⁸See Panel Report, paras. 7.1110, 7.1210, 7.1431, and 7.1433. The Panel identified these as four types of measures, namely: (i) payments made to Boeing pursuant to procurement contracts entered into under the eight NASA aeronautics R&D programmes at issue; (ii) access to NASA facilities, equipment, and employees provided to Boeing pursuant to procurement contracts and Space Act Agreements entered into under the eight aeronautics R&D programmes at issue; (iii) payments made to Boeing pursuant to assistance instruments entered into under the 23 USDOD RDT&E programmes at issue; and (iv) access to USDOD facilities provided to Boeing pursuant to assistance instruments entered into under the 23 RDT&E programmes at issue. However, we recall that, for the reasons explained in section VI.A, we view the aeronautics R&D subsidies as joint venture-type transactions that are composite in nature.

²⁵⁸⁹Panel Report, para. 7.1429. As explained *supra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market.

²⁵⁹⁰Panel Report, para. 7.302.

²⁵⁹¹Panel Report, para. 7.354. As explained *supra*, footnote 1879, the City of Everett B&O tax rate reduction applies only in respect of two of the three relevant product markets, and not in respect of the 100-200 seat LCA market.

²⁵⁹²Panel Report, paras. 7.1431-7.1433 and 7.1825-7.1827.

(the two B&O tax rate reductions²⁵⁹³) on Boeing's pricing of the 787 together with the effects of the aeronautics R&D subsidies on Boeing's development of technologies applied to the 787.²⁵⁹⁴ In its analyses of the "price effects" of subsidies within the 100-200 seat and 300-400 seat LCA markets, the Panel did not collectively assess the effects of the remaining subsidies together with the effects of the tied tax subsidies. The European Union appeals both of these decisions by the Panel.

2. Assessment of the European Union's Claims of Error on Appeal

(a) Introduction

1282. Over the course of these appellate proceedings, the submissions made by the participants and third participants with respect to the collective assessment of the effects of multiple subsidy measures have focused heavily on the approaches employed in the *US – Upland Cotton* and *EC and certain member States – Large Civil Aircraft* disputes. Moreover, following circulation of the Appellate Body report in the latter dispute, the core disagreement between the participants shifted from their different understandings of what was done by the panel in *US – Upland Cotton* to their different understandings of the Appellate Body's findings in *EC and certain member States – Large Civil Aircraft*. For these reasons, we consider it useful to outline key elements of the approaches taken by the panels in these two disputes. As explained below, and accepted by the participants, two distinct means of undertaking a collective assessment of the effects of multiple subsidies have been used, namely: (i) an *ex ante* decision taken by a panel to undertake a single analysis of the effects of multiple subsidies whose structure, design, and operation are similar and thereby to assess in an integrated causation analysis the collective effects of such subsidy measures²⁵⁹⁵; and (ii) an examination undertaken by a panel *after* it has found that at least one subsidy has caused adverse effects as to whether the effects of other subsidies complement and supplement those adverse effects. The former type of approach was employed by the panel in *US – Upland Cotton*, and the latter approach was employed by the panel in *EC and certain member States – Large Civil Aircraft*. For the sake of convenience, we will refer to the first type of approach as a decision to "aggregate" the subsidies, or "aggregation", and to the second type of approach as a decision to "cumulate" the effects of the subsidies, or "cumulation".

²⁵⁹³As explained *supra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market.

²⁵⁹⁴Panel Report, para. 7.1826.

²⁵⁹⁵Such a combined analysis may also encompass a summing up of the *amounts* of different subsidies or groups of subsidies (or of the amounts of the benefits of such subsidies) for purposes of the assessment of the effects of all the subsidies whose effects are assessed in this manner.

1283. Before turning to the European Union's two grounds of appeal, we outline, in subsection (b), the different approaches that have been and that may be taken to a collective assessment of the effects of multiple subsidies. In subsection (c), we identify the approach taken by the Panel in this dispute. In subsection (d), we consider whether the Panel erred in declining to assess collectively the effects of the aeronautics R&D subsidies and the effects of the B&O tax rate reductions. Finally, in subsection (e), we evaluate whether the Panel erred in declining to assess collectively the effects of the tied tax subsidies and the effects of the remaining subsidies and, if so, whether we can complete the analysis and ourselves undertake a collective assessment of the effects of these subsidies.

(b) Different approaches to collective assessment

1284. Articles 5(c) and 6.3 of the *SCM Agreement* do not require that a serious prejudice analysis "clinically isolate each individual subsidy and its effects".²⁵⁹⁶ Rather, the way in which a panel structures its evaluation of a claim that multiple subsidies have caused serious prejudice will necessarily vary from case to case. Relevant circumstances that will bear upon the appropriateness of a panel's approach include the design, structure, and operation of the subsidies at issue, the alleged market phenomena, and the extent to which the subsidies are provided in relation to a particular product or products.²⁵⁹⁷ A panel must also take account of the manner in which the claimant presents its case, and the extent to which it claims that multiple subsidies have similar effects on the same product, or that the effects of multiple subsidies manifest themselves collectively in the relevant market. A panel enjoys a degree of methodological latitude in selecting its approach to analyzing the collective effects of multiple subsidies for purposes of assessing causation. However, a panel is never absolved from having to establish a "genuine and substantial relationship of cause and effect"²⁵⁹⁸ between the impugned subsidies and the alleged market phenomena under Article 6.3, or from assessing whether such causal link is diluted by the effects of other factors.²⁵⁹⁹ Moreover, a panel must take care not to segment unduly its analysis such that, when confronted with multiple subsidy measures, it considers the effects of each on an individual basis only and, as a result of such an atomized approach, finds that no subsidy is a substantial cause of the relevant adverse effects. At least two ways of conducting a collective causation analysis may be pursued by panels.

²⁵⁹⁶Panel Report, *US – Upland Cotton*, para. 7.1192. See also Panel Report, *Indonesia – Autos*, para. 14.206; and Panel Report, *Korea – Commercial Vessels*, para. 7.616.

²⁵⁹⁷Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376 (referring to Panel Report, *US – Upland Cotton*, para. 7.1194; and Panel Report, *Korea – Commercial Vessels*, para. 7.560).

²⁵⁹⁸Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 368 (quoting Appellate Body Report, *US – Upland Cotton*, para. 438).

²⁵⁹⁹See Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)*, para. 375.

1285. First, a panel may group together subsidy measures that are sufficiently similar in their design, structure, and operation in order to ascertain their aggregated effects in an integrated causation analysis and determine whether there is a genuine and substantial causal relationship between these multiple subsidies, taken together, and the relevant market phenomena identified in Article 6.3 of the *SCM Agreement* (such as significant price suppression, lost sales, displacement or impedance). In such circumstances, the panel is not required to find that each subsidy measure is, individually, a genuine and substantial cause of the relevant phenomenon. Nor is it required to assess the relative contribution of each subsidy within the group to the resulting effects. When such an analysis is appropriate in the light of the design, structure, and operation of multiple subsidies, a panel may also add together the *amounts* of the subsidies as part of its analysis of the collective effects of that group of subsidies. Whether such an analysis is appropriate will depend upon the particular features of the subsidies at issue and the case presented by the complainant. The causal mechanism through which a subsidy produces effects is one criterion that will be relevant to the issue of whether aggregation is appropriate in any given instance.

1286. The approach of the panel in *US – Upland Cotton* illustrates this first method of collectively assessing the effects of multiple subsidies (aggregation). That panel noted that the question of whether the effects of the various subsidies should be considered on an aggregated basis was linked to the issue of possible interrelationships among them²⁶⁰⁰, and explained that, in analyzing Brazil's claim of significant price suppression, it would conduct its analysis as follows:

To the extent a sufficient nexus with these exists among the subsidies at issue so that their effects manifest themselves collectively, we believe that we may legitimately treat them as a "subsidy" and group them and their effects together.²⁶⁰¹

In applying this test to the US subsidies challenged by Brazil²⁶⁰², the panel divided the subsidies at issue into two general groups: "those that are directly price-contingent, and those that are not".²⁶⁰³

²⁶⁰⁰Panel Report, *US – Upland Cotton*, footnote 1308 to para. 7.1192.

²⁶⁰¹Panel Report, *US – Upland Cotton*, para. 7.1192. The panel also made clear that it did not accept the broad proposition that "the effects of *all* challenged subsidies in existence more or less contemporaneously and to any connection whatsoever with a subsidized product *must* be aggregated in a serious prejudice analysis." (*Ibid.*, footnote 1308 thereto (original emphasis))

²⁶⁰²See Panel Report, *US – Upland Cotton*, paras. 7.204-7.244.

²⁶⁰³Panel Report, *US – Upland Cotton*, para. 7.1289. The panel considered the distinction between price-contingent and non-price-contingent subsidies to be "critical for the purposes of {its} price suppression analysis in terms of the nexus which the subsidies {had} to any price suppression and to the subsidized product at issue." (*Ibid.*)

The panel identified certain characteristics shared by the price-contingent subsidies²⁶⁰⁴ and found that they had "a nexus with the subsidized product and the single effects-related variable—world price", so as to warrant consideration of their effects in the aggregate, given that such effects are "manifest in the movements in upland cotton prices in the same world market during the reference period."²⁶⁰⁵ In contrast, the panel identified certain characteristics of the non-price-contingent subsidies that suggested a much more attenuated nexus between those subsidies and the world price for cotton²⁶⁰⁶ and, therefore, declined to aggregate the non-price-contingent subsidies with the price-contingent subsidies in its price suppression analysis.²⁶⁰⁷

1287. Second, a panel may begin by analyzing the effects of a *single* subsidy, or an *aggregated* group of subsidies, in order to determine whether it constitutes a genuine and substantial cause of adverse effects. Having reached that conclusion, a panel may then assess whether *other* subsidies—either individually or in aggregated groups—have a *genuine* causal connection to the same effects, and complement and supplement the effects of the *first* subsidy (or group of subsidies) that was found, alone, to be a *genuine* and *substantial* cause of the alleged market phenomena. The other subsidies have to be a "genuine" cause, but they need not, in themselves, amount to a "substantial" cause in order for their effects to be combined with those of the first subsidy or group of subsidies that, alone, has been found to be a genuine and substantial cause of the adverse effects.

1288. This second way of collectively assessing the effects of multiple subsidies (cumulation) was adopted by the panel in *EC and certain member States – Large Civil Aircraft*, a dispute that involved challenges to a large number of subsidy measures. Those that were relevant to the panel's analysis of adverse effects fell into four main categories: (i) "launch aid" or "member State financing"

²⁶⁰⁴The panel explained that the price-contingent subsidy programmes were all similarly linked to the behaviour of world market prices, were countercyclical in nature, and operated similarly to "stimulate production and exports and result in lower world market prices than would prevail in their absence." (Panel Report, *US – Upland Cotton*, paras. 7.1291 and 7.1299)

²⁶⁰⁵Panel Report, *US – Upland Cotton*, para. 7.1303.

²⁶⁰⁶The panel explained that the non-price-contingent subsidies did not "expressly depend upon current production of upland cotton and {were} not directly tied to market prices". This suggested that such subsidies were more directed at income support than at price support and, therefore, that their price effects were "not as easily discernible as those of certain other subsidy programmes". (Panel Report, *US – Upland Cotton*, para. 7.1305)

²⁶⁰⁷Panel Report, *US – Upland Cotton*, para. 7.1307. In its subsequent causation analysis, the panel found that the price-contingent subsidies, as a group, had caused price suppression. Having found that it was not appropriate to aggregate the non-price-contingent subsidies and their effects with those of the price-contingent subsidies, the panel found that no causal link had been established between the non-price-contingent subsidies and the significant price suppression. (*Ibid.*, para. 7.1350) Neither the panel's approach to the aggregation of the effects of the two groups of subsidies, nor its finding that causation had not been established in respect of the non-price-contingent subsidies, was appealed. The Appellate Body ultimately upheld the panel's causation finding with respect to the price-contingent subsidies, which had been appealed on other grounds and, in so doing so, expressly stated that it did not "exclude the possibility that challenged subsidies that are not 'price-contingent' ... could have some effect on production and exports and contribute to price suppression." (Appellate Body Report, *US – Upland Cotton*, footnote 589 to para. 450)

("LA/MSF") for the development of various Airbus LCA models; (ii) research and technological development ("R&TD") funding granted to Airbus companies by the European Communities and member State governments at central and regional levels; (iii) infrastructure and infrastructure-related grants by the member State governments; and (iv) equity infusions and corporate restructuring measures undertaken by the French and German Governments. In its adverse effects analysis, the panel first assessed the effects of one of the categories of subsidies—namely, LA/MSF subsidies—that the United States had contended were the primary subsidies affecting Airbus' commercial behaviour. The panel determined that through their "product effect"—namely, enabling Airbus to launch each of its LCA models at the time that it did²⁶⁰⁸—the LA/MSF caused displacement of imports within the meaning of Article 6.3(a), displacement of exports within the meaning of Article 6.3(b), and significant lost sales within the meaning of Article 6.3(c) of the *SCM Agreement*. The panel then turned to assess the effects of non-LA/MSF subsidies, and considered whether the "product" effect of LA/MSF was "complemented and supplemented" by the remaining three types of subsidies.²⁶⁰⁹ The panel also referred to the test for aggregation of the effects of subsidies set out by the panel in *US – Upland Cotton* in expressing its view that it was "appropriate to undertake {its} analysis of the effects of the subsidies on an aggregated basis".²⁶¹⁰

1289. In reviewing the panel's approach on appeal, the Appellate Body first observed that, notwithstanding that the panel had stated that, like the *US – Upland Cotton* panel, it would undertake an aggregated analysis of the effects of all of the relevant subsidies, that was not in fact what the panel had done.²⁶¹¹ The Appellate Body nevertheless considered that the approach that the panel had taken was in principle permissible provided that, in its analysis, the panel had established a *genuine* causal link between each group of non-LA/MSF subsidies and the relevant adverse effects. Accordingly, the Appellate Body reviewed the panel's individual assessment of each group of non-LA/MSF subsidies in order to determine whether the panel's analysis revealed that it had determined that each such group had a genuine causal connection with the relevant market effects and had thereby identified a

²⁶⁰⁸Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1956.

²⁶⁰⁹Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1956. For each group of subsidies, the panel stated that those subsidies supported the development and production of Airbus LCA or enabled Airbus to develop features and aspects of its LCA on a schedule that it would otherwise not have been able to accomplish. (*Ibid.*, paras. 7.1957-7.1959)

²⁶¹⁰Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1961.

²⁶¹¹Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1372. Rather, the Appellate Body explained, the panel had separately analyzed the product effects of the LA/MSF subsidies, and then sought to determine whether each group of non-LA/MSF subsidies had a sufficient nexus with the product at issue, in particular, similar effects on Airbus' ability to launch and bring to the market particular models of LCA, by means of "a separate—and more abbreviated—assessment of the collective effect of measures comprised under each group of non-LA/MSF subsidies". (*Ibid.*, para. 1373) Having done so, the panel had reached the conclusion that the "'product' effect of LA/MSF {was} ... complemented and supplemented by the other specific subsidies {it had} found to exist in {that} dispute". (*Ibid.* (quoting Panel Report, *EC and certain member States – Large Civil Aircraft*, para. 7.1956))

sufficient basis for its finding that the effects of each such group "complemented and supplemented" the product effects of the LA/MSF "in that they similarly contributed to Airbus' ability to bring to the market its models of LCA, thereby causing displacement ... and significant lost sales".²⁶¹² The Appellate Body found the panel's approach to have been satisfactory with respect to two of the three groups of non-LA/MSF subsidies²⁶¹³, but that the panel had erred in cumulating the effects of the third group of non-LA/MSF subsidies (the R&TD subsidies) with the effects of the LA/MSF subsidies, because it had not established a genuine causal link between those subsidies and Airbus' ability to launch and bring to the market its models of LCA.²⁶¹⁴

1290. Thus, at least two approaches to a collective assessment of the effects of multiple subsidy measures may be used, namely, aggregation and cumulation. Whether either, or both, or neither of these approaches is appropriate in a particular case will be a function of the specific subsidy measures at issue and their effects on prices and sales in the relevant market, as well as upon the manner in which a complainant presents its claim and the panel decides to structure its causation analysis. In deciding how to undertake its analysis of serious prejudice, however, a panel is subject to the constraint that it must employ an approach that will enable it to take due account of all of the subsidies that provide a relevant and identifiable competitive advantage to the recipient and its products in the market and that relate to alleged adverse effects phenomena. Only by doing so can a panel ensure a full appreciation of all of the challenged subsidies that may be contributing, or conducing, to the serious prejudice. At the same time, a panel must be careful not to combine multiple measures in such a way as to absolve a complainant of its burden of proving that each challenged measure is a genuine cause of, or genuinely contributes to producing, the market phenomena identified in Article 6.3 and that the challenged subsidies, taken together, are a genuine and substantial cause of such adverse effects.

²⁶¹² Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1380.

²⁶¹³ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1391 (equity infusions) and 1400 (infrastructure measures).

²⁶¹⁴ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1408. The Appellate Body reasoned that such subsidies "will not have any impact on Airbus' (and consequently on Boeing's) sales unless they provide Airbus LCA with a competitive advantage in relation to Boeing LCA", and that such a competitive advantage "must be reflected either in technologies incorporated in models of LCA actually launched by Airbus, or in technologies that make the production process of those LCA more efficient." Because the panel had made no findings that the development of specific technology or production processes funded by R&TD subsidies contributed to Airbus' ability to launch and bring to market specific LCA models, the Appellate Body found that the panel "did not have a sufficient basis to conclude that those subsidies 'complemented and supplemented' the 'product effect' of LA/MSF" and thus had not established a genuine causal link. (*Ibid.*, para. 1407)

1291. A decision to aggregate subsidies that share a similar design, structure, and operation is both a useful tool that a panel can use to avoid having to repeat the same analysis for each and every measure and a substantive recognition that the measures in question are of such kind that they are likely to conduce to the same result. Indeed, an aggregate analysis of such a group of subsidies may establish a genuine and substantial causal link in circumstances where no such link could have been established for each subsidy measure, analyzed in isolation. A decision by a panel to aggregate multiple subsidy measures represents an exercise of judgement by the panel to the effect that, given the degree of similarity among the subsidy measures, there is a reasonable likelihood that the examination of the causal relationship between each such subsidy and the alleged effects will be largely similar, and that it can be anticipated that the effects of the subsidy measures and their causal relationship to the serious prejudice alleged will be largely the same.²⁶¹⁵ In adopting such an approach, a panel must explain why it considers such similarity to exist. Such explanation should be grounded in the characteristics of the particular subsidies at issue, particularly the nature and design of those subsidy measures, the implications of that nature and design for the operation of the subsidies, their relationship to the subsidized product, and the structure of the market in which that product competes.

1292. In contrast, a decision as to whether the *effects* of different subsidies can be cumulated can be taken only *after* there has been a determination, for at least one subsidy or group of aggregated subsidies, that it has a genuine and substantial link to the alleged market phenomena. Once such a causal link has been established, then a panel will have to address the question of whether other subsidies have a genuine connection to such phenomena. Considerations that may bear upon a panel's assessment of whether a genuine causal connection exists include the design, structure, magnitude, and operation of the subsidy, as well as the nexus between the subsidy and the subsidized product. In our view, a genuine causal connection may be established in different ways. One way is to demonstrate that the subsidy or subsidies cause effects that follow the same causal pathway as a subsidy that has already been found to be a genuine and substantial cause of the alleged market phenomena under Article 6.3 of the *SCM Agreement*. We do not, however, consider that this is the only way in which the requisite genuine causal connection can be established. A genuine causal connection may also be found when a complainant succeeds in demonstrating that, even though other subsidies do not operate along the same causal pathway, those subsidies nevertheless, either singly or in combination, meaningfully contribute to, and thereby complement and supplement, the adverse effects, within the meaning of Article 6.3, caused by the first subsidy. In other words, the effects of

²⁶¹⁵We understand this to have been the approach adopted by the panel in *US – Upland Cotton*, which it explained as, "to the extent a sufficient nexus with these exists among the subsidies at issue so that their effects manifest themselves collectively, we believe that we may legitimately treat them as a 'subsidy' and group them and their effects together." (Panel Report, *US – Upland Cotton*, para. 7.1192)

such other subsidy or group of subsidies must be shown to be non-trivial in order to be found to supplement or complement effects for which a genuine and substantial connection has already been established.

