E THE INCIDENCE OF SUBSIDIES

This Section provides an overview of the use of subsidies both at the global level and at different levels of geographical and sectoral disaggregation. Given the quantity and quality of the available data it is not possible to provide a comprehensive and systematic picture of the incidence of subsidies.

Although a number of sources exist from which information on subsidies can be obtained, definitions and classifications differ in most cases and are difficult to reconcile. Data from international sources that allow for cross-country comparability either only exist at a highly aggregated level, or are available for a limited number of (sub)sectors (e.g. fisheries and agriculture) or instruments (e.g. export credit support).[165] For other sectors, like services and export processing zones (EPZs), no comprehensive international data source exists that provides quantitative information which is comparable across countries. Among the sources of information used here are national and supranational subsidy reports, information from WTO notifications under the Agreement on Subsidies and Countervailing Measures (SCM) and the Agreement on Agriculture (AoA) and information from the WTO's Trade Policy Review (TPR) reports (Box 12). National subsidy reports provide quantitative information that is likely to be comprehensive and accurate but does not guarantee cross-country comparability. WTO notifications contain quantitative information. Compiling and analysing this information is difficult, however, as it has not been provided according to clear and consistent statistical definitions. The information contained in TPR reports is mostly descriptive, and has been reported in this Section mainly for illustrative reasons.

Box 12: The WTO's Trade Policy Review Mechanism

In order to enhance the transparency of Members' trade policies and thus facilitate the smooth functioning of the multilateral trading system, WTO Members established the Trade Policy Review Mechanism, whose function is to review the trade policies of each WTO Member at regular intervals. Annex 3 of the Marrakesh Agreement establishes that the four Members with the largest shares of world trade (currently the European Communities, the United States, Japan and China) be reviewed each two years, the next 16 be reviewed each four years, and others be reviewed each six years. A longer period may be fixed for least-developed country Members.

Reviews are conducted by the Trade Policy Review Body on the basis of a policy statement by the Member under review and a report prepared by staff in the Secretariat's Trade Policy Review Division. In preparing the reports, the Secretariat seeks the cooperation of the relevant Members, but has the sole responsibility for the facts presented and the views expressed.

The Trade Policy Review (TPR) reports contain detailed chapters examining the trade policies and practices of the Member and describing trade policymaking institutions and the macroeconomic situation. For the purpose of this report the information on Members' subsidies contained in the TPRs is of particular interest. Reflecting the different types of subsidies distinguished in the SCM Agreement, information on subsidies can be found in three parts of the TPR reports – in the subsection on measures directly affecting exports, in the section discussing trade policies and practices by sector, and in the subsection discussing government incentives or subsidies that do not directly target imports or exports but may nevertheless have an impact on trade flows. Although information on subsidies is generally collected against the background of the definition of "subsidies" established by the SCM Agreement, not all data recorded in TPR reports are necessarily compatible with this definition.

The selection of the content of reports is not driven by subsidy-related issues and problems, but rather by a Member's main policy challenges and constraints. Besides, the coverage of reports is to a large extent determined by the availability of data. As a consequence, the amount of information contained on subsidies in TPR reports varies from Member to Member. The fact that some reports do not include

[165] See the discussion on the OECD Export Credit Arrangement in Section D.

subsidy-related information, therefore, does not necessarily point to the absence of such schemes in the Members concerned. Nor does the availability of extensive and detailed information on subsidies in a TPR report necessarily mean that the use of subsidies is more predominant in the relevant Member than in other Members. TPR reports do not normally attempt to assess the effects of subsidies on trade and due to the limited level of detail available, it is in many cases difficult to identify the extent to which a benefit is actually being conferred or the identity of the recipient of the subsidy.

Notwithstanding their shortcomings, in particular with respect to cross-country comparability, TPR reports constitute one of the few sources that systematically collects information on subsidies for a broad range of countries and a broad range of economic activities.

The structure of this Section has to a large extent been determined by the availability of data. It starts with an overview section that serves two purposes. First, it attempts to give a picture of the evolution of the use of subsidies over time and across regions and countries. Second, it compares for a number of countries, information on the value of subsidies obtained from different sources, i.e. the National Accounts Statistics (NACC), national subsidy reports and WTO notifications. It therefore illustrates the implications that differences in subsidy definitions have for the measurement of subsidies.[166] The overview section is followed by three subsections focusing on specific sectors: agriculture, industry and services. The quantity and quality of the data available for each sector differs significantly, with the information available for the agricultural sector probably being the most comprehensive, whereas the information on the services sector can hardly be used for statistical analysis. Many of the findings presented in the report have to be interpreted carefully, given methodological limitations and the incomplete coverage of the underlying information.

1. OVERVIEW

The most widespread, standardized information on "subsidies" is provided in National Accounts Statistics (NACC) for which country data are available worldwide. The subsidy definition used in NACC has been discussed in quite some detail in Section B of this Report. There, it was pointed out that this subsidy definition is rather narrow, for example because it only comprises one particular form of subsidization, i.e. direct payments by the government. Other subsidies, like tax concessions and loan guarantees, are not included. On the other hand, all levels of government and all sectors are – in principle – covered.

The basic data sources for subsidies as defined by NACC are (a) the OECD National Accounts Statistics data base as provided through Olisnet, (b) United Nations, National Accounts Statistics Volume and (c) national sources. National sources provide, in some cases, a breakdown of subsidies by industry and by function, which is not found in the data provided by international sources. Sometimes a breakdown is also given by government level (federal/central, state and local). A breakdown combining industry and state level is rare. National account statistics from national sources have been used in this Section to give information on the sectoral breakdown of national subsidies. This information is only available for a small number of countries, including Brazil, Colombia, Germany and India.

The second source of information on national subsidies is government finance statistics. In a compact, standardized format, information on subsidies is provided by the IMF, Government Finance Statistics Yearbook (GFS). In addition to providing the overall government level of subsidies, this data set is broken down into central (federal), state and local government categories. In most cases, federal subsidies predominate, but in some cases they account for less than half of the total (e.g. Canada). Subsidies reported according to the GFS 2001 closely match those collected under the National Accounts System (for the developed countries). National sources of government finance often provide even more detailed statistics than is published internationally, but for this information standardization is often not assured.

166 Different definitions of subsidies were analysed in Section B.

Besides the NACC and the GFS one can also find national and supra-national studies on economy-wide subsidies. Such studies are publicly available only for a very limited number of countries, including Australia (Productivity Commission, Trade and Assistance Review), Germany (Ministry of Finance, Bericht der Bundesregierung über die Entwicklung der Finanzhilfen des Bundes und der Steuervergünstigungen) and at the supra-national level the European Union (European Commission, State Aid Scoreboard). These studies have the advantage that they offer a wealth of detailed information not available in the NACC and GFS data, which is the main reason for including this information in this Report. The frequent references to subsidies in Australia, the European Union and, to a lesser extent, Germany are, therefore, entirely due to the fact that detailed and comprehensive information on subsidies can be easily accessed by the general public.

As for notifications by WTO Members, the SCM Agreement, the AoA Agreement and Article XVI of GATT 1994 require WTO Members to provide information about their use of subsidies. Members are required to submit a notification of all specific subsidies at regular intervals. In addition, Members are required to notify all other subsidies "which operate directly or indirectly to increase exports of any product from, or to reduce imports of any product into, the territory of the Member granting or maintaining the subsidies" pursuant to Article XVI of GATT 1994. In principle, therefore, WTO notifications represent a rather unique source of information on the use of subsidies.

Certain subsidies are actionable or forbidden under the WTO Agreements. Members are undoubtedly aware of this when making their notifications. Article 25.7 of the SCM Agreement is seemingly meant to encourage Members to provide information, as it clearly states that the notification of a measure does not prejudge the measure's legal status under GATT 1994 and the SCM Agreement, its effects under the SCM Agreement, or the nature of the measure itself. Even so, a significant number of WTO Members do not fulfil their notification requirements at the required intervals. This and other caveats with respect to the quality of the quantitative information provided in the WTO notifications under the SCM Agreement are explained in more detail in Box 13.

Box 13: Technical note on the compilation of quantitative data from WTO notifications according to the SCM Agreement

Article 25.1 of the SCM Agreement and Article XVI of GATT 1994 require WTO Members to provide information about the use of subsidies in their territory. Members are required to submit a new and full notification of all specific subsidies every three years, with updated notifications due in the intervening years. The frequency of notifications was discussed in the Committee on Subsidies and Countervailing Measures in May 2001, and Members agreed that their resources would be best utilized by giving maximum priority to submitting new and full notifications every two years, and by de-emphasizing the review of the annual updating notifications.

Not all Members fulfil the notification requirements at the expected frequency. Twenty nine of the currently 149 WTO Members have so far not submitted any notification pursuant to Article 25.1 of the SCM Agreement or Article XVI of GATT 1994. This group includes mainly LDCs like Bangladesh and Tanzania, but also non-LDCs like Kenya, Kuwait and Malta. Other Members do not provide quantitative information on subsidy programmes or do not provide this information systematically, like in the case of Chile, Colombia, Mexico and New Zealand. As a result, in most years, information is only available for less than half of the WTO Membership.[1]

The information used for this Report only takes into account programmes for which quantitative information is available. Article 25.3 requires Members to provide information on the value of subsidies per unit, or, "in cases where this is not possible, the total amount or the annual amount budgeted for that subsidy". Nevertheless, Members frequently indicate in their notifications that no information on the value of the subsidy is available. The "per unit" value of subsidies has probably the most

informative value for trading partners, as it indicates the extent to which subsidies may affect the costs of competitors in the subsidizing country and/or resulting market prices. This Section instead uses information on annual amounts budgeted for subsidy programmes, as it facilitates the comparison with the information from other data sources. Article 25.3 also requires Members to provide an assessment of the trade effects of subsidies. This information is, however, hardly ever provided.

In general, the quantitative information provided in the notifications is characterized by a lack of clarity and consistency, for instance as regards the unit and/or the currency of measurement that have been used. The impression also arises that not all programmes are reported consistently, as programmes may suddenly disappear and re-appear in notifications. Compiling the information contained in the notifications thus required a significant amount of interpretation and the analysis presented of those data should be read with caution.

[1] It cannot be concluded that Members who do not provide any information on subsidies for a specific year do not grant any subsidies in that year. Indeed, Article 25.6 of the SCM Agreement stipulates that Members who consider that they provide no specific subsidies should inform the WTO Secretariat in writing. Albania, for instance, notified that: "In accordance with Article 25.1 of the Agreement on Subsidies and Countervailing Measures and Article XVI:1 of the GATT 1994, the Government of Albania wishes to inform you that Albania does not grant or maintain within its territory any subsidy within the meaning of Article 1.1 of the Agreement on Subsidies and Countervailing Measures which is specific within the meaning of Article 2 of the Agreement, or which operates directly or indirectly to increase exports from or reduce imports into its territory within the meaning of Article XVI:1 of the GATT 1994". (G/SCM/N/123/ALB) .

(a) Tentative review of the subsidy incidence in an historic and cross-country perspective.

The description of the evolution and the structure of subsidies below is based on information provided in NACC. Information from other sources will be indicated in each case. The limitations of the subsidy data based on NACC should be kept in mind to appreciate the findings presented below.

Besides the absolute size of subsidy outlays, their historic evolution by country and worldwide is of major interest. As regards the absolute size, it would appear that 21 developed countries spend nearly US$250 billion in 2003 on subsidies. Governments throughout the world provided more than US$300 billion. In respect to the long term trend of national subsidy levels, the ratio of subsidies to GDP can be reported for most of the developed countries back to the 1960s and in some cases even back to the 1950s (Table 6). Looking at decade averages of this subsidy ratio, one finds that the 1970s and 1980s were periods with significantly higher subsidy to GDP ratios than either the 1960s or the 1990s. For the 1990s and the 2000-04 period, the ratios of subsidies to GDP decrease markedly from their levels prevailing in the 1970s and 1980s in the EU(15), Norway, Canada and Japan. For the United States, the ratio of subsidies to GDP remained rather stable. Over the entire 1960-2004 period, the level of subsidies (as measured by the NACC) in the United States, at about one-half of a per cent of GDP, was always smaller than in the other developed countries. The European countries report a much higher subsidy level, while Japan takes an intermediate position between the United States and the EU. Canada's subsidy level was rather close to the EU level, while those of Norway and Switzerland exceeded the EU level.

As regards the more recent evolution of subsidies, the available national accounts data point to rather stable and historically low levels of subsidies since 2000. The (value weighted) average ratio of subsidies to GDP for the developed countries remained at or slightly below 1 per cent in each year between 1998 and 2003. The average ratio of the EU(15) stagnated at a record low of 1.2 per cent in 2000-02 and rose to 1.6 per cent in 2003. In Australia, the ratio remained flat at 1.3 per cent over the 2000-03 period. In the United States, there was a peak in the subsidy ratio in 2001 (partly due to the special subsidies granted to US airlines), but by 2004 the nominal value of subsidies had fallen below the level reached in 2000. In Japan, the ratio reached 0.9 per cent in 2000 and remained unchanged at 0.8 per cent in 2001-03. The stability of subsidy levels is also confirmed if one looks at the median and average arithmetic value of the ratio of subsidies to GDP of all developed countries, which stayed at around 1.5 per cent between 2000 and 2003.

Table 6
Long-term development of subsidy levels in developed countries, 1950-2004
(Percentages, subsidies as a ratio of GDP)

	1950-60	1960-69	1970-79	1980-89	1990-99	2000-04
Austria	...	2.0	2.3	2.9	2.9	3.1
Belgium	...	2.0	3.3	3.5	2.1	1.5
France	...	...	2.2	2.8	1.8	1.3
Germany	0.5	1.4	2.2	2.2	2.0	1.5
Italy	...	...	2.5	3.4	1.9	1.1
Spain	...	...	1.2	2.3	1.9	1.1
Sweden	...	...	2.8	4.6	3.9	1.5
United Kingdom	1.8	1.9	2.4	1.9	0.8	0.6
EU (12 joined series)	...	...	2.2	2.8	2.0	1.4
EU (15 joined series)	...	...	2.3	2.8	1.9	1.2
Norway	4.5	3.9	5.2	4.5	3.7	2.2
Switzerland	...	...	...	...	4.1	4.0
Australia	...	...	1.1	1.6	1.3	1.3
Japan	0.4	0.8	1.3	1.2	0.8	0.8
Canada	0.4	...	1.6	2.4	1.3	1.2
United States	0.1	0.4	0.4	0.5	0.5	0.4

Note: For 1950-60 not always full period covered. Germany refers to West Germany up to 1989.
Source: OECD, National Accounts Statistics.

For the developing countries, the information is more scattered. A general conclusion is therefore not possible but the fragmentary data available suggest that the evolution is not uniform. In the case of Brazil, the ratio declined between the years 2000-01 and 2002-03 (from 0.4 per cent to 0.2 per cent), while it increased in the case of India from 2.5 per cent on average for FY 1999-00 and 2000-01 to 2.9 per cent on average for FY 2002-03 and 2003-04.

It is often assumed that subsidy levels are lower in developing countries than in developed countries. Indeed, on the basis of National Accounts data for the years 1998 through 2002, the share of subsidies to total government expenditure and to GDP in developing countries seems to be lower than for developed countries, as illustrated in Table 7 (and Appendix Table 1). From a sample of 22 developed and 31 developing countries it was found that the arithmetic average ratio for the period was with 0.6 per cent for the developing countries, less than half the corresponding rate of the sample of developed countries (1.4 per cent). The difference between the developing and developed countries is also pronounced for the ratio of subsidies to government expenditure (4.4 per cent and 8.2 per cent respectively).[167]

Table 7
Overview of worldwide subsidies as a ratio of government expenditure and GDP, 1998-2002
(Percentage)

	Ratio of GGFCE[a]	Ratio of GDP
All countries (69)		
Median	5.5	0.9
Average	6.6	1.2
Maximum	36.1	5.7
Minimum	0.2	0.0
Developed countries (22)		
Median	6.7	1.4
Average	8.2	1.5
Maximum	36.1	4.1
Minimum	0.9	0.2
Developing economies (31)		
Median	3.3	0.5
Average	4.4	0.6
Maximum	21.0	2.6
Minimum	0.2	0.0

[a] General Goverment Final Consumption Expenditure.
Source: OECD, National Accounts Statistics, UN, National Accounts Statistics, IMF, Staff reports Article 4 consultations and national statistics.

Subsidies are granted at the central, state or local government level and sometimes even at the supra-national level. For the year 2003, a large variation was found in the relative importance of the central

[167] For the developed countries the weighted average subsidy ratio is significantly smaller than the arithmetic average subsidy ratio as the weight of the large economies with low ratios (e.g. United States and Japan) is larger than in the simple average calculation. For the 1998-02 period, the developed countries average ratio of subsidies to GDP was 1.5 per cent while the weighted average was 0.95 per cent.

government in total government subsidies, as illustrated in Appendix Table 2.[168] It is therefore important to be aware which level of government is covered by a specific review of subsidies. In some countries the federal government accounts for more than 90 per cent of total subsidy expenditures (e.g. United States, Finland and Portugal) while in other countries the federal government accounts for less than half (e.g. Canada 25 per cent, Germany 35 per cent, Belgium and Japan 49 per cent). In most of the countries examined, the share of the federal government in total subsidy expenditure is in the range of 60 to 70 per cent (e.g. France, Italy, Netherlands and the United Kingdom). Again, data for the developing countries are more difficult to obtain, especially for recent years. In the case of Brazil and India the share of the federal government in total subsidy expenditure was 77 per cent and 55 per cent respectively.[169]

One of the major differences between the subsidy data provided by NACC and the (supra-)national subsidy reports is the treatment of tax concessions. In order to have a first rough guess about the relative importance of direct grants and tax concessions in total subsidies, one has to review the special studies which report both grants and tax concessions. In the case of Australia (and for the limited range of sectors and government units covered), it seems that subsidies in the form of tax preferences are as important as direct payments reported as budgetary allowances. In Germany, the share of tax preferences in total subsidies was 46 per cent for all government units and nearly two-thirds at the federal level alone.[170] In the case of the EU, the majority of subsidies provided by member governments for manufacturing and services are in the form of grants (67 per cent in the 2001-03 period).[171] Tax exemptions and tax deferrals account for 25.3 per cent and the remainder are in the form of soft loans, guarantees and equity participation. However, significant differences exist among EU Member States in the use of the various instruments.

(b) How much do countries subsidize according to different data sources?

Comparing the information on the use of subsidies provided by different data sources is an interesting exercise in itself as it illustrates how much or how little is actually known about the incidence of subsidies. This subsection compares information from NACC, subsidy reviews from a selected number of countries and the WTO notifications. This comparison therefore also serves to highlight to which extent the notification obligation under the WTO fulfils its purpose of providing transparency on the use of subsidies.

(i) Incidence at the national and supra-national level

When comparing information from alternative data sources, the different subsidy definitions used need to be kept in mind. It is difficult a priori to determine whether the definition of subsidies in NACC is broader or narrower than that used in the (supra-)national subsidy reviews mentioned above. In the case of the German government's subsidy report, all subsidies covered in NACC are also covered in the subsidy review and the subsidy component of tax preferences is also provided. Therefore, in its summary overview the overall subsidy level indicated by the subsidy report is significantly larger than indicated in German national account statistics (e.g. for the year 2000, the government study indicates subsidies worth €59.4 billion while the NACC data report only €40.7 billion). In respect of federal government subsidies, NACC data report subsidies worth €10.5 billion in 2000 while the subsidy review reports €23.1 billion with tax preferences included.

In the Trade and Assistance Review 2003-04 of the Australian Productivity Commission, all those subsidies that are considered not to distort competition are excluded from the review. Also excluded are almost all subsidies at the state and local level, which in FY 2002-03 accounted for half of the subsidies registered under

168 "General" subsidies refer to the total amount of subsidies in the terminology of relevant IMF statistical sources.

169 The large variation observed in the share of the federal government in total subsidy expenditure should be a warning for all those who study detailed subsidy expenditure programmes at the federal level only. In this respect, the detailed review of the Australian Productivity Commission on budgetary assistance provides only information on about half the subsidies granted by government units in Australia (the restricted coverage is well flagged by the authors of the report).