1293. We further observe that the characteristics of the market within which the subsidized products compete may affect the analysis of whether the effects of different subsidies complement and supplement each other, and that panels should give consideration to whether the specific market at issue enhances the scope for complementarity among subsidies—even those subsidies that differ in nature. For example, when a subsidy recipient exercises market power, it may be more likely to be able to take advantage of potential interaction between different subsidies, and to exploit these effects to the disadvantage of its competitors, than would be the case in a perfectly competitive market.

- (c) The approach taken by the Panel to a collective assessment of the effects of the subsidies at issue

1294. We recall that, in advancing its claim that the United States' subsidies at issue had caused serious prejudice to its commercial interests, the European Communities alleged that *all* of the subsidies at issue had "price effects" in all three relevant product markets, and that certain of these measures—the aeronautics R&D subsidies—also had "technology effects" within the 200-300 seat LCA market. In considering how to conduct its analysis of the effects of the various subsidy measures, the Panel quoted the test set out by the panel in *US – Upland Cotton*²⁶¹⁶ and explained that it would use such an approach, which it explained as follows:

{I}n order to conduct an aggregated analysis of the effects of subsidies in the context of this dispute, it should be possible to discern from their structure, design and operation that they affect Boeing's behaviour in a similar way.²⁶¹⁷

1295. As explained above, this approach led the Panel to undertake an aggregated analysis within each of the following three groups of subsidies: (i) the tied tax subsidies²⁶¹⁸; (ii) the aeronautics R&D subsidies; and (iii) the remaining subsidies. It also led the Panel *not* to undertake an aggregated analysis of the tied tax subsidies *and* the aeronautics R&D subsidies, or of the tied tax subsidies *and* the remaining subsidies.

²⁶¹⁶Panel Report, para. 7.1804 (referring to Panel Report, *US – Upland Cotton*, para. 7.1192).

²⁶¹⁷Panel Report, para. 7.1805.

²⁶¹⁸Panel Report, para. 7.1805. Pursuant to this approach, the Panel conducted an integrated analysis of the effects of the FSC/ETI subsidies and the B&O tax rate reductions within the 100-200 seat and 300-400 seat LCA markets, and an integrated analysis of the price effects of the B&O tax rate reductions in the 200-300 seat market.

1296. The Panel appears to have decided that it was appropriate to conduct an aggregated analysis within each of these groups of subsidies by virtue of their design, structure, and operation. With respect to the tied tax subsidies, for example, the Panel observed that both the European Communities and the United States accepted that these subsidies were sufficiently similar as to warrant an aggregated analysis of their effects.²⁶¹⁹ The Panel itself explained that the "FSC/ETI subsidies reduce the revenues from certain sales of aircraft on which Boeing is taxed" and that "the B&O tax {rate reductions} directly reduce the rate at which Boeing's gross revenues from the manufacture of aircraft are taxed."²⁶²⁰ Thus, the Panel explained, all of these subsidies increase "the profitability of LCA sales in a way that enables Boeing to price its LCA at a level that would not otherwise be commercially justified."²⁶²¹ The Panel concluded that, "by lowering the taxes incurred in connection with sales of LCA", the FSC/ETI subsidies and the B&O tax rate reductions have a much more "direct and immediate relationship to aircraft prices and sales" than other subsidies at issue in this dispute.²⁶²² The Panel also undertook an aggregated analysis of the effects of all of the aeronautics R&D subsidies based on their nature and the fact that they were designed to have effects on Boeing's product offering.²⁶²³

1297. The Panel also appears to have undertaken an aggregated analysis of the remaining subsidies. Although the Panel did not expressly indicate that it was proceeding in this manner²⁶²⁴, the Panel did, in its reasoning, identify several characteristics that these measures had in common. For instance, the Panel noted that all of these measures fell within the category of subsidies identified by the European Communities as operating to increase Boeing's non-operating cash flow²⁶²⁵, and that none of these subsidies was directly related to Boeing's production or sale of LCA.²⁶²⁶ The Panel reasoned that, even if the conditions of competition are such that subsidies of this nature allow Boeing to market its LCA at lower prices than would otherwise be the case, the remaining subsidies are not

²⁶¹⁹Panel Report, para. 7.1805 (referring to United States' first written submission to the Panel, paras. 767 and 768). Although the parties did not agree on the precise nature of the FSC/ETI subsidies and B&O tax rate reductions—the European Communities alleged that they operate to reduce Boeing's marginal unit costs, whereas the United States contested this characterization of the nature of these measures—both accepted that the measures share sufficient similarities in structure and operation such that it was appropriate for the Panel to conduct an aggregated analysis of their effects.

²⁶²⁰Panel Report, para. 7.1807.

²⁶²¹Panel Report, para. 7.1807.

²⁶²²Panel Report, para. 7.1807.

²⁶²³In these appellate proceedings, both participants accepted, in response to questioning at the oral hearing, that it was appropriate for the Panel to have conducted an aggregated analysis of the tied tax subsidies, and an aggregated analysis of the aeronautics R&D subsidies.

²⁶²⁴Similarly, the Panel did not explicitly identify the reasons why it considered that an aggregate assessment of the effects of the aeronautics R&D subsidies was warranted.

²⁶²⁵Panel Report, para. 7.1825.

²⁶²⁶Panel Report, para. 7.1827.

"explicitly targeted to lowering Boeing's costs of production of specific LCA models".²⁶²⁷ The Panel also noted that both parties appeared to accept "the proposition that where a subsidy is not tied to production of a particular product, the subsidy may still affect the behaviour of the recipient of the subsidy in a manner that causes serious prejudice, depending upon the context in which it is used."²⁶²⁸

1298. In contrast, the Panel gave the following reasons for deciding not to conduct a collective assessment of the price effects of the B&O tax rate reductions and the technology effects of the aeronautics R&D subsidies within the 200-300 seat LCA market:

{W}e have previously found that the aeronautics R&D subsidies, through their effects on Boeing's development of technologies for the 787, gave rise to serious prejudice in that product market. However, owing to the very different way in which the aeronautics R&D subsidies operate, we do not consider that it is appropriate to aggregate the effects of the B&O tax subsidies on Boeing's pricing of the 787 with the effects of the aeronautics R&D subsidies on Boeing's development of technologies applied to the 787, as it is clear that *the two groups of subsidies operate through entirely distinct causal mechanisms.*²⁶²⁹ (emphasis added; footnote omitted)

1299. The Panel did not address explicitly the question of whether it would have been appropriate to undertake a collective assessment of the effects of the remaining subsidies together with the effects of the tied tax subsidies. In any event, the Panel did not do so.

1300. In accordance with the above approach, the Panel examined the effects of the B&O tax rate reductions, alone, within the 200-300 seat LCA market. The Panel found that:

... there is insufficient evidence before us that would enable us to conclude that these subsidies are of a magnitude that would enable them, on their own, to have such an effect on Boeing's prices of the 787 as would lead to a finding that their effects in the 200-300 seat wide-body market were significant price suppression, significant

²⁶²⁷Panel Report, para. 7.1827 (quoting European Communities' first written submission to the Panel, para. 1303).

²⁶²⁸Panel Report, para. 7.1828. As explained further below, although the Panel recognized that the aeronautics R&D subsidies also shared such characteristics, the Panel did not cumulate the price effects of those subsidies with those of the remaining subsidies.

²⁶²⁹Panel Report, para. 7.1824. Furthermore, in the section of its Report dealing with the "{e}ffects on Boeing's pricing of subsidies alleged to increase Boeing's non-operating cash flow" (*ibid.*, p. 707, subheading VII.F.2(c)(ii)), the Panel took the view that it would not be appropriate to analyze the price effects of the aeronautics R&D subsidies, and explained:

Having analyzed the effects of the aeronautics R&D subsidies on the basis of their contribution to Boeing's development of technologies for the 787, we consider that it would be over-counting to additionally analyze their effects based on a different understanding of their operation, namely, as freeing up additional cash for Boeing to use to lower the prices of its LCA.

(*Ibid.*, para. 7.1826)

lost sales or displacement or impedance of European Communities imports into the United States or exports to third countries.²⁶³⁰

1301. The Panel also examined the effects of the remaining subsidies alone, as follows:

As we have explained, the Panel is assessing the effects on Boeing's LCA pricing of approximately \$550 million in subsidies, the receipt of which is not directly tied to the production or sale of particular LCA. We are not persuaded that subsidies of this nature and of this amount have affected Boeing's prices in a manner that could be said to give rise to serious prejudice to the European Communities' interests.²⁶³¹

- (d) Whether the Panel erred in declining to assess collectively the effects of the aeronautics R&D subsidies and the effects of the B&O tax rate reductions

1302. We recall that, in examining the price effects of the subsidies within the 200-300 seat LCA market, the Panel declined to consider the effects of the R&D subsidies together with the effects of the B&O tax rate reductions on the grounds that "the two groups of subsidies operate through entirely distinct causal mechanisms".²⁶³² We set out below the arguments of the parties as to whether or not this finding by the Panel amounted to legal error, before turning to assess the issue ourselves.

(i) *Arguments of the parties*

1303. The European Union contends that the Panel erred in so finding and challenges, in particular, the "distinct causal mechanism" test relied upon by the Panel in deciding that it was not appropriate to undertake a collective assessment of the effects of these two groups of subsidies within the 200-300 seat LCA market. The arguments made by the European Union in support of this claim of error shifted somewhat following circulation of the Appellate Body report in *EC and certain member States – Large Civil Aircraft*. In its appellant's submission in this appeal, the European Union sought to demonstrate, through its interpretation of the text of Articles 5(c) and 6.3 of the *SCM Agreement*, read in the light of their context and the object and purpose of that Agreement, that the Panel's test of whether groups of subsidies operate through the same or "distinct causal mechanisms" has no basis in that Agreement, is overly restrictive, and would enable Members to escape subsidy disciplines by providing a series of small subsidies that each affects the recipient slightly differently. The European Union argued that a panel may not clinically isolate or compartmentalize its analysis so as to mask the contribution of any subsidy or group of subsidies to adverse effects. Rather, a panel must

²⁶³⁰Panel Report, para. 7.1824.

²⁶³¹Panel Report, para. 7.1828.

²⁶³²Panel Report, para. 7.1824.

always assess—quantitatively or qualitatively—whether the collective competitive impact of the different subsidies causes one or more of the forms of adverse effects listed in Article 6.3.

1304. In its appellee's submission, submitted following circulation of the Appellate Body report in *EC and certain member States – Large Civil Aircraft*, the European Union contended that, having found that the aeronautics R&D subsidies allowed Boeing to suppress Airbus' pricing in the 200-300 seat LCA market, and having also found that the B&O tax rate reductions had the capacity to suppress Airbus' pricing (in the 100-200 seat and 300-400 seat LCA markets), the Panel failed to take the next step and combine the effects of the B&O tax rate reductions with those of the aeronautics R&D subsidies within the 200-300 seat LCA market. In response to questioning at the oral hearing, the European Union further clarified its position with respect to this claim of error, and, in so doing, stressed the similarity between this dispute and the approach endorsed by the Appellate Body in *EC and certain member States – Large Civil Aircraft*. The European Union explained that, in this dispute, the Panel found that the aeronautics R&D subsidies were a genuine and substantial cause of significant price suppression in the 200-300 seat LCA market. The Panel in effect also found that the tied tax subsidies that apply in the 200-300 seat LCA market—the B&O tax rate reductions—have a genuine, albeit non-substantial, causal relationship with the same kind of adverse effect.²⁶³³ In such circumstances, the European Union submitted, the Panel was required to consider the possibility that the effects of the B&O tax rate reductions complemented and supplemented those of the aeronautics R&D subsidies.

1305. Also at the oral hearing, the European Union rejected assertions by the United States that in *EC and certain member States – Large Civil Aircraft* the Appellate Body found that the effects of different groups of subsidies can be cumulated only when they affect the behaviour of the subsidy recipient in the same way. While it is true that the facts in *EC and certain member States – Large Civil Aircraft* were such that each group of subsidies was alleged to have "product" effects on Airbus, nothing in the Appellate Body's reasoning suggests that the same approach should not have been followed if some of the subsidies had been alleged to have "price" effects on Airbus. In this dispute, the Panel considered the possibility of cumulation only at the first stage of its analysis (the effects of the subsidies on Boeing), and failed to consider whether cumulation would be appropriate at the second stage of its analysis (the effects of the subsidies on Airbus), even though both the aeronautics R&D subsidies and the B&O tax rate reductions had been alleged to have effects on *Airbus'* pricing and sales. Instead, the Panel considered that it was precluded from cumulating these effects solely

²⁶³³Such a finding is, according to the European Union, implicit in the Panel's findings, with respect to the 100-200 seat and 300-400 seat LCA markets, that the tied tax subsidies (the B&O tax rate reductions together with the FSC/ETI subsidies) were a genuine and substantial cause of significant price suppression.

because they were produced pursuant to different causal mechanisms. The European Union claims that such reasoning constitutes legal error and must be reversed. The European Union further clarified at the oral hearing that it is not seeking to have us complete the analysis and determine, ourselves, whether the effects of the B&O tax rate reductions complemented and supplemented the adverse effects that the Panel found were caused by the aeronautics R&D subsidies within the 200-300 seat LCA market.

1306. The United States submits that the Panel's decision to consider the effects of the aeronautics R&D subsidies separately from those of the B&O tax rate reductions was permissible under Articles 5 and 6.3 of the *SCM Agreement*, based on the European Communities' own arguments about the differing nature of these two groups of subsidies and their different effects on Boeing's commercial behaviour, and consistent with the Appellate Body's affirmation that panels enjoy "a certain degree of discretion in selecting an appropriate methodology" for determining adverse effects, and that the "appropriateness of a particular method may have to be determined on a case-specific basis".²⁶³⁴

1307. The United States adds that the Panel's approach accords with the views of the Appellate Body in *EC and certain member States – Large Civil Aircraft*. According to the United States, the Appellate Body's analysis in that dispute shows that, even when using a cumulation methodology, panels should focus on discerning whether the various subsidies operate through the same causal mechanism to cause adverse effects. This ensures that subsidies with little or no causal relationship are not found to cause adverse effects simply because they are grouped together with subsidies that do have a genuine and substantial causal connection with the alleged effects. In response to questioning at the oral hearing, the United States emphasized that, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body found that the panel was entitled to cumulate the effects of subsidies that had a genuine causal link with the product effects of the LA/MSF subsidies, but had erred in cumulating the effects of the R&TD subsidies with the effects of the LA/MSF subsidies, because the R&TD subsidies had no genuine causal link to Airbus' ability to launch the relevant models as and when it did. Similarly, in the case at hand, the Panel aggregated all subsidies alleged to operate through the causal mechanism of enhancing Boeing's ability to launch the 787, namely, the aeronautics R&D subsidies. In contrast, the B&O tax rate reductions did not, and were not alleged to, affect Boeing's launch of the 787. Rather, the B&O tax rate reductions were alleged to affect Boeing's prices. Since the Panel did not find that the aeronautics R&D subsidies had the effect of causing Boeing to reduce the sales price of the 787, it follows, according to the United States, that the Panel

²⁶³⁴United States' appellee's submission, para. 194 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376, in turn referring to Appellate Body Report, *US – Upland Cotton*, para. 436).

was not required to include the effects of the B&O tax rate reductions in its analysis of the effects of the aeronautics R&D subsidies.

1308. The United States adds that the European Union's "extremely broad interpretation of Articles 5 and 6.3" of the *SCM Agreement* finds no support in these provisions and amounts to an argument "that these provisions require a cumulative assessment *in all cases*".²⁶³⁵ The United States submits that the Appellate Body should reject the European Union's "one-size-fits-all analytical approach in which aggregation or cumulation is required in all cases"²⁶³⁶ and, instead, confirm that a "genuine and substantial relationship of cause and effect" or a "genuine causal connection" must be established between any particular subsidy found to exist and any adverse effect found to exist.²⁶³⁷

(ii) *Analysis*

1309. We begin with two preliminary observations. First, we note that the Panel declined to "aggregate" the effects of these two groups of subsidies owing to their "distinct causal mechanisms".²⁶³⁸ Although the Panel's reasoning suggests that it was declining to combine the two groups of subsidies for the purpose of carrying out an aggregated analysis of their collective effects, we also consider below whether the reason given by the Panel would have justified a refusal to cumulate the effects of the B&O tax rate reductions with the effects of the aeronautics R&D subsidies.

1310. Second, we recall that, before the Panel, the European Communities presented separate arguments as to how the aeronautics R&D subsidies cause technology effects, and how all of the subsidies (including the aeronautics R&D subsidies) cause price effects. The European Communities argued that the aeronautics R&D subsidies have "two simultaneous effects" on prices, namely:

- (1) *direct* price effects by allowing Boeing to price more aggressively than would otherwise be possible; and
- (2) *indirect* price effects through the earlier availability of technologically innovative products like the 787 that require Airbus to lower, for example, its A330 prices to be able to compete. The second, indirect price effect results from the "technology" or "product" effects of the US R&D subsidies.²⁶³⁹ (original emphasis)

²⁶³⁵United States' appellee's submission, para. 203 (referring to European Union's appellant's submission, paras. 205 and 206). (original emphasis)

²⁶³⁶United States' appellee's submission, para. 211.

²⁶³⁷United States' appellee's submission, para. 204 (referring to Appellate Body Report, *US – Upland Cotton*, para. 438; and Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1376 and 1378).

²⁶³⁸Panel Report, para. 7.1824.

²⁶³⁹European Communities' response to Panel Question 285, para. 570.

Thus, the European Communities' arguments with respect to *direct* price effects related to alleged effects on *Boeing's* pricing, whereas its arguments with respect to *indirect* price effects focused on the alleged effects on *Airbus's* pricing resulting from the technology effects of the subsidies on Boeing's product offering.

1311. Ultimately, the Panel found that the R&D subsidies cause, *inter alia*, significant price suppression of the A330 and the Original A350 in the 200-300 seat LCA market. The Panel's reasoning suggests that it accepted the European Communities' theory regarding "indirect" effects on Airbus' prices caused through the technology effects of the aeronautics R&D subsidies on Boeing's product offering.²⁶⁴⁰ Although the Panel did make one observation relating to Boeing's prices²⁶⁴¹, the Panel does not appear to have found that the aeronautics R&D subsidies led *directly* to a reduction of Boeing's 787 prices, for example through lowered manufacturing costs.²⁶⁴² Rather, the Panel's principal finding was that Airbus was obliged to lower its prices due to the 2004 entry into the market of Boeing's technologically superior 787.²⁶⁴³

1312. The section of the Panel Report dealing with the alleged price effects of all of the subsidies is separate from and subsequent to the section of its Report dealing with the technology effects of the aeronautics R&D subsidies. In its analysis of the alleged price effects of all of the subsidies at issue, the Panel posed the question of whether it should "analyze the effects of the aeronautics R&D subsidies again, this time on the basis that they freed up additional cash which Boeing was able to use to engage in aggressive pricing of its three families of LCA".²⁶⁴⁴ The Panel decided not to do so. The Panel recalled that, in its analysis of the technology effects of this group of subsidies, it had expressed

²⁶⁴⁰The Panel explained why the A330 prices could be expected to, and did, fall upon the introduction of the 787, namely, that "the combination of the superior technology and lower operating costs of the 787 clearly affected the comparative value of Airbus' A330 ..., leaving Airbus no other option but to reduce the prices of its aircraft in order to compete". (Panel Report, para. 7.1792)

²⁶⁴¹The Panel considered that the evidence of the results of specific sales campaigns showed that Boeing won the sales with its 787 either because the customer perceived competing Airbus products to be technologically inferior, or because, even if the Airbus offering could meet its requirements, it was "swayed by the extremely low pricing offered by Boeing". (Panel Report, para. 7.1786)

²⁶⁴²Although the Panel acknowledged, and stated, that it had "no reason to doubt" the United States' argument that "Boeing's 787 manufacturing costs have been lowered significantly by using commercially available product life cycle management and design software, sourcing common materials across suppliers, and standardizing customer-selected options", the Panel emphasized that "one of the major focuses of the aeronautics R&D subsidies was the development of innovative technologies that result in lower direct operating costs to airlines." (Panel Report, footnote 3732 to para. 7.1792)

²⁶⁴³At the oral hearing, both participants accepted that the Panel had not made any findings with respect to the effects of the aeronautics R&D subsidies on Boeing's prices.