170 Data for year 2002, see 19th Subventionsbericht, p. 27, Table 9.

171 See Chart 5 in EU Spring 2005 State Aid Scoreboard.

the NACC (see Appendix Table 2). The exclusions in the report of the Productivity Commission exceed by far the value of the additions made in the form of tax breaks/exemptions (see Table 8).[172]

Table 8
Subsidy expenditure according to different sources, 1998-2002
(Period averages, billion dollars)

	National Accounts Data (NACC)	National/supra-national review	WTO notifications
Developed countries			
Australia	4.7	2.3 [a]	0.3
Canada	7.7	...	0.9
EU (15) - total	109.0	...	96.3
EU (15) community level	...	...	82.4
EU (15) member level	...	80.3 [b]	13.9
Germany	33.7	56.9 [c]	3.1
Japan	34.3	...	4.2
Norway	4.1	...	2.9
Switzerland	10.8	...	0.7
United States (all)	43.5	...	16.3
United States (federal)	41.5	...	16.2
Developing economies			
Brazil	2.0	...	1.7
China	13.2 [d]	...	...
India	12.2	...	...
Korea, Republic of	1.0	...	1.3
South Africa	0.9	...	...

[a] Mainly federal level, not all sectors.

[b] Including partly estimated railway subsidies.

[c] All government levels (incl.EU) and all sectors.

[d] State level. Referring to 2000-02.

Source: Bundesministerium der Finanzen (2003), European Commission (EC) (2005a), IMF (2005), Productivity Commission (2004) and WTO Secretariat.

The definition of "government" in the SCM Agreement is rather comprehensive as it includes all the administrative units at the federal, state and local level and also any other "public body". As discussed in Section B, the various forms of subsidy covered by the SCM definition is also rather wide, as it includes direct transfers of funds, tax concessions and potential direct transfers. Covered by the definition are also the second category of subsidies, i.e. "the provision by the government of goods and services (other than infrastructure) or and the purchase of goods" in the terminology of the SCM Agreement. Notifications under the SCM Agreement only cover goods. Subsidies to the services industries are not covered by WTO notification requirements.[173] The empirical evidence shows that subsidies to the services sector are a major part of government subsidies reported in NACC or Government Finance Statistics.[174] Comparing the subsidies data provided by the WTO notifications with those given in NACC, one has to recall that both have a similar definition of government but the former covers more forms of subsidies, in particular tax preferences, while the NACC has a significantly higher sectoral coverage due to the inclusion of services industries. In addition, the notifications data are in principle limited to "specific subsidies" which may imply that horizontal subsidies – that is, subsidies not explicitly targeting a sector – may not always be included. When interpreting the

[172] True, the Productivity Commission adds an estimate on the subsidy equivalent of the tariff structure which can be quite substantial for some sectors. However, the subsidy element of tariffs is not available for other countries and is therefore excluded from our comparisons.

[173] Some notifications do contain information on subsidies to services sectors. Their value, however, tends to be negligible in the notifications.

[174] Enterprises in the German services industries (private and public) received two-thirds (or €23.8 billion) of all subsidies granted to resident enterprises in 2003. (Source: Fed. Statistical Office, Volkswirtschaftliche Gesamtrechnungen, Produktions und Importabgaben sowie Subventionen. Gliederung nach Wirtschaftsbereichen, 2005).

quantitative information presented here on WTO notifications, a number of technical issues need to be kept in mind. These are explained in Box 12.

Comparing the data on subsidies from various sources for the period 1998-2002 not only reveals large discrepancies, but also raises questions about the completeness of WTO Member notifications (see Table 8). For the United States, the reported annual average value for the four-year period, including state and local subsidies, was US$16.3 billion, less than half the value reported in national accounts (US$43.5 billion). In Japan, the notifications report US$4.2 billion in subsidies while the national accounts report US$34.3 billion. Australia notifies subsidies of US$0.3 billion to the WTO, while in the NACC they rise to US$4.7 billion. For the EU(15), the notifications amount to US$96.3 billion (community and individual members combined) which are not so far off the NACC figure of US$109 billion and the EU Scoreboard (which excludes community subsidies) value of US$80.3 billion. As indicated above, the exclusion of services in the notification requirements and the absence of quantification of many subsidy programmes in the notifications are an important element in the discrepancies.

(ii) Sectoral allocations

The breakdown of subsidies by industry is rarely provided in the summary National Accounts data. For a few countries this information was found in NACC (e.g. Brazil, Colombia, Germany and India). For the United States, only a very broad breakdown by five industry groups is published. Specific regular reports on subsidies by industry are prepared in at least two countries (Australia and Germany) and by the EU Commission on subsidies provided by Member States. Analysing the industry breakdown of these reports is not a straightforward exercise. First, there is often a difference between total subsidies granted and the amount broken down by industry, as some subsidies are not specific to a particular industry but of a general nature. Sometimes these subsidies are labelled as "horizontal" subsidies. Second, the comparability of the different subsidy reports and the data derived from NACC are quite limited due to differences in the definition of subsidies, as discussed before.

Given the present data situation, it is impossible to come up with an estimate on the sectoral breakdown of global subsidies. Nevertheless, some indications can be obtained on the sectoral distribution of subsidies. The first observation which can be made is that the available data point to a large variation in the sectoral distribution of subsidies among countries. For Colombia and Brazil, the data point to a low share for agriculture (less than 20 per cent) and a high share for services (more than 50 per cent). In India, the data point to a very large share of agricultural subsidies (more than 50 per cent), followed by industry (about one-fifth) and services (about one-eighth).[175]

Among the EU members, the share of industries in national subsidies differs substantially (excluding the subsidies provided by the EU directly, which are focused on agriculture and fisheries). According to the EU scoreboard data, the overall state aid, which excludes subsidies to rail transport, provided by member countries is concentrated in the industrial sector (more than two-thirds in 2003). Within industry, most aid goes to the manufacturing sector but in some cases coal subsidies also account for a large share. Services subsidies have a small share (less than 10 per cent at the combined country level). Portugal is a unique case among the EU members, with a share of nearly two-thirds for services (see Table 3 in EU scoreboard update Spring 2005, page 16). By adding the subsidies provided by the EU (which focus on agriculture and fisheries) the importance of agriculture rises substantially and that of services dwindles even further.

The Annual Review of Trade and Assistance by the Australian Productivity Commission provides some detail on the sectoral distribution of subsidies. If one excludes the subsidies which are not allocated by sector, one finds that Australian subsidies go largely to the industrial sector (in particular to motor vehicles), one-quarter to agriculture and one-fifth to services.[176]

[175] India, Central Statistical Office(CSO), National Accounts Statistics 2005 website http://mospi.nic.in/mospi_cso_rept_pubn.htm, accessed January 2006. For the sectoral distribution in India only subsidies for "economic services" have been taken into account, which cover more than 90 per cent of all subsidies reported in India's National Accounts Statistics.

[176] Data refer to fiscal year 2003-04. See Table 2.1 of Trade and Assistance Review 2003-04.

WTO notifications also provide information on the sectoral allocation of subsidies and this information has been used to generate Table 9. Members are required by Article 25.4 to organize their notifications by product or sector, if subsidies are granted to specific products or sectors. Often the title of a subsidy program therefore indicates whether the subsidy targets the agricultural sector or industry. In other cases, the name of the granting authority or the description of the programme was used to classify information. All programmes that could not be allocated clearly to either the agricultural sector or the industrial sector were classified as "horizontal programs". This category, for instance, includes regional and R&D programmes.

Table 9
Sectoral allocation of subsidies notified by selected WTO Members, yearly average 1999-2002
(Percentages)

	Agriculture	Industry	Horizontal
Australia	30	51	19
European Communities	42	8	50
EU (15)	1	19	80
Japan	78	22	0
United States	60	8	32

Source: WTO Secretariat.

The sectoral breakdown of subsidies provided in the notifications reveals that agriculture accounts for a much larger part than industry in total subsidies for the EU(15) at the community level, Japan and the United States. In Australia, however, industry takes the largest part. The importance of horizontal subsidies also varies greatly, ranging from nil in Japan to one-half in the case of the EU(15).

(c) Conclusions

To sum up, the choice of the yardstick to measure subsidies (NACC, specific reviews or WTO notifications) has a significant impact not only on the level of subsidies but also on their composition by industry or instrument (grants or tax preferences). Given the uncertainty surrounding the economy-wide subsidy estimates, industry specific data sources such as those on agriculture and fisheries are likely to be more reliable for economic analysis.

The comparison presented in this Section of WTO Member notifications with data on subsidies from other sources raises questions about the completeness of WTO Member notifications. As a consequence, it is questionable whether the notification requirement has so far achieved its aim of enhancing transparency with respect to the use of subsidies by WTO Members.

Appendix Table 1
Subsidies, government expenditure and GDP, 1998-2002
(Percentage, period average)

Country	Subsidies as % of government expenditure Average	Subsidies as % of GDP
Developed countries		
North America		
Canada	5.8	1.1
United States	3.1	0.5
Europe		
Austria	16.4	3.0
Belgium	6.9	1.5
Bulgaria	11.7	2.0
Czech Republic	12.7	2.8
Denmark	8.6	2.2
Estonia[a]	5.1	1.1
Finland	7.1	1.5
France	5.6	1.3
Germany	8.7	1.7
Greece	0.9	0.2
Hungary	7.6	1.7
Iceland	7.1	1.7
Ireland	5.4	0.8
Italy	6.6	1.2
Latvia	5.3	1.1
Lithuania	4.2	0.9
Luxembourg	9.6	1.6
Netherlands	6.5	1.5
Norway	11.7	2.3
Poland	4.3	0.7
Portugal	6.9	1.4
Slovakia	11.7	2.3
Spain	6.5	1.1
Sweden	6.4	1.8
Switzerland	36.1	4.1
United Kingdom	2.8	0.5
European Union (25)	6.8	1.5
Asia		
Australia	6.7	1.2
Japan	4.9	0.8
Commonwealth of Independent States (CIS)		
Armenia	6.1	0.7
Azerbaijan	8.7	1.3
Belarus	28.1	5.7
Kazakhstan	1.3	0.1
Kyrgistan	4.1	0.8
Republic of Moldova	8.1	1.4
Russian Federation	14.9	2.5
Ukraine	11.3	2.3

Country	Subsidies as % of government expenditure Average	Subsidies as % of GDP
Developing economies		
Mexico	3.3	0.4
South and Central America		
Aruba[b]	1.1	0.2
Bolivarian Rep. of Venezuela	3.1	0.2
Brazil	1.8	0.3
Chile[a]	3.6	0.4
Colombia[a]	3.4	0.7
Costa Rica	6.8	0.9
El Salvador[e]	0.2	0.0
Netherlands Antilles[c]	3.3	0.8
Panama	3.2	0.5
Trinidad and Tobago[a]	7.0	0.9
Africa		
Benin[c]	0.9	0.1
Botswana	1.6	0.5
Côte d'Ivoire[b]	3.9	0.6
Kenya	0.3	0.1
Morocco[a]	10.8	1.8
Mozambique[a]	1.0	0.1
Namibia[a]	1.2	0.3
Nigeria[d]	0.2	0.0
South Africa	3.9	0.7
Tunisia	10.3	1.6
Middle East		
Israel	2.6	0.7
Iran, Islamic Republic of	11.7	1.6
Kuwait[c]	1.2	0.3
Oman[a]	0.6	0.1
Qatar[a]	0.4	0.1
Asia (developing economies)		
China[e]	5.7	1.1
India	21.0	2.6
Malaysia	7.9	1.0
Mongolia[b]	0.7	0.3
Philippines	2.4	0.3
Korea, Republic of	1.7	0.2
Sri Lanka	4.8	0.7
Taipei, Chinese	3.8	0.5
Thailand	3.8	0.4

[a] Average 1998-2001; [b] Average 1998-2000; [c] Average 1998-99; [d] Average 1999-2002; [e] Average 2000-02.
Source: OECD, NACC; UN, National Accounts Statistics; IMF, Staff reports Article 4 consultations and national statistics.

Appendix Table 2
General and central government subsidies in selected countries in 2003
(Percentages)

	Year	Subsidies as a ratio to GDP		Share of central government in total government subsidies
		General government	Central government	
Developed countries				
United States	2003	0.4	0.4	99.7
Canada	2003	1.2	0.3	25.4
Australia	2003	1.3	0.7	51.1
Japan (FY)	2003	0.8	0.4	48.9
Euro Area				
Austria	2002	2.8	1.6	58.5
Belgium	2002	1.6	0.8	49.4
Finland	2003	1.3	1.3	94.0
France	2003	1.3	0.8	56.4
Germany	2003	1.4	0.5	35.0
Italy	2000	1.2	0.7	56.5
Netherlands	2003	1.4	0.8	58.7
Portugal	2001	1.3	1.2	92.2
Spain	2002	1.1	0.6	56.1
Denmark	2003	2.1	1.7	78.0
Iceland	2002	1.8	1.4	81.8
Norway	2003	2.6	2.3	88.5
Sweden	2002	1.5	1.1	71.4
Switzerland	2001	...	0.9	...
United Kingdom	2003	0.7	0.6	83.6
Developing economies				
Brazil	2001	0.4	0.3	77.2
India	1999-2002	2.8	1.6	55.5

Source: IMF, *Government Finance Statistics Yearbook 2004* and national statistics.

2. THE INCIDENCE OF SUBSIDIES IN AGRICULTURE

(a) Introduction

This subsection on agricultural subsidies is divided into five main parts. The first is a discussion of the various policy objectives governments pursue in the agricultural sector. The second describes the available information and databases on domestic and export subsidies in agriculture. The third reports trends in subsidies to agriculture and the amounts spent by country and by commodity. The primary source is notifications by WTO Members. In an effort to go beyond a purely descriptive account of subsidies, the fourth part reviews some recent computable general equilibrium (CGE) simulations on the welfare effects of removing domestic and export subsidies on agriculture. The simulations allow us to compare the baseline – where subsidies to agricultural producers (importers or exporters) are provided – against the counterfactual, where all the subsidies are removed. The difference in the levels of welfare of countries between the baseline and the counterfactual reflects the incidence of subsidies in agriculture. Finally, some concluding thoughts are offered on the likely evolution of agricultural subsidies, given the trends discerned in this analysis and the outcome of the recent Hong Kong Ministerial Conference.

(b) Why do governments provide subsidies to agriculture?

Section D (Objectives of Subsidies) covered all of the important objectives of governments in providing subsidies. But there is no one objective discussed in that Section which fully explains the support that many governments have given to agricultural producers. Rather, it is a mix of those objectives that have motivated the provision of financial support – redistribution, income support, protection of the environment – plus a few others which are unique to the agricultural sector, such as food security and rural development. Also, the stated policy objectives do not appear to have remained the same but have tended to evolve over time, as witnessed, for example, by the growing weight now being put on the environmental value of agriculture.

Objectives may also vary by level of development. In developing countries, agricultural policy issues revolve around basic concerns like food security, poverty alleviation, rural development, and stabilization of export revenues. In developed countries, food self-sufficiency may continue to be important but increasing attention is being paid to food safety and environmentally sustainable farming. Agriculture and fisheries are expected to also provide a diversity of rural amenities and to contribute to community development (see Box 13 on the shared goals of OECD agriculture ministers).

To take a specific example of the evolution of an agricultural policy, consider the EU's Common Agricultural Policy (CAP). Initially, the principal objective of the CAP was to guarantee self-sufficiency in basic foodstuffs in response to post-war food shortages. The CAP was also seen as an early framework for intensified cooperation and integration among Member States of the European Community. The CAP was a production-oriented subsidy policy which lived on into the 1990s, by which time side-effects began to appear, such as mountains of beef and cereals. These were accompanied by increasing concerns about the environmental impact of the CAP and, indirectly, health scares such as Bovine Spongiform Encephalopathy (BSE), leading to increased dissatisfaction by consumers and taxpayers. The first major reform of the CAP was implemented in 1992 (under Agriculture Commissioner Ray MacSharry), setting in motion a process aimed at cutting guaranteed agricultural prices to render products more competitive, while at the same time compensating farmers for losses in income. The second major CAP reform was adopted as part of the Agenda 2000 package. Its main objectives are: increasing competitiveness of agricultural products; ensuring a fair standard of living for farmers; creation of substitute jobs and other sources of income for farmers; introducing a new policy for rural development (the second pillar of the CAP); more environmental and structural considerations; improvement of food quality and safety; simplification of agricultural legislation and decentralisation of its application. Following the Agenda 2000 reforms, another overhaul in 2003 sought to radically simplify the CAP with the amalgamation of different direct payment schemes into a single farm payment (SFP). Despite these reforms, the continued importance of the CAP is underlined by the fact that it consumes just under half of the EU's budget, although this figure is projected to be reduced to one-third in ten years (Leguen de Lacroix, 2004).

Box 14: Shared goals of OECD agriculture ministers

The expectations that developed countries have from their agricultural sector are perhaps best captured by the set of shared goals that the OECD agriculture ministers adopted in 1998:

- responsive to market signals;
- efficient, sustainable, viable and innovative, so as to provide opportunities to improve standards of living for producers;
- further integration into the multilateral trading system;
- provide consumers with access to adequate and reliable supplies of food, which meets their concerns, in particular with regard to safety and quality;
- contribute to the sustainable management of natural resources and the quality of the environment;
- contribute to the socio-economic development of rural areas; and
- contribute to food security at the national and global levels.

Source: OECD Council at Ministerial Level, April 1998, Ministerial Communiqués Related to Agricultural Policies.

However, there has been a change in perspective that is reflected in the reforms of the CAP. While farmers now have to comply with certain standards on public health, animal and plant health, the environment and animal welfare in order to receive full payment (cross-compliance), the market organizations for agricultural products remain targeted towards its primary objectives of market stabilization, securing the standard of living for farmers and increased productivity. Therefore, market organizations continue to fix indicative prices (at which transactions should take place), minimum threshold prices for imports and intervention prices below which authorities buy and store the quantities produced. They also grant aid to producers, in principle through single farm payments (SFPs), to be reduced progressively for large holdings until 2012, with the savings going to rural development policies. Currently, the EU also continues to refund producers who export to the rest of the world in order to bring their prices in line with world prices, but it has been acknowledged that the CAP should be less trade-distorting, taking particular account of the needs of developing countries (European Commission, 2005b; Leguen de Lacroix, 2004).

While developed and developing country governments may have different expectations from their agricultural sector, a number of them share a similar perception that market forces alone cannot achieve their policy goals and government intervention of one form or another, including the use of subsidies, have a role to play in meeting these policy objectives.

This discussion does not discount the role of political economy factors in explaining the amount of agricultural subsidies. OECD (2003a) holds that considerable disparities exist in the distribution of agricultural support depending on farm size, farm type (i.e. crops or livestock farmed) and region. With a large share of agricultural support in OECD countries being linked to the level of production or the level of input, it is not surprising that the largest farms, and often the most prosperous ones, are the main beneficiaries.

In the United States, the Environmental Working Group (EWG) discloses farm payment data on its website. Its "farm subsidy database" allows the user to extract disaggregated information by name of recipient, product or postal code. According to the EWG, the top 10 per cent of recipients (some 312,000 large farming operations, cooperatives, partnerships and corporations) collect over 70 per cent of farm support (on average more than US$33,000 per annum), while, in 2002, two-thirds of US farmers and ranchers received no direct government support.[177] Goodwin et al. (2004) have shown that a substantial part of the benefits from US farm support are captured by landowners through higher land values and higher lease rates. But most agricultural landowners (57 per cent) in the United States are non-farm corporations or individuals that work in or are retired from

[177] See http://www.ewg.org/farm/findings.php, visited on 23 February 2006.

non-farm-related activities. A significant proportion of landowners (15 per cent) live more than 150 miles from the land they rent. Almost half (42 per cent) of the landowners live in a city, town or urban area.[178]

Payment data for the CAP are provided by the European Commission (2002b), albeit at a highly aggregated level. The European Commission leaves the decision on whether to disclose detailed payment information and, if so, in what form to Member States and their national agencies that distribute CAP funding to receiving entities. If payments in excess of €5,000 are summed up over both the number of recipients and value, Table 10 indicates that on average in the EU (without Greece, for which insufficient data are available), 21 per cent of beneficiaries receive 82 per cent of direct payments. These numbers hide considerable detail. Oxfam (2005) identifies seven individuals in Spain, who as owners, majority shareholders or managers of agricultural enterprises and farms, received in 2003 as much money under the CAP (€14.5 million) as 12,700 small Spanish farms. Adding up support for a variety of operations, the study also calculates that one large company alone earned over €20 million in 2003 from CAP disbursements. Similarly, an Oxfam (2004) study of the cereals sector in England finds that CAP subsidies to a large extent benefit some of the wealthiest agricultural regions and biggest landowners. In spite of difficulties in obtaining information from the relevant authorities, they estimate that the largest 2.5 per cent of holdings account for around 20 per cent of total cereal subsidy payments, while the smallest 30 per cent receive less than 6 per cent of the total. Much will depend in the near future on how the SFP, which in theory is "decoupled" from production, will be implemented by national governments.

Table 10
Distribution of direct payments by recipient in the European Union (15)[a], 2000
(Percentages)

Payments in €	Share in total value	Share in total number of recipients
Up to 5,000	17.8	78.6
5 to 20,000	32.0	16.0
20 to 100,000	37.3	5.1
More than 100,000	12.9	0.3
	100.0	100.0

[a] Excluding Greece.
Source: European Commission (2002b), available at http://europa.eu.int/rapid/pressReleasesAction.do?reference=MEMO/02/198.

Following the "Freedom of Information Act" which entered into force in 2004, the rural payment agencies (RPA) of the United Kingdom published lists of the recipients of farm support in the UK (on 22 March 2005), which had not been accessible to the public until then.[179] While the data are now publicly available at a completely disaggregated level, namely by receiving entity, it is not easy to identify individual persons or enterprises that may collect payments made to several entities. Some have attempted to do so, focusing, for instance, on the Royal family.[180] Boulanger (2005) notes that, besides the United Kingdom and Spain (for which information is provided only by some regions), information on CAP disbursements by recipient are also publicly available in Denmark and, upon request, in Sweden. According to this study, the Dutch Government has committed to follow suit, and campaigns in other Member States, such as Finland, Germany, Greece and Poland, to release CAP payment data to the public have been launched. Countries like Belgium or Estonia provide partial information, such as lists of beneficiaries without disclosing the amounts received.[181]

(c) Main sources of data on agricultural subsidies

In this subsection, the two main sources of information on agricultural subsidies which are used in this Report are described. These are the notifications made by WTO Members to the WTO Committee on Agriculture and the OECD's agricultural database, particularly its Producer Support Estimate (PSE). Since there are only 30 member countries of the OECD while the WTO currently has 149 Members, information from the WTO

178 USDA (1999) and Mishra et al. (2002).

179 See http://www.rpa.gov.uk/rpa/index.nsf/vContentByTaxonomy/F0D124030D4B3EA78025703E00357979?OpenDocument, visited on 1 February 2006.

180 See, for instance, http://image.guardian.co.uk/sys-files/Guardian/documents/2005/03/23/CAP.pdf, and http://www.freedominfo.org/case/cap/index.htm, both websites visited on 1 February 2006.

181 For an evaluation of the degree to which the 25 Member States of the EC have released CAP payment data see also http://www.farmsubsidy.org, visited on 24 February 2006.

notifications should be more comprehensive. But since most agricultural subsidies is provided by OECD Members, the same set of countries figure prominently whichever source of information is used.

While it is always possible to look for information on agricultural subsidies from individual countries, there are several drawbacks. Firstly, the data collected may not be comparable between countries because different classifications or definitions are used. Second, the data needed should be easily linked to the economic concepts that will inform the discussion in this report. For these reasons, the OECD database and WTO notifications are deemed the most suitable for the task at hand.

(i) WTO and OECD data on agricultural subsidies

Many refer to the OECD's producer support estimate or PSE when they quantify the amount of subsidies given by rich countries to their agricultural sector. One possible reason for this is the fact that WTO Members have not provided timely notifications of their agricultural subsidies, while OECD data on producer support tends to be up-to-date and easily available. In 2004, the PSE was about US$280 billion. However, the PSE includes more than the financial outlays made by governments to support their farmers, or foregone revenues; it includes the transfers from domestic policies and border measures (e.g. tariffs and export subsidies) that create a wedge between border and domestic prices. For these and other reasons to be discussed in more detail below, the WTO estimate of the most trade-distorting subsidies, as measured by the aggregate measurement of support (AMS), does not correspond to the OECD calculation of PSE even with the same set of countries.

These two measures of support to agricultural producers arose for different reasons. In the case of the WTO, it was from a desire by Members to reform their agricultural policies and to have the necessary instruments to monitor the implementation of legally binding commitments. The AoA refers to the "long-term objective" of providing "for substantial progressive reductions in agricultural support and protection sustained over an agreed period of time, resulting in correcting and preventing restrictions and distortions in world agricultural markets". This reform process entailed binding commitments in three policy areas – market access, domestic support and export competition.[182] In the case of the OECD, the estimates are used as the basis for the organization's annual monitoring and evaluation of the implementation of the principles for agricultural policy reform agreed to by the OECD Ministers (see Box 13 for the OECD agricultural reform principles).[183] The OECD methodology estimates the annual monetary value of gross transfers arising from policy measures which support agriculture. The methodology distinguishes between those (gross) monetary transfers granted to individual producers (PSE), transfers paid by or benefiting consumers (Consumer Support Estimate or CSE) and transfers granted to the sector as a whole (General Services Support Estimate or GSSE).

These differences in objectives have produced alternative ways of measuring support to the agricultural sector. What is crucial in the WTO context is the distinction between support that is considered trade-distorting and support that is considered less or non-trade distorting. Under the AoA, the most trade-distorting support is to be subject to reduction commitments, while other support measures are to be subject to greater discipline. Hence, the various categorizations or "coloured boxes" that were developed during the Uruguay Round negotiations which were intended to reflect this distinction.

Those subsidies considered to be the most trade- and production-distorting are subject to reduction commitments by WTO Members and these are expressed in terms of total Aggregate Measurement of Support (AMS). These measures are sometimes described as *Amber Box Measures*. The main components of AMS are: (i) market price support as measured by the gap between a fixed world reference price fixed in terms of a historical base period (1986-88) and the domestic administered price (which may not be the same as the current domestic market price); and (ii) the level of budgetary expenditure on domestic support policies that is considered to be trade distorting. The AMS is to be calculated both on a product-specific and a non-product-specific basis. It is to include both budgetary outlays and revenue foregone by governments or their agents at both the national

[182] The AoA also included reference to "reaching an agreement on sanitary and phytosanitary issues", which suggests that WTO Members were equally concerned with SPS measures as possible non-tariff barriers.

[183] However, as Diakosavvas (2002) recounts, the Uruguay Round negotiations also provided part of the drive for the OECD to develop measures of support to the agricultural sector.

and sub-national level. There is, nevertheless, a *de minimis* level of product-specific and non-product-specific domestic support, which a Member is allowed to retain. For product-specific (non-product-specific) support, the *de minimis* level is equal to 5 per cent of the value of production of a basic agricultural product (value of total agricultural production) for developed countries and 10 per cent for developing countries. Annex 3 of the Agreement on Agriculture provides a set of detailed guidelines for calculating a Member's AMS.

However, there are a range of support measures that are not subject to reduction commitments. These include:

Green Box Measures. These are domestic support measures that have no, or at most minimal, trade-distorting effects or effects on production. These measures include expenditures for general government services, public stockholding for food security purposes, domestic food aid, direct payments to producers, decoupled income support, government financial participation in income insurance and income safety-net programmes, payments for relief from natural disasters, structural adjustment assistance, payments under environmental programmes and under regional assistance programmes. The basis for exemptions from the reduction commitments are spelled out in greater detail in Annex 2 of the AoA.

Blue Box Measures. Payments under production-limiting programmes are not subject to reduction commitments if such payments are based on fixed area and yields, or are made on 85 per cent or less of the base level of production or in the case of livestock payments, are made on a fixed number of head.

Article 6.2 Measures (Development Programmes). Exempt from domestic support, reduction commitments are direct or indirect measures of assistance to encourage agricultural and rural development; investment subsidies which are generally available to agriculture in developing countries; agricultural input subsidies generally available to low-income or resource-poor producers in developing countries and domestic support to producers in developing countries to encourage diversification from growing illicit narcotic crops.

In the OECD methodology, the PSE is not intended to be solely a measure of "domestic support". It is a measure of the additional receipts of farmers, irrespective of whether those receipts are a consequence of border measures or of domestic policies. Thus, the PSE includes transfers created by domestic policies which increase prices in domestic markets such as public stockholding, production quotas and state-trading enterprise, as well as the transfers associated with border measures that create a gap between current domestic and external prices.[184] One multiplies this price gap with all of domestic production to obtain the transfers associated with market price support. This represented about 60 per cent of the PSE in 2004.

Even under the WTO's three-pronged reform process (domestic support, market access and export competition), it is not always possible to fully disentangle domestic support from the effects of border measures.[185] In the case of the AMS for example, the market price-support component is calculated using the gap between a fixed external reference price and the applied administered price multiplied by the quantity of production eligible to receive the applied administered price. This fixed external reference price is based on the years 1986 to 1988 and is generally the average f.o.b. unit value of the commodity. So market price support in the AMS is calculated using a different set of prices, only for products which have administered prices, and the price gap is applied to a subset of domestic production.

While this choice of reference price may appear difficult to understand, there is an explanation for it which dates back to the purpose of the AMS, which is to make it possible for WTO Members to make legally binding commitments to reduce domestic distortions. The intention of the AoA is not necessarily to show the actual value of market price support in a given year of implementation, but to see how the support compares with

[184] One point that could be made about using the gap between the domestic and the border price to calculate market price support in the PSE is that it may be picking up the effects of other factors that are not related to agricultural policies in general. These other factors could include market power by domestic firms in the agricultural marketing system, or the effects of SPS measures, and it is not clear if the OECD includes these as part of the set of agricultural policies whose effects on gross transfers to producers need to be accounted for.

[185] See Baffes et al. (2005) for some critical analysis of the AMS along these lines. Their criticisms include "the use of arbitrary world and domestic reference prices, and double counting with border protection".

the base period and the commitments established on the basis of the base period. The use of external prices that refer back to the base period reflects the fact that there is no way of predicting external prices nor of controlling them, and WTO Members were not going to be asked to make commitments that they could not keep.

To summarize, the AMS would in general be a narrower measure than the PSE because it restricts itself to the most trade-distorting form of support. Compared to the PSE, the market price support component of the AMS uses a different set of prices, is applied only to a subset of commodities (only to those with administered prices) and to a smaller volume of domestic production (only to production eligible to receive the applied administered price). One should expect, then, the estimates of market price support in the AMS to be frequently lower than in the PSE.[186]

The AoA requires WTO Members to notify the Committee on Agriculture on expenditures related to domestic support and the volume and value of export subsidies. The AoA also requires any new domestic support measure, or modification of an existing measure, for which exemption from reduction commitments is claimed, to be notified. The notifications provided by WTO Members, organized along the lines described in Box 15 below, will be used in the presentation on the incidence of agricultural subsidies.

Box 15: WTO notifications of agricultural subsidies under the AoA

Domestic Support - DS:1 notification, Current Total AMS

The DS:1 notification, Table DS:1, indicates a Member's current AMS support against its bound commitment level (i.e. bound AMS). It also includes a number of supporting tables which set out expenditures under the green box, the blue box as well as the composition of the amber box (i.e. AMS). These supporting tables are organized along the following lines :

- Supporting Table DS:1 is used to signify measures which Members have placed in the green box of measures exempt from reduction as defined in Annex 2 of the AoA.
- Supporting Table DS:2 is used to signify those measures which, for developing countries, are exempt from reduction commitments under Article 6.2 of the AoA relating to development programmes.
- Supporting Table DS:3 is used to signify direct payments under production-limiting programmes (blue box measures) under Article 6.5 of the AoA.
- Supporting Tables DS:4 to DS:9 are used to signify measures which do not fit into the exempt categories as set out above. These tables are used to indicate non-exempt support which is below the *de minimis* level (as set out in Article 6.4 of the AoA), or which is included in the Total AMS of the Member concerned. The figures include market price support (Supporting Table DS:5), non-exempt direct payments (Supporting Table DS:6), other product-specific support (Supporting Table DS:7) plus any support measured via the Equivalent Measurement of Support methodology (Supporting Table DS:8) for each product concerned. Where relevant, a total of non-product-specific support (Supporting Table DS:9) is also given. It should be noted that all products shown in Members' notifications are included in this section whether or not that support is below the relevant *de minimis* level for the Member concerned.

[186] However, there are instances when this is reversed, as it depends on whether the difference between current market prices and the administered prices is higher than the difference between the border prices used in the MPS calculations and the 1986-88 fixed reference prices used in the MPS of the AMS (see Table 4 in Diakosavvas, 2002).

Domestic support - DS:2 notification - new or modified exempt measure

- A DS:2 notification is used for all new or modified support measures for which an exemption from reduction commitments is claimed (i.e. for a measure falling under either the green box, Article 6.2, or the blue box).

Export subsidies - ES:1 to ES:3:

- Table ES:1 is used to indicate budgetary outlay and quantity reduction commitments as well as actual outlays and quantities of subsidized exports. These commitments are on a per product basis. The products and groups of products used for the establishment of export subsidy reduction commitments were based on document MTN.GNG/MA/W/24 and, in relation to total exports, on document G/AG/2.

- Supporting Table ES:1 is used to indicate actual budgetary outlays and quantities.

- Supporting Table ES:2 is used for developing countries which make recourse to Article 9.4 of the AoA, which permits these Members to use export subsidies in respect of reducing marketing costs, including handling, upgrading and other processing costs, as well as internal and international transport costs.

- Table ES:2 is used to notify the volume of total exports of all Members with export subsidy commitments and of those Members considered to be significant exporters in accordance with G/AG/2/Add.1.

- Table ES:3 is used to notify the total volume of food aid donations.

Each WTO Member needs to meet specific criteria in order to place a subsidy in the green box, blue box and as part of Article 6.2 measures. In addition, how a Member classifies a subsidy measure is not safe from legal challenge. Other WTO Members can dispute the classification and the support measure can be the subject of a dispute settlement case (see Box 16).

Box 16: Challenging notifications of agricultural subsidies

How each Member notifies its agricultural subsidies to the Committee on Agriculture can often be the subject of a serious challenge by other Members. In some cases, it can be part of a dispute settlement proceeding. In the case of *United States-Upland Cotton* (DS267), for example, the classification of a number of US measures was challenged by Brazil.

The United States had notified payments under its Direct Payments (DP) programme and, before that, payments under the production flexibility contract (PFC) as decoupled payments belonging to the green box. The DP programme was established by the US Farm Security and Rural Investment (FSRI) Act of 2002. It provides support to producers for nine commodities, including upland cotton. The amount of payments were not based on actually planted acreage but on "base acreage", which was calculated based on the average of past plantings, primarily (but not exclusively) during the 1998 through 2001 crop years. Further, the DP payments do not depend on current prices of commodities; rather the FSRI Act sets fixed payment rates on a per unit basis for the 2002 through 2007 crop years.

Many features of the programme thus were consistent with decoupled payments as described in Annex 2 of the AoA. In particular, the income support was determined based on factors that occurred during the base period. However, while producers were permitted to plant any commodity or crop on base acres, payments were either eliminated or reduced if they planted fruits and vegetables on base acres,

although with certain exceptions. Because of this feature of the programme, the Panel found that support under the DP (and the PFC) was related to the type and volume of production undertaken by the producer in a year after the base period. The Panel concluded that the DP (and PFC payments) were not decoupled payments and were thus not green box measures. However, the Panel did not find that these measures resulted in serious prejudice to the interests of Brazil.

Another US measure which was challenged was user marketing (step 2) payments on cotton. This was a special marketing loan programme for upland cotton which provides for the issuance of marketing certificates or cash payments to eligible domestic users and exporters of eligible upland cotton when certain market conditions exist, such that US cotton pricing benchmarks are exceeded. The United States had reported the benefits conferred under the programme as product-specific amber box domestic support. Also, it did not list any scheduled commitments on export subsidies on upland cotton. In the dispute, Brazil argued that the payments under the programme were prohibited export subsidies. The Panel concurred with Brazil and found that step 2 payments to exporters constituted an export subsidy (was "contingent on export performance"). Step 2 payments to domestic users were found to be an import substitution subsidy prohibited by the Subsidies and Countervailing Measures Agreement. The US Congress has since approved legislation to eliminate Step 2 payments and the US President has indicated his intention to sign such legislation into law.

Source: WTO document WT/DS267/R.

(ii) Comparing different data sources

Any figure on subsidies is subject to specific reporting standards, so using data derived from dissimilar sources can give quite divergent pictures. These differences in standards make comparisons difficult and make it almost impossible to add up numbers from different sources. Even if definitions are compatible, merging certain aggregates carries the risk of double-counting due to inclusions or exclusions of specific components.

In the following discussion, the estimated amounts of subsidies from different official sources will be compared to see if they differ widely or not. The possible reasons for these differences will be explored and consideration given to some of the pitfalls that can arise from using one measure of subsidies without taking into account how it is defined and how that measure is intended to be used. To provide some concreteness in the discussion, two specific examples – the United States and the European Union – will be employed.

The case of the United States

Table 11 brings together information on US agricultural subsidies for the period 1995-2001 from three different sources of data: the US national income accounts, US notifications to the WTO and the OECD agricultural database. According to the US national income accounts, federal spending on agricultural subsidies averaged US$14.2 billion over the 1995-2001 period. On the other hand, current total AMS averaged US$10.9 billion during the same period while total domestic support, which is the sum of AMS, *de minimis*, blue box and green box measures, averaged US$ 66.2 billion. The average for the OECD's PSE was US$40.9 billion. Additional information on the GSSE (which averaged about US$65.4 billion) is also included in Table 11.

Table 11
United States' agricultural subsidies by data source, 1995-2001
(Million dollars)

Source	1995	1996	1997	1998	1999	2000	2001	Average 1995-2001
National income accounts [a]	**7279**	**7340**	**7495**	**12380**	**21513**	**22896**	**20727**	**14233**
Total Domestic support [b]	**60770**	**58899**	**58302**	**64962**	**74046**	**74200**	**72130**	**66187**
AMS	6214	5898	6238	10392	16862	16803	14413	10974
Market price support	6161	5898	5773	5956	6216	6686	5849	6077
De minimis	1485	1176	811	4750	7435	7341	7045	4292
Blue box	7030	0	0	0	0	0	0	1004
Green box	46041	51825	51252	49820	49749	50057	50672	49917
Domestic food aid	37470	37834	35963	33487	33050	32377	33916	34871
OECD PSE [c]	**20180**	**28963**	**29768**	**46144**	**55942**	**53670**	**51838**	**40929**
Market price support	9147	14382	13977	21249	21643	18762	19066	16889
Payments based on output	67	58	330	4251	10517	10226	9355	4972
Payments based on area planted/animal numbers	2470	699	192	2851	2818	3510	2862	2200
Payments based on historical entitlements	0	5186	6286	8470	10939	10530	8739	7164
Payments based on input use	6002	6090	6056	6116	6633	6986	7534	6488
Payments based on input constraints	1940	1963	1902	1954	1808	1778	1918	1895
Payments based on overall farming income	554	584	1026	1252	1585	1877	2364	1320
Miscellaneous payments	0	0	0	0	0	0	0	0
OECD GSSE [c]	**26459**	**25757**	**24739**	**22840**	**23328**	**22902**	**25126**	**24450**

Source:

[a] US Department of Commerce, Bureau of Economic Analysis: detailed national accounts data on website.

[b] WTO notifications by the United States: G/AG/N/USA/10, G/AG/N/USA/17, G/AG/N/USA/27, G/AG/N/USA/36; G/AG/N/USA/43 and G/AG/N/USA/51.

[c] Producer and Consumer Support Estimates: OECD Agricultural database, 1986-2004.

Let us first try to account for the difference in the subsidy figures based on the US national income accounts and the WTO and OECD. Some of the difference can be explained by the fact that the US fiscal year (1 October to 30 September of the following year) is different from the agricultural marketing year, which in turn varies by commodity. To control for that, the average of the figures for the whole period is included in the last column of the table. The use of the average over the whole period should dampen any problem arising from the difference in fiscal and marketing years.

However, the magnitude of the gaps among the three measures is not affected at all. The subsidy figures from the national income accounts tend to be smaller because they only reflect financial outlays. They do not reflect foregone revenues nor do they include the support that comes from the use of border measures (mainly through market price support). Finally, US domestic food aid, which is included in the green box and which averaged nearly US$34.9 billion annually during the period, would not be considered an agricultural subsidy in the national income accounts but a form of social payment or benefit.[187]

Next, let us turn to the comparison of the WTO and OECD numbers, focusing on the difference between the AMS and the PSE. Table 11 shows that market price support in the AMS averaged about US$6.1 billion during the 1995-2001 period, while market price support in the PSE was about three times higher, at US$16.9 billion. This is consistent with the expectation that the estimates of market price support in the AMS would frequently be lower than in the PSE. In the US case, administered prices are applied only to four commodities: beef and veal, dairy, peanuts and sugar. On the other hand, the principle underlying calculation of market price support in the PSE is that this should be calculated for all commodities (although if the domestic price does not exceed the border price, the calculated support would be zero). In practice, what happens is that market price support is first calculated on a set of "MPS commodities", which varies by country. In the case of the United States, these "MPS commodities" are

[187] See the discussion of subsidy figures from the national income accounts at the beginning of Section E.

wheat, maize, barley, sorghum, rice, soybean, sugar, milk, beef and veal, sheep meat, wool, pig meat, poultry, and eggs. The calculated MPS average for these commodities is then applied to all commodities (i.e. to the total value of production of the whole agricultural sector) according to their share in the value of production (OECD, 2005e). Finally, in order to obtain the market price support in the AMS, one needs to multiply the difference between the fixed reference price and the administered price with the volume of eligible production only.