²⁶⁴⁴Panel Report, para. 7.1826.

the view that it was not "appropriate to reduce the effects of the aeronautics R&D subsidies at issue in this dispute to their cash value."²⁶⁴⁵ The Panel considered that:

{h}aving analyzed the effects of the aeronautics R&D subsidies on the basis of their contribution to Boeing's development of technologies for the 787, ... it would be over-counting to additionally analyze their effects based on a different understanding of their operation, namely, as freeing up additional cash for Boeing to use to lower the prices of its LCA.²⁶⁴⁶

1313. The European Union has not appealed this finding. In other words, the European Union is not contending on appeal, as it did before the Panel, that the aeronautics R&D subsidies *directly* affected Boeing's *prices*, in addition to the effects that they had on Boeing's development of technologies used on the 787. Rather, the European Union's contention is that, in reaching its finding that the subsidies at issue caused a threat of displacement and impedance of EC exports in third-country markets, and significant lost sales and significant price suppression in the 200-300 seat LCA market, the Panel should have added together the price effects of the B&O tax rate reductions and the technology effects that the Panel found had been caused by the aeronautics R&D subsidies.

1314. Turning to the substance of this ground of the European Union's appeal, we first recall that, although the Panel found that there were three tied tax subsidies, only two of these—the B&O tax rate reductions—were available to Boeing in connection with its manufacturing and sale of the 787 in the 200-300 seat LCA market.²⁶⁴⁷

1315. Like the European Union, we consider that the Panel's reasoning, in its analysis of the effects of the tied tax subsidies within the 100-200 seat and 300-400 seat LCA markets, suggests that the Panel considered that the B&O tax rate reductions have a genuine causal connection with Boeing's prices and, therefore, with Airbus' prices. The Panel underlined the direct connection between the three subsidy measures in this group and Boeing's prices²⁶⁴⁸, which stems from the fact that each of these subsidies is directly tied to Boeing's sales of individual LCA.²⁶⁴⁹ In deciding to aggregate these

²⁶⁴⁵Panel Report, para. 7.1826, referring to para. 7.1760.

²⁶⁴⁶Panel Report, para. 7.1826.

²⁶⁴⁷As explained *supra*, footnote 1882, the European Communities did not claim that the FSC/ETI subsidies had adverse effects in the 200-300 seat LCA market, and the Panel conducted its analysis on the basis that these subsidies had no effects in that product market

²⁶⁴⁸Panel Report, para. 7.1807.

²⁶⁴⁹Panel Report, para. 7.1806.

subsidies, the Panel expressed the view that "their structure, design and operation {is such} that they affect Boeing's behaviour in a similar way."²⁶⁵⁰ The Panel explained that:

... the FSC/ETI subsidies and the B&O tax subsidies, by lowering the taxes incurred in connection with sales of LCA, clearly have a far more direct and immediate relationship to aircraft prices and sales than other subsidies at issue in this dispute, such as the aeronautics R&D subsidies.²⁶⁵¹

1316. The Panel went on to find that the FSC/ETI subsidies, in combination with the B&O tax rate reductions, "enabled Boeing to lower its prices beyond the level that would otherwise have been economically justifiable, and that in some cases, this led to it securing sales that it would not otherwise have made, while in other cases, it led to Airbus being able to secure the sale only at a reduced price."²⁶⁵² This in turn provided key support for the Panel's ultimate finding that "the effects of {the tied tax subsidies, including FSC/ETI} on Airbus' prices and sales constitute significant lost sales and significant price suppression, ... as well as displacement and impedance of exports from third country markets" in the 100-200 seat and 300-400 seat LCA markets.²⁶⁵³ It is true that the Panel provided somewhat more reasoning with respect to the contribution of the FSC/ETI subsidies, as opposed to the B&O tax reductions, to the effects on Boeing's prices, for example singling out the export-contingent nature of those subsidies²⁶⁵⁴ and their strategic importance to Boeing's competitiveness in export markets.²⁶⁵⁵ In our view, however, this reasoning simply reveals that the Panel considered that the FSC/ETI subsidies made relatively more of a contribution to the effects and market phenomena that it found to exist. We see no indication that the Panel's evaluation of the directness of the link between the tied tax subsidies and Boeing's pricing would have been any different if it had analyzed only the B&O tax rate reductions.

1317. The Panel held that the aeronautics R&D subsidies were a genuine and substantial cause of a threat of displacement and impedance, significant lost sales, and significant price suppression in the 200-300 seat LCA market, and we have upheld much of that finding on appeal.²⁶⁵⁶ As explained, we understand the Panel to have also found, albeit implicitly, that the B&O tax rate reductions had a genuine causal connection with Boeing's prices and, therefore, with Airbus' prices. At first blush, it

²⁶⁵⁰Panel Report, para. 7.1805, setting out the relevant standard, which the Panel went on to apply in its consideration, in paras. 7.1806 and 7.1807, of the structure, design, and operation of the FSC/ETI subsidies and the B&O tax rate reductions.

²⁶⁵¹Panel Report, para. 7.1807.

²⁶⁵²Panel Report, para. 7.1818.

²⁶⁵³Panel Report, para. 7.1822.

²⁶⁵⁴Panel Report, paras. 7.1808-7.1810.

²⁶⁵⁵Panel Report, para. 7.1817.

²⁶⁵⁶We recall that we have reversed the Panel's finding of a threat of displacement and impedance with respect to three of the four third-country markets concerned. (*Supra*, para. 1090)

seems to us that the next step for the Panel to have taken would have been to consider whether the effects of the B&O tax rate reductions complemented or supplemented the effects of the aeronautics R&D subsidies within the 200-300 seat LCA market.

1318. At the oral hearing, the participants and the third participants engaged in a lengthy discussion of the approach to cumulation endorsed by the Appellate Body in *EC and certain member States – Large Civil Aircraft*. The United States suggested that the approach of the Appellate Body in that dispute made clear that the effects of subsidies may be cumulated only when they manifest themselves in the same way. Thus, in that dispute, cumulation was possible for those two groups of non-LA/MSF subsidies that, like the LA/MSF subsidies, had "product" effects, in that they contributed to the launch of specific models of Airbus LCA. According to the United States and Japan, the same approach is not possible when, as in this dispute, some subsidies affect the recipient's products and other subsidies affect its prices. The European Union, supported by Brazil, contended that the Appellate Body did not suggest any such limitations in *EC and certain member States – Large Civil Aircraft* but, rather, that cumulation should be undertaken whenever one group of challenged subsidies have been found to constitute a genuine and substantial cause of adverse effects, and other subsidies have been found to have a direct nexus with the same subsidized product, irrespective of how the effects of those subsidies have been found to manifest themselves. Canada suggested that this issue was not fully resolved by the Appellate Body in that dispute.

1319. In our view, the issue of whether cumulation of the effects of different types of subsidies is possible or appropriate is a question that must be answered in the light of the particular facts and circumstances of a given case, including the subsidies at issue and their nexus with the subsidized products, the effects produced, and their relationship to the alleged Article 6.3 market phenomena.²⁶⁵⁷ We do not see any *a priori* reason—such as, that different subsidies operate through distinct causal mechanisms—why cumulation would be precluded outright. We are particularly hesitant to set out a rigid benchmark against which panels should test whether or not cumulation is appropriate based on the facts of this dispute or of *EC and certain member States – Large Civil Aircraft*. Each of these disputes involved very particular duopolistic markets, in which the market participants enjoyed some degree of market power in their product and pricing decisions. In such markets, it may be that the "product" or "technology" effects of subsidies can be examined separately from their "price" effects. We nevertheless question whether such a segmented analysis is capable of fully reflecting market dynamics and taking account of the scope for subsidies and their effects to interact in these types of markets. Moreover, in many other markets, the structure of competition will be such that it will

²⁶⁵⁷ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1376.

simply be impossible meaningfully to conduct a separate analysis of, or distinguish between, "product" effects and "price" effects.

1320. We are of the view that the Panel should have, in this dispute, considered whether the effects of the B&O tax rate reductions complemented and supplemented the effects of the aeronautics R&D subsidies within the 200-300 seat LCA market, or, in other words, whether it would have been appropriate to cumulate their effects. We do not consider the mere fact that the two groups of subsidies operated through distinct causal mechanisms could, alone, have resolved the questions of whether each group had effects relevant to the serious prejudice alleged and whether those effects were capable of being combined in the Panel's analysis of serious prejudice because they contributed similarly to the relevant market phenomena. This is since, as we have explained, for purposes of cumulating, the requisite genuine causal connection can be established even when the other subsidies do not operate along the same causal pathway as the subsidy found to be a genuine and substantial cause of Article 6.3 market phenomena, provided that those subsidies meaningfully contribute to the same market phenomena caused by the first subsidy. When that is so, the effects of such subsidies complement and supplement, and should be cumulated with, the effects of the subsidy that is a genuine and substantial cause of such phenomena.

1321. By closing its mind to such an approach, "owing to the very different way" in which the two groups of subsidies operate and their "entirely distinct causal mechanisms"²⁶⁵⁸, the Panel failed to give full consideration to the possibility of cumulating the effects of these two groups of subsidies. We therefore *find* that the Panel erred in failing to consider whether the price effects of the B&O tax rate reductions complement and supplement the technology effects of the aeronautics R&D subsidies in causing significant lost sales and significant price suppression, and a threat of displacement and impedance, in the 200-300 seat LCA market. The European Union does not request us to complete the analysis on this issue.

²⁶⁵⁸Panel Report, para. 7.1824.

- (e) Whether the Panel erred in declining to assess collectively the effects of the tied tax subsidies and the effects of the remaining subsidies
- (i) *Whether the Panel should have aggregated the remaining subsidies with the tied tax subsidies or cumulated the effects of these two groups of subsidies*

1322. The European Union also requests us to reverse the Panel's finding that:

... {in} assessing the effects on Boeing's LCA pricing of approximately \$550 million in subsidies, the receipt of which is not directly tied to the production or sale of particular LCA ... {the Panel was} not persuaded that subsidies of this nature and of this amount have affected Boeing's prices in a manner that could be said to give rise to serious prejudice to the European Communities' interests.²⁶⁵⁹

1323. According to the European Union, the Panel erred in reaching this finding because it assessed the remaining subsidies in isolation, rather than aggregating them with the tied tax subsidies, or cumulating their effects with those of the tied tax subsidies. Since, like the tied tax subsidies, the remaining subsidies had a nexus with the subsidized LCA and with Boeing's pricing, the European Union asserts that, either the Panel should have conducted an aggregated assessment of their effects, or, after determining that the tied tax subsidies caused serious prejudice, it should have cumulated the effects of these two groups of subsidies. The European Union stresses, in this regard, that the Appellate Body recognized, in *US – Upland Cotton*, that untied (non-price-contingent) subsidies can have price effects.

1324. The United States considers that the Panel did not err in declining to undertake a collective assessment of the remaining subsidies and the tied subsidies in its analysis of adverse effects. In the view of the United States, this ground of the European Union's appeal relies on an incorrect understanding of the panel reports in *US – Upland Cotton* and *EC and certain member States – Large Civil Aircraft*, and a flawed interpretation of Articles 5 and 6.3 of the *SCM Agreement* as requiring the collective assessment of "*any and all* subsidies benefiting the subsidised product in the market at issue."²⁶⁶⁰ The United States emphasizes that no sufficient nexus between the remaining subsidies and the subsidized products was established. The United States argues that there was virtually no evidence before the Panel as to how the remaining subsidies were used²⁶⁶¹, and the Panel never agreed with the European Communities' contention that the remaining subsidies confer the equivalent of

²⁶⁵⁹Panel Report, para. 7.1828.

²⁶⁶⁰United States' appellee's submission, para. 219 (quoting European Union's appellant's submission, para. 205 (original emphasis)).

²⁶⁶¹United States' appellee's submission, para. 214 (quoting Panel Report, footnote 3786 to para. 7.1828, in turn referring to United States' comments on the European Communities' response to Panel Question 301, paras. 601 and 602).

additional cash flow or found that the remaining subsidies impact the same "effects-related variable" as the tied tax subsidies—namely, price. For the United States, the circumstances of this dispute are comparable to those in *EC and certain member States – Large Civil Aircraft*, where the Appellate Body found that the panel had erred in cumulating the effects of the R&TD subsidies with the effects of the LA/MSF subsidies because "a general finding that they enabled Airbus to develop 'features and aspects' of its LCA on a schedule that otherwise it would have been unable to accomplish does not provide a sufficient basis to determine that R&TD subsidies 'complemented and supplemented' the 'product effect' of LA/MSF in enabling Airbus to launch particular models of LCA."²⁶⁶² Thus, submits the United States, the approach taken by the Appellate Body in *EC and certain member States – Large Civil Aircraft* affirms that the Panel in this dispute was correct to decline to undertake any collective assessment of the tied tax subsidies and the remaining subsidies, or their effects.

1325. As indicated above, the Panel did not explicitly address the question of whether it *should* have collectively assessed these two groups of subsidies and their effects. This is surprising given that the European Communities had consistently argued that *all* of the subsidies had effects on Boeing's pricing, and that the Panel should have collectively assessed such effects. Accordingly, we simply do not know whether the Panel did not collectively assess these two groups of subsidies or their effects because, as with the aeronautics R&D subsidies and the B&O tax rate reductions, it considered that the two groups of subsidies operated through "distinct causal mechanisms", or for some other reason.

1326. Although the absence of any reasoning by the Panel is problematic, we consider that there is support on the record for the view that the Panel did not act outside the scope of its discretion by not conducting an *aggregated* analysis of these two groups of subsidies. Most importantly, the Panel's explanations of the operation of the tied tax subsidies, on the one hand, and the remaining subsidies, on the other hand, strongly suggest that the Panel considered them to be different in nature. The Panel explicitly drew a contrast between the two groups, explaining that the remaining subsidies, "unlike the FSC/ETI subsidies and B&O tax {rate reductions} ..., are not directly related to Boeing's production or sale of LCA."²⁶⁶³ Furthermore, in its submissions to the Panel, the European Communities itself accepted that these subsidies were, at least to some extent, different in nature.²⁶⁶⁴ In addition, in seeking to quantify the price effects of these two groups of subsidies, the European Communities drew a distinction between the *extent* of the effects on Boeing's prices that would flow from the tied

²⁶⁶²United States' appellee's submission, para. 218 (quoting Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1407).

²⁶⁶³Panel Report, para. 7.1827.

²⁶⁶⁴The European Communities emphasized that, because they were contingent on the production and sale of LCA units, the tied tax subsidies reduced Boeing's marginal unit costs. (Panel Report, para. 7.1608) In contrast, the European Communities accepted that the remaining subsidies were not tied to per-unit sales or production, but alleged that they increased Boeing's non-operating cash flow. (*Ibid.*, paras. 7.1609 and 7.1827)

tax subsidies (which the European Communities claimed would be a dollar-for-dollar reduction per LCA produced or sold) as compared to the remaining subsidies (which the European Communities claimed, based on the Cabral Report, would be somewhat less than that). For these reasons, we are unable to accept the European Union's contention that the Panel erred in failing to conduct *ex ante* an *aggregated* analysis of these two groups of subsidies and their effects.

1327. We find more persuasive force in the European Union's alternative argument, namely, that the Panel erred in failing to make a *cumulative* assessment of whether the remaining subsidies affected Boeing's prices in a way similar to the tied tax subsidies, such that they complemented and supplemented the effects of the tied tax subsidies that the Panel had found to be a genuine and substantial cause of displacement and impedance, significant lost sales, and significant price suppression in the 100-200 seat and 300-400 seat LCA markets. The European Communities consistently maintained before the Panel that *all* of the subsidies—the tied tax subsidies, the remaining subsidies, and the aeronautics R&D subsidies—contributed to Boeing's ability to reduce, and to the actual reduction of, its LCA prices and the consequent adverse effects on Airbus in the market. As explained above, the Panel identified—albeit briefly—the reason why it did not assess the effects on Boeing's 787 prices alleged to have resulted from the aeronautics R&D subsidies²⁶⁶⁵, and this aspect of the Panel's approach has not been appealed.

1328. The Panel undertook only a cursory analysis of the alleged effects of the remaining subsidies. The Panel acknowledged that a subsidy of the nature of the remaining subsidies *could* "affect the behaviour of the recipient of the subsidy *in a manner that causes serious prejudice*, depending upon the context in which it is used" even though the receipt of such subsidy "is not directly tied to the production or sale of particular LCA".²⁶⁶⁶ After referring to the \$550 million amount of the subsidies, however, the Panel stated that it was "not persuaded that subsidies of this nature and of this amount have affected Boeing's prices *in a manner that could be said to give rise to serious prejudice* to the European Communities' interests".²⁶⁶⁷ The Panel, however, should not have limited its analysis to the question of whether these subsidies constitute a genuine and substantial cause of serious prejudice *on their own*. Instead, the Panel should have inquired as to whether the remaining subsidies had a genuine causal relationship with, that is, made a real or meaningful contribution to, the effects that it had found the tied tax subsidies to have on Boeing's LCA pricing, such that the remaining subsidies could be said to complement and supplement those effects and, thereby, the serious prejudice caused

²⁶⁶⁵The Panel considered that, "{h}aving analyzed the effects of the aeronautics R&D subsidies on the basis of their contribution to Boeing's development of technologies for the 787", "it would be over-counting to additionally analyze their effects based on a different understanding of their operation, namely, as freeing up additional cash for Boeing to use to lower the prices of its LCA". (Panel Report, para. 7.1826)

²⁶⁶⁶Panel Report, para. 7.1828. (emphasis added)

²⁶⁶⁷Panel Report, para. 7.1828. (emphasis added)

to the interests of the European Communities. Instead, having found that the tied tax subsidies were a genuine and substantial cause of Article 6.3 phenomena, the Panel failed to ascertain whether a genuine causal relationship existed between these phenomena and the remaining subsidies, and failed to consider whether the effects of the tied tax subsidies and those of the remaining subsidies could or should be cumulated.

1329. For these reasons, we *find* that the Panel erred in concluding, in paragraphs 7.1828 and 7.1855 of the Panel Report, that the remaining subsidies had not been shown to have affected Boeing's prices in a manner giving rise to serious prejudice, without having considered whether those subsidies had a genuine relationship to, and effects on, such prices. Accordingly, we *reverse* that finding, which was reached without having given full consideration to the claim as presented by the European Communities.

1330. We emphasize that, in reaching this conclusion, we are not suggesting that the mere fact that the Panel had found the tied tax subsidies affected Boeing's prices and were a genuine and substantial cause of adverse effects means that the remaining subsidies necessarily had similar effects.²⁶⁶⁸ Rather, we fault the Panel for failing to address this question at all, particularly given the European Communities' consistent position that both groups of subsidies had similar effects on Boeing's pricing and contributed to the same market phenomena.