As was noted above, US domestic food aid is included in the green box and represents nearly 70 per cent of green box spending. The OECD includes many of the US food aid programmes in its Consumer Support Estimate (CSE), not in the PSE nor in the GSSE, since the programmes are seen as a transfer to consumers.[188] Given the differences in calculating market price support and what goes into the green box, a better way to compare the WTO and OECD measures might be to take total domestic support (less market price support and green box spending) and compare it with the PSE (less market price support). Unfortunately, there is still a large gap between the two. Over the 1995-01 period, the PSE (less market price support) exceeded total domestic support (less market price support and the green box) by an average of about US$17.7 billion.

Finally, a fourth source of information on US agricultural subsidies are the notifications under the Agreement on Subsidies and Countervailing Measures (SCM). Article 25.2 of the SCM requires Members to notify any specific subsidy which they grant or maintain. Typically the notifications would include subsidies provided to the agricultural sector. The SCM notifications of the United States pertaining to agriculture included both export and domestic assistance measures. However, using these notifications, the latest year for which it is possible to paint a complete picture of US agricultural subsidies was fiscal year 1999.[189] Export assistance measures (the Export Enhancement Programme and the Dairy Export Incentive Programme) for fiscal year 1999 amounted to US$137.9 million. The domestic assistance measures included information on outlays and estimates of tax revenues foregone. Outlays on domestic assistance measures in fiscal year 1999 amounted to US$21.3 billion, mainly for spending on the production flexibility contracts (US$5.476 billion), emergency supplemental income support for PFC contract holders (US$5.466 billion) and non-recourse marketing assistance loans and loan deficiency payments (US$8 billion). The total figure for tax revenue foregone was about US$800 million, the bulk of it from capital gain treatment of certain agricultural income. So if one only takes total outlays on export and domestic assistance measures to the agricultural sector in fiscal year 1999, the sum (US$21.452 billion) is very close to the figure from the national income accounts in Table 11 (US$ 21.513 billion).

The difference in definitions, concepts and objectives underpinning the various measures make cross comparisons fraught with difficulty. Nevertheless, this is precisely what has been tried in this part of the Report so as to account for some of the major differences in estimates. Ultimately, the choice of the measure should be driven by the purpose to which it is to be put. If the intention is to determine how much in total a Member spends per fiscal year on agricultural subsidies, regardless of whether that support distorts trade or not or whether it is decoupled or not, then the national income account data is appropriate. If the intention is to determine how WTO Members are implementing their commitments to reduce the most trade-distorting domestic support, then the AMS is the most appropriate. If the intention is to estimate the receipts of agricultural producers arising from the implementation of government policies to support the agricultural sector, then the OECD PSE is appropriate.

That being said, and despite wide differences in the numbers that come from these different sources of subsidy information, the trends that emerge from Table 11 are nevertheless consistent. Whatever source of subsidy information one uses, it shows that US support of its agricultural sector has increased between 1995 and 2001. Based on national income account information, that support has risen threefold, and based on the OECD PSE, it has more than doubled. The increase in the WTO's total domestic support has been less pronounced, just a 20 per cent increase over the six-year period. But the bulk of the increase has been in the AMS and *de minimis*, a pattern which is also mirrored in the OECD's PSE, by the doubling of market price support and the sharp rise of output-based payments.

[188] The major domestic food aid programmes included are the food stamp program, child nutrition programs and the Special Supplemental Nutrition Program for Women, Infants, and Children.

[189] See WTO notifications G/SCM/N/48/USA, G/SCM/N/60/USA and G/SCM/N/71/USA issued on 2 July 2002 and G/SCM/N/95/USA issued on 31 October 2003.

The case of the EU

In order to gain a sense of the degree of agricultural subsidization in the European Union (EU), for instance, one could turn to a variety of sources. A natural starting point would be the EU's own statistics on CAP spending, in particular the annual "Financial Reports on the European Agricultural Guidance and Guarantee Fund (EAGGF)" (European Commission, 2004a). The EAGGF, set up specifically for the financing of the common agricultural policy (CAP), consumes a large part of the EU's general budget. The Fund's guarantee section, its larger part, covers expenditure on the "agricultural market organisations", i.e. on individual product markets. It includes both export refunds and intervention expenditure, consisting mainly of direct aid, storage and withdrawals. It also provides for special financing, notably of certain rural development measures, veterinary expenditure and information measures relating to the CAP. The Guidance Section finances other rural development expenditure. Information for the latter can be found in the EU's general budget under "Structural Funds", since its main purpose is to contribute to reducing disparities between the different regions.[190] In the 2001 fiscal year,[191] the EU spent €42,083 million under the Guarantee and €2,502 million under the Guidance Section, amounting to a total of €44,585 million.

These Community Funds are made available by the EC Commission to "paying agencies" in the individual Member States for distribution to beneficiaries. In addition, each country, on its own account, provides state aid, including in the area of agriculture. As mentioned earlier in Section B on the definition of subsidies, state aid is understood to confer an economic advantage to recipients and, hence, to have the potential to distort competition and trade in the EU's internal market. For that reason, state aid is monitored by the Commission in accordance with Article 87(1) of the EU Treaty. State aid rules in the agricultural sector, in addition to the general principles of competition policy, have to be coherent with the CAP and with rural development policies and in accordance with WTO obligations, in particular the AoA. Reporting requirements in the agricultural sector are particularly strict, comprising all support granted at the national and sub-national levels in terms of direct payments, reductions of input costs and general services as well as transfers supporting agro-environmental programmes and other payments relating to the "multifunctional" character of agriculture. Some of the competition rules on state aid, in particular the *de minimis* exceptions, do not apply to agriculture. According the "Scoreboard" available on the EU website, state aid in agriculture amounted to €13,040 million in 2001 across all Member States.[192] If this figure is added to Community outlays, total spending by the EU and its Member States on agriculture amounted to €57,625 million in the 2001 fiscal year.

This number differs both from the subsidy amounts notified to the WTO under the AoA and from the support calculated by the OECD. The latter provides by far the highest subsidy estimate. The PSE alone amounts to €93,061 million in 2001. If transfers from taxpayers to consumers (from the Consumer Support Estimate (CSE)) and the General Services Support Estimate (GSSE) are added, total support equals €105,899 million.[193] The GSSE comprises payments for general agricultural services, such as public stockholding, veterinary and plant inspections and marketing and promotion that, in general, are also covered by the CAP and state aid budgets. The large difference between OECD estimates and total spending in the EU must then principally be due to the PSE. As explained above, the PSE is a measure of all current additional receipts by farmers. In particular, its market price support component is calculated on the basis of current domestic and border prices. Transfers due to tariffs and higher consumer prices, for instance, do not lead to government expenditures and, hence, do not feature in Community and Member State budgets.

190 Statistics on the Guidance Section have been taken from the EU's Online Budget under Title B2-1, Subtitle B2-100 Structural Funds, EAGGF, Guidance Section. Available at http://europa.eu.int/eur-lex/budget/data/D2003_v4/EN/AAHPB_frm.htm, visited on 20 December 2005.

191 For comparison purposes, the year 2001 is chosen, since it is the latest date for which the EU has notified its domestic support under the AoA.

192 Available at http://europa.eu.int/comm/competition/state_aid/scoreboard/indicators/stats1, visited on 20 December 2005. The official statistics on the EU state aid scoreboard website are expressed in constant 2003 € millions. In order to obtain current 2001 values, the Eurostat Harmonised Index of Consumer Prices (HICP) for the EU-15 was used as an indicator of inflation. Available at http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,39140985&_dad=portal&_schema=PORTAL&screen=detailref&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE/economy/main/overview/yearlies/B2/B21/dba10000, visited on 20 December 2005.

193 This so-called total support estimate (TSE) by the OECD measures the overall cost of agricultural support financed by consumers and taxpayers net of import receipts. See Producer and Consumer Support Estimates, OECD Database 1986-2004. Available at http://www.oecd.org/dataoecd/44/5/35043954.xls. See also OECD (2005f).

A similar caveat applies to the total subsidy amount notified to the WTO under the AoA, which in 2001 stood at €87,075 million (sum of domestic support and export subsidies).[194] Again, the PSE market price support component captures all factors that contribute to the price gap between current market prices and the higher prices received by producers, i.e. border measures, such as tariffs and export subsidies, as well as transfers created by domestic policies, such as public stockholding, production quotas and state-trading enterprises, which increase the price in the domestic market. Several of these elements are not included in the methodology used under the AoA to assess compliance with reduction commitments. Perhaps even more importantly, OECD PSE calculations are based on current prices, and the price wedge between current domestic market prices and world prices at the border is likely to differ from the difference between administered prices and the 1986-88 fixed reference prices used in the market price support calculations for the purposes of the AMS under the AoA.

Table 12
European Union (15) agricultural subsidies by data source, 1995-2001
(Million euros)

Measure	1995	1996	1997	1998	1999	2000	2001	Average
EAGGF, Guarantee Section[a]	**34503**	**39108**	**40675**	**38748**	**39541**	**40467**	**42083**	**39304**
State aid[b]	**16696**	**16395**	**16537**	**14054**	**14823**	**14122**	**13568**	**15171**
Total domestic support[c]	**90476**	**95422**	**89347**	**86733**	**89994**	**88286**	**84502**	**89251**
AMS	50026	51009	50194	46683	47886	43654	39281	46962
De minimis	825	761	543	379	400	561	833	615
Blue box	20845	21521	20443	20504	19792	22223	23726	21293
Green box	18779	22130	18167	19168	21916	21848	20661	20381
Total export subsidies[c]	**4885**	**5565**	**4361**	**5336**	**5614**	**2763**	**2573**	**4442**
OECD PSE[d]	**96779**	**93199**	**95318**	**100917**	**107173**	**93338**	**93061**	**97112**
Market price support	58492	52284	54012	61923	68750	52768	48819	56721
Payments based on output	1758	3283	3473	3336	3328	4041	4186	3344
Payments based on area planted/animal numbers	24200	25871	24927	25235	24386	26093	28302	25573
Payments based on historical entitlements	1772	977	864	715	616	627	591	880
Payments based on input use	6608	7036	7987	7013	7326	7089	7324	7197
Payments based on input constraints	2979	3873	4884	3182	3310	3714	3944	3698
Payments based on overall farming income	0	0	3	1	0	0	0	1
Miscellaneous payments	970	-125	-833	-487	-544	-993	-105	-302
OECD GSSE[d]	**6729**	**8829**	**11581**	**8973**	**9594**	**8549**	**9162**	**9060**

Source:

[a] European Commission, DG Agriculture, 31st Financial Report - EAGGF Guarantee Section – 2001, COM (2002) 594 final, available at http://europa.eu.int/comm/agriculture/fin/finrep01/tab_fr/a10.pdf, visited on 9 December 2005.

[b] European Commission, DG Competition, State Aid Scoreboard, available at http://europa.eu.int/comm/competition/state_aid/scoreboard/indicators/k9.html#stats1, visited on 7 December 2005.

[c] WTO notifications by the European Communities to the Committee on Agriculture: G/AG/N/EEC/5/Rev.1, G/AG/N/EEC/11, G/AG/N/EEC/20/Rev.1, G/AG/N/EEC/23, G/AG/N/EEC/32, G/AG/N/EEC/36 and G/AG/N/EEC/44 (export subsidies); G/AG/N/EEC/12/Rev.1 and Corr.1, G/AG/N/EEC/16/Rev.1, G/AG/N/EEC/26 and Corr.1, G/AG/N/EEC/30 and Corr.1, G/AG/N/EEC/38 and Corr.1, G/AG/N/EEC/49 and Corr.1 and G/AG/N/EEC/51 and Corr.1

[d] Producer and Consumer Support Estimates, OECD Agricultural Database 1986-2004, available at http://www.oecd.org/dataoecd/44/5/35043954.xls, visited on 7 December 2005.

Community and state aid outlays are also incongruent with the amounts notified to the WTO. The Current Total AMS calculations of the value of domestic support provide for a common concept used to assess compliance with the legal commitment not to exceed the Final Bound Total AMS set out in Members' Schedules.[195] Its objective is not to allow for an economic assessment of the value of current support. As mentioned above, market price support[196] is calculated from the gap between the applied administered price and a fixed external

194 See WTO notifications G/AG/N/EEC/51 and G/AG/N/EEC/52.

195 However, the precise methodology may vary from Member to Member but each Member has to use the same methodology that it used in preparing its supporting data or, if a new support programme is introduced, the methodology set out in Annexes 3 and 4 of the AoA.

196 For the purposes of AMS, a Member may even choose to calculate certain direct payments in this manner, which are dependent on a price gap, instead of using budgetary outlays. See AoA Annex 3, para. 10.

reference price. Since the latter is based on the years 1986 to 1988,[197] current total AMS levels determined in this way cannot be interpreted as actual subsidy values, particularly for price or market support programmes. Table 12 provides an overview of the EU support data from different sources.

As noted before, Members are required to notify agricultural subsidies not only under the AoA, but also under the SCM Agreement. For 2001, the EU notified all price support measures and direct payments introduced by the common market organisations. State aid by individual member states is notified separately as addenda to the EU's notification. Payments for general services and rural development seem to be excluded, as they do not constitute "specific" subsidies. The financing of export refunds in 2001 amounted to €3,404 million and of measures on the internal market to €33,873 million resulting in a total of €37,277 million.[198] The notification under the SCM Agreement relies on EAGGF data and one would therefore expect a certain correspondence to the EAGGF report. This seems to be the case, with total EAGGF spending equalling about €38 billion in 2001, excluding rural development. If general services, such as veterinary and phytosanitary measures are subtracted, the amount roughly coincides with the €37 billion notified under the SCM Agreement. If broken down at the product level, the data from both sources are identical for most, but not all agricultural products. For instance for sugar and dairy products, it is hard to reconcile the data despite the additional expenditure breakdown or explanations given in either the SCM notification or EAGGF report.

Table 13
Notification by the EU under the AoA (Table ES:1) and the SCM Agreement (pursuant to GATT Art. XVI and SCM Art. 25) of export refunds, 2001
(Million euros)

Agreement on Agriculture (AoA)		SCM Agreement	
Product	Value	Product	Value
Wheat and wheat flour	8.5	Arable crops	259.8
Coarse grains	112.8		
Rice	30.3	Rice	38.7
Rapeseed	0.0		
Olive oil	0.0	Olive oil	0.2
Sugar	482.8	Sugar	1008.2
Butter and butter oil	324.9	Dairy products	1106.5
Skimmed milk powder	36.7		
Cheese	188.6		
Other milk products	402.2		
Beef meat	388.4	Beef meat	362.6
Pig meat	20.0	Pig meat	55.2
Eggs	6.0	Eggs and poultry	60.5
Poultry meat	60.2		
Wine	22.9	Wine	22.5
Fruit and vegetables, fresh	20.8	Fruits and vegetables	50.8
Fruit and vegetables, processed	3.6		
Raw tobacco	0.0		
Alcohol	52.8		
Incorporated products	411.6		
		Non Annex I Products	438.8
Total	2573.1	Total	3403.8

Source: WTO Secretariat.

What about the consistency of AoA and SCM notifications? At least for export subsidies, one would expect a match between the EAGGF and SCM data on the one hand and the amounts notified under the AoA on the other, since export subsidies largely refer to actual disbursements. Table 13 compares the amounts

197 In fact, the external reference price is generally determined as the average f.o.b. unit value for the basic agricultural product concerned in a net exporting country and the average c.i.f. price unit value in a net importing country in the base period 1986 to 1988.

198 See WTO notification G/SCM/N/95/EEC.

notified under the AoA and the SCM Agreement on a disaggregated basis. It has to be presumed that the discrepancies for almost all product categories may be explained, to a large extent, by the different time periods for which account is given. While under the AoA, the 2001 notification specifies marketing years for each product beginning anywhere between 1 July of 2001 and 1 January 2002, the EAGGF data used for the SCM notification refers to the 2001 financial year lasting from 16 October 2000 to 15 October 2001. Also, totals differ, given that in the SCM notification, disbursements for products are detailed that are not included in AoA Annex I, containing the list of agricultural products covered by the AoA.

(d) The incidence of domestic support

The analysis starts with the most trade-distorting domestic support, total AMS, which is subject to reduction commitments under the AoA. Thirty-six WTO Members have total AMS commitments.[199] Annex Table 3 lists all WTO Members with such commitments and shows their Final Bound Total AMS and the relevant year in which it came into force. For developed countries this was in 2000 and for most developing countries, the year was 2004. For some recently acceded Members, the year that the final bound total AMS comes into force differs from 2004. For example, in the case of Chinese Taipei, the year is 2000. It is important to note that commitments are in nominal terms and not in real terms, although some Members may have stated such commitments in a foreign currency (US dollars, ECU) or in Special Drawing Rights (SDRs) rather than in local currency terms. If one uses the relevant exchange rates to the US dollar as of year 2004, the Final Bound Total AMS of the 36 Members amounts to US$170.1 billion.

(i) Trends in current total AMS and domestic support

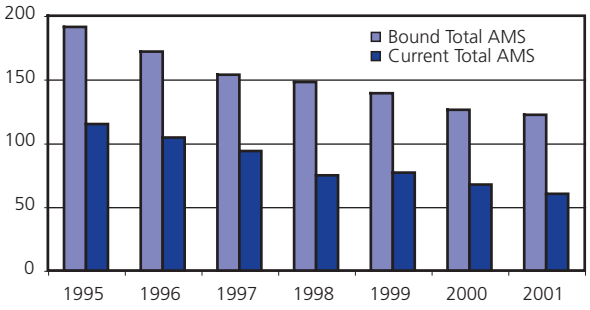
Notifications by WTO Members have tended to lag by several years, making it difficult to provide the latest information on Current Total AMS. Further, not all Members have notified every year since 1995, so there are gaps in the data. This lack of timely reporting represents an important constraint to up-to-date and relevant monitoring of Members' implementation of their WTO obligations. It may also partly explain why alternative sources of information on domestic support, such as that from the OECD's PSE, has obtained greater currency even though it was not designed with a trade objective in mind.

To avoid problems concerning the comparability of the data series over time, a panel (i.e., a sample) of WTO Members who have reported their Current Total AMS uninterruptedly since 1995 until 2001 has been constructed. The cut-off year of 2001 was chosen because that was the latest year in which there are data on the three Members (EU, US, and Japan) with the highest levels of Current Total AMS. The panel consists of 21 Members (out of the 36 who have Total AMS commitments). Those included in the panel are Australia, Brazil, Colombia, Cyprus, Czech Republic, the EU, Hungary, Iceland, Israel, Japan, Morocco, New Zealand, Norway, Poland, Slovak Republic, Slovenia, South Africa, Switzerland-Liechtenstein, Thailand, Tunisia and the United States.

Chart 2 shows the Bound and Current Total AMS from 1995 to 2001 of the panel of 21 WTO Members. The Current Total AMS refers to the actual level of total AMS in a given year while the Bound Total AMS is the legally binding ceiling of total AMS for that year. These amounts have all been converted into US dollars in order to be able to aggregate and compare the figures. Bound Total AMS has fallen by an average of 7.2 per cent over the 1995-2001 period, from US$191.4 billion to US$122.1 billion. But Current Total AMS has been reduced at a far sharper rate of 10.3 per cent per annum. For the 21 WTO Members, actual levels of trade-distorting support (expressed as Current Total AMS) have been reduced by nearly half, from US$115.1 billion in 1995 to US$60.1 billion in 2001. Thus, Current Total AMS has fallen from an average of 60 per cent to less than half of the Bound Total AMS in 2001. Furthermore, since the figures on Bound Total and Current Total AMS are in nominal terms, they understate the real reduction in trade distorting support that has occurred over the 1995-2001 period, given that the US inflation rate (as measured by the US GDP deflator) averaged around 2 per cent annually over the period.

[199] In other words, these WTO Members have inscribed commitments in Section I of Part IV of their Schedules.

Chart 2
Bound and current total AMS, 1995-2001
(Billion dollars)

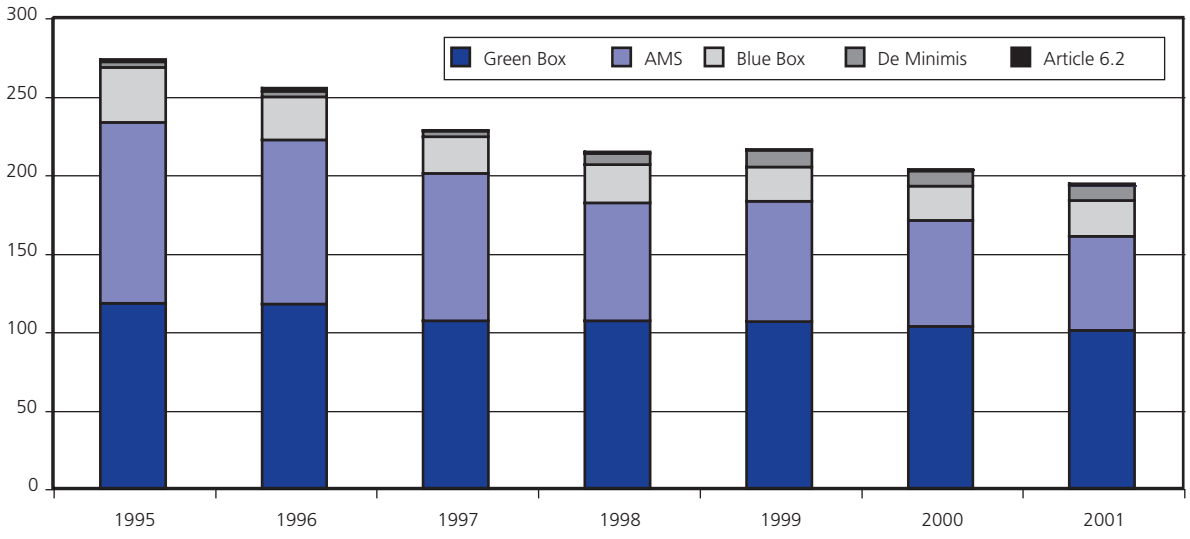


Source: WTO Secretariat.

Although there is only a commitment to reduce total bound AMS, other components of domestic support have also decreased, although by a slower rate. Thirty-nine WTO Members have been able to notify their domestic support measures over the entire 1995-2001 period.[200] Using this larger sample of Members, one finds an annual average reduction of 6.9 per cent on blue box spending, 5.7 per cent on Article 6.2 measures, and 2.6 per cent on green box measures. The only component of domestic support which has increased over the six year period is *de minimis,* which nearly tripled in amount from US$3.8 billion in 1995 to US$9.6 billion in 2001.

Thus, if one looks at all of domestic support, including not only Current Total AMS, but *de minimis* levels, blue box, green box and Article 6.2 measures, one observes a downward trend. Chart 3 shows total domestic support (Current Total AMS, *de minimis*, blue box, green box and Development Programmes) from 1995 to 2001 of the 39 WTO Members. Total domestic support has fallen from US$272.9 billion in 1995 to US$193.8 billion in 2001, representing an average annual reduction of 5.5 per cent. Again, since the figures on domestic support are all in nominal terms, they understate the real reduction that has occurred over the 1995-2001 period.

Chart 3
Domestic support and its components, 1995-2001
(Billion dollars)



Source: WTO Secretariat.

So as of 2001, 52 per cent of domestic support represented spending on green box measures; 31 per cent is AMS; 12 per cent is on blue box measures; 5 per cent is on *de minimis*; and less than half a per cent is on Development Programmes spending.

(ii) Leading providers of domestic support

Table 14 shows the top ten providers of domestic support. Instead of taking just one year, say 2001, to determine the list of Members with the largest subsidy programmes, the figures were averaged over the 1995-2001 period. Since the subsidy figures have been converted into US dollars, the ranking established with just one year of data may be sensitive to how strong the US dollar was during that year. Taking the

[200] In addition to the 21 already identified, the Members included in this larger sample include Barbados, Bolivia, Chile, Cuba, Dominican Republic, El Salvador, Guyana, Honduras, Hong Kong, China; Macao, China; Nicaragua, Paraguay, Philippines, Romania, Singapore, Trinidad and Tobago, Turkey and Uruguay.

average over a longer period should help smooth changes in exchange rates. In addition, a number of other Members with large support programmes were included in the calculation even though they provided notifications only until the year 2000.

Table 14 shows that the bulk of the support is provided by three Members; the EU, the United States and Japan. During the 1995-2001 period, the EU spent an average of US$96.1 billion on domestic support, followed by the United States with US$66.2 billion and then Japan with US$41.8 billion. After the top three Members, the amount provided by the others drop off very quickly. The fourth largest provider of support, Republic of Korea, averaged US $7.5 billion during the period. While seven of the top ten providers of support are OECD members, three are not – Brazil, Thailand and Cuba.

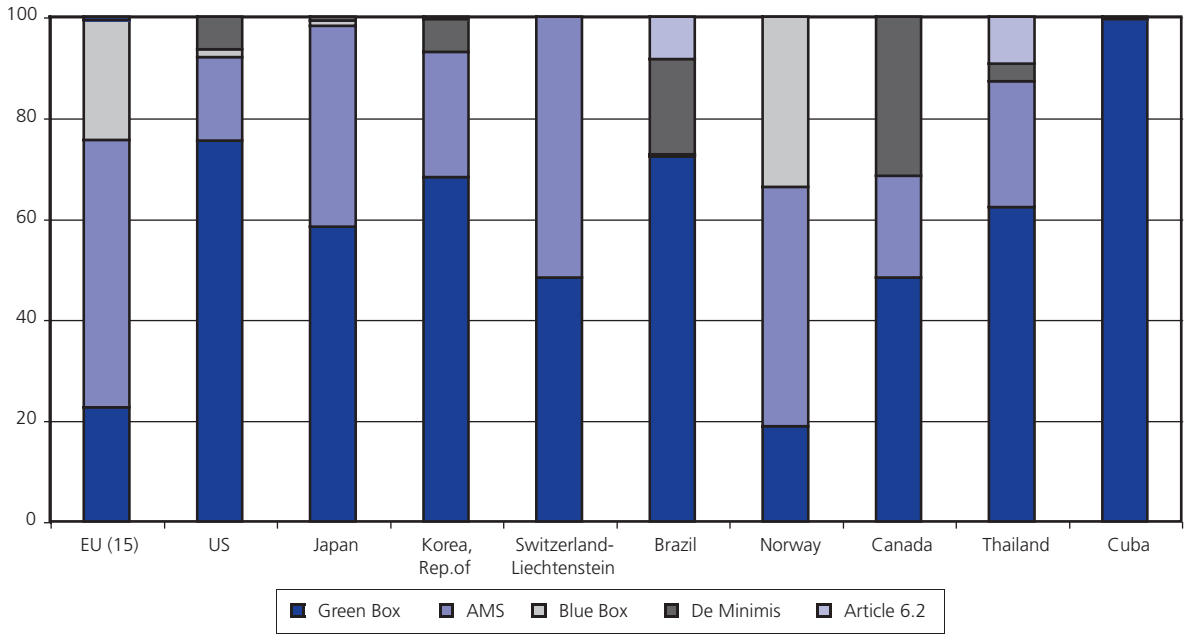
Table 14
Leading providers of domestic support, 1995-2001
(Billion dollars)

Rank	Member	Total domestic support
1	European Union (15)	96.1
2	United States	66.2
3	Japan	41.8
4	Korea, Rep. of [a]	7.5
5	Switzerland - Liechtenstein	4.6
6	Brazil	3.5
7	Norway	3.0
8	Canada [a]	2.6
9	Thailand	1.9
10	Cuba	1.3

[a] Period 1995-2000.
Source: WTO Secretariat.

Chart 4 shows the composition of the expenditures on domestic support of the top providers. The AMS and green box measures predominate. The Members where the AMS constituted nearly half of domestic support were the EU (15), Switzerland-Liechtenstein and Norway. For all the developing countries in the list, the bulk of their spending was notified under green box measures. *De minimis* is important for Brazil, Canada, Republic of Korea and the United States. The blue box is important only for the EU(15) and Norway.

Chart 4
Composition of domestic support of leading providers, 1995-2001 or available years
(Percentages)



Source: WTO Secretariat.

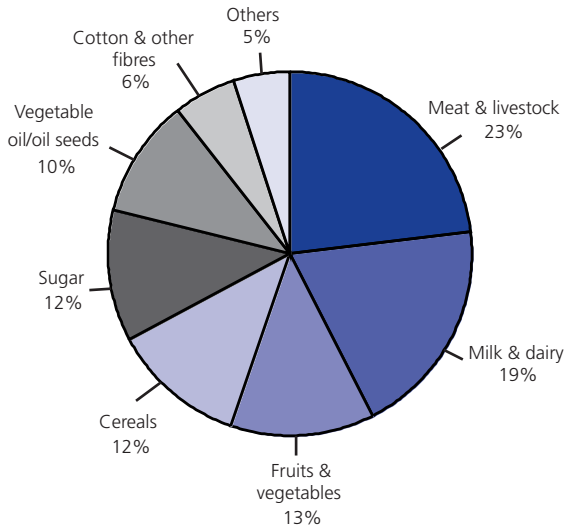
Table 15 provides a sense of the scale of total domestic support as well as Current Total AMS, by showing them as a share of the total value of agricultural production. This can only be done for a selected number of WTO Members, but the list includes the Quad countries as well as a number of large developing countries, like Brazil and South Africa. As shown by Table 15, there is a large variation in the amount of agricultural subsidies, even for this limited sample of Members, and this variation is most evident for total domestic support. Even when scaled against the total value of agricultural production, domestic support looms large in the EU, the US, and Japan, with domestic support spending representing over a third of the value of agricultural production in 2001.

Table 15
Total domestic support and AMS as share of total value of agricultural production of selected WTO Members
(Percentages)

	Share of total value of agricultural production	
Member	Total domestic support	AMS
Australia	3.9	0.7
Bangladesh	1.2	...
Brazil	7.2	0.0
Bulgaria	1.6	0.7
Canada	14.5	2.7
Chile	5.2	...
Estonia	6.5	...
EU (15)	34.3	15.9
Hungary	14.6	10.7
India	10.6	...
Israel	20.9	7.8
Japan	37.6	7.5
Jordan	14.3	0.0
Korea, Rep. of	22.2	5.1
Peru	11.3	...
Romania	3.3	...
South Africa	6.5	0.9
Tunisia	4.7	0.0
United States	36.3	7.3
Uruguay	3.6	...

Source: WTO Secretariat.

Chart 5
Composition of product-specific AMS, 2001
(Percentages)



Source: WTO Secretariat.

However, Australia which is also an OECD member provides less than 4 per cent of total support to its agricultural sector. Among developing countries, the Republic of Korea and Israel provide domestic support that amounts to over a fifth of the total value of agricultural production.

Turning to the case of Current Total AMS, the variation tends to be more muted. It exceeds a tenth of the value of agricultural production only in the case of the EU (15) and Hungary. The Current Total AMS is between 7 per cent to 8 per cent of the value of agricultural production for both Japan and the United States.

(iii) Product-specific AMS

WTO Members' notifications also provide information about the incidence of subsidies at the product level. In 2001, the total amount of product-specific subsidies notified was US$59.7 billion. The commodities which obtained the most support were meat and livestock (23 per cent of product-specific AMS), milk and dairy products (19 per cent), fruits and vegetables (13 per cent), cereals (12 per cent), sugar (12 per cent) and vegetables oils and oilseeds (10 per cent).

(e) Incidence of export subsidies

(i) Introduction

Export competition measures can include all, or elements of, direct export subsidies (such as export refunds), officially supported export credits, food aid (notably the component used to facilitate the disposal of a country's surplus production) and exporting State Trading Enterprises (STEs). The defining characteristic of all of these instruments is their potential to set different prices that are lower for foreign buyers than for domestic producers or domestic consumers, if not for both groups.[201] With a total of close to US$3 billion in the year 2000 (last year for which complete information is available), total export subsidy spending is small compared to approximately US$200 billion of domestic support notified for the same year. However, owing to their highly trade-distortive nature,[202] the phasing-out of export subsidies agreed at the Hong Kong

201 For an overview of export competition measures see OECD (2004b).

202 Export subsidies are considered to be more harmful than production subsidies because they distort two price margins (consumption and production).

Ministerial Conference is important in order to prevent more widespread use in the future and bring agriculture in line with non-farm trade.[203]

The AoA requires all Members with annual commitment levels to notify for each product the budgetary outlays for export subsidies and subsidized export quantities, as well as food aid volumes (Table ES:1 in the AoA). Supporting Table ES:1 is meant to provide a breakdown of these figures into the categories direct export subsidies, sales of stock, subsidies financed by producers by virtue of government action,[204] cost reduction measures and internal transport subsidies. Furthermore, notifications must be submitted by developing Members using exempt export subsidies under Article 9.1(d) and (e) (Supporting Table ES:2), by Members without export subsidy commitments that are significant exporters of individual products (Table ES:2), as well as by all food aid donors (Table ES:2 and Supporting Table ES:2 and Table ES:3). Other forms of export subsidization need not be notified. However, export credits and export credit guarantees as well as STEs are part of the export competition pillar in the Doha negotiations. Each of these four instruments will be discussed in more detail in the following subsections.

(ii) Product-specific export subsidies

Various WTO Secretariat documents put together on the basis of notifications under the AoA provide a comprehensive though hardly up-to-date overview of major subsidizing countries and subsidized sectors. WTO (2005d) lists the 25 Members with export subsidy reduction commitments. Of these, 14 Members provide export subsidies:[205] the European Union (plus the recently acceded countries Cyprus, the Czech Republic, Hungary, Poland and the Slovak Republic), Israel, Mexico, Norway, Panama, Switzerland, Turkey, the United States and the Bolivarian Republic of Venezuela. In addition, seven countries with commitments had subsidized exports but ceased to do so at some point in the past (Australia, Canada, Colombia, Iceland, New Zealand, Romania and South Africa), while four Members have scheduled commitment levels but have not used them (Brazil, Bulgaria, Indonesia and Uruguay). Six countries (India, Republic of Korea, Morocco, Pakistan, Thailand and Tunisia) have used export subsidies exempt from reduction commitments.[206]

WTO (2005d) gives an overall summary, for each Member concerned by product or product group, of the final bound export subsidy commitment levels by implementation year in relation to budgetary outlay and volumes. Table 16 indicates that despite significant reductions the EU has remained the dominant subsidizer throughout the 1995-2000 period as far as absolute outlays are concerned. Switzerland comes a distant second, and the United States and Norway alternate as the third and fourth largest subsidizers during that time period. However, as shown in Chart 6, export subsidies by Switzerland and Norway constitute a much larger share of their agricultural output than in the two other major subsidizers. The share of export subsidies in total agricultural production appears to be particularly low for the United States. Over the six-year period under consideration, despite large variations, these shares appear to edge downwards, with the exception of Norway.

203 Paragraph 6 of the Hong Kong Ministerial Declaration contained in document WT/MIN(05)/DEC of 22 December 2005 reads in part: "We agree to ensure the parallel elimination of all forms of export subsidies and disciplines on all export measures with equivalent effect to be completed by the end of 2013. This will be achieved in a progressive and parallel manner, to be specified in the modalities, so that a substantial part is realized by the end of the first half of the implementation period.".

204 For instance, the EC sugar regime, which is further explained below, through a complex system of quotas and other regulations, creates additional incentives for sugar farmers to export despite their financial contributions.

205 Notification information to the Committee on Agriculture have been reviewed up until 4 October 2005. For consistency purposes with the remainder of the Report, the focus here is on budgetary outlays, although commitments have also been made in volume terms.

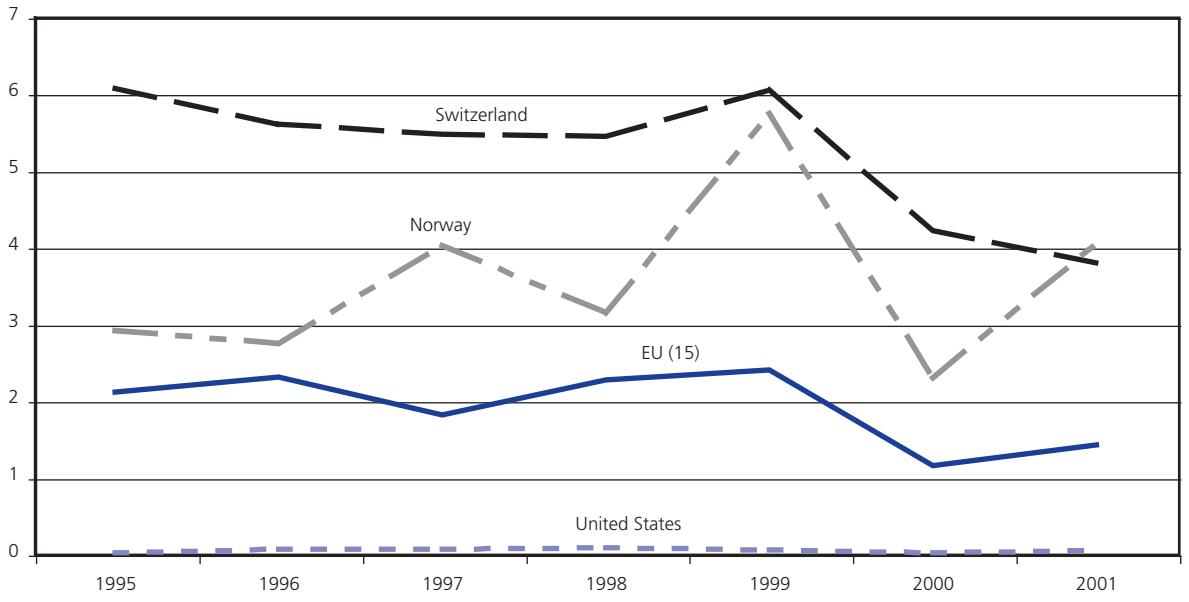
206 For an overview, see WTO (2002b). These subsidies have been notified in relation to AoA Article 9.4 which allows developing Members during the implementation period – and subject to certain conditions – to provide subsidies to reduce the costs of marketing exports and the costs of international transport and freight, as well as to arrange for internal transport and freight charges on export shipments to be provided on terms more favourable than for domestic shipments without undertaking reduction commitments as normally required under AoA Articles 9.1(d) and (e).

Table 16
Export subsidy outlays, 1995-2000
(Million dollars and percentages)

	1995		1996		1997		1998		1999		2000	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
European Union (15)	6314	88.8	6748	89.7	4797	87.7	5976	90.1	5628	89.6	2462	87.1
Switzerland	446	6.3	369	4.9	295	5.4	292	4.4	290	4.6	189	6.7
Norway	83	1.2	78	1.0	102	1.9	77	1.2	128	2.0	45	1.6
United States	26	0.4	121	1.6	112	2.1	147	2.2	80	1.3	15	0.5
Other countries	243	3.4	202	2.7	166	3.0	144	2.2	151	2.4	116	4.1
Total	7112	100.0	7519	100.0	5473	100.0	6636	100.0	6278	100.0	2826	100.0

Source: WTO Secretariat.

Chart 6
Export subsidies as share of total value of agricultural production, selected countries, 1995-2001
(Percentages)



Source: WTO Secretariat.

Chart 7 portrays total export subsidy disbursements and WTO bindings of all Members with export subsidy commitments. According to WTO notifications, overall outlays over the 1995 to 2000[207] period always remained well below commitment levels. At about 17 per cent annually on average, budgetary outlays in dollar terms declined more than commitment levels, which only shrank by approximately 14 per cent. In addition, real reductions were more significant than suggested by these nominal values, since annual inflation, as measured by the US GDP deflator, amounted to 1.6 per cent on average over the 1995 to 2000 time period. After 2000, commitment levels for the developed countries have remained unchanged, since their implementation period expired after six years. Judging from EU data as the biggest spender, budgetary outlays continued to be reduced in 2001, hence further increasing the gap between actual spending and commitment levels, but went up again in 2002.