(ii) *The European Union's request for completion of the analysis*

1331. The European Union requests us to complete the analysis and find that, together with the tied tax subsidies, the remaining subsidies cause adverse effects. The European Union requests that we conduct an aggregated assessment of these two groups of subsidies and find that they both provided Boeing with pricing advantages and caused the same market effects. Alternatively, the European Union requests that we cumulate the effects of these two groups of subsidies or, in other

²⁶⁶⁸Similarly, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body cautioned that "the fact that LA/MSF measures enabled certain product launches, and therefore were a genuine and substantial cause of displacement and lost sales during the reference period, does not in and of itself establish that non-LA/MSF subsidies had similar effects." (Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, para. 1379)

words, find that the effects of the remaining subsidies complemented and supplemented the price effects that the Panel found to have been caused by the tied tax subsidies.²⁶⁶⁹

1332. In response, the United States emphasizes the differences between the facts of this dispute and those in *EC and certain member States – Large Civil Aircraft*. The United States argues that the European Union does not identify relevant factual findings or undisputed facts that would enable us to complete the analysis, and asserts that there are no such findings or undisputed facts on the record.

1333. We begin by considering whether we can or should seek to aggregate the remaining subsidies with the tied tax subsidies. We recall the differences between these two groups of subsidies that were identified by the Panel²⁶⁷⁰ and, indeed, by the European Communities itself.²⁶⁷¹ We further recall that we have already found that the Panel did not err in failing to undertake an aggregated analysis of these two groups of subsidies.²⁶⁷² Accordingly, we do not consider that it would be appropriate to ourselves consider the same question again.

1334. We thus turn to the European Union's alternative request that we find that the effects of the remaining subsidies complemented and supplemented the effects of the tied tax subsidies on Boeing's prices, and the consequent adverse effects that the Panel found to have been caused. We have

²⁶⁶⁹As with its arguments with respect to the Panel's alleged error, the European Union's arguments shifted somewhat between its appellant's submission (submitted before circulation of the Appellate Body report in *EC and certain member States – Large Civil Aircraft*) and the arguments put forward in its appellee's submission and at the oral hearing. In its appellant's submission, the European Union seeks completion of the analysis through application of the approach used in *US – Upland Cotton*, and focuses on the nexus between the subsidies and the product and between the subsidies and the relevant market effect. Although the European Union has not abandoned these arguments, its subsequent submissions focus more on the approach used in *EC and certain member States – Large Civil Aircraft*. Relying upon the Appellate Body report in that dispute, the European Union requests that we find that, because the remaining subsidies have a genuine causal link with the same claimed effect (on prices), and because the Panel found that the tied tax subsidies caused, in and of themselves, serious prejudice, the remaining subsidies complemented and supplemented the price effects of those tied tax subsidies.

²⁶⁷⁰*Supra*, para. 1326.

²⁶⁷¹We recall that, before the Panel, the European Communities distinguished between the way in which each group of subsidies affected Boeing's prices, and the extent to which each group of subsidies was used by Boeing to reduce the prices of its LCA. Although the European Communities argued that *all* of the subsidies, in *both* categories, led to Boeing pricing its LCA at a lower level than it otherwise would have, it characterized the tied tax subsidies as subsidies that directly reduced Boeing's marginal costs of production, and the remaining subsidies as subsidies that increased Boeing's non-operating cash flow. With respect to the subsidies alleged directly to reduce Boeing's marginal unit costs, the European Communities considered that these had "particularly strong price effects", namely, the effect of reducing Boeing's LCA prices on a "dollar-for-dollar" basis. In order to calculate the price-reducing effects of the subsidies alleged to increase Boeing's non-operating cash flow, the European Communities relied upon a model prepared by its economic expert, Luís Cabral, which estimated the price effects of such subsidies. (See European Communities' first written submission to the Panel, paras. 1302, 1370, 1477, and 1571; Panel Report, Appendix VII.F.2 – The Cabral Model; and Cabral Report).

²⁶⁷²*Supra*, para. 1326.

reversed the Panel's findings regarding the effects of the tied tax subsidies.²⁶⁷³ Furthermore, in completing the analysis of the European Union's claim, we have found that the FSC/ETI subsidies and the State of Washington B&O tax rate reduction were, through their effects on Boeing's prices for its 737NG, a genuine and substantial cause of significant lost sales in the 100-200 seat LCA market.²⁶⁷⁴ Accordingly, the question that we must address is whether the effects of the remaining subsidies complemented and supplemented these effects.

1335. We recall that, in *EC and certain member States – Large Civil Aircraft*, the Appellate Body accepted that the effects of one group of subsidies may only be found to complement and supplement the effects of a second group of subsidies when that first group of subsidies is shown to have a *genuine* causal connection with the relevant effects and market phenomena caused by the second group of subsidies.²⁶⁷⁵ This is because the fact that the first group of subsidies is not, in itself, a substantial cause of adverse effects does not exclude that it had effects similar to those of another group of subsidies that was both a genuine and a substantial cause of those effects. Cumulation of this sort does, however, require an affirmative showing that there is a genuine causal nexus between the first group of subsidies and the effects and market phenomena to which they are alleged to be contributing.

1336. It is undisputed that none of the remaining subsidies was contingent upon the production or sale of particular LCA.²⁶⁷⁶ The Panel noted that both parties accepted the proposition that the receipt of such subsidies "may still affect the behaviour of the recipient of the subsidy in a manner that causes serious prejudice, depending upon the context in which it is used."²⁶⁷⁷ The Panel further observed that the European Communities had identified a number of elements as demonstrating that, in the context of this dispute, the remaining subsidies did affect Boeing's pricing including: "LCA market factors", "dynamics of production", and the "intense duopoly competition existing in the LCA markets".²⁶⁷⁸ We considered several of these factors in completing the analysis of the European Union's claim that, through their price effects, the tied tax subsidies caused serious prejudice.²⁶⁷⁹ We accepted that the

²⁶⁷³ *Supra*, paras. 1249 and 1274.

²⁶⁷⁴ *Supra*, para. 1274.

²⁶⁷⁵ Appellate Body Report, *EC and certain member States – Large Civil Aircraft*, paras. 1378 and 1379.

²⁶⁷⁶ Panel Report, paras. 7.1827 and 7.1828.

²⁶⁷⁷ Panel Report, para. 7.1828. The United States, however, considered it "unlikely" that subsidies that are not tied to production of a particular product would affect production. (*Ibid.*, paras. 7.1827 and 7.1828) We also recall that, with respect to the *capability* of an untied subsidy to affect price and output decisions, the Appellate Body stated in *US – Upland Cotton* that it did not "not exclude the possibility that challenged subsidies that are not 'price-contingent' ... could have some effect on production and exports and contribute to price suppression." (Appellate Body Report, *US – Upland Cotton*, footnote 589 to para. 450)

²⁶⁷⁸ Panel Report, para. 7.1827.

²⁶⁷⁹ See section X.D.4(d) of this Report.

100-200 seat LCA market operates as a duopoly, in which Airbus and Boeing each possesses the ability, through its supply and pricing decisions, to influence the pricing of the other. We further observed that price appears to have been a particularly important consideration in the 100-200 seat LCA market due to the relatively high degree of substitutability between the A320 and the 737NG, and the fact that many customers within this product market are low-cost carriers, which are particularly price-sensitive. We noted the Panel's finding that, in late 2004 or early 2005, Boeing altered its overall pricing strategy and became more "aggressive" on price.²⁶⁸⁰ Furthermore, we referred to the Panel's finding that certain LCA sales campaigns are more competitive and more price-sensitive than others.²⁶⁸¹ Finally, based on our examination of the uncontested facts relating to the evidence of specific sales campaigns, we determined that Boeing was under particular pressure to reduce its prices in order to secure 737NG sales in the 2005 JAL and SALE campaigns, and we concluded that it used the FSC/ETI subsidies and the State of Washington B&O tax rate reduction to do so.²⁶⁸²

1337. These findings are equally relevant to our analysis of whether the remaining subsidies had a genuine causal link to Boeing's pricing of its 737NG in those two campaigns because they establish Boeing's strong incentives to employ available means to lower its 737NG prices and secure those sales. Accordingly, we consider that, in the circumstances of those two sales campaigns, the necessary causal link will be established if there are uncontested facts or factual findings by the Panel linking the remaining subsidies, or any of them, to the 737NG. This will suffice to establish that the benefits of such subsidies were among the means available to Boeing in those campaigns and, thereby, to demonstrate a genuine nexus between such remaining subsidies and the 737NG.

1338. The remaining subsidies comprised eight measures provided in several different jurisdictions, at both the local and state level, and pursuant to several different subsidy programmes. Several of the financial contributions were in the form of tax credits or tax reductions²⁶⁸³, some were direct transfers

²⁶⁸⁰Panel Report, Appendix VII.F.2 – The Cabral Model, p. 777, para. 68 and footnote 4250 thereto.

²⁶⁸¹Panel Report, paras. 7.1694 and 7.1820.

²⁶⁸²See *supra*, para. 1271.

²⁶⁸³With respect to the Washington State tax measures, the subsidies are the B&O tax credits for preproduction development, computer software and hardware, and property taxes, as well as the sales and use tax exemptions for computer hardware, peripherals, and software. As regards the Kansas State tax-related measures, the subsidy is the property and sales tax abatements arising from IRBs. As for the Illinois State tax measures, the subsidies are a reduced income tax liability due to certain tax credits and partial property tax abatements.

of funds²⁶⁸⁴, and still others were found to involve the provision of both goods and services.²⁶⁸⁵ The amount of the different subsidies ranged from \$0.5 million to \$475.8 million.²⁶⁸⁶ As for the time periods over which they were received, most of the measures involved financial contributions available on an annual basis over a defined period of time and were found to have been received annually for periods of up to 17 years²⁶⁸⁷, although one subsidy involved a one-off payment to retire a lease.²⁶⁸⁸

1339. The Panel observed that the amount of the remaining subsidies was "comparatively small, being approximately \$550 million" and that none of the remaining subsidies was "directly related to Boeing's production or sale of LCA".²⁶⁸⁹ While we agree with these statements to some extent, we consider that they are overbroad. For instance, as indicated above, the size of each subsidy varied considerably, from \$0.5 million to \$475.8 million. Furthermore, the magnitude of the subsidy, while still a relevant consideration, is of somewhat less consequence when the issue is whether the effects of the subsidy can be *cumulated* with the effects of another group of subsidies that have been found to be a genuine and substantial cause of serious prejudice, rather than whether the subsidy itself *caused* the serious prejudice. In addition, the uncontested fact that the subsidies are not "tied" does not necessarily imply that none of them are "directly related to Boeing's production or sale of LCA".²⁶⁹⁰ It is true, as the Panel appears to have recognized²⁶⁹¹, that none of the remaining subsidies was "tied" to the production or sale of specific LCA, in the sense that we have used that term in this Report. In other words, receipt of the subsidy was not contingent on the production or sale of a particular product

²⁶⁸⁴These subsidies are Illinois State's reimbursement of up to 50% of Boeing's relocation expenses, and the payment of \$1 million to retire the lease of the previous tenant of Boeing's headquarters building. (Panel Report, para. 7.907)

²⁶⁸⁵These subsidies are Washington State's Employment Resource Center and workforce development programme. (Panel Report, para. 7.588)

²⁶⁸⁶The Panel determined that the benefit to Boeing's LCA division from the property tax abatements provided to Boeing pursuant to the IRBs issued by the State of Kansas and municipalities therein was the amount directly received by Boeing over the period 1989-2006, namely, \$475.8 million. (Panel Report, para. 7.818) The Panel also determined that the City of Chicago had paid \$1 million to retire the lease of the previous tenant of Boeing's new headquarters building, and allocated 50% of that \$1 million amount to Boeing's LCA division. (*Ibid.*, paras. 7.902 and 7.932)

²⁶⁸⁷The Panel found that the property and sales tax abatements provided pursuant to the IRBs issued by the State of Kansas and municipalities therein were received by Boeing's LCA division over the period 1989-2006. (Panel Report, para. 7.818)

²⁶⁸⁸Panel Report, para. 7.902.

²⁶⁸⁹Panel Report, para. 7.1827. The Panel further referred to the European Communities' acknowledgement that the subsidies were not "explicitly targeted at lowering Boeing's costs of production of specific LCA models". (*Ibid.*, quoting European Communities' first written submission to the Panel, para. 1303)

²⁶⁹⁰Panel Report, para. 7.1827.

²⁶⁹¹The Panel stated that the receipt of the remaining subsidies "is not directly tied to the production or sale of particular LCA". (Panel Report, para. 7.1828)

on a per-unit basis.²⁶⁹² Yet all of the remaining subsidies are subsidies intended to cover some portion of the fixed costs that Boeing incurs, for example, its costs for purchasing or improving manufacturing facilities for components, for purchasing computer hardware and software, for training workers, or for obtaining early access to its new corporate headquarters building in Chicago. Moreover, as explained further below, some of these subsidies are more directly related to Boeing's production of LCA and in particular to its production of the 737NG, than others.

1340. Indeed, before the Panel, the European Communities itself argued that certain of these subsidies were more closely linked to LCA production than others, and in some instances to the production of particular LCA models. The European Communities distinguished among subsidies that benefited the 787 only (category A); subsidies that benefited multiple aircraft families, including the 737NG (category C); and subsidies that benefited Boeing's LCA business in general (category E).²⁶⁹³

1341. Importantly, the European Communities classified the Washington State workforce development programme and Employment Resource Center as category A subsidies, that is, as subsidies benefitting *only* the 787. Thus, the European Communities did not, in its first written submission to the Panel, contend that the Washington State workforce development programme and Employment Resource Center benefited Boeing's 737NG or affected the pricing of this Boeing model.²⁶⁹⁴ In addition, although the European Communities initially asserted that all of the Washington State B&O tax credits were category C subsidies that benefited several aircraft families including the 737NG, in subsequently quantifying the amount of the B&O tax credit for property

²⁶⁹²The Panel further noted that the European Communities did not use the word "tied" in this way. Rather, the European Communities used the concept "to denote the allocation of a subsidy amount to particular products, rather than to denote that a subsidy is 'tied' to a product in the sense that its receipt is in some way contingent on production or sale of a particular product". (Panel Report, footnote 3783 to para. 7.1827; see also European Communities' response to Panel Question 374, paras. 297 and 298 and footnote 392 thereto) The European Communities explained that it considered a subsidy to be "tied" when it is "directed at specific products, such that the benefit of the subsidy may reasonably be deemed to flow to those products", and that, in the context of this dispute, it considered a subsidy to be "tied" when "it *benefits* one or more *particular aircraft families* – e.g., the City of Everett B&O tax reduction that benefits Boeing's 777 and 787, as well as its 747 and 767, but not Boeing's 717, 737, or 757". (European Communities' response to Panel Question 374, para. 298 (original emphasis))

²⁶⁹³European Communities' response to Panel Question 374, footnote 396 to para. 298; International Trade Resources LLC, "Calculating on a Per-Aircraft Basis the Magnitude of the Subsidies Provided to US Large Civil Aircraft" (20 February 2007) (Panel Exhibit EC-13), para. 32 and Tables 7 and 10. See also European Communities' first written submission to the Panel, paras. 1226-1278. The European Communities referred to subsidies that benefited: the 787 only (category A); all Boeing aircraft families except the 787 (Category B); all aircraft families except the 717 (category C); all aircraft families except the 717, 737NG and 757 (Category D); and all aircraft families (category E). (International Trade Resources LLC, "Calculating on a Per-Aircraft Basis the Magnitude of the Subsidies Provided to US Large Civil Aircraft" (20 February 2007) (Panel Exhibit EC-13), Table 10)

²⁶⁹⁴See European Communities' first written submission to the Panel, Figure 41 – US Subsidies Benefiting Boeing 737NG LCA, at para. 1475.

taxes, the European Communities stated that the entire amount related to "new construction related to the 7E7 plane" at Boeing's Everett facility—that is, to production facilities for the 787.²⁶⁹⁵ In other words, the European Communities' own submissions reveal that this B&O tax credit benefited only the 787. For these reasons, we cannot now inquire whether the Washington State workforce development programme, the Employment Resource Center, or the Washington State B&O tax credit for property taxes benefited the production of the 737NG, or whether the effects of these three subsidies can be cumulated with those of the tied tax subsidies in the 100-200 seat LCA market.

1342. The European Communities also categorized as category E subsidies, benefiting Boeing's LCA business generally, the four subsidies that were granted in connection with Boeing's relocation of its corporate headquarters to the State of Illinois.²⁶⁹⁶ The European Communities recognized that subsidies of this nature are "not directed at a particular product, but rather at the entire company or business unit at issue", but contended that such subsidies "may reasonably be deemed to benefit all of the company or business unit's products".²⁶⁹⁷ In our view, these arguments by the European Communities do not suffice to link clearly these four measures with Boeing's production of the 737NG. We also note that these subsidies were received by The Boeing Company, and that the Panel allocated a percentage of the overall amount received to Boeing's LCA division.²⁶⁹⁸ For these reasons, we are not persuaded that these subsidies have been shown to have meaningfully contributed to any lowering of Boeing's prices for its 737NG, or, in other words, that there is a genuine causal link between these subsidies and the relevant market effects. For this reason, we cannot cumulate the effects of these subsidies with those of the tied tax subsidies in the 100-200 seat LCA market.

1343. The European Communities contended that the other remaining subsidies benefited particular families of aircraft, including the 737NG family. These subsidies, and their amounts, are as follows: (i) the Washington State B&O tax credits for preproduction development, and for computer software

²⁶⁹⁵Panel Report, para. 7.217.

²⁶⁹⁶These subsidies consisted of: (i) the reimbursement of a portion of Boeing's relocation expenses by the State of Illinois; (ii) the 15-year EDGE tax credits provided by the State of Illinois; (iii) the abatement or refund of a portion of Boeing's property taxes provided by the State of Illinois; and (iv) the payment to retire the lease of the previous tenant of Boeing's new headquarters building in Chicago.

²⁶⁹⁷European Communities' response to Panel Question 374, para. 298.

²⁶⁹⁸The Panel accepted a 50% allocation to Boeing's LCA division of the total amounts paid. (Panel Report, para. 7.932) The European Communities explained in its first written submission that it had allocated 50% to Boeing's LCA division "because, over time, approximately 50% of Boeing's total sales have, on average, related to LCA". (European Communities first written submission to the Panel, para. 384) The United States responded that, "{a}lthough the EC's fifty percent allocation to large civil aircraft is not necessarily accurate, the United States accepts it only for the purposes of the Illinois State measures because the monetary values involved are small and a more accurate allocation, such as one based on revenue, would thus not necessarily result in a meaningful change in the figures." (United States first written submission to the Panel, footnote 852 to para. 663)

and hardware (\$41.3 million²⁶⁹⁹); (ii) the Washington State sales and use tax exemptions for computer hardware, peripherals, and software (\$8.3 million²⁷⁰⁰); and (iii) the property and sales tax abatements provided to Boeing pursuant to IRBs issued by the City of Wichita (\$475.8 million²⁷⁰¹).

1344. Boeing obtained Washington State B&O tax credits for certain preproduction development expenditures, that is, for expenditures on aeronautics-related research, design, and engineering activities²⁷⁰², as well as for certain expenditures on design and preproduction development computer software and hardware for the digital design and development of commercial airplanes.²⁷⁰³ These tax credits were applied against Boeing's liability for B&O taxes which, as we have indicated, accrued in connection with the manufacture and sale of all Boeing LCA produced in the State of Washington, including the 737NG. However, we see no indication on the record that the B&O tax credits were received in connection with expenditures related to the 737NG. Indeed, the limited information that there is on the record suggests that, if anything, the expenditures generating the tax credits related to Boeing aircraft families other than the 737NG.²⁷⁰⁴

1345. Turning to the Washington State sales and use tax exemptions, we note that Boeing received sales and use tax exemptions in connection with its purchases of computer hardware, peripherals, and software, when these were purchased for or used in the development of commercial airplanes or their

²⁶⁹⁹Specifically, the Panel found that, through 2006, the amount of the B&O tax credit for preproduction development was \$21.3 million, and the amount of the B&O tax credit for computer software and hardware was \$20 million. (Panel Report, para. 7.257)

²⁷⁰⁰Panel Report, paras. 7.258.

²⁷⁰¹Panel Report, para. 7.818.

²⁷⁰²Panel Report, paras. 7.51 and 7.52, summarizing and reproducing relevant parts of section 7 of House Bill 2294.

²⁷⁰³Panel Report, paras. 7.53 and 7.54, summarizing and reproducing relevant parts of section 8 of House Bill 2294.

²⁷⁰⁴In calculating the amount of these two tax credits, the Panel relied mainly on a Fiscal Note from the Washington State Department of Revenue. (Panel Report, paras. 7.255-7.257 (referring to Washington State Department of Revenue, "Final HB 2294 Fiscal Note – 20-Year Spreadsheet: Commercial Airplane/Component Industry Tax Incentives" (Panel Exhibit US-184)) That spreadsheet refers to "Everett" and thus appears to suggest that the estimated amounts of Washington State B&O tax credits received for expenditures on preproduction development computer software and hardware related to Boeing's facilities in Everett, Washington. The City of Everett houses Boeing's facilities for the final assembly of its twin-aisle LCA families (during the reference period, Everett was the future site of the 787 assembly facilities, and the actual site of the facilities where final assembly of Boeing's 747, 767, and 777 families occurred). In contrast, final assembly of Boeing's single-aisle 737NG takes place in Renton, Washington. (See European Communities' first written submission to the Panel, para. 46; and United States' first written submission to the Panel, para. 852) We also note that, on their face, Sections 7 and 8 of House Bill 2294 suggest that both of these tax credits relate to "preproduction" expenditures and that, during the reference period, the 737NG was already in production, whereas the 787 was still in the "preproduction" phase. Section 7 allows a B&O tax credit "for preproduction development spending", and defines "preproduction development" as "research, design, and engineering activities performed in relation to the development of a product", while Section 8 refers to "a credit ... for the investment related to design and preproduction development computer software and hardware acquired ... and used by an eligible person primarily for the digital design and development of commercial airplanes". (See Panel Report, paras. 7.52 and 7.54)

components.²⁷⁰⁵ Like the B&O tax credits discussed above, these tax exemptions formed part of the package of measures contained in House Bill 2294. Although this package of measures was intended to provide incentives to Boeing to locate its 787 production facilities in the City of Everett, the tax measures that it contained were, in principle, available in respect of all Boeing aircraft manufactured in Washington State, and not only in respect of the 787.²⁷⁰⁶ Again, however, we see no indication on the record that the sales and use tax exemptions were received or expected to be received in connection with expenditures related to the 737NG, and the limited information on the record suggests that, if anything, the sales and use tax exemptions were granted in connection with expenditures related to Boeing aircraft families other than the 737NG.²⁷⁰⁷

1346. For these reasons, we consider that neither the Panel's findings nor the uncontested facts on the record demonstrate a genuine link between Boeing's 737NG and the B&O tax credits for certain preproduction development expenditures and for computer software and hardware, or between the 737NG and the sales and use tax exemptions for computer hardware, software, and peripherals.

1347. Finally, we consider whether the City of Wichita IRBs have a genuine connection to Boeing's 737NG. The Panel found that the IRB scheme was designed to assist in raising revenue to fund the purchase, construction, or improvement of industrial property used for manufacturing purposes²⁷⁰⁸, including real property as well as commercial and industrial machinery and equipment.²⁷⁰⁹ The IRBs issued to Boeing were specifically aimed at, and were used for the purpose of, enhancing Boeing's

²⁷⁰⁵Panel Report, paras. 7.59 and 7.60, summarizing and reproducing sections 9(1) and 10(1) of House Bill 2294.

²⁷⁰⁶See Panel Report, footnote 1057 to para. 7.43.

²⁷⁰⁷In calculating the amount of this subsidy, the Panel relied on a PowerPoint presentation submitted by the European Communities. The amounts that the Panel estimated Boeing would receive during the reference period (\$8.3 million from 2004-2006) were derived from a chart projecting that, through 2024, Boeing would receive a net benefit of \$56 million. The same figure—\$56 million—was listed earlier in the same presentation as the "Everett value" of the sales tax exemption for computer hardware, peripherals, and software. Given that, as we have indicated, Boeing's assembly of the 737NG occurs in Renton, rather than in Everett, Washington, this could suggest that this sales and use tax exemption was linked to the production of Boeing models other than the 737NG. (See "Washington State and the Boeing Company: Working Together for the Boeing 7E7 Dreamliner, Continuing Support and Collaborative Actions", PowerPoint presentation, Greenville, SC (September 2003) (Panel Exhibit EC-65), p. 55 and Appendix thereto entitled "HB 2294 (through FY2024) Superefficient Commercial Airplane Production in Washington State – Sales Tax Exemption for Computers") Furthermore, the Panel observed that the estimates contained in the presentation were "based upon an indication from Boeing of *site needs for a 787 assembly facility*." (Panel Report, para. 7.142 (emphasis added)) Thus, we see no indication in that Panel Exhibit or in the Panel Report of any connection between Boeing's production of the 737NG and the benefits expected to accrue to Boeing from the sales and use tax exemption.

²⁷⁰⁸Panel Report, paras. 7.651 and 7.652.

²⁷⁰⁹Panel Report, para. 7.708.

manufacturing facilities in Wichita.²⁷¹⁰ Those manufacturing facilities produced parts for Boeing LCA including, notably, the 737NG.²⁷¹¹ Indeed, in June 2005, Boeing's website identified its Wichita facilities as producing "75 percent of the airframe of the 737, the best-selling jetliner in history. For the Next-Generation 737-600/ -700/ -800/-900 and Boeing Business Jet models, Wichita joins the forward and aft fuselage assemblies into one unit prior to shipment by rail to its sister division in Renton, Wash., where final assembly and delivery takes place".²⁷¹² In our view, these considerations reveal a close connection between the IRBs and Boeing's production of the 737NG.

1348. Like the Panel and, indeed, the participants, we have no difficulty accepting the general proposition that subsidies that are not directly contingent upon production or sale *can* nevertheless affect pricing decisions in some circumstances.²⁷¹³ We have also explained above the basis for our view that the circumstances of the JAL and SALE campaigns were such that we are satisfied that Boeing used the FSC/ETI subsidies and the State of Washington B&O tax rate reduction to lower its 737NG prices.²⁷¹⁴ Within this product market and in the circumstances of those campaigns, we are further satisfied that Boeing would have used all available means to reduce its prices to the extent necessary to secure those sales, including subsidy benefits directly linked to production of the 737NG. The IRBs cannot be considered trivial in terms of their overall magnitude or duration, and they have a genuine link to Boeing's production of the 737NG. For these reasons, we consider that Boeing's IRB benefits enhanced the pricing flexibility that it enjoyed by reason of the tied tax subsidies in the circumstances of those two sales campaigns. Accordingly, we *find* that the effects of the City of Wichita IRBs complemented and supplemented the price effects of the FSC/ETI subsidies and the State of Washington B&O tax rate reduction, thereby causing serious prejudice, in the form of significant lost sales, within the meaning of Articles 5(c) and 6.3(c) of the *SCM Agreement*, in the 100-200 seat LCA market.

²⁷¹⁰The Panel found that IRBs were "for the purpose of providing funds for the acquisition, construction and improvement of certain industrial and manufacturing facilities of *Boeing Commercial Airplanes, Wichita Division*". (Panel Report, para. 7.815)

²⁷¹¹The Panel explained that, over a period of 70 years, Boeing's manufacturing facility in Wichita produced parts for every Boeing LCA except the 717. (Panel Report, para. 7.857)

²⁷¹²Wichita Overview, "Boeing Commercial Airplanes, Wichita Division", printout dated 1 June 2005, from <<http://www.boeing.com/commercial/wichita/commercial.htm>> (Panel Exhibit EC-157).

²⁷¹³The Panel noted that both parties appeared to accept the proposition that, "where a subsidy is not tied to production of a particular product, the subsidy may still affect the behaviour of the recipient of the subsidy in a manner that causes serious prejudice, depending upon the context in which it is used." (Panel Report, para. 7.1828)

²⁷¹⁴See *supra*, para. 1271.

3. Conclusion

1349. In our consideration of the European Union's appeal, we have found that the Panel erred in failing to consider whether the price effects of the B&O tax rate reductions complemented and supplemented the technology effects of the aeronautics R&D subsidies in causing significant lost sales and significant price suppression, and a threat of displacement and impedance in the 200-300 seat LCA market.²⁷¹⁵ We have further reversed the Panel's finding, in paragraphs 7.1828 and 7.1855 of the Panel Report, that the remaining subsidies had not been shown to have affected Boeing's prices in a manner giving rise to serious prejudice, because the Panel reached that finding without having considered whether those subsidies had a genuine relationship to, and effects on, those prices, such that they could be said to complement and supplement the price effects of the tied tax subsidies in the 100-200 seat and 300-400 seat LCA markets. Lastly, we completed the analysis and found that the effects of the City of Wichita IRBs complemented and supplemented the price effects of the FSC/ETI subsidies and the State of Washington B&O tax rate reduction, thereby causing serious prejudice, in the form of significant lost sales, within the meaning of Articles 5(c) and 6.3(c) of the *SCM Agreement*, in the 100-200 seat LCA market.

²⁷¹⁵The European Union does not request that we complete the analysis and cumulate the technology effects of the aeronautics R&D subsidies with the price effects of the B&O tax rate reductions in the 200-300 seat LCA market.

XI. Findings and Conclusions

1350. For the reasons set out in this Report, the Appellate Body:

- (a) with respect to the Panel's preliminary ruling regarding the absence of an information-gathering procedure under Annex V to the *SCM Agreement* in this dispute:
 - (i) finds that the Panel erred, and failed to resolve adequately the legal issues presented, in denying the various requests made by the European Communities with respect to an Annex V procedure;
 - (ii) finds that, in accordance with paragraph 2 of Annex V to the *SCM Agreement*, the DSB's initiation of an information-gathering procedure in a serious prejudice dispute occurs automatically when there is a request for initiation of such a procedure and the DSB establishes a panel; and
 - (iii) declines to find that all of the conditions for the initiation of an Annex V procedure were fulfilled in this dispute, and makes no finding as to whether the United States failed to comply with its obligations under the first sentence of paragraph 1 of Annex V to the *SCM Agreement*, whether the European Communities was entitled to present its serious prejudice case based on the evidence available to it, whether the Panel was entitled to complete the record as necessary relying on best information otherwise available, or whether the Panel was entitled to draw adverse inferences;
- (b) with respect to the Panel's findings regarding financial contribution and benefit:
 - (i) declares moot and of no legal effect the Panel's interpretation of Article 1.1(a)(1)(i) of the *SCM Agreement* and its finding, in paragraph 7.970 of the Panel Report, that "transactions *properly characterized* as purchases of services" are excluded from the scope of that provision;
 - (ii) in relation to the measures under the eight NASA R&D programmes at issue:
 - (A) finds that the payments and access to facilities, equipment, and employees provided to Boeing pursuant to NASA procurement contracts constitute direct transfers of funds and the provision of goods or services, and therefore financial contributions within the

meaning of Article 1.1(a)(1)(i) and (iii) of the *SCM Agreement*, and finds that there is no basis to address the related claim of the United States under Article 11 of the DSU;

- (B) upholds, albeit for different reasons, the Panel's finding, in paragraph 7.1040 of the Panel Report, that the payments and access to facilities, equipment, and employees provided under the NASA procurement contracts conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*; and
- (C) rejects the United States' claim that the Panel erred in estimating the amount of the subsidy provided to Boeing pursuant to the NASA contracts and agreements under the eight R&D programmes at issue and, consequently, upholds the Panel's findings, in paragraphs 7.1081 and 7.1109 of the Panel Report, that the estimated amount of payments to Boeing through the NASA procurement contracts was \$1.05 billion; and upholds the Panel's finding, in paragraphs 7.1099 and 7.1109 of the Panel Report, that the estimated value of the free access to facilities, equipment, and employees provided to Boeing through NASA procurement contracts and agreements was \$1.55 billion;
- (iii) in relation to the measures under the 23 USDOD RDT&E programmes at issue:
- (A) finds that the payments and access to facilities provided to Boeing pursuant to USDOD assistance instruments constitute direct transfers of funds and the provision of goods or services, and therefore financial contributions within the meaning of Article 1.1(a)(1)(i) and (iii) of the *SCM Agreement*;
- (B) upholds, albeit for different reasons, the Panel's finding, in the first sentence of paragraph 7.1187 of the Panel Report, that payments and access to facilities provided under the USDOD assistance instruments conferred a benefit on Boeing within the meaning of Article 1.1(b) of the *SCM Agreement*; and

- (C) finds that the Panel did not act inconsistently with Article 11 of the DSU when it stated, in paragraph 7.1205 of the Panel Report, that it "{did} not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that {US}DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA"; and
- (iv) in relation to the Washington State B&O tax rate reduction:
- (A) upholds the Panel's finding, in paragraph 7.133 of the Panel Report, that the reduction in the Washington State B&O tax rate applicable to commercial aircraft and component manufacturers constitutes the foregoing of revenue otherwise due, and therefore a financial contribution, within the meaning of Article 1.1(a)(1)(ii) of the *SCM Agreement*;
- (c) with respect to the Panel's findings regarding specificity:
- (i) in relation to the allocation of patent rights under contracts and agreements between NASA/USDOD and Boeing, and on the assumption that such allocation is a self-standing subsidy:
- (A) finds that such subsidy is not explicitly limited to certain enterprises within the meaning of Article 2.1(a) of the *SCM Agreement*;
- (B) finds that the Panel erred by failing to examine the European Communities' arguments that such allocation is "in fact" specific under Article 2.1(c) of the *SCM Agreement* and, therefore, finds that the Panel's overall finding under Article 2.1 cannot be sustained; and
- (C) declines to find that such allocation is specific within the meaning of Article 2.1(c) of the *SCM Agreement*; and

- (ii) in relation to the Washington State B&O tax rate reduction and the IRB subsidies provided by the City of Wichita, Kansas:
 - (A) upholds the Panel's finding, in paragraph 7.205 of the Panel Report, that the Washington State B&O tax rate reduction is a subsidy that is specific within the meaning of Article 2.1(a) of the *SCM Agreement*; and
 - (B) upholds, albeit for different reasons, the Panel's finding, in paragraph 7.779 of the Panel Report, that the IRB subsidies provided by the City of Wichita to Boeing and Spirit are specific within the meaning of Article 2.1(c) of the *SCM Agreement*; and
- (d) with respect to the Panel's findings regarding adverse effects:
 - (i) in relation to technology effects:
 - (A) modifies and upholds the Panel's overall conclusion, in paragraphs 7.1797, 7.1854(a), and 8.3(a)(i) of the Panel Report, that the aeronautics R&D subsidies caused serious prejudice to the interests of the European Communities within the meaning of Article 5(c) and Article 6.3(b) and (c) of the *SCM Agreement* with respect to the 200-300 seat LCA market; and in particular:
 - (1) finds that the Panel did not err by finding, in paragraph 7.1773 of the Panel Report, that "the aeronautics R&D subsidies contributed in a genuine and substantial way to Boeing's development of technologies for the 787" in 2004;
 - (2) finds that the Panel did not act inconsistently with Article 11 of the DSU in making, or lack a factual basis for, its statement in paragraph 7.1772 of the Panel Report that the "ability to define and manage the complex interaction of design processes, organization and tools so as to enable the robust development and manufacturing of an aircraft at minimum time and cost ... is a challenge that Boeing can meet thanks in large part to NASA and {USDOD} funding";

- (3) finds that the Panel did not err in its counterfactual analysis;
 - (4) upholds the Panel's finding, in paragraphs 7.1797, 7.1854(a), and 8.3(a)(i) of the Panel Report, that the effect of the aeronautics R&D subsidies is significant lost sales within the meaning of Article 6.3(c) of the *SCM Agreement* with respect to the 200-300 seat LCA market;
 - (5) reverses the Panel's finding, in paragraphs 7.1797, 7.1854(a), and 8.3(a)(i) of the Panel Report, to the extent that it relates to Kenya, Iceland, and Ethiopia (but not with respect to Australia), that the effect of the aeronautics R&D subsidies is a threat of displacement and impedance of EC exports in third-country markets within the meaning of Article 6.3(b) of the *SCM Agreement* with respect to the 200-300 seat LCA market; and
 - (6) upholds the Panel's finding, in paragraphs 7.1797, 7.1854(a), and 8.3(a)(i) of the Panel Report, that the effect of the aeronautics R&D subsidies is significant price suppression within the meaning of Article 6.3(c) of the *SCM Agreement* with respect to the 200-300 seat LCA market;
- (ii) finds, with respect to the Panel's treatment of the effects of the USDOD RDT&E programmes, that the Panel acted inconsistently with its obligation under Article 11 of the DSU to make an objective assessment of the matter before it in finding, in paragraph 7.1701 of the Panel Report, that there was "insufficient evidence on the record that {the 21 USDOD RDT&E programmes other than ManTech and DUS&T} funded predominantly assistance instruments, as opposed to procurement contracts, or a mixture of assistance instruments and procurement contracts" without having exercised its authority to seek out relevant information regarding the use of assistance instruments under all of the USDOD programmes;

- (iii) in relation to price effects:
- (A) reverses the Panel's findings, in paragraphs 7.1823, 7.1833, 7.1854(b) and (c), and 8.3(a)(ii) and (iii) of the Panel Report, that the FSC/ETI subsidies and the B&O tax rate reductions caused serious prejudice to the interests of the European Communities within the meaning of Article 5(c) and Article 6.3(b) and (c) of the *SCM Agreement* with respect to the 100-200 seat and 300-400 seat LCA markets, and finds it unnecessary to rule on the United States' additional claim under Article 12.7 of the DSU; and
 - (B) completes the analysis and finds that the FSC/ETI subsidies and the Washington State B&O tax rate reduction caused serious prejudice within the meaning of Article 5(c) and Article 6.3(c) of the *SCM Agreement* with respect to the 100-200 seat LCA market; and in particular, finds that, in two sales campaigns, the FSC/ETI subsidies and the Washington State B&O tax rate reduction caused, through their effects on Boeing's prices for the 737NG, significant lost sales within the meaning of Article 6.3(c) of the *SCM Agreement*; and
- (iv) in relation to the collective assessment of the subsidies and their effects:
- (A) finds that the Panel erred in failing to consider whether the price effects of the B&O tax rate reductions complement and supplement the technology effects of the aeronautics R&D subsidies in causing significant lost sales and significant price suppression, and a threat of displacement and impedance, in the 200-300 seat LCA market;
 - (B) reverses the Panel's finding, in paragraphs 7.1828 and 7.1855 of the Panel Report, that the remaining subsidies had not been shown to have affected Boeing's prices in a manner giving rise to serious prejudice with respect to the 100-200 seat and 300-400 seat LCA markets; and

- (C) completes the analysis and finds that the effects of the City of Wichita IRBs complemented and supplemented the price effects of the FSC/ETI subsidies and the State of Washington B&O tax rate reduction, thereby causing serious prejudice, in the form of significant lost sales, within the meaning of Article 5(c) and Article 6.3(c) of the *SCM Agreement*, in the 100-200 seat LCA market.