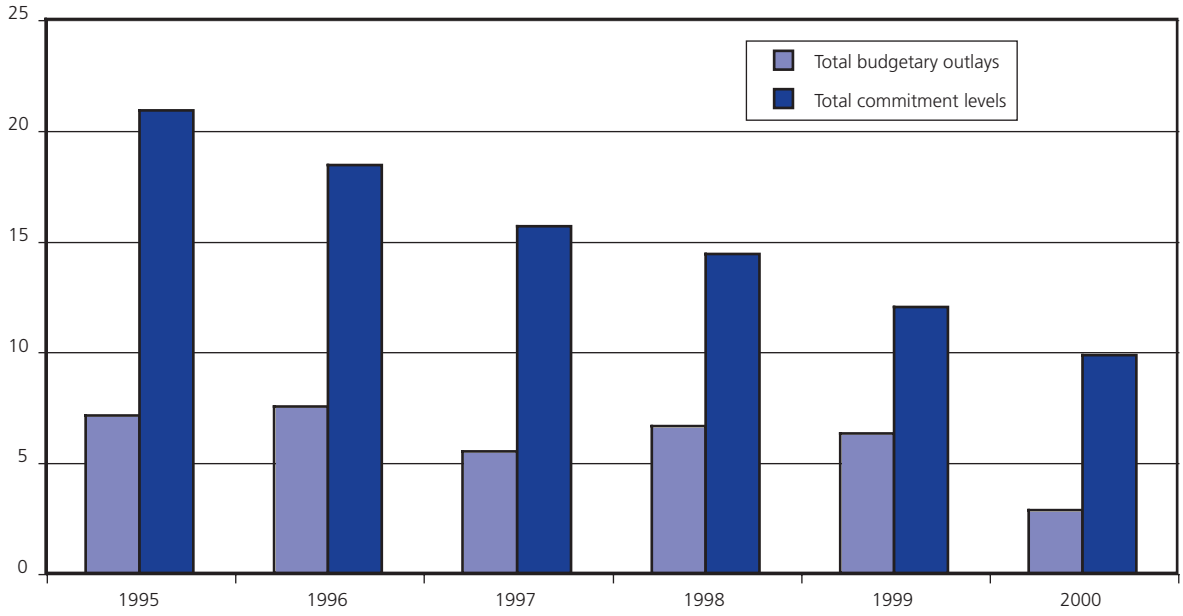
These aggregate averages conceal a considerable amount of variation between countries and products. In individual years, while commitment levels declined (also in dollar terms), spending increased.[208] For instance, in 1998 the EU spent almost US$1.2 billion more than the year before. This substantial increase in dollar terms was not due to movements in the exchange rate, which was quite stable during that time. Conversion into

[207] 2000 is the last year for which this aggregation can be made, since thereafter data on key Members is missing.

[208] Conversions into dollars are purely made for aggregation and comparability purposes. It is important to recall that each Member is bound by commitments in the currency specified in its schedule, which for most is their local currency.

a common currency also makes spending increases by the EU between 1995 and 1996 appear more modest than they actually were owing to a devaluation of about 6 per cent of the ECU against the dollar. Between 1998 and 1999, despite additional outlays of ECU 280 million, spending in dollar terms even appeared to be lower than in the previous year after an 11 per cent devaluation of the ECU. Hence, in local currency, outlays by the EU were reduced by only about 11 per cent on average, which is still more than the overall decline in commitment levels of around 9 per cent per year. As a general rule, export subsidies were high when world market prices for key agricultural products were low. For instance, beef prices were at historically low levels in 1996, and cereals and butter prices strongly fell between 1997 and 1999.

Chart 7
Total export subsidy commitment levels and budgetary outlays, 1995-2000
(Billion dollars)



Source: WTO Secretariat.

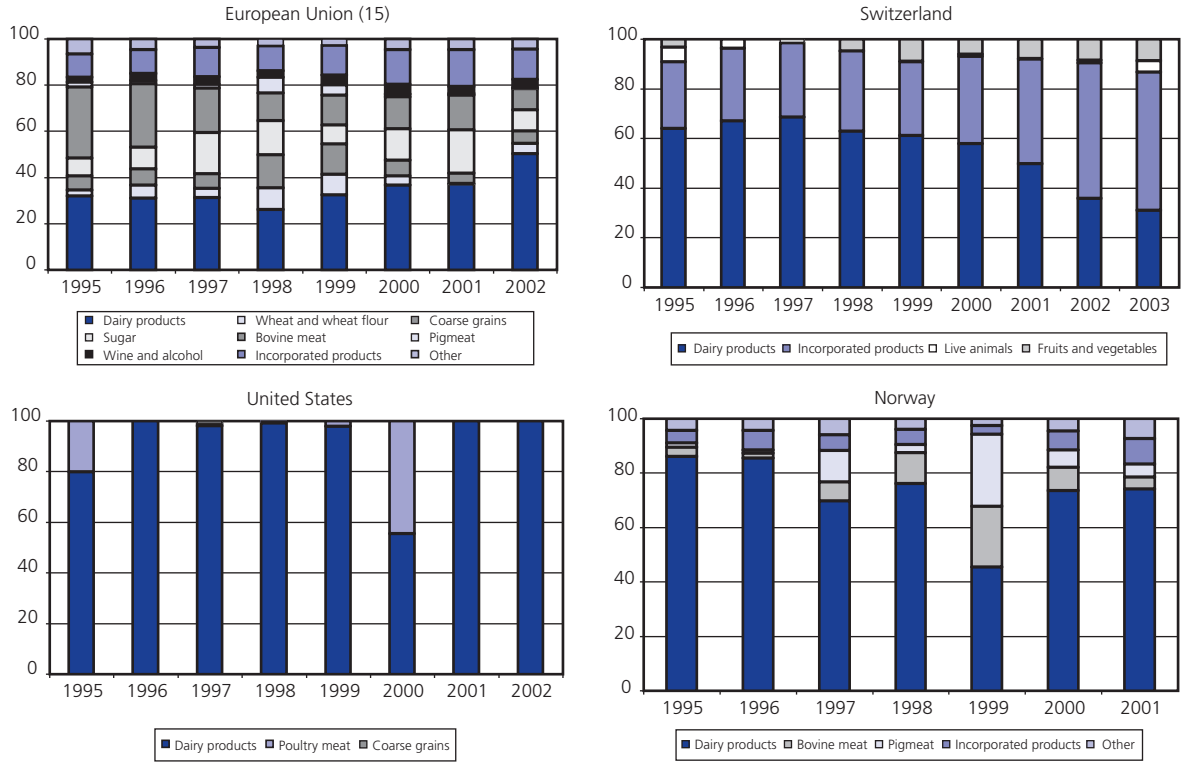
Chart 8 shows the incidence of export subsidies by product for the four principal subsidizers.[209] For the EU, sugar, other milk products, beef and butter and butter oils accounted for more than 60 per cent of budgetary outlays in 2001. With the exception of sugar, commitment levels are not normally exhausted. There has been a notable reduction in export subsidies for beef over time. Switzerland, in the year 2000, spent almost half of its export subsidies on milk products. Overall, commitment levels are used to a large extent. Despite having committed a range of products, the United States has allocated its notified export subsidies mainly to three products in the dairy sector between 1995 and 2002. Butter and butter oil received almost half of budgetary outlays with skimmed milk powder accounting for most of the remaining funds. In Norway, over the time period under consideration, the largest outlays have gone to dairy products (mostly cheese), although their relative importance varied between 86 per cent in 1995 and 45 per cent in 1999, when expenditures for bovine and pig meat tripled compared to the year before.

209 Some of the product groupings listed in WTO document TN/AG/S/8/Rev.1 relating to product-specific commitments have been aggregated or renamed for analytical purposes and easier graphical display. The following modifications have been made: for the EU and United States, butter and butter oil, skim milk powder, cheese and other milk products form the category "dairy products". For the EU, wine and alcohol are combined into one category. Rice, olive oil, poultry meat, eggs, fruit and vegetables (both fresh and processed) as well as raw tobacco are categorized under "other". For Norway, butter, cheese and whey powder are combined into the category "dairy products". Lamb meat, poultry meat and eggs and egg products form the category "other". "Processed agricultural products" have been relabelled as "incorporated products". For Switzerland, *"produits laitiers"* have been translated into "dairy products", *"produits transformés"* into "incorporated products" and "*bétail d'élevage*" and *"chevaux"* have been combined and translated into "live animals". *"Fruits"* and "*pommes de terre*" are combined into the category "fruits and vegetables". In addition, for Switzerland, the values for the year 1996 in the categories "*fruits*" and "*pommes de terre*" are missing. In order to calculate totals, presumed values had to be calculated as the average of the years 1995 and 1997 in each category. Detailed data according to the product groups defined in WTO document TN/AG/S/8/Rev.1 for the last available year are given in Annex Table 2.

At the product level, export subsidy outlays occasionally went beyond commitment levels. For instance, in 1999, Norway exceeded its product-specific commitment levels for bovine and pig meat, and, to some extent, also for butter and cheese. Also in 1999, the EU overspent in relation to its commitments on skim milk powder, other milk products, incorporated products, pig meat and alcohol. In the same year, this was the case for the United States in regard to cheese. As mentioned above, these surges in export subsidization of certain commodities reflect world market price fluctuations reaching very low levels in 1999 for cereals, dairy and, to a certain extent, meat products.

Almost every year between 1996 and 1999 has seen over-subsidization of exports by some Member on some product. Despite being legally covered under AoA Article 9.2(b), which, during that time period and within certain limits, allowed for export subsidization in excess of commitment levels if these were not fully exhausted in previous years, these practices were heavily criticized in meetings of the Committee on Agriculture as being incompatible with the spirit of the Agreement. The possibility of such "rollover relief" has expired since and one of the conditions, namely that the total cumulative amounts of budgetary outlays over the entire implementation period do not exceed the amounts that would have resulted from full compliance, appeared to have been fulfilled, judging from the absence of further complaints.

Chart 8
Shares of export subsidy outlays by product, selected countries, various years
(Per cent)



Source: WTO Secretariat.

The breakdown by instrument of product-specific budgetary outlays in the respective Supporting Tables ES:1 show that for the four major subsidizers, export subsidies mainly come in the form of direct subsidies, such as export refunds, i.e. compensation upon export for the wedge between the international market and the higher domestic price. Notified export subsidies by the United States exclusively relate to direct payments. For the most part, this is also the case for the EU, which in addition, in several years, has notified sales of stock of coarse grains and alcohol. Switzerland, in addition to direct payments, undertakes sales of stock of fruit, which also benefit from cost reduction subsidies.[210]

[210] Cost reduction subsidies provided by Switzerland under the "Price Compensation Scheme" are export refunds to compensate for higher costs of locally produced raw materials (due to agricultural policy measures) used as inputs in the production of processed agricultural goods for exports. For mainly imported raw materials, the refunds correspond to the border charges paid. For more see the Trade Policy Review Report of Switzerland and Liechtenstein by the WTO Secretariat contained in document WT/TPR/S/141.

A quite complex system of export subsidization is in place in the EU's sugar sector. Exports of sugar by the EU are exclusively supported by producer financed subsidies in an extensively regulated market that increases the incentives to export. The EU sugar regime sets production quotas (so-called A and B quotas), regulates prices of sugar beet and establishes a framework for the contractual relationships between beet growers and sugar producers. Production levies are applied to all quota sugar to cover the costs of export refunds for the surplus of A and B sugar beyond domestic consumption. At the same time, producers realize highly remunerative sales in the domestic market through a system of import controls and minimum prices. Hence, despite being self-financing and budget-neutral, the system provides an incentive for farmers to produce sugar beets at a marginal cost that exceeds the world price, even though they must fund export subsidies. This type of governmentally-managed system has therefore also been included in the list of export subsidies under AoA Article 9.1(c).[211] Similar systems of producer financed subsidies and governmental intervention are the major form of export subsidization in Norway, in particular for cheese, butter and eggs and egg products for which no additional direct export subsidies are provided.

(iii) Export credits

Export credits are insurance, guarantee or financing arrangements that enable a foreign buyer of exported goods and/or services to defer payment over a period of time. They may come in the form of official financing support, i.e. direct credit (re-)financing or interest rate support, or in the form of export credit guarantees or insurances, i.e. pure cover, or as any combination of both (OECD, 2004c). At Hong Kong, Members agreed, inter alia, that export credit, export credit guarantee or insurance programmes should be self-financing, reflecting market consistency, and of a sufficiently short duration.

Information on the incidence of export credits is difficult to obtain given that (i) countries are not currently obliged to notify their use of such expenditure to the WTO; and, (ii) the terms under which export credits are provided are deemed to be of a confidential nature. Most analyses on officially-supported export credits in agriculture are based on information presented by the OECD and derived from a confidential survey of Participants to the Arrangement on Officially Supported Export Credits[212] covering the time period from 1995 to 1998. From this study (OECD, 2000a) it appears that the export subsidy equivalent of export credits is most pronounced for the United States, Australia, Canada and a number of European Union member countries.[213] According to publicly available OECD statistics on export credit activities presented in Table 17, long-term (over five years) export credits to agricultural products barely represent half of one per cent of the total or less than one-hundredth of the amount going to manufacturing in OECD countries in 2002. A comparison of the aggregate results presented in OECD (2000a) shows that these numbers do not capture the full extent to which export credits are provided in agriculture. The main reason appears to be that, in agriculture, most credits are short-term (i.e. less than one year) or medium-term (between one and five years), for which the OECD does not collect publicly available data, at least not at the sectoral level in the latter case.[214]

211 In addition, the WTO Appellate Body found that so-called C sugar (production beyond the A and B quotas), despite being ineligible for domestic price support or direct export subsidies, also constituted an export subsidy in the sense of AoA Article 9.1(c) through cross-subsidization. See Appellate Body Report, *European Communities-Export Subsidies on Sugar*, WT/DS265,266,283/AB/R, adopted on 19 May 2005. The operation of the EU sugar regime has since been under review. On 20 February 2006 EU agriculture ministers adopted a wide-ranging reform of the Common Market Organisation for sugar, based on a proposal tabled by the European Commission in June 2005. The reform of the sugar sector is to come into force on 1 July 2006. For a press release on the agreement by ministers see http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/06/194&format=HTML&aged=0&language=EN&guiLanguage=en. The original proposal by the European Commission is available at http://europa.eu.int/comm/agriculture/capreform/sugar/prop_en.pdf, both sites visited on 28 February 2006.

212 It should be noted that although the focus of the survey of Participants to the Arrangement on Officially Supported Export Credits (resulting in the OECD, 2000a, study) was on the use of export credits in agriculture, agricultural commodities are not covered by the Arrangement as per its paragraph 5(c) (OECD, 2004c: 8). Pursuant to AoA Article 10.2, which obliges Members to work towards the development of internationally agreed disciplines to govern the provision of export credits, export credit guarantees or insurance programmes, the Arrangement's Participants, from 1996 to 2000, negotiated disciplines on export credits for agricultural products in the OECD. A Draft Understanding (which can be downloaded at http://www.oecd.org/dataoecd/31/12/1939746.pdf) represents the state of play reached in November 2000, at which time a consensus could not be achieved. Sector Understandings already exist for ships, nuclear power plants and civil aircraft.

213 For an economic analysis of export credits see also Vercammen (1998).

214 In contrast, OECD (2000a) is based on a rather complete, albeit confidential dataset.

Table 17
Long-term agricultural export credits by OECD member countries, 1998-2002
(Million dollars and percentages)

	1998	1999	2000	2001	2002
Million dollars	76.1	31.5	22.1	97.0	46.2
Share of total export credits	0.4	0.1	0.1	0.6	0.3

Source: OECD (2002b).

In individual countries, export credit information on agriculture is made publicly available. In the United States, for instance, when private financial institutions extend loans to countries that want to purchase US agricultural exports, the governmental Commodity Credit Corporation (CCC) issues a guarantee and assumes the default risk on the loans. Annual funding for such export credit guarantee programmes by the United States has been of the order of US$3 billion, supporting between 5 and 6 per cent of total agricultural exports (see Table 18).[215] If food aid under P.L. 480,[216] Title I is included, under which long-term credit agreements are available to facilitate government-to-government purchases of agricultural commodities by developing countries with the potential to become commercial markets, this type of support increased to 7 per cent of agricultural exports in several years and to about 2 per cent of total agricultural production. Most of the agricultural export credit guarantees are indeed short-term. Under the GSM-102 programme, the CCC guarantees repayment of 98 per cent of the principal and part of the interest in case of default or non-payment, when US banks extend credit to foreign banks to finance sales of US agricultural goods for up to three years. The intermediate-term programme (three to ten years) seems to be used less, with supplier credit guarantees gaining in importance instead. Under the latter programme,

Table 18
United States' agricultural export credit guarantees, 1995-2002
(Million dollars and percentages)

	1995	1996	1997	1998	1999	2000	2001	2002
Total agricultural production	191088	204808	205080	190082	183777	189318	197892	193151
Total agricultural exports	54729	59867	57338	53711	49148	50798	52699	53294
Total CCC Programs	2921	3230	2876	4037	3045	3082	3227	3388
Short term (GSM-102)	2772	3079	2809	3963	2955	2928	2959	2936
Intermediate term (GSM-103)	149	151	63	56	44	33	42	0
Supplier credit guarantees	0	0	4	18	46	116	226	452
Facilities financing guarantees	0	0	0	0	0	5	0	0
P.L. 480, Title I	172	219	153	164	687	157	105	102
Memorandum items:								
Agricultural exports covered by export credit programmes as share of total agricultural production (%)	1.6	1.7	1.5	2.2	2.0	1.7	1.7	1.8
Agricultural exports covered by export credit programmes (%)	5.7	5.8	5.3	7.8	7.6	6.4	6.3	6.5

Source: CRS (2004).

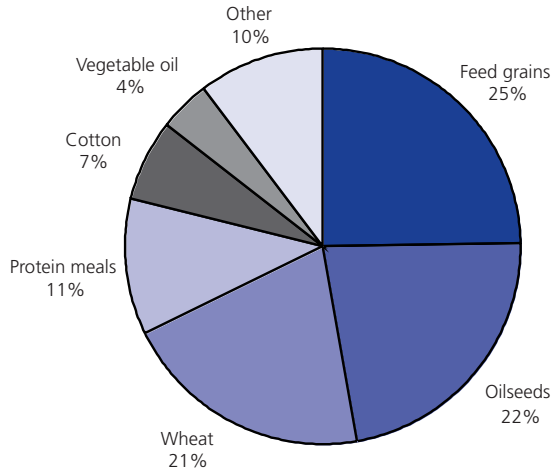
215 These values do not represent actual outlays, for instance due to defaults, nor the total amount of loans that have been guaranteed. They simply refer to the funding made available to commercial parties by the government. Calculating the subsidy equivalent of export credits and export credit guarantees is a complex undertaking. It depends, among other things, on repayment periods and minimum interest rates. Under the OECD's Export Credit Arrangement, the latter role is fulfilled by Commercial Interest Reference Rates (CIRR), which exist for most OECD countries and are adjusted on a monthly basis. They are intended to reflect market rates of interest in the domestic market of the currency concerned, closely corresponding to the rate for first-class domestic borrowers, i.e. they are mostly based on treasury bond yields, plus a margin. The prevailing CIRRs are available on the OECD website: (http://www.oecd.org/topic/0,2686,en_2649_34169_1_1_1_1_37431,00.html). While CIRR may help to control subsidy elements in the form of interest rate support, it is also important that governmental export credit facilities charge premium rates adequate to cover long-term operating costs and losses if circumvention is to be prevented. Hence, in the so-called "Knaepen" package that came into force in 1999, it was agreed that pricing should be risk-based, converge and reflect the differing quality of officially-supported export credit products. For that purpose, guidelines on minimum premium benchmarks assigned to seven country risk categories have been established. For more see OECD (1998).

216 Public Law 480 (P.L. 480) is also known as the so-called "Food for Peace Program".

the CCC guarantees to repay 65 per cent of the export value to US exporters that have extended credits directly to the importer for 180 days or less. A programme which indirectly supports agricultural exports by guaranteeing repayment to investors who export manufactured goods and services to emerging country markets to improve or establish agriculture-related storage, processing or handling facilities has hardly been used (Canada, 2004).

Chart 9 shows that for US export credit guarantees the commodity composition is quite different from the incidence of export subsidies notified to the WTO (see above). While practically all of the notified direct subsidies go to the dairy sector, export credit guarantees mainly relate to cereals. Cotton, on which there is a special focus under the Doha Development Agenda, also enjoys about 7 per cent of this type of support.

Chart 9
Commodity shares in total agricultural export credit guarantees, United States, 2002
(Percentages)



Source: CRS (2004).