1351. We realize that, after more than five years of panel proceedings and eleven months of appellate review, a number of issues remain unresolved in this dispute. Some may consider that this is not an entirely satisfactory outcome. Our mandate under Article 17 of the DSU does not permit us to engage in fact-finding. However, wherever we have found that there are sufficient factual findings by the Panel or undisputed facts to complete the analysis, we have done so with a view to fostering the prompt settlement of this dispute in accordance with Article 3.3 of the DSU.

1352. The Appellate Body recommends that the DSB request the United States to bring its measures, found in this Report, and in the Panel Report as modified by this Report, to be inconsistent with the *SCM Agreement*, into conformity with its obligations under that Agreement. More specifically, having regard to the recommendation made by the Panel in paragraph 8.9 of its Report and the provisions of Article 7.8 of the *SCM Agreement*, the Appellate Body recommends that the United States take appropriate steps to remove the adverse effects found to have been caused by its use of subsidies, or to withdraw those subsidies.²⁷¹⁶

²⁷¹⁶The Appellate Body notes the Panel's finding that, to the extent that the United States has not already withdrawn the FSC/ETI export subsidies to Boeing, the recommendation made by the panel in *US – FSC* under Article 4.7 of the *SCM Agreement* continues to be "operative". (Panel Report, para. 8.7 (referring to Panel Report, *US – FSC (Article 21.5 – EC II)*, para. 8.2; and to Appellate Body Report, *US – FSC (Article 21.5 – EC II)*))

Signed in the original in Geneva this 27th day of January 2012 by:

Lilia R. Bautista
Presiding Member

David Unterhalter
Member

Yuejiao Zhang
Member

ANNEX I

**WORLD TRADE
ORGANIZATION**

WT/DS353/8
4 April 2011

(11-1662)

Original: English

**UNITED STATES – MEASURES AFFECTING TRADE
IN LARGE CIVIL AIRCRAFT
(SECOND COMPLAINT)**

Notification of an Appeal by the European Union
under Article 16.4 and Article 17 of the Understanding on Rules
and Procedures Governing the Settlement of Disputes (DSU),
and under Rule 20(1) of the Working Procedures for Appellate Review

The following notification, dated 1 April 2011, from the Delegation of the European Union, is being circulated to Members.

Pursuant to Article 16.4 and Article 17.1 of the *DSU*, the European Union hereby notifies to the Dispute Settlement Body its decision to appeal to the Appellate Body certain issues of law covered in the Panel Report and certain legal interpretations developed by the Panel in the dispute *United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)* (WT/DS353). Pursuant to Rule 20(1) of the *Working Procedures for Appellate Review*, the European Union simultaneously files this Notice of Appeal with the Appellate Body Secretariat.

For the reasons to be further elaborated in its submissions to the Appellate Body, the European Union appeals, and requests the Appellate Body to reverse, modify or declare moot and of no legal effect the findings, conclusions and recommendations of the Panel, with respect to the following errors of law and legal interpretations contained in the Panel Report, and where indicated to complete the analysis¹:

I. Preliminary Issue: *SCM Agreement Annex V Procedure*

1. The Panel erred in its interpretation and application of the *SCM Agreement*, Article 7.4 and Annex V, paragraphs 1, 2 and/or 6 to 9, and/or failed to make an objective assessment pursuant to Article 11 of the *DSU*, and/or falsely exercised judicial economy, when it rejected the EU claims and arguments to the effect that an Annex V procedure is initiated by negative consensus, that the conditions for such a procedure were fulfilled in this case, and that non-cooperation by the United States entailed the consequences in paragraphs 6 to 9 of Annex V of the *SCM Agreement*.² The European Union requests the Appellate Body to complete the analysis.

¹Pursuant to Rule 20(2)(d)(iii) of the *Working Procedures for Appellate Review* this Notice of Appeal includes an indicative list of the paragraphs of the Panel Report containing the alleged errors, without prejudice to the ability of the European Union to refer to other paragraphs of the Panel Report in the context of its appeal.

²Panel Report, paras. 7.19-7.22, particularly 7.22, first and final sentences.

II. Subsidies

2. The Panel erred in its interpretation and application of Article 2.1 of the *SCM Agreement* when it found that the European Union had not demonstrated that any subsidy involved in the allocation of patent rights under NASA and DOD R&D contracts and agreements with Boeing is specific within the meaning of Article 2 of the *SCM Agreement*.³

3. The Panel erred in its interpretation of Article 1.1(a)(1) of the *SCM Agreement* when it found that transactions properly characterized as purchases of services are excluded from the scope of Article 1.1(a)(1) of the *SCM Agreement*.⁴

III. Subsidies Contingent/Conditional in Fact upon Export

4. The Panel erred in its interpretation and application of Article 3.1(a) and footnote 4 of the *SCM Agreement*, and/or failed to make an objective assessment, including an objective assessment of the facts, pursuant to Article 11 of the *DSU*, when it found that the European Union had not demonstrated that HB 2994 and the B&O tax rate reductions and instances of application are subsidies contingent/conditional in fact upon export.⁵ The European Union requests the Appellate Body to complete the analysis.

IV. Adverse Effects

5. The Panel erred in its interpretation and application of Articles 5 and 6.3 of the *SCM Agreement* when it found that it was not appropriate to aggregate the effects of the B&O tax subsidies and the effects of the aeronautics R&D subsidies in assessing whether serious prejudice was caused to the European Union in the 200-300 seat LCA market.⁶

6. The Panel erred in its interpretation and application of Articles 5 and 6.3 of the *SCM Agreement* when it failed to analyse the effects of the US aeronautics R&D subsidies, the FSC/ETI subsidies, the B&O tax subsidies *and the remaining subsidies* on an aggregate basis, but rather assessed the *remaining subsidies* separately, concluding that they have not affected Boeing's market behaviour and/or prices in a manner giving rise to serious prejudice to the interests of the European Union.⁷

7. The Panel acted inconsistently with the principle of due process, the principle that reasonable inferences can and should be drawn from instances of non-cooperation, Article 11 of the *DSU* and paragraphs 6 to 9 of Annex V of the *SCM Agreement* when, without providing the Parties with a further opportunity to comment, without putting further questions to the United States pursuant to Article 13 of the *DSU* or otherwise, and without drawing appropriate inferences from US non-cooperation, it excluded from its assessment of adverse effects the effects of assistance instruments funded through the RDT&E programmes other than in relation to the ManTech and DUS&T programmes.⁸

³Panel Report, paras. 7.1276-7.1294, particularly para. 7.1294.

⁴Panel Report, paras. 7.953-7.970 and para. 7.1136, particularly para. 7.970, final sentence.

⁵Panel Report, paras. 7.1513-7.1590, particularly paras. 7.1543, 7.1583, 7.1589, 7.1590, and 8.2(b).

⁶Panel Report, para. 7.1824, final sentence.

⁷Panel Report, paras. 7.1825-7.1828, particularly para. 7.1828, penultimate and final sentences.

⁸Panel Report, para. 7.1701, particularly sixth and ninth to eleventh sentences.

ANNEX II

**WORLD TRADE
ORGANIZATION**

WT/DS353/10
29 April 2011

(11-2233)

Original: English

**UNITED STATES – MEASURES AFFECTING TRADE
IN LARGE CIVIL AIRCRAFT
(SECOND COMPLAINT)**

Notification of an Other Appeal by the United States
under Article 16.4 and Article 17 of the Understanding on Rules
and Procedures Governing the Settlement of Disputes (DSU),
and under Rule 23(1) of the Working Procedures for Appellate Review

The following notification, dated 28 April 2011, from the Delegation of the United States, is being circulated to Members.

Pursuant to Rule 23(1) of the *Working Procedures for Appellate Review*, the United States hereby notifies its decision to appeal to the Appellate Body certain issues of law covered in the report of the Panel in *United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)* (WT/DS353/R) ("Panel Report") and certain legal interpretations developed by the Panel in this dispute.

1. The United States seeks review by the Appellate Body of the Panel's finding that payments made by the U.S. National Aeronautics and Space Administration ("NASA") to The Boeing Company ("Boeing") under contracts for the performance of aeronautics research were a financial contribution.¹ This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(a)(1)(i) of the *Agreement on Subsidies and Countervailing Measures* ("SCM Agreement"). The United States also requests the Appellate Body to find that the Panel failed to make "an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements" as required by Article 11 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU") by disregarding evidence that research under the NASA-Boeing contracts was of benefit and use to the U.S. government and unrelated third parties.² The United States also requests the Appellate Body to modify the Panel's erroneous approach to the legal issue of the scope of the term "services".³

2. The United States seeks review by the Appellate Body of the Panel's finding that access to NASA facilities, equipment, and employees provided to Boeing through research contracts and agreements at issue constituted a provision of goods and services. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect

¹Panel Report, para. 7.981.

²Panel Report, paras. 7.1027 and 8.3.

³Panel Report, para. 7.978.

interpretation of Article 1.1(a)(1)(iii) of the SCM Agreement. The United States also requests the Appellate Body to find that the Panel failed to "set out the findings of fact, the applicability of relevant provisions and the basic rationale behind any findings and recommendations that it makes" as required by Article 12.7 of the DSU by providing no explanation for the findings referenced in this paragraph.⁴

3. The United States seeks review by the Appellate Body of the Panel's finding that payments made by NASA to Boeing under contracts for the performance of aeronautics research and facilities, equipment, and employees provided to Boeing through research contracts and agreements at issue conferred a benefit. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(b) of the SCM Agreement.⁵

4. The United States seeks review by the Appellate Body of the Panel's finding that payments made by the U.S. Department of Defense ("DoD") under certain agreements were a financial contribution. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(a)(1)(i) of the SCM Agreement.⁶

5. The United States seeks review by the Appellate Body of the Panel's finding that access to DoD facilities provided to Boeing under certain agreements constitutes a provision of goods or services. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(a)(1)(iii) of the SCM Agreement.⁷

6. The United States seeks review by the Appellate Body of the Panel's finding that payments and access to facilities under certain agreements provided a benefit. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(b) of the SCM Agreement.⁸ The United States also requests the Appellate Body to find that the Panel failed to make "an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements" as required by Article 11 of the DSU by concluding, without a basis in the evidence contained in the panel record, it "does not consider it credible that less than 1 per cent of the \$45 billion in aeronautics R&D funding that DOD provided to Boeing over the period 1991-2005 had any potential relevance to LCA."⁹

7. The United States seeks review by the Appellate Body of the Panel's finding that reductions by the state of Washington in the rates of business and occupancy tax ("B&O tax") applicable to the manufacture or making of sales, at retail or wholesale, of commercial aircraft were a financial contribution. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 1.1(a)(1)(ii) of the SCM Agreement.¹⁰

⁴Panel Report, paras. 7.1027 and 8.3.

⁵Panel Report, paras. 7.1037-7.1040 and 8.3.

⁶Panel Report, paras. 7.1171 and 8.3.

⁷Panel Report, paras. 7.1171 and 8.3.

⁸Panel Report, paras. 7.1185, 7.1187, and 8.3.

⁹Panel Report, para. 7.1205.

¹⁰Panel Report, paras. 7.133, 7.138, and 8.3.

8. The United States seeks review by the Appellate Body of the Panel's finding that the B&O tax reductions granted to the aerospace industry by the state of Washington was specific. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 2.1(a) of the SCM Agreement.¹¹

9. The United States seeks review by the Appellate Body of the Panel's finding that Boeing and Spirit Aero Systems were granted a disproportionately large amount of tax abatements available through industrial revenue bonds issued by the City of Wichita. This finding is in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Article 2.1(c) of the SCM Agreement.¹²

10. The United States seeks review by the Appellate Body of the Panel's finding that the effect of the aeronautics research and development subsidies conferred by NASA and DoD, as described in the Panel Report, is a threat of displacement or impedance of exports of the European Union ("EU")¹³ from third country markets, significant lost sales, and price suppression with respect to the 200-300 seat wide-body large civil aircraft product market.¹⁴ In particular, the Panel erroneously found that an effect of the aeronautics research and development subsidies is:

- (a) significant lost sales within the meaning of Article 6.3(c) of the A330 at Qantas, Ethiopian Airlines, Icelandair, and Kenya Airways¹⁵;
- (b) displacement or impedance within the meaning of Article 6.3(b) of the A330 from the markets of Australia, Ethiopia, Iceland, and Kenya¹⁶;
- (c) significant lost sales within the meaning of Article 6.3(c) of the Original A350 at Ethiopian Airlines, Icelandair, and Kenya Airways¹⁷;
- (d) displacement or impedance within the meaning of Article 6.3(b) of the Original A350 from the markets of Ethiopia, Iceland, and Kenya¹⁸;
- (e) significant price suppression with regard to the A330 in the world market¹⁹;
- (f) significant price suppression with regard to the Original A350 in the world market²⁰; and
- (g) significant price suppression with regard to Airbus 200-300 seat large civil aircraft in the world market.²¹

¹¹Panel Report, para. 7.205 and 8.3.

¹²Panel Report, paras. 7.770, 7.779, and 8.3.

¹³In this proceeding, the United States treats the term "European Union" as synonymous with the term "European Communities".

¹⁴Panel Report, para. 7.1797.

¹⁵Panel Report, paras. 7.1787 and 7.1794.

¹⁶Panel Report, para. 7.1791.

¹⁷Panel Report, paras. 7.1787-7.1788.

¹⁸Panel Report, para. 7.1791.

¹⁹Panel Report, para. 7.1792.

²⁰Panel Report, para. 7.1792.

²¹Panel Report, para. 7.1797 and 7.1799.

These findings are in error and is based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Articles 5(c) and 6.3(b) and (c) of the SCM Agreement.²² The United States also requests the Appellate Body to find that the Panel failed to make "an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements" as required by Article 11 of the DSU by concluding, without a basis in the evidence contained in the panel record, that "the ability to define and manage the complex interaction of design processes, organization and tools so as to enable the robust development and manufacturing of an aircraft at minimum time and cost ... is a challenge that Boeing can meet thanks in large part to NASA and DOD funding and support".²³

11. The United States seeks review by the Appellate Body of the Panel's findings:

- (a) that the effect of the Foreign Sales Corporation/Extraterritorial Income subsidies and the Washington state B&O tax subsidies in the 100-200 seat large civil aircraft product market were (i) to significantly suppress Airbus' prices and to cause Airbus to lose significant sales; and (ii) to displace and impede EU exports from third country markets;
- (b) that the effect of the Foreign Sales Corporation/Extraterritorial Income subsidies, the Washington state B&O tax subsidies, and the City of Everett B&O tax subsidies in the 300-400 seat large civil aircraft product market were (i) to significantly suppress Airbus' prices and to cause Airbus to lose significant sales; and (ii) to displace and impede EU exports from third country markets.

These findings are in error and are based on erroneous findings on issues of law and related legal interpretations, including an incorrect interpretation of Articles 5(c) and 6.3(b) and (c) of the SCM Agreement.²⁴ The United States also requests the Appellate Body to find that the Panel failed to "set out the findings of fact, the applicability of relevant provisions and the basic rationale behind any findings and recommendations that it makes" as required by Article 12.7 of the DSU by issuing generic findings of displacement or impedance "from third country markets" and "significant lost sales", without stating which country markets or which sales.²⁵

²²Panel Report, paras. 7.1773, 7.1780, 7.1785-7.1788, 7.1791-7.1797, and 8.3.

²³Panel Report, para. 7.1772.

²⁴Panel Report, paras. 7.1823, 7.1854(b)-(c), and 8.3.

²⁵Panel Report, paras. 7.1817-7.1818 and 7.1822-7.1823.

ANNEX III

15 April 2011

*United States – Measures Affecting Trade in Large Civil Aircraft
(Second Complaint)*

AB-2011-3

Procedural Ruling

1. On 1 April 2011, the Director of the Appellate Body Secretariat received a letter from the European Union requesting that the Appellate Body Division hearing this appeal adopt a procedural ruling on confidentiality and interim additional protection for sensitive business information in the appeal in *United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)* (WT/DS353) ("*US – Large Civil Aircraft (2nd complaint*)"). In its letter, the European Union referred to the additional procedures adopted by the Appellate Body in *European Communities and certain member States – Measures Affecting Trade in Large Civil Aircraft* (WT/DS316) ("*EC and certain member States – Large Civil Aircraft*"). The European Union noted that the circumstances of the present case are very similar to those in *EC and certain member States – Large Civil Aircraft*, and requested a procedural ruling in substantially the same terms and for the same reasons. The European Union argued that, *inter alia*, disclosure of certain sensitive information on the record of the Panel proceedings could be "severely prejudicial" to the originators of the information, that is, to the large civil aircraft manufacturers, and possibly to the manufacturers' customers and suppliers.
2. On the same day, the Division hearing this appeal invited the United States and the third participants to comment in writing on the European Union's request; in particular, to comment on the specific arrangements proposed by the European Union.
3. Pending a final decision on the European Union's request, the Division decided to provide interim additional protection to all BCI and HSBI transmitted to the Appellate Body in this dispute on the terms set out below:
 - (a) Only Appellate Body Members and Appellate Body Secretariat staff assigned to work on this appeal may have access to the BCI and HSBI contained in the Panel record pending a final decision on the European Union's request. Appellate Body Members and Appellate Body Secretariat staff shall not disclose BCI or HSBI, or allow either to be disclosed, to any person other than those identified in the preceding sentence.
 - (b) BCI shall be stored in locked cabinets when not in use. When in use by Appellate Body Members and Appellate Body Secretariat staff assigned to work on this appeal all necessary precautions will be taken to protect the confidentiality of the BCI.
 - (c) All HSBI shall be stored in a combination safe in a designated secure location in the offices of the Appellate Body Secretariat. Appellate Body Members and Appellate Body Secretariat staff assigned to work on this appeal may view HSBI only in the designated secure location in the offices of the Appellate Body Secretariat. HSBI shall not be removed from this location.
 - (d) Neither BCI nor HSBI shall be transmitted electronically, whether by e-mail, facsimile, or any other means.

4. On Wednesday, 6 April 2011, we received written comments from the United States. The United States expressed its general support for the request of the European Union and said it shared the European Union's view that the Procedural Ruling of the Appellate Body in *EC and certain member States – Large Civil Aircraft* would serve as an appropriate basis for a procedural ruling on additional protection of sensitive information in this appeal, with certain modifications made in the light of experience under the operation of the procedural ruling in that dispute.

5. On the same day, the European Union indicated via e-mail communication that it did not disagree with the United States' comments regarding the modifications that could be made to the Procedural Ruling adopted by the Appellate Body in *EC and certain member States – Large Civil Aircraft*. On Tuesday, 12 April 2011, Australia, Brazil, Canada, China, and Japan submitted comments in response to the request of the European Union and the comments of the United States. Australia, Brazil, Canada, China, and Japan generally agreed that the Appellate Body should adopt BCI/HSBI procedures based on those adopted in *EC and certain member States – Large Civil Aircraft*, given the similarities between both appeals. Australia, Brazil, Canada, and Japan also agreed with the proposal to add a provision concerning amendments to the lists of persons authorized to access sensitive information. More particularly, Australia submitted that a specific provision on amendments to the list of authorized persons will provide additional certainty and clarity. For its part, Brazil requested that each third participant be able to designate up to eight individuals as "Third Participant BCI-Approved Persons" instead of the six provided for in the procedures adopted in the *EC and certain member States – Large Civil Aircraft* appeal. However, should there be concerns as to the number of persons attending the oral hearing, Brazil proposed to limit the number of persons allowed to be present at the hearing to six at one time for each third participant. Canada requested that any additional procedures for the amendment of the lists of Third Participant BCI-Approved Persons do not affect third participants' ability to make amendments as long as each third participant be allowed no more than six individuals on their list at any given time. Japan requested that the number of individuals that each third participant may designate as a Third Participant BCI-Approved Person be increased from six to seven. In addition, Japan submitted that the designation of persons in the initial lists, as well as in amended lists, should be subject to the same standard when it comes to objections. Thus, it proposed changes to the United States' proposal for the sake of greater clarity regarding objections to a new designation in a third participant's amended list. China expressed no views with respect to the issues raised in the European Union's request, but requested that the Appellate Body ensure that China's third participant rights are fully protected.

6. We consider it necessary that a ruling is made by us on the request of the European Union without delay. Accordingly, we make the following ruling having carefully considered the arguments made by the European Union in support of its request, and the comments received from the United States and the third participants. These reasons may be further elaborated in the report of the Appellate Body in this appeal.

7. We recall that the Appellate Body adopted additional procedures to protect the confidentiality of sensitive information in the appellate proceedings in *EC and certain member States – Large Civil Aircraft*. In this appeal, the participants agree that the circumstances of the case are very similar, and the European Union has requested a procedural ruling in substantially the same terms and for the same reasons. We further note that the participants and the third participants involved in this case are the same as those involved in *EC and certain member States – Large Civil Aircraft*. In the Procedural Ruling adopted in *EC and certain member States – Large Civil Aircraft*, the Appellate Body explained the considerations relevant to a decision on whether to provide additional protection to certain sensitive information. We believe that those considerations are also relevant to our evaluation of the request of the European Union in this appeal and we briefly recall them before addressing the specific points raised in the request and in the comments of the United States and the third participants.

8. The confidentiality requirements set out in the Understanding on Rules and Procedures Governing the Settlement of Disputes (the "DSU") and in the Rules of Conduct for the Understanding on Rules and Procedures Governing the Settlement of Disputes (the "Rules of Conduct")¹ are stated at a high level of generality that may need to be particularized in situations in which the nature of the information provided requires more detailed arrangements to protect adequately the confidentiality of that information. The adoption of such arrangements falls within the authority of the Appellate Body to hear the appeal and to regulate its procedures in a manner that ensures that the proceedings are conducted with fairness and in an orderly manner. To the extent that the arrangements elaborate on the confidentiality requirements of the DSU, the adoption of such arrangements in an "appropriate procedure" needs to conform to the requirement in Rule 16(1) of the Working Procedures, that any additional "appropriate procedure" not be inconsistent with the DSU, the other covered agreements, and the Working Procedures themselves.

9. The determination of whether particular arrangements are appropriate in a given case essentially involves a balancing exercise: the risks associated with the disclosure of the information sought to be protected must be weighed against the degree to which the particular arrangements affect the rights and duties established in the DSU, the other covered agreements, or the *Working Procedures*. Furthermore, a relationship of proportionality must exist between the risks associated with disclosure and the measures adopted. Participants requesting particularized arrangements have the burden of justifying that such arrangements are necessary in a given case adequately to protect certain information, taking into account the rights and duties recognized in the DSU, the other covered agreements, and the *Working Procedures*. This burden of justification will increase the more the proposed arrangements affect the exercise by the Appellate Body of its adjudicative duties, the exercise by the participants of their rights to due process and to have the dispute adjudicated, the exercise by the third participants of their participatory rights, and the rights and systemic interests of the WTO membership at large.

10. Additional confidentiality protection implicates the authority of the Appellate Body, and the rights and duties of the participants, third participants, and the membership at large. In *EC and certain member States – Large Civil Aircraft*, the Appellate Body adopted additional procedures that it considered struck an appropriate balance between the risks of disclosure of sensitive information, on the one hand, and the adjudicative authority of the Appellate Body and the rights and duties of the participants, third participants and the WTO membership at large. We believe that the balance struck by the Appellate Body in *EC and certain member States – Large Civil Aircraft* is also appropriate in this case. The European Union, the United States, and the third participants concur that the additional procedures adopted in *EC and certain member States – Large Civil Aircraft* provide an appropriate framework and ask that we apply the same practices in this case, with minor modifications.

11. It is not for the parties to determine whether additional protection is called for. It is for the panel, and now the Appellate Body, to do so. Indeed, it is for the adjudicator to decide whether the information concerned calls for additional protection. Likewise, it is for the adjudicator to decide whether and to what extent specific arrangements are necessary, while safeguarding the various rights and duties that are implicated in any decision to adopt additional protection. As in *EC and certain member States – Large Civil Aircraft*, we are concerned about the manner in which the parties designated and the Panel treated the sensitive information. There does not appear to have been a meaningful effort during the Panel process to set out objective criteria as to the attributes of the information that may require additional protection so as to guide the determination of whether the particular information that was submitted deserved additional protection and the particular degree of such protection. However, neither participant has appealed the Panel's decisions on the protection of

¹The *Rules of Conduct*, as adopted by the DSB on 3 December 1996 (WT/DSB/RC/1), are incorporated into the *Working Procedures for Appellate Review* (WT/AB/WP/5), as Annex II thereto. (See WT/DSB/RC/2, WT/AB/WP/W/2)

this information and there are also issues of practicality to consider. We will therefore proceed on the basis of how the information was treated before the Panel. Nevertheless, we do not exclude revisiting whether a particular piece of information meets the objective criteria justifying additional protection, or the particular degree thereof, should a dispute on the classification of that information arise before us, or should we consider that we need to refer to that information in our report if this is necessary to give a sufficient exposition of our reasoning and findings.

12. We further note that there appear to be certain arrangements that the participants have jointly imposed on themselves and that do not appear to affect the Appellate Body's ability to adjudicate the dispute, the rights of the third participants, or the rights and interests of the WTO membership at large.² This includes, for example, the arrangements allowing each participant to have access to the most sensitive information provided by the other participant. Such arrangements, in principle, are not exempt from our scrutiny to verify that they do not impair our adjudicative function and the rights and interests of third participants and other Members. Nevertheless, at this stage of the proceedings, we are disinclined to make an exhaustive review of these arrangements given that on their face they do not seem to have adverse implications for the rights or interests of others that we identified earlier. Furthermore, none of the third participants has raised concerns in relation to this aspect of the matter.

13. Having reaffirmed the relevant considerations that guide our decision, we turn to the specific modifications requested by the participants and third participants.

14. The European Union suggests that provision should be made in any procedural ruling in this dispute for the amendment of lists of persons that are BCI-Approved Persons and HSBI-Approved Persons. The United States agrees. The United States argues that, in *EC and certain member States – Large Civil Aircraft*, the absence of any provision for amending BCI/HSBI lists in the procedural ruling left unclear whether amendment of BCI/HSBI lists was permissible and, if so, what the procedures were for amending such lists. According to the United States, "additional certainty and clarity would be of benefit to the participants and third participants in this appeal". We have made certain changes to the additional procedures in order to allow amendments to the lists of BCI-Approved Persons, HSBI-Approved Persons, and Third Participant BCI-Approved Persons in this appeal. As with the initial lists, objections will be permitted where the amendment refers to the designation of outside advisors.

15. The European Union points out that the Procedural Ruling of the Appellate Body in *EC and certain member States – Large Civil Aircraft* provides for participants to comment on the inclusion of BCI and HSBI in the Appellate Body report and states that comments are to be allowed "within a time period to be specified by the Division". The European Union argues that the appropriate time period should be a function of the length and content of the report, and therefore that no further precision is required at this stage. The European Union adds that it is content to leave this matter to the discretion of the Appellate Body. The European Union considers that a short period of review would suffice, but indicates that it would be more effective if review were conducted in capital. The United States says it appreciates the Appellate Body's willingness in *EC and certain member States – Large Civil Aircraft* to permit the participants to review the Appellate Body report for inadvertent inclusion of BCI/HSBI prior to circulation and public release, and requests the Appellate Body to permit such review in the *US – Large Civil Aircraft (2nd complaint)* appeal as well, as it believes "that additional clarity and certainty with respect to the procedures for such review would be of benefit to the participants in terms of planning and allocating resources for the review". The United States further agrees with the European Union that "the length of time necessary for review will depend on the length and content of the Appellate Body report, and that review in capital would be preferable if the

²See Additional Working Procedures for DS353 – Procedures for the Protection of Business Confidential Information and Highly Sensitive Business Information, Panel Report in *US – Large Civil Aircraft (2nd complaint)*, Annex D.

period for review is short." While recognizing that it may not be possible at this point to foresee the time that will be required for such review, the United States requests the Appellate Body to indicate in its procedural ruling that further guidance will be provided to the participants later in the proceedings in order to allow them time to plan and allocate resources.

16. As in *EC and certain member States*, we will make every effort to draft our report without including sensitive information. The additional procedures that we adopt below foresee that the participants will be provided in advance with a copy of the Appellate Body report intended for circulation to WTO Members and will have an opportunity to request the removal of any sensitive information that is inadvertently included in the report. If we were to consider it necessary to include sensitive information in the reasoning in our report, the participants will be given an opportunity to comment. We reiterate that the participants will have a timely opportunity to comment as to the inclusion of any sensitive information in the report; we will provide further guidance at a later point of these proceedings as to the details of such a procedure.

17. The European Union and the United States recall that the Appellate Body provided in its Procedural Ruling in *EC and certain member States – Large Civil Aircraft* that it would "indefinitely" retain BCI and HSBI on the record of the appeal. Although the participants opposed such measures in that case, they consider that the Appellate Body should treat information in the two disputes identically. We have taken note of this comment by the participants but consider that retaining one hard copy and one electronic version of all documents containing BCI and HSBI as part of the appellate record is useful in the eventuality of a compliance proceeding under Article 21.5 of the DSU. The Appellate Body is an adjudicative body of record and thus it is imperative that a copy of the record be kept as part of the adjudication.

18. Brazil and Japan have requested a small increase in the maximum number of Third Participant BCI-Approved Persons that may be designated by each third participant. We recognize that the limitation on the number of representatives that may have access to sensitive information can make it difficult for third participants to participate fully in these proceedings. Thus, we have increased the maximum number of persons that may be designated by each third participant to eight, and we do not believe that this small adjustment will increase the risk of unauthorized disclosure of sensitive information.

19. For the reasons set out above, we have decided to provide additional confidentiality protection on the terms set out below. Accordingly, we adopt the following additional procedures for the purposes of this appeal:

Additional Procedures to Protect Sensitive Information

General

- (i) These additional procedures shall apply to information that was treated as business confidential information ("BCI") or as highly sensitive business information ("HSBI") in the Panel proceedings and that is contained in documents or electronic media that are part of the Panel record. The additional procedures apply to written and oral submissions made in the appellate proceedings only to the extent that they incorporate information that was treated as BCI or HSBI in the Panel proceedings.
- (ii) To the extent that information on the record is submitted to the Appellate Body in a form that differs from the way in which it was presented to the Panel, and there is a disagreement between the participants on the proper treatment of this information, the Appellate Body shall decide after hearing their views.

- (iii) Each participant may at any time request that information that it has submitted and that was previously treated as BCI or HSBI no longer be treated as such.
- (iv) The participants and third participants shall file their written submissions with the Appellate Body Secretariat in accordance with the Working Schedule drawn up by the Division for this appeal. Where a written submission contains BCI or HSBI, a redacted version of the submission (that is, a version without BCI and HSBI) shall be filed simultaneously with the Appellate Body Secretariat. The redacted version shall be sufficient to permit a reasonable understanding of its substance. The Division may take appropriate action to ensure that this obligation is satisfied. The participants and third participants shall also provide the Appellate Body Secretariat with an electronic version of all submissions, including the redacted versions. The transmittal of participants' submissions to each other and to the third participants, and the transmittal of third participants' submissions to the participants and to the other third participants, are further regulated below.

Appellate Body Members and Appellate Body Secretariat Staff

- (v) Only Appellate Body Members, and staff of the Appellate Body Secretariat who have been assigned by the Appellate Body to work on this appeal, may have access to the BCI and HSBI on the Panel record and in the written and oral submissions made in these appellate proceedings. Appellate Body Members and assigned Appellate Body Secretariat staff shall not disclose BCI or HSBI, or allow either to be disclosed, to any person other than those identified in the preceding sentence or to approved persons of the participants and third participants in the context of the oral hearings. Appellate Body Members and assigned Appellate Body Secretariat staff are covered by the *Rules of Conduct*. As provided for in the *Rules of Conduct*, evidence of breach of these Rules may be submitted to the Appellate Body, which will take appropriate action.
- (vi) BCI shall be stored in locked cabinets when not in use.
- (vii) Appellate Body Members who are serving on the Division hearing this appeal may maintain a copy of all relevant documents containing BCI at their places of residence outside Geneva. Appellate Body Members who are not serving on the Division may maintain at their places of residence outside Geneva a copy of the BCI version of the Panel Report, a copy of the BCI version of the written submissions made in these appellate proceedings, a BCI version of the transcripts of any oral hearings, any internal documents containing BCI, and, where necessary, selected BCI exhibits from the Panel record. The documents and materials containing BCI kept by Appellate Body Members at their places of residence outside of Geneva shall be stored in locked cabinets when not in use. Documents and materials containing BCI shall only be sent to Appellate Body Members by secure e-mail or courier.
- (viii) Participants shall provide printed copies of their submissions and other documents containing BCI that are intended for use by Appellate Body Members or assigned Appellate Body Secretariat staff on coloured paper and individually watermarked with "Appellate Body" and numbered consecutively ("Appellate Body No. 1", "Appellate Body No. 2", etc.).
- (ix) All HSBI shall be stored in a combination safe in a designated secure location on the premises of the Appellate Body Secretariat. Any computer in that room shall be a stand-alone computer, that is, not connected to a network. Appellate Body Members and assigned Appellate Body Secretariat staff may view HSBI only in the designated secure location referred to above. HSBI shall not be removed from this location, except as provided for in paragraph (x), or in the form of handwritten notes that may be used only on the Appellate Body Secretariat's premises and shall be destroyed once no longer in use.

- (x) Subject to appropriate precautions, BCI and HSBI may be taken outside of the premises of the Appellate Body Secretariat, in hard copy and electronic form, for purposes of any oral hearings that may be held in connection with this appeal.
- (xi) Except as provided for in paragraph (xii), all documents and electronic files containing BCI and HSBI shall be destroyed or deleted when the Appellate Body report in this dispute has been adopted by the DSB.
- (xii) The Appellate Body shall retain one hard copy and one electronic version of all documents containing BCI and HSBI as part of the appellate record. Documents and electronic media containing BCI shall be kept in sealed boxes within locked cabinets on the Appellate Body Secretariat's premises. Documents and electronic media containing HSBI shall be placed in a sealed container that will be kept in a combination safe on the premises referred to above.

Appellate Body Report

- (xiii) The Division will make every effort to draft an Appellate Body report that does not disclose BCI or HSBI by limiting itself to making statements or drawing conclusions that are based on BCI and HSBI. A copy of the Appellate Body report intended for circulation to WTO Members will be provided in advance to the participants, at a date to be specified by the Division. Participants will be provided with an opportunity to request the removal of any BCI or HSBI that is inadvertently included in the report. The Division will also indicate to the participants if it has found it necessary to include in the Appellate Body report information that was treated by the Panel as BCI or HSBI and will provide participants with an opportunity to comment. Comments on the inclusion of information previously treated as BCI or HSBI and requests for removal of BCI or HSBI inadvertently included in the report shall be filed with the Appellate Body Secretariat within a time period to be specified by the Division. No other comments or submissions shall be accepted. In coming to a decision on the need to include BCI or HSBI to ensure that the final report is understandable, the Division will strike an appropriate balance between the rights of the WTO membership at large to obtain a report that gives a sufficient exposition of its reasoning and findings, on the one hand, and the legitimate concerns of the participants to protect sensitive information, on the other.

Participants

- (xiv) The participants shall provide a list of persons that are "BCI-Approved Persons" and that are "HSBI-Approved Persons". These lists shall be provided to the Appellate Body Secretariat by 12 noon on Tuesday, 19 April 2011, and shall be served on the other participant and the third participants. Any objections to the designation of an outside advisor as a BCI-Approved Person or HSBI-Approved Person must be filed with the Appellate Body Secretariat and served on the other participant by Wednesday, 20 April 2011, 5 p.m. Participants may submit amendments to their lists of BCI-Approved Persons or HSBI-Approved Persons by filing an amended list with the Appellate Body Secretariat and serving it on the other participant and the third participants. A participant may object to the designation on the amended list of an outside advisor by another participant. Any objections must be filed with the Appellate Body Secretariat within two days and simultaneously served on the other participant and the third participants. The Division will reject a request for designation of an outside advisor as a BCI-Approved Person or an HSBI-Approved Person only upon a showing of compelling reasons, having regard to, *inter alia*, the relevant principles reflected in the *Rules of Conduct* and the illustrative list in Annex 2 thereto. BCI-Approved Persons and HSBI-Approved Persons shall not disclose BCI or HSBI, or allow either to be disclosed, except to the Appellate Body,

assigned Appellate Body Secretariat staff, other BCI-Approved Persons and HSBI-Approved Persons, and Third Participant BCI-Approved Persons.

- (xv) Any participant referring in its written submissions to any BCI or HSBI shall clearly identify the information as such in those submissions. Submissions containing BCI shall be transmitted only to BCI-Approved Persons. If the submissions contain HSBI, the HSBI shall be included in an appendix. In that case, the version of the submission that includes the HSBI appendix shall be transmitted only to HSBI-Approved Persons. The HSBI appendix shall not be transmitted via e-mail. Each participant shall simultaneously provide a redacted version of its submissions to the other participant, which shall have two days to object to the inclusion of any BCI. If there are objections, the Division shall resolve the matter, and transmit the correctly redacted version to the other participant and the third participants, unless the participant making the submission agrees to remove the information that was subject to the objection. If there are no objections, the redacted version shall be transmitted the following day to the third participants.

Third Participants

- (xvi) Third participants may designate up to eight individuals as "Third Participant BCI-Approved Persons". For this purpose, each third participant shall provide a list of Third Participant BCI-Approved Persons to the Appellate Body Secretariat by 12 noon, on Tuesday, 19 April 2011. A copy of the list of Third Participant BCI-Approved Persons shall be served on each participant and on each other third participant. The participants may object to the designation of an outside advisor as a Third Participant BCI-Approved Person. Objections must be filed with the Appellate Body Secretariat by Wednesday, 20 April 2011, 5 p.m. Third participants may submit amendments to their lists of BCI-Approved Persons or HSBI-Approved Persons by filing an amended list to the Appellate Body Secretariat and serving it on the participants and the other third participants. A participant may object to the designation in an amended list of an outside advisor by a third participant. Any objections must be filed with the Appellate Body Secretariat within two days and simultaneously served on the other participant and the third participants. The Division will reject the designation of an outside advisor as a Third Participant BCI-Approved Person only upon a showing of compelling reasons, having regard to, *inter alia*, the relevant principles in the *Rules of Conduct* and the illustrative list in Annex 2 thereto. Third Participants BCI-Approved Persons shall not disclose BCI, or allow it to be disclosed, except to the Appellate Body, assigned Appellate Body Secretariat staff, BCI-Approved Persons, and other Third Participant BCI-Approved Persons.
- (xvii) The BCI version of all participants' submissions shall be transmitted to the third participants by providing a copy to the Appellate Body Secretariat for placement in the designated reading room located on the premises of the WTO. Third Participant BCI-Approved Persons shall be allowed to view in the designated reading room the BCI version of the Panel Report and the BCI version of the submissions filed in these appellate proceedings. Third Participant BCI-Approved Persons shall not bring into that room any electronic recording or transmitting devices, nor shall they remove copies of the BCI version of the Panel Report or the BCI version of the submissions from that room. Upon request, each third participant shall be provided with one copy of the Panel Report as circulated to WTO Members and of the redacted version of the submissions for use in the reading room. Third Participant BCI-Approved Persons may take handwritten notes on the provided copies of the circulated Panel Report and redacted version of the submissions and they may take these copies with them. These documents shall be printed on coloured watermarked paper; shall bear the names of the Third Participant BCI-Approved Persons; state that "This document is not to be copied"; and the cover page of each of the documents shall state that any handwritten BCI added to the

document shall only be discussed or shared with other Third Participant BCI-Approved Persons. The content of any handwritten notes shall not be incorporated, electronically or in handwritten form, into any other copy of the Panel Report or of the submissions. These documents and any other handwritten notes taken by the Third Participant BCI-Approved Persons in the reading room shall be locked in a secure container when not in use. These documents and handwritten notes must be returned to the Appellate Body Secretariat after the final oral hearing held in this appeal.