(iv) State-trading enterprises

State-trading enterprises (STEs) enjoy a range of privileges made available by the government which are generally unavailable to other traders, such as the underwriting of losses. In addition, they may be given the exclusive right to import and/or export a commodity.[217] Their objectives in the agricultural sector vary across countries and include income support for domestic producers, price stabilization, expansion of domestic output, continuity of domestic food supply or increase in government revenue, with their functions and privileges varying accordingly (OECD, 2001c). STEs in developed countries usually act in a way to support farmers' incomes, whereas in developing countries, there have been cases where the activities of STEs are targeted at reducing food prices for consumers, thus squeezing margins received by farmers.[218]

At the Hong Kong Ministerial Conference, WTO Members decided to develop disciplines on STEs on export subsidies, government financing and underwriting of losses that would eliminate trade-distorting practices. They also affirmed their commitment to prevent circumvention of these disciplines. A major concern in that regard relates to the exercise of market power. Exporting STEs may be granted single desk status, i.e. the exclusive right to purchase and sell in the domestic market as well as export markets. It has been shown that STEs can exploit imperfect competition in these markets and realize the potential for price discrimination (OECD, 2001c). As a prerequisite, markets must be segmented through import barriers, such as tariffs or tariff rate quotas, in order to prevent lower-priced exports from being re-imported into the higher-priced domestic market. If it is sole buyer[219] in the domestic market, an STE may collect supplies from producers but delays payments until after both domestic and export sales have been effected. It determines the quantities offered for export and domestic sales respectively, so as to maximize producer surplus. With demand being less elastic in the domestic than in the export market (for instance due to better substitution possibilities at the international level), domestic prices exceed export prices and domestic consumption is lower than if both markets were integrated. At the same time, with farmers receiving a blended (or so-called "pooled") price

217 For the precise WTO definition, see Understanding on the Interpretation of Article XVII of the General Agreement on Tariffs and Trade 1994: para. 1.

218 McCorriston and MacLaren (2006) propose a model to assess the potential trade impact of exporting STEs that arise in both developed (where there typically is bias towards producers) and developing countries (with a typical bias towards consumers or taxpayers). While the authors confirm that that STEs in certain developed countries have trade effects which are equivalent to an export subsidy, the trade distortion in the latter countries may rather be equivalent to an export tax.

219 While being the only buyer, STEs should not be assumed to act as monopsonists, since they usually do not maximize profits.

(less marketing costs), production expands and is absorbed into increased exports. Schluep and De Gorter (2000) and others have calculated the per unit export subsidy equivalents of such practices.[220]

Domestic producers may benefit in several ways from STEs acting in such a manner. On the export side, STEs can wield market power and fully exploit the potential for price discrimination. In particular, given the oligopsonistic structure in many agricultural markets, i.e. the market power of processors, wholesalers and traders represented by a few dominant firms (Hranaiova et al., 2002), STEs can obtain higher export prices than can individual producers. If controlling domestic supply, STEs face less uncertainty in sourcing supplies for export than other competitors and may make long-term export arrangements with importing countries. Farmers can also benefit from economies of scale in marketing and quality control. Finally, STEs may contribute to stabilizing producer income through price pooling and the management and disposal of stocks (Ingco and Ng, 1998). However, in the absence of competition, and with profits (and losses) bundled in producer returns, it is difficult to assess whether these activities, such as exclusive marketing, are cost effective and indeed generate a net benefit to producers (Gropp et al., 2000).

At the WTO, a relatively small number of STEs seem to have received most attention in the past, such as the Australian Wheat Board (AWB) and the Canadian Wheat Board (CWB), which together account for 40 per cent of the global wheat market (OECD, 2000b; OECD, 2000c; Carter and Wilson, 1997). Table 19 confirms the expected price structure with domestic consumer prices exceeding export prices. The table also shows that, in both cases, a large part of the domestic production is exported and almost all exports are carried out through the STE. However, the question to what extent these STEs indeed subsidize exports is not easily answered. Much also depends on the market structure that would replace an STE in the counterfactual. Veeman et al. (1999) argue that agricultural trade is preconditioned to take place in an oligopolistic setting. OECD (2001c) and Scoppola (2003) develop models demonstrating that, under certain conditions, an STE exports more than a private profit-maximizing firm with the same degree of market power, and, hence, can be considered to subsidize exports.[221]

Table 19
Exports of wheat by Australia and Canada, selected years
(Million tonnes, A$ and Can$/tonne)

Country	Year	Total exports Quantity	Exports by STE Quantity	Av. rep. dom. sales price	Average export price	National production Quantity
Australia	1995-96	13.3	13.3	A$304/t	A$287/t	16.5
	1996-97	19.2	19.2	A$241/t	A$227/t	23.7
	1997-98	15.7	15.7	A$247/t	A$235/t	19.4
Canada	1994-95	20.8	17.0	Can$212/t	Can$225/t	22.9
	1995-96	16.2	16.1	Can$265/t	Can$280/t	25.0
	1996-97	19.4	21.4	Can$215/t	Can$234/t	29.8

Note: Total quantity exported by Canada may be greater or less than the quantity exported by state-trading enterprise (STE) due to the differences in the statistical reporting periods used by Statistics Canada (cleared by Customs) and the CWB (marketing year).
Source: WTO notifications G/STR/N/4/AUS, G/STR/N/5/AUS and G/STR/N/4/CAN.

Additional complications arise when STEs enjoy privileges, such as discounts on transportation and storage rates, preferential exchange rates, interest rates and the like that are not available to other traders. A specific privilege has sometimes been government underwriting of an STE's losses, potentially leading to more aggressive pricing strategies by the STE and, as a result, higher exports. In the case of the CWB, producers receive an initial payment that is equivalent to 70-80 per cent of the final price with additional payments being made at a later stage when the total supply of the commodity has been marketed. The initial pool payments are guaranteed

220 Schluep and De Gorter (2000) have also demonstrated that price pooling leads to higher exports than under mere price discrimination and under an equivalent taxpayer-financed subsidy.

221 This is mainly due to the inclusion of producer welfare in the STE's objectives. Profits are redistributed to producers by paying them a pooled price of domestic and world prices. Hence, exports do not only increase, as in the case of a private monopoly trader, because a lower quantity is sold on the domestic market, but, in addition, because the STE buys a higher quantity from producers as a consequence of maximizing producer surplus.

by the Canadian government such that, if the pooled price is below the initial price paid to producers, it will underwrite CWB's losses. However, government guarantees have rarely been utilized in practice. Yet, loans to the CWB are perceived as lower risk, since the government would cover in case of default, and are hence less costly to obtain (OECD, 2001c). McCorriston and MacLaren (2005) in examining both the AWB and CWB conclude that while STEs distort trade, the direction and extent depend on the differing nature of the exclusive rights enjoyed by these STEs and their objectives, as well as a range of other factors, such as the benchmark market situation, other agricultural support policies, the relative inefficiency of STEs compared to private firms and the right of private exporting firms to sell on the domestic market.

(v) Food aid

International food aid – i.e. the provision of food commodities by one country to another, free of charge or under highly concessional terms to assist the country in meeting its food needs (Thompson, 2001) – has the potential to undermine local production or displace imports from other countries. Donors may provide more food aid in times of surplus production, which usually varies countercyclically with need, i.e. food aid volumes surge when global production and food availability are high and prices low. The disposal of excess stocks (which may put downward pressure on world market prices) may, therefore, be considered an implicit export subsidy. Also, food aid may be used to develop commercial opportunities, in particular if it is tied to commercial exports of agricultural commodities in the future.[222]

The extent to which other producers are displaced depends on a host of factors, not least on the form that international food aid may take. Thompson (2001) identifies three general types: (i) emergency or relief food aid, which is targeted and freely distributed to victims of natural and man-made disasters; (ii) project food aid, which is targeted to vulnerable groups to improve their nutritional status and to support specific developmental activities; and (iii) programme food aid, which is provided directly to a recipient government or its agent for sales on local markets (so-called monetized aid), the proceeds of which are under the control of the recipient government but are subject to some form of agreement with the donor about their management and use. Emergency aid to fight hunger or to address critical food shortages arising from natural disasters is targeted at additional consumption and therefore unlikely to displace existing suppliers.[223] On programme versus project food aid, Alston et al. (1999), for example, find that farmers in the recipient country prefer international food aid to be given to the government for sale to consumers, since their losses are smaller than when it is distributed to consumers.[224]

At the Hong Kong Ministerial Conference, Members agreed to ensure the elimination of commercial displacement through "effective disciplines on in-kind food aid, monetization and re-exports so that there can be no loop-hole for continuing export subsidization" (WTO, 2005e: para. 6). At the same time, food donations addressing genuine nutritional concerns are not be hindered by subsidy disciplines. The Ministerial Declaration therefore reconfirms the commitment by WTO Members to maintain an adequate level of food aid and to take into account the interests of food aid recipient countries. It also specifies that to this end, a "safe box" for bona fide food aid is to be provided to ensure that there is no unintended impediment to dealing with emergency situations.

Several WTO provisions already deal with food aid. AoA Article 10 prohibits the tying of food aid to commercial exports of agricultural products to recipient countries and requires donors to observe the FAO's

222 Of course, in supplying international food aid donors may pursue objectives other than farm policy considerations, ranging from genuine emergency relief to foreign policy goals. One may think of food donations to North Korea by the Republic of Korea and China, which besides being targeted at malnourished children, also have political implications. See, for instance, http://news.bbc.co.uk/2/hi/asia-pacific/4568182.stm, visited on 19 January 2006.

223 Famines can be demand- or supply-driven. In the latter case, prices will climb due to insufficient food production. In this case, food aid imports are likely to be an appropriate response. A demand-driven famine is caused by the collapse of livelihoods and the inability to access food, even where there is adequate supply and low and stable prices. Here, a more appropriate response may be to support local purchases of the needy rather than adding food imports to the local supply which could depress local prices and have a negative impact on economic activity. For more information on famine see, for instance, http://www.wfp.org/aboutwfp/introduction/hunger_what.asp?section=1&sub_section=1 as well as http://www.usaid.gov/press/releases/2002/02fs_famine.html.

224 Alston et al. (1999) use a comparative static model assuming a "large" recipient country. Producers are unaffected by food aid in the small-country case. Consumers always prefer food aid given to them rather than to the government.

Principles of Surplus Disposal and Consultative Obligations.[225] The "Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net Food-Importing Developing Countries" adopted by Ministers at the end of the Uruguay Round[226] recognizes the need to provide adequate levels of food aid, while ensuring that food aid does not circumvent disciplines on export subsidies. A set of follow-up activities was agreed, including reviewing the level of food aid established periodically by the Food Aid Convention (FAC).[227]

From the long-standing discussions on food aid within the WTO, it appears that the development of criteria to decide where genuine food aid ends and the export subsidy component begins is not a straightforward exercise. The various forms of food aid - whether provided in-kind or cash, whether given to consumers or to the government, whether donated in fully grant form or on concessional terms, whether channelled through multilateral agencies or from government to government, etc. – are at the heart of discussions on possible food aid disciplines in the context of the Doha negotiations. Some of the more controversial aspects in designing specific disciplines are the following.[228] Should food aid only be given in full grant form and, if not, should the monetary value of non-grant aid be limited? Should there be a commitment not to reduce food aid volumes when prices are high? Should there be disciplines on both cash and in-kind food aid if not provided in response to appeals from relevant international or regional food agencies or if not channelled through such organizations? Should cash food aid be considered bona fide if not sourced from the donor country? In order to make disciplines work, much will also depend on the effective monitoring of international food aid, and several proposals on improved transparency have also been made.

Various international agencies, such as the WFP, UNICEF and UNHCR, have repeatedly warned against too stringent export subsidy disciplines on food aid citing that in 2004 three out of four tonnes[229] of food donated worldwide were purchased in donor countries and made in kind. In their view, past donor behaviour suggests that it was unlikely that equivalent levels of cash could be made available by donor governments, especially new developing country donors with limited cash resources.[230] It has also been stressed that these discussions come at a time, when, according to FAOSTAT, food aid volumes have dropped over recent years from 12.5 million tonnes in 1999 to not even 9 million tonnes in 2003 and even further in the most recent past, according to the WFP.[231] At the same time, Hoddinott et al. (2003) find that considerable amounts of food aid continue to flow to the

225 These Principles seek to assure that food and other agricultural commodities which are exported on concessional terms result in additional consumption for the recipient country and do not displace normal commercial imports. They are also meant to ensure that domestic production is not discouraged or otherwise adversely affected. In view of the exigencies of AoA Article 10 and concerns over circumvention of WTO export subsidy commitments the procedures for notification and consultation were revised in 1997 as set out in FAO Council Resolution 1/113. The Annex to this Resolution contains a register of 16 commodity transactions to which the reporting obligations for bilateral consultations and notifications to the Consultative Subcommittee on Surplus Disposal (CSSD) apply. The recipient country must make a commitment to maintain a normal level of commercial imports of the commodity concerned and the supplying country is required to provide import data to show that the consumption is indeed additional, i.e. would not have taken place in the absence of the transaction on concessional terms. These procedures are waived for transactions effected through intergovernmental organizations (in particular the World Food Programme, WFP) and emergency transactions. See FAO (2001).

226 This Decision can be found in GATT Secretariat (1994): 448-449.

227 Under the FAC, donors undertake to provide a minimum level of food aid expressed in tonnage or value terms. The Convention also specifies eligible recipients, the needs to be addressed and the forms that aid may take and the terms under which it should be given, precluding, for instance, the tying to commercial exports of goods or services. The existing FAC 1999 has expired and is due for renegotiation. This renegotiation is however on-hold, pending the outcome of the Doha Round. For the complete text see http://www.fao.org/Legal/rtf/fac99-e.htm.

228 For a comprehensive overview see WTO document TN/AG/6. Some of the proposals have been raised in other WTO fora as well. For instance, a proposal by the Africa Group to channel food aid through international organizations like the WFP and provide food aid exclusively in fully grant form has been submitted in the regular Committee on Agriculture in the context of implementation discussions as well under the S&D mandate of the Special Session of the Committee on Trade and Development. See for instance WTO documents TN/CTD/W/3/Rev.2 and G/AG/20.

229 "Tonnes" refers to metric tonnes.

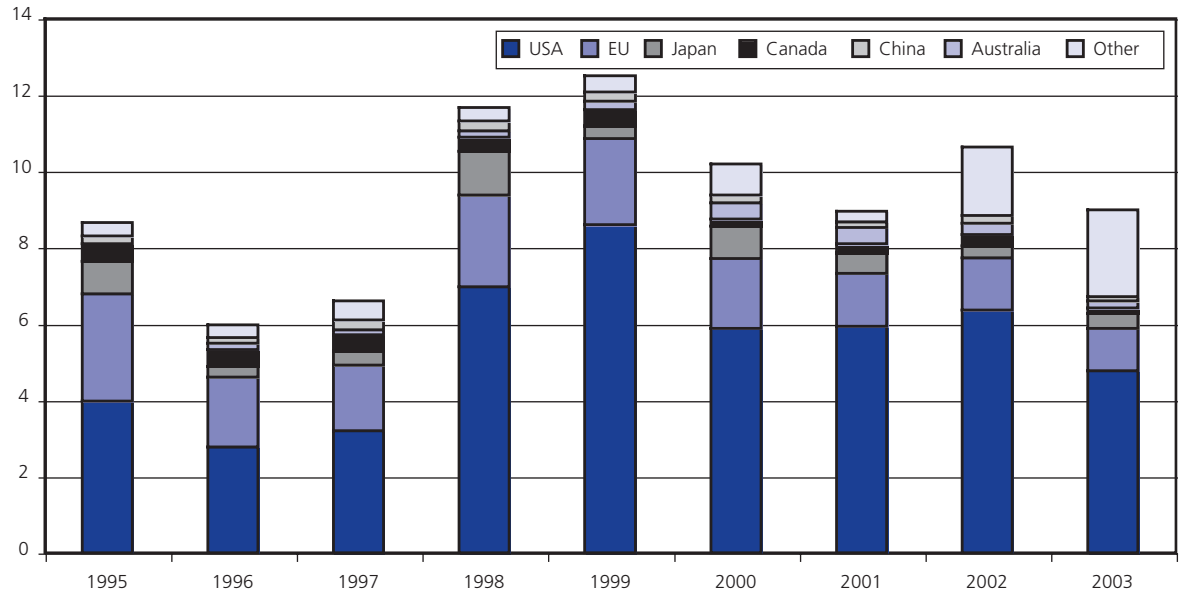
230 See, for instance, their joint press statement for the WTO Ministerial Conference in Hong Kong, China, at http://www.wfp.org/english/?ModuleID=137&Key=1956, visited on 15 December 2005.

231 See press release available at http://www.wfp.org/english/?ModuleID=137&Key=1956, visited on 15 December 2005.

relatively better-off developing countries or to the less needy.[232] They argue that besides the uncontroversial provision of food aid for emergency relief, a better targeting of available food aid resources could provide an insurance function in regions, where other mechanisms such as food markets, stock-holding and household strategies fail. In the remaining cases, i.e. where local food surpluses, well-functioning markets etc. exist, they advocate cash donations rather than in-kind contributions.

Data on food aid volumes are included in WTO export subsidy notifications. Depending on the form it takes, food aid may also be documented in specialized statistics, like the United States' regular overviews of export credit guarantees mentioned above. Perhaps the most comprehensive picture of global food aid can be obtained from the WFP and from the FAO which have created specialized databases on this issue. Chart 10 illustrates that the United States is by far the largest contributor of global food aid. It is also the most important donor for a range of individual items, especially cereals, the major commodity provided through food aid. Given its prominent role, especially between 1995 and 1999, it is also responsible for the relatively large variations in total food aid supply during that time period. It is noteworthy that the US contribution in 1999, when wheat prices stood at an all time low (price index of 63, 1995=100), was more than three times higher than its food aid shipments in 1996, when prices were almost double (price index of 117). Food aid by Japan also features substantial upward swings in 1995, 1998, 2000 and 2001. In these years, rice donations were increased by several multiples compared to the otherwise fairly constant amounts provided ranging roughly between 100,000 and 200,000 tonnes. However, there is no apparent relationship between these expansions and price developments (with prices of milled rice being consistently on decline until 2001 and only slightly increasing since) nor with variations in rice imports by Japan, which are governed by a system of tariff rate quotas to guarantee minimum market access levels.

Chart 10
Global food aid shipments by major donor, 1995-2003
(Million tonnes)



Note: The data represent aggregates of cereal and non-cereal food aid shipments. Purchases made in recipient countries are excluded. Processed and blended foods are converted into their original food components equivalent by applying the conversion factors included in the Rule of Procedures under the 1999 Food Aid Convention to facilitate comparisons between deliveries of different commodities. Food aid provided by the European Communities and its formerly 15 member states have been aggregated into one single number.
Source: FAOSTAT online at http://faostat.fao.org/, visited on 11 November 2005.

[232] Many developing countries have programmes in place to support the urban poor who often face much higher food prices than the rural population. However, Ahmed et al. (2004) find for Bangladesh that historically, the relatively well-off section of the urban population has been the principal beneficiary of food aid. Again, while the continued provision of bilateral food aid in similar cases may also be due to foreign policy considerations by donor countries seeking to support the local government, in the case of Bangladesh, several international donors persistently have demanded a better targeting of food aid, and progress has been made in this regard.

China has become a major donor over recent years, providing more food aid than Canada as of the year 2000. Webb (2003) predicts that food aid supplies will be heavily influenced by developments in United States' farm legislation and the European Union's CAP, despite the emergence of other donors, in particular China and India, and continued reliance on traditional donors such as Japan, Canada, Australia and the Republic of Korea.

Table 20 shows that the shares of bilateral channels have decreased in recent years compared to the multilateral provision of food aid. The United States are also the by far largest donor to the WFP, with the majority of its contributions going to relief operations (WFP, 2005).[233] The trend towards multilateral provision of food aid goes hand-in-hand with the relative decline in programme aid, which is provided exclusively on a bilateral government-to-government basis as grants or on concessional terms. As was said before, unlike project and relief operations, it is often not targeted at poor and food insecure people in the recipient country, but monetized, mainly through urban markets, in order to provide balance of payments or budgetary support to the recipient government (Shaw and Singer, 1996). It is also noteworthy that more food aid is procured in developing countries themselves. The US government, in 2005, has taken the initiative to shift US$300 million out of P.L. 480 Title II, which only allows for the purchasing of American agricultural commodities to be donated under the Food for Peace programme, into the International Disaster and Famine Assistance account, which is used to buy food locally or in the region.[234] The WFP purchases food from a variety of sources, notably Australia, followed by the United States, Malaysia, Thailand and Argentina. Many more developing countries are among the top 15 WFP procurement sources including India, Uganda, South Africa and Ethiopia. Purchases in certain African countries are likely also destined for local relief operations.[235] In 2004, three-quarters of food aid was still sourced in the developed world, down from almost 90 per cent in previous years. More than half of total food aid in 2004 went to Sub-Saharan Africa, up from about a third in 2001. This relative increase may be also due to the noticeable reduction of the share of South and East Asia, formerly as important a recipient of food aid as Africa.