- (xviii) Each Third Participant BCI-Approved Person viewing the BCI version of the Panel Report and submissions in the designated reading room shall complete and sign a log. The Appellate Body Secretariat shall keep such log as part of the record of the appeal.
- (xix) If a third participant wishes to refer in its third participant's submission to any BCI, it shall clearly identify such information, and the submission shall be transmitted to the participants, and to the other third participants by providing a copy to the Appellate Body Secretariat for placement in the designated reading room referred to in paragraph (xvii) above. The third participant shall also simultaneously provide the participants with a redacted version of their submissions. The participants shall have two days to object to the inclusion of any BCI in the redacted version of the third participant's submission. If there are objections, the Division shall resolve the matter, and transmit the correctly redacted version to the participants and the other third participants, unless the third participant making the submission agrees to remove the information that was subject to the objection. If there are no objections, the redacted submission shall be transmitted the following day to the participants and the other third participants.

Oral Hearing

- (xx) Appropriate procedures shall be adopted to protect BCI and HSBI from unauthorized disclosure at any oral hearing held in this appeal.

ANNEX IV

26 July 2011

*United States – Measures Affecting Trade in Large Civil Aircraft
(Second Complaint)*

AB-2011-3

Procedural Ruling

Introduction

1. On 1 April 2011, the Director of the Appellate Body Secretariat received a letter from the European Union requesting that the Appellate Body Division hearing this appeal adopt a procedural ruling on confidentiality and interim additional protection for sensitive business information in the above appeal. After receiving comments on the European Union's request from the United States and the third participants, the Division issued a Procedural Ruling on 15 April 2011 adopting additional procedures to protect sensitive information on the record of this appeal. Paragraph 19(xx) of the Procedural Ruling states that appropriate procedures shall be adopted to protect sensitive information from unauthorized disclosure during any oral hearing in this appeal.

2. On 11 July 2011, the Division received a joint request from the European Union and the United States proposing additional procedures to protect Business Confidential Information (BCI) and Highly Sensitive Business Information (HSBI) during the two sessions of the oral hearing in this appeal and to open both sessions of the oral hearing to the public.

3. Specifically, the participants propose that, with respect to the oral hearing, the Appellate Body adopt the same additional procedures that it adopted in *European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft* ("*EC and certain member States – Large Civil Aircraft*")¹, pursuant to the Procedural Ruling dated 27 October 2010 in that appeal. The participants stated that their reasons for this request and proposal are substantially the same as the reasons that were given in their joint letter of 5 October 2010 requesting such additional procedures in the appeal in *EC and certain member States – Large Civil Aircraft*, which are summarized as follows.

- Only BCI-Approved Persons are authorized to access BCI, and both participants and third participants have designated a limited number of persons as BCI-approved. Only HSBI-Approved Persons are authorized to access HSBI, and the participants have designated a limited number of persons as HSBI-approved. Third participants may not designate HSBI-approved persons.
- As regards BCI that might be uttered during a hearing, the participants recall that each of them is precluded from disclosing information designated as BCI by the other to non-BCI-approved persons. Similarly, as regards HSBI that might be uttered during a hearing, the participants recall that each of them is precluded from disclosing information designated as HSBI by the other to non-HSBI-approved persons. Third participants are precluded from disclosing BCI to non-BCI-approved persons.
- Accordingly, the participants consider that, as provided for in the Procedural Ruling dated 15 April 2011, the Division can and should adopt a further Procedural Ruling pursuant to

¹WT/DS316/AB/R, adopted 1 June 2011. The Additional Procedures with respect to the oral hearing are set out in Annex IV to that report.

Rule 16(1) of the *Working Procedures for Appellate Review* (the "*Working Procedures*")² regulating these matters for both sessions of the oral hearing. This will involve striking a balance between the systemic interest in protecting sensitive information and the systemic interest in transparency similar to that struck in the Procedural Ruling dated 15 April 2011 in this case and the Procedural Ruling dated 27 October 2010 in *EC and certain member States – Large Civil Aircraft*. The participants recall, in this regard, that the Procedural Ruling dated 15 April 2011 records the fact that the third participants are content with the access provided to them, and have not objected to not being given access to HSBI.

- According to the participants, there appear to be two options with respect to HSBI. The first option is that if, during the hearing, one of the participants or a Member of the Division wishes to refer to HSBI, the hearing would be temporarily suspended and third participants, as well as members of the participants' delegations who are not HSBI-approved, would be asked to leave the room temporarily. The second option is that the hearing be divided into two parts. The first part would deal with all matters to the greatest extent possible, and without uttering HSBI. The second part would complete the discussion, to the extent necessary, by addressing HSBI. While acknowledging that neither of these options is ideal in all respects, the participants, on balance, propose the second option. The participants believe that this would limit unnecessary disruption during the hearing. The participants also believe that careful conduct of the first part of the hearing (such as only participants and the Members of the Division having a document before them and discussing it without uttering HSBI) could obviate the need for a second HSBI part of the hearing. In the event that a second closed part of the hearing would be necessary, it could be organized at the end of each day. The participants note that the Appellate Body followed this second approach during the proceedings in *EC and certain member States – Large Civil Aircraft*, and that it appears to have been effective.
- The participants further suggest that the Appellate Body establish rules regarding a public segment of the hearing. The participants recall that, to date, a participant's or third participant's oral statements and oral answers to questions have been made in public segment only if the participant or third participant so agreed. In the absence of such agreement, it has proved operationally possible and effective to divide the hearing into an open segment (for Members who wish to make their statements public) and a closed segment (for Members who do not wish to make their statements public). The European Union and the United States are of the view that as much of the hearing as possible should be open to the public. However, they recognize that, in the light of the volume of BCI in this dispute, and its centrality to many of the issues, it may not be feasible to separate the Appellate Body questions and participant answers into public and BCI segments in the same way as the oral statements. For this reason, the European Union and the United States propose that the same approach be adopted in this appeal as was adopted in the appeal in *EC and certain member States – Large Civil Aircraft*.
- Thus, with regard to the public segment of the hearing, the participants propose that the participants and third participants (subject to their agreement) deliver opening statements that do not contain BCI or HSBI. These would be videotaped, reviewed if necessary by the participants for confirmation that neither BCI nor HSBI has been uttered (with any disagreements to be settled by the Appellate Body), and then transmitted to the public at a later date. The participants also propose that such an approach could be used for the closing statements, or at least that part of them that does not refer to BCI or HSBI.

²WT/AB/WP/6, 16 August 2010.

4. On 12 July 2011, the Division invited the third participants to comment, if they so wished, on the European Union's and the United States' request for public observation of the oral hearing and on the specific modalities proposed.

5. Canada and China submitted comments on the participants' request. Canada expresses its agreement with the joint proposal by the European Union and the United States that the Appellate Body adopt the same additional procedures that it adopted in *EC and certain member States – Large Civil Aircraft*. China also expresses general agreement with this proposal, and states its view that, under Article 17.10 of the DSU, participants and third participants in an appeal each have the right to determine whether or not to allow their statements at the oral hearing to be open to public observation. China encourages the Appellate Body to follow the practice in *EC and certain member States – Large Civil Aircraft* that allowed each third participant to request confidential treatment for its oral statement. No comments were received from Australia, Brazil, Japan, or Korea.

6. The request of the European Union and the United States raises issues similar to those that were before the Appellate Body in *EC and certain member States – Large Civil Aircraft*. In this appeal, we have already adopted additional procedures for the protection of sensitive information. Given the amount of information that was treated as BCI or HSBI during the Panel proceedings, we believe that it would be difficult to conduct the oral hearing in these appellate proceedings without referring to sensitive information. In carrying out our adjudicative function, it will be necessary to conduct the oral hearing in a manner that allows us to explore issues that involve sensitive information, while ensuring that this sensitive information is not improperly disclosed. Accordingly, and for reasons similar to those espoused by the Appellate Body in *EC and certain member States – Large Civil Aircraft*, we have decided to provide additional confidentiality protection for certain sensitive information during the oral hearing to be held in this appeal on the terms set out below. We also authorize the public observation of certain segments of the oral hearing as further indicated below.

Request for Additional Procedures to Protect Sensitive Information during the Oral Hearing

7. We are of the view that the Additional Procedures adopted in *EC and certain member States – Large Civil Aircraft* provided adequate protection for sensitive information, while allowing the Appellate Body to perform its adjudicative function and the third participants to exercise their rights under the DSU and the *Working Procedures*. The participants share this view and expressly request us to adopt similar procedures in this appeal. This is also the view of those third participants who submitted comments on the participants' request. Thus, as in *EC and certain member States – Large Civil Aircraft*, we consider it appropriate to adopt the following arrangements to protect sensitive information during the oral hearing:

- The participants have indicated that they intend to abstain from mentioning BCI or HSBI in their opening statements, and suggest that third participants may also agree not to mention BCI in their opening statements. No third participant has indicated an intention to refer to BCI in its opening statement. In such circumstances, it is unlikely that sensitive information will be uttered in this segment of the oral hearing.
- Accordingly, all members of the participants' and third participants' delegations may attend this initial segment of the oral hearing.
- Similarly, to the extent that it is confirmed by the participants—and also the third participants indicate—that no sensitive information will be referred to in the closing statements, all members of the participants' and third participants' delegations may attend this final segment of the oral hearing.

- In accordance with paragraphs 19(xiv) and 19(xvi) of our Procedural Ruling of 15 April 2011, the participants and the third participants have each designated BCI-Approved Persons, and the participants have designated HSBI-Approved Persons.
- Only members of the participants' and third participants' delegations who have been authorized to have access to BCI are invited to attend the segments of the oral hearing in which BCI may be discussed.
- Only HSBI-Approved Persons of the participants are invited to attend segments of the oral hearing in which HSBI will be discussed.
- Third participants will have access to the BCI version of the submissions filed in this appeal and the BCI version of the Panel Report in the hearing room during the BCI segments. Third participants will be provided with a single copy of these documents, individually watermarked. Access to these documents will be limited to Third Participant BCI-Approved Persons. These documents may not be removed from the hearing room.

8. The participants have proposed two options for addressing HSBI during the oral hearings. The first involves interrupting the BCI segments of the oral hearing each time reference will be made to HSBI, the second option involves having dedicated segments to discuss HSBI. We believe it is important that any additional procedures to protect sensitive information should interfere as little as possible with the regular conduct of the oral hearing and allow the Division to structure its questioning by topic. Therefore, to the extent possible, we prefer to focus on HSBI in dedicated segments in order to avoid interrupting the regular flow of the oral hearing. It may be, however, that the full exploration of an issue will not allow for deferral of the discussion of HSBI. If such circumstances arise, we may decide to interrupt the BCI segment of the oral hearing to discuss HSBI with the persons approved to have access to it.

Request for Public Observation of the Oral Hearing

9. Turning to the participants' request to authorize observation by the public of the opening segment of the oral hearing, we recall that requests to allow public observation of the oral hearing have been made, and have been authorized, in seven appellate proceedings.³ In its rulings, the Appellate Body has held that it has the power to authorize such requests by the participants, provided that this does not affect the confidentiality in the relationship between the third participants and the Appellate Body, or impair the integrity of the appellate process.

10. The Appellate Body has also noted that public observation in previous cases operated smoothly, and that the rights of third participants who did not wish to have their oral statements made subject to public observation were fully protected.

³These proceedings are: *United States – Continued Suspension of Obligations in the EC – Hormones Dispute* (WT/DS320AB/R) and *Canada – Continued Suspension of Obligations in the EC – Hormones Dispute* (WT/DS321/AB/R); *European Communities – Regime for the Importation, Sale and Distribution of Bananas – Second Recourse to Article 21.5 of the DSU by Ecuador* (WT/DS27/AB/RW2/ECU) and *European Communities – Regime for the Importation, Sale and Distribution of Bananas – Recourse to Article 21.5 of the DSU by the United States* (WT/DS27/AB/RW/USA); *United States – Continued Existence and Application of Zeroing Methodology* (WT/DS350/AB/R); *United States – Laws, Regulations and Methodology for Calculating Dumping Margins ("Zeroing") – Recourse to Article 21.5 of the DSU by the European Communities* (WT/DS294/AB/RW); *United States – Measures Relating to Zeroing and Sunset Reviews – Recourse to Article 21.5 of the DSU by Japan* (WT/DS322/AB/RW); *Australia – Measures Affecting the Importation of Apples from New Zealand* (WT/DS367/AB/R); and *European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft* (WT/DS316/AB/R).

11. Particular issues arise in this appeal, as they did in *EC and certain member States – Large Civil Aircraft*, in relation to the public observation of the oral hearing because of the need to avoid the disclosure of BCI and HSBI. We believe that the Additional Procedures adopted by the Appellate Body in *EC and certain member States – Large Civil Aircraft* provide an appropriate means to allow public observation of the oral hearing, while protecting sensitive information and safeguarding the Appellate Body's adjudicative function and the interests of the third participants.

12. Therefore, and subject to the qualification in paragraph 13 below, we authorize public observation of only the opening statements. We will authorize public observation of the closing statements upon indication from the participants and third participants that their closing statements will not include any reference to sensitive information.

13. We authorize observation by the public of the opening statements of only those third participants who have not indicated any objection to such observation. The confidentiality of the closing statements by third participants who do not wish to make their statements public will be preserved.

14. In this appeal, the participants have proposed that public observation take place by making a videotape of the relevant segments of the oral hearing and showing it to the public after the participants have had an opportunity to review the videotape for any inadvertent utterance of sensitive information. A similar procedure was used in *EC and certain member States – Large Civil Aircraft*. We agree with the participants that deferred transmission to the public by videotape will minimize the risk of inadvertent disclosure of sensitive information and we will give the participants an opportunity to request review of the videotape for this purpose before it is shown to the public. In case of disagreement between the participants regarding the sensitive nature of certain information referred to during the opening or closing statements, such information will not be subject to public observation.

15. For the reasons set out above, we adopt the following additional procedures for the purposes of this appeal:

Additional Procedures on the Conduct of the Oral Hearing

Protection of Sensitive Information during the Oral Hearing

- (i) These additional procedures shall apply to all sessions of the oral hearing to be held in this appeal and, in particular, to any information that is referred to in the oral hearing that was treated as business confidential information ("BCI") or as highly sensitive business information ("HSBI") in the Panel proceedings and that is contained in documents or electronic media that are part of the Panel record. These additional procedures complement the additional procedures for the protection of sensitive information that we adopted in our Procedural Ruling of 15 April 2011.
- (ii) To the extent that information on the record is presented at the oral hearing in a form that differs from the way in which it was presented to the Panel, and there is a disagreement between the participants on the proper treatment of the degree of confidentiality of this information, the Appellate Body shall decide the matter after hearing the views of the participants.
- (iii) Appellate Body Members, Secretariat staff assigned by the Appellate Body to work on this appeal, and interpreters and court reporters retained for this appeal may be present throughout the oral hearing, including segments dedicated to the discussion of BCI and HSBI.

- (iv) In addition to the persons indicated in subparagraph (iii) above, BCI shall be disclosed during the oral hearing only to BCI-Approved Persons of the participants and Third Participant BCI-Approved Persons.⁴
- (v) In addition to the persons indicated in subparagraph (iii) above, HSBI shall be disclosed during the oral hearing only to HSBI-Approved Persons of the participants.⁵
- (vi) The oral hearing segment dedicated to the opening statements of the participants and third participants shall be open to all members of the delegations of participants and third participants. The participants and third participants shall abstain from referring to BCI or HSBI in their opening statements.
- (vii) In order to protect BCI from unauthorized disclosure, only BCI-Approved Persons of the participants and Third Participant BCI-Approved Persons are invited to attend the segments dedicated to questions and answers.
- (viii) Segments of the oral hearing may be reserved for questioning on issues that may require reference to HSBI. In order to protect HSBI from unauthorized disclosure, only HSBI-Approved Persons of the participants are invited to attend these segments.
- (ix) To the extent that any participant or third participant indicates that it will make reference to BCI in its closing statement, only BCI-Approved Persons of the participants and Third Participant BCI-Approved Persons will be invited to attend the closing segment of the oral hearing.
- (x) If necessary, the Division hearing this appeal may interrupt a BCI segment and hold a segment dedicated to HSBI.
- (xi) During the segments of the oral hearing that address BCI, the BCI version of the Panel Report and the BCI version of the submissions filed in this appeal, which have been printed and individually watermarked pursuant to paragraph 19(xvii) of our Procedural Ruling of 15 April 2011, shall be made available to each third participant. Only Third Participant BCI-Approved Persons shall be allowed to consult these documents. The documents shall not be removed from the hearing room and shall be returned to the Appellate Body Secretariat at the end of each segment addressing BCI.
- (xii) The parts of the transcript of the oral hearing containing BCI and HSBI shall become part of the appellate record and shall be kept in accordance with the additional procedures for the protection of sensitive information set out in subparagraphs 19(vi), (vii), and (ix)-(xii) of our Procedural Ruling of 15 April 2011.

Public Observation of the Oral Hearing

- (xiii) The first segment of the oral hearing, which will consist of the opening statements by the participants and third participants, shall be open to public observation, subject to subparagraph (xv) below. The final segment of the oral hearing, which will be reserved for closing statements, shall be open to public observation to the extent that the participants and

⁴BCI-Approved Persons and Third Participant BCI-Approved Persons are those persons designated as such under paragraphs 19(xiv) and 19(xvi) of our Procedural Ruling of 15 April 2011.

⁵HSBI-Approved Persons are those persons designated as such under paragraph 19(xiv) of our Procedural Ruling of 15 April 2011.

third participants indicate that their closing statements will not refer to any sensitive information and subject to subparagraph (xv) below.

- (xiv) The segments open to public observation shall be videotaped. Within two days of the completion of each session of the oral hearing, either participant may request to review the videotapes to verify that BCI or HSBI has not been included inadvertently or otherwise. Upon such request, staff of the Appellate Body Secretariat shall be present while the participants review the videotape. If the videotape contains BCI or HSBI, a redacted version of the videotape shall be produced in which the BCI or HSBI has been deleted. In case of disagreement between the participants regarding the sensitive nature of certain information referred to during the opening or closing statements, the relevant segment(s) will not be subject to public observation.
- (xv) The opening and closing statements of third participants wishing to maintain the confidentiality of their submissions will not be subject to public observation. Any third participant that has not already done so may request that its oral statements remain confidential and not be subject to public observation. Such requests must be received by the Appellate Body Secretariat no later than 5 p.m. Geneva time on Wednesday, 10 August 2011.
- (xvi) Notice of the oral hearing will be provided to the general public through the WTO website. Members of the general public wishing to observe the oral hearing will be required to register in advance with the WTO Secretariat. The videotape, or if applicable the redacted version of the videotape, shall be screened to WTO delegates and members of the public who have registered to observe the oral hearing once the review process referred to in subparagraph (xiv) above has, if requested, been completed. The time and location of the videotape screening shall be announced in due course. WTO delegates are invited to indicate to the Appellate Body Secretariat, no later than 5 p.m. Geneva time on Wednesday, 10 August 2011, whether they wish to have a reserved seat in the room where the videotape will be screened.

ANNEX V

HSBI Annex

[[HSBI]]