Table 20
Delivery of global food aid, 2001-04
(Percentage of global food aid)

	2001	2002	2003	2004
Procurement in developing economies and CIS	11.6	10.6	22.4	25.9
Deliveries by channel				
Bilateral	28.3	31.3	21.4	20.6
Multilateral	41.5	40.1	48.9	52.0
NGOs	30.3	28.5	29.8	27.4
Food aid deliveries by category				
Programme	20.9	21.7	11.0	13.9
Relief	50.6	49.0	66.8	58.0
Project	28.5	29.3	22.2	28.1
Food aid deliveries by region [a]				
Sub-Saharan Africa	33.6	30.5	52.7	50.8
South and East Asia	37.2	38.4	22.4	26.4
Other Europe and CIS	11.9	10.9	6.9	6.1
Latin America and the Caribbean	9.0	12.9	4.3	8.7
North Africa and Middle East	8.2	7.3	13.7	8.0

[a] The regional breakdown in the table is the one used by the WFP and does not correspond to the regions as they are commonly defined by the WTO.
Source: WFP (2005).

233 Relief operations by the WFP consist of food aid provided in the context of the International Emergency Food Reserve (IEFR) and the Protracted Relief and Recovery Operation (PRPO).

234 Some arguments in favour of the "local purchase initiative" by Administrator Natsios of the United States Agency for International Development (USAID) include the saving on transport costs, the possibility to respond more quickly to emergencies and lower procurement prices in the region of need. See http://www.usaid.gov/press/speeches/2005/sp050503.html, visited on 20 January 2006. However, there appeared to be quite some resistance to this initiative by US farmers and shippers as well as non-governmental organizations (NGOs) involved in the distribution of US grown food aid.

235 See WFP website at http://www.wft.org/operations/Procurement/food_pro_map/foodmap.html.

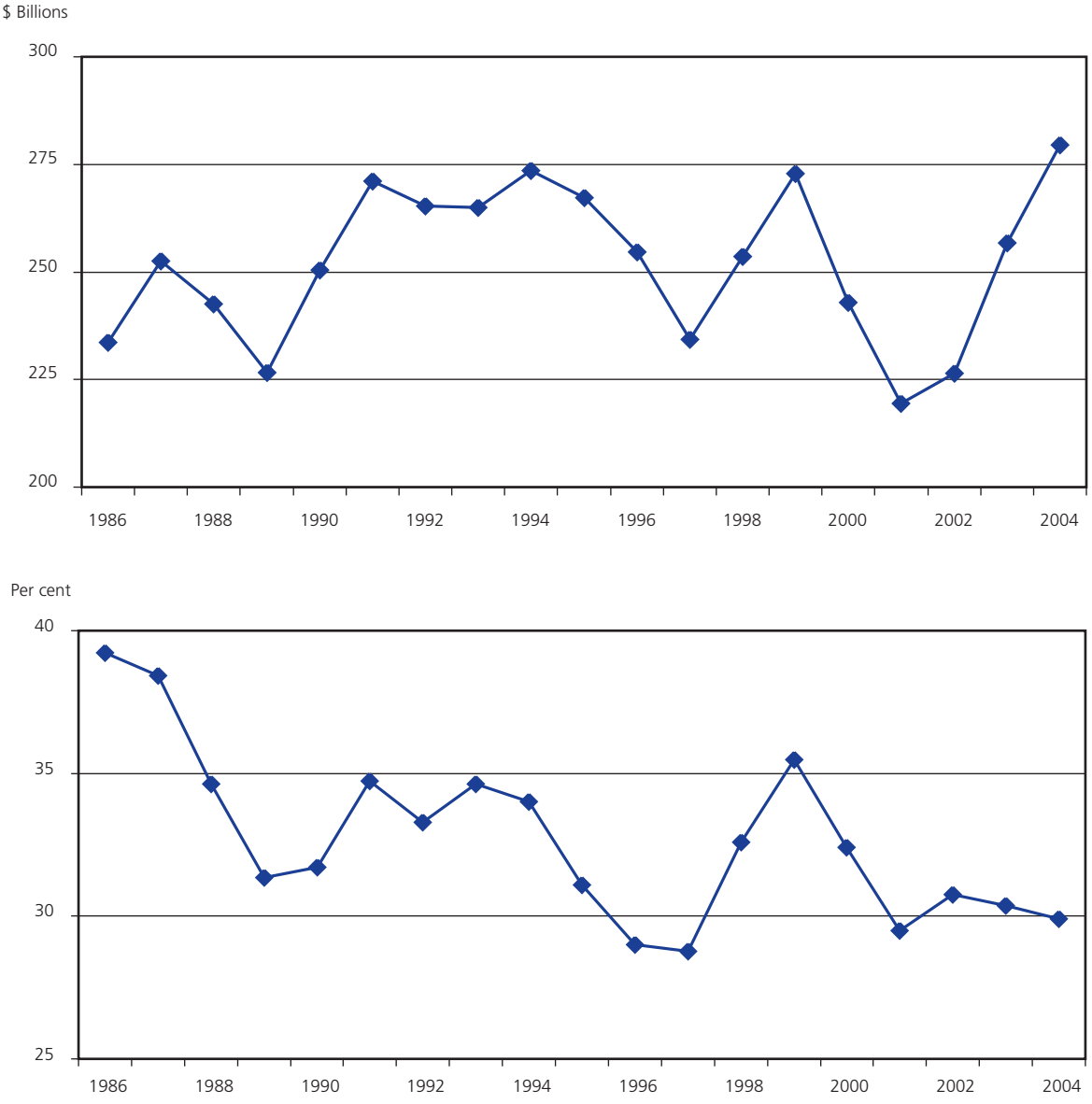
(f) Information from OECD Agricultural Database

Because OECD Members provide the bulk of agricultural subsidies, information from the database, despite crucial differences with WTO measures of domestic support, could provide further confirmation of the pattern that was observed with Current Total AMS and total domestic support. In this subsection, the information on agricultural support that comes from the OECD database, primarily the PSE, is examined. The major differences between the notion of support as conceived in the WTO and OECD policy contexts has been highlighted before and needs to be kept in mind when considering the following discussion.

(i) The PSE over time

Chart 11 gives some indication of how the PSE has evolved over time. Over the past 20 years, the nominal value of the PSE in the agricultural sector of OECD countries has not changed much, varying between US$230 and US$280 billion. But since these figures are in nominal terms, the past two decades would have seen a decline in real support to agricultural producers. If one considers the magnitude of support as a share of agricultural production, this has declined from 39 per cent in 1986 to 30 per cent in 2004, although the decline has not been smooth.

Chart 11
Producer support estimate, 1986-2004
(Billion dollars and percentage of value of agricultural production)



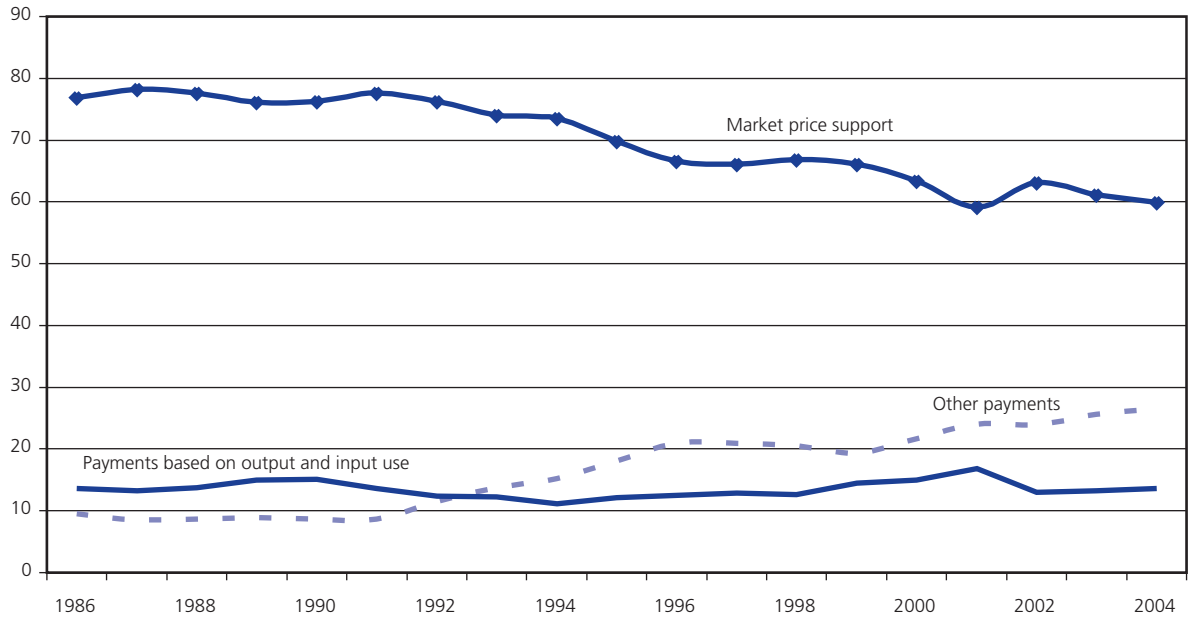
Source: OECD Producer and Consumer Support Estimates, OECD Database 1986-2004.

While total domestic support, and Current Total AMS in particular, have fallen significantly over time, the PSE has remained relatively stable. To discern any downward trend, one needs to look at the PSE in real terms or in terms of its share of the value of agricultural production.

The PSE is further broken down into several components. These include market price support, payments based on output, payments based on area planted/animal numbers, payments based on historical entitlements, payments based on input use, payments based on input constraints, payments based on overall farming income and miscellaneous payments. One can group these components into those that have the strongest influence on production incentives (MPS, payments based on commodity production and input use) and other payments, which have implementation characteristics with less influence on production incentives (payments based on area planted, past production, farm income or provision of environmental services). This allows us to see if there are any discernible trends in the type of support that OECD agricultural producers have received over time.

Chart 12 shows the decomposition of the OECD's PSE. Given its importance in the PSE, we show MPS separately from payments based on output and input use. What can be observed from the figure is the decline in the share made up by market price support and a rise in the share made up by "other payments". MPS declined from 77 per cent of the PSE in 1986 to 60 per cent in 2004. Payments based on output and input use remained fairly constant as a share of the PSE at about 14 per cent. The share of "other payments", which are less production-distorting (and hence less trade-distorting) than the first two, rose from 10 per cent in 1986 to 26 per cent in 2004.

Chart 12
Composition of PSE of OECD member countries, 1986-2004
(Percentages of PSE)



Source: Producer and Consumer Support Estimates, OECD Database 1986-04. Available at http://www.oecd.org/document/54/0,2340,en_2649_33727_35009718_1_1_1_1,00.html.

Greater consistency is found in the WTO and OECD data on agricultural support, where both sources point to a downward trend in the most production and trade-distorting support. Even if nominal support for agriculture in OECD countries as measured by the PSE has remained about the same, there has been a shift away from the most distorting support towards more production or trade-neutral support. This pattern is also observed in the latest OECD report (OECD, 2005f) evaluating the agricultural policies of its members. While it notes that the level of support to OECD producers remains high and has changed little since the mid-1990s, the composition of support has improved with a decline in the most distorting forms of support, such as market price support, and support for general services to agriculture is increasing.

(ii) The PSE by Countries

Table 21 shows the magnitude of producer support estimates given by selected OECD countries. There is a great deal of variance in the amount of support given to OECD countries' agricultural sectors. Australia and New Zealand provide almost no support to their agricultural sector. Bigger OECD members, such as the United States, the EU and Japan, provide support representing between 18 per cent to 56 per cent of agricultural output. A number of small western European countries like Iceland, Norway and Switzerland provide support that reaches almost 70 per cent of the value of their agricultural output.

The OECD data are consistent with the pattern of large variations in support across countries observed in WTO notifications. Agricultural subsidies, as a share of agricultural production, range from 3-4 per cent in Australia and New Zealand to nearly 70 per cent in Norway and Switzerland. In the case of the biggest members (the United States and the EU) the share of subsidies in agricultural production is between one-fifth and one-third.

Table 21
Producer support estimate in selected OECD countries, 2004
(Billion dollars and percentages)

Country	PSE Value	Share of receipts (value of production and support)
Australia	1.1	4
Canada	5.7	21
European Union (15)	133.4	33
Iceland	0.2	69
Japan	48.7	56
Korea, Rep. of	19.8	63
Mexico	5.5	17
New Zealand	0.3	3
Norway	3.0	68
Switzerland	5.8	68
Turkey	11.6	27
United States	46.5	18
OECD	279.5	30

Source: Producer and Consumer Support Estimates, OECD Database 1986-2004 available at http://www.oecd.org/document/54/0,2340,en_2649_33727_35009718_1_1_1_1,00.html.

(g) What do CGE simulations tell us about the incidence of agricultural subsidies?

It is useful to go beyond merely identifying the natural or juridical persons upon whom subsidies are legally vested. This distinction arises because the receipt of a subsidy induces a change in the behaviour of the recipient, which can have an effect on market prices. This consequent change in prices will thereby transmit part of the incidence of the subsidy to persons other than the recipient.

To take an example, the corn farmer who receives a financial outlay from government, the amount of which depends on the volume of corn he produces (an output subsidy), will increase his corn production. If enough additional corn from farmers receiving subsidies comes to the market, it will lower the price of corn, thus benefiting consumers and other users (e.g. the livestock industry which uses corn as animal feed). So while the subsidy will benefit corn farmers, part of the benefit will also be passed on to consumers and downstream industries. The division of the benefits from the subsidy between corn producers on the one hand, and consumers and downstream industries on the other, will depend on the responsiveness of demand and supply the changes in the price of corn (elasticities). Since corn is internationally traded, the incidence of the subsidies will not be confined to the domestic economy but may spill over to foreign consumers, foreign growers of corn and the livestock industry. This will occur if the output subsidy succeeds in lowering not just the domestic price of corn but the world price of corn as well.[236] Under these circumstances, foreign consumers will benefit from the lower price of corn but foreign producers will be hurt.

A complete analysis of the incidence of a subsidy would require examination of the links across different markets and agents. A general equilibrium approach analogous to the classic treatment of tax incidence by Harberger (1962) would often be required. The Doha negotiations have sparked a considerable amount of research interest from economic modellers who have attempted to estimate the welfare gains from further multilateral liberalization. Computable general equilibrium (CGE) models have been widely used to predict

[236] In other words, the country granting the subsidy is a "large country" with the ability to affect world prices.

the likely effects of particular negotiation scenarios.[237] A partial list of the more recent studies, comprising a range of modelling approaches – static and dynamic models, models with perfect competition and those with imperfect competition, models with constant returns to scale or increasing returns to scale – include Francois et al. (2003), Tokarick (2005) and Hertel and Kenney (2005).

Given differences in databases and model structures, the simulations are bound to produce varying estimates of the welfare gains from removing or reducing agricultural subsidies. But despite the variety of modelling approaches employed, a number of common conclusions have emerged from this research. First, the provision of agricultural support creates a welfare loss and the bulk of this loss is incurred by those countries who are the major providers of this support. Thus, the simulations show that it is primarily those countries that provide the most support who benefit from the dismantling of subsidy programmes. Second, there are spillover effects on world markets. Support in rich countries tends to depress world market prices of the most subsidized agricultural commodities. This benefits some countries but hurt others. Net food and agricultural importers benefit from the support provided in rich countries as this tends to lower the cost of their food and agricultural imports. Net exporters of agricultural goods are penalized as they lose market share in third markets or receive prices in world markets that are lower than would have been the case without the support.

(i) Domestic support

Simulations by Tokarick (2005) using the GTAP model showed that the removal of agricultural subsidies in OECD countries would benefit those countries the most. Tokarick used the payments based on output and input use from the OECD's PSE as the measure of domestic subsidies to the agricultural sector. He found that the removal of domestic and export subsidies in OECD countries would increase developed countries' welfare by about US$14.1 billion (in 1997 dollars). Developing country net exporters like Argentina, Brazil and India gained but net food-and agriculture-importing developing countries suffered welfare losses because of the adverse terms of trade effect. Developing countries as a whole lost out by US$4.7 billion (in 1997 dollars) so that the welfare gains for the world as a whole amounted to US$9.4 billion (in 1997 dollars).

Hertel and Keeney (2005) examined the same question on the impact of reducing trade distortions in world agricultural markets using a variant of the GTAP model. This variant (GTAP-AGR) includes alternative representations of factor mobility and substitution in production, crop-livestock sector interactions, consumer food demand and trade elasticities, which more closely reflect the economic conditions in the agricultural sector. Like Tokarick, they have stripped out market price support (MPS) from the OECD's PSE to obtain a measure of domestic support. The removal of domestic support by developed countries increased global welfare by US$ 2.8 billion (in 2001) with 87 per cent of the benefits going to these countries. In contrast to the result obtained by Tokarick, developing countries experienced a welfare gain of US$284 million (in 2001). However, those gains masked differences in outcomes between net food and agriculture importers and exporters. Developing country agricultural exporters like Argentina and Brazil reaped the bulk of the benefits. Major developing country losers from the removal of domestic support were China and countries from North Africa and the Middle East, which are traditionally net importers of food and agricultural products.

Finally, Francois et al. (2003) developed a dynamic CGE model with increasing returns to scale in the manufacturing sector to examine the effects of the Doha negotiations.[238] They found that the removal of domestic support in the OECD countries produced welfare gains for those countries in the neighbourhood of US$16.1 billion. However, they also found that the removal of domestic support lowered welfare in developing countries. Unlike the other simulations, this occurred irrespective of whether developing countries were net exporters or importers of food and agricultural products. The reason for this part of their result arises from

[237] This is not to downplay work using partial equilibrium models to simulate particular elements of the negotiations. For example, Hoekman et al. (2004) have used a partial equilibrium approach to compare the benefits from tariff liberalization and reduction in domestic and export subsidies in the agricultural sector. On the specific question of the effect of reducing domestic support in agriculture, their results show that the bulk of the welfare gains accrue to industrialized countries (see Table 8 of their paper). They also find that developing countries would suffer a welfare loss, although LDCs would experience a small welfare gain.

[238] See also a later paper by Francois et al. (2005).

the assumption that there is monopolistic competition and increasing returns to scale in manufacturing. Global reform in agriculture leads to a re-allocation of resources in developing countries into agriculture from other sectors, including manufacturing. This process introduces negative scale effects by raising marginal and average costs in manufacturing.

These results underscore the importance of going beyond a description of the pattern of subsidy payments. In the absence of positive externalities or other market failures in the agricultural sector, transfers from taxpayers to agricultural producers involve a net welfare loss to society. The discussion in part (d) has told us how much these transfers have been, which countries have spent the most, and on what commodities. But beyond the magnitude and pattern of the payments is the resulting efficiency losses from these transfers within the country and the welfare impact, both positive and negative, on other trading nations.

(ii) Export subsidies

Similarly, the results of recent CGE simulations on the trade and welfare effects of subsidy removal in agriculture give an indication of the transmission of export subsidies to producers other than those receiving them as well as to consumers. Tokarick (2005) finds that the elimination of agricultural tariffs in OECD countries would generate welfare gains for the world that are almost ten times larger than the US$9.5 billion (at 1997 prices) of benefits flowing from the removal of both production and export subsidies (no separate effects are given). The welfare effects of export subsidy elimination alone have been contrasted with the effects of tariff reductions in an earlier study by Laird et al. (2003). Using the same database as Tokarick (2005), but adjusting it to account for preferences, export subsidy removal results in a global welfare loss of about US$1.9 billion (at 1997 prices). This contrasts with a welfare gain of about US$21.5 billion (at 1997 prices) resulting from a 50 per cent tariff cut in agricultural tariffs. The explanation for these results is threefold. First, net food-importing countries, especially in the developing world, lose from adverse terms-of-trade shocks from higher world prices, thus diminishing the efficiency gains from export subsidy removal. Second, tariffs apply to a wider range of goods than subsidies, which are provided only to selected products and by few countries, and all countries unambiguously benefit from their removal in OECD countries. Finally, export subsidy effects are confined to the removal of direct payments (mainly used by the EU), i.e. possible export subsidy equivalents of export credits (used, for instance, by the United States) as well as state trading and food aid are not taken into consideration.

Hertel and Keeney (2005) provide disaggregate effects by the type of subsidy that is removed. While high-income countries gain about US$2.6 billion (at 2001 prices) from export subsidy removal, transition and developing country economies lose about US$1.5 billion (at 2001 prices). The only developing countries gaining from the elimination of farm export subsidies are Argentina, Brazil and India, since numerous other developing countries, especially in Sub-Saharan Africa, are net importers of the subsidized products (particularly grains and dairy). Hertel and Keeney (2005) are of the opinion that the overall loss to developing countries of just over US$1 billion (at 2001 prices) is not much in contrast to the gains from enhanced market access, especially to advanced economies. While this may be true, this loss is still about four times as large as the positive impact that developing countries could experience from domestic support reductions in the OECD. And even the latter gains amount to only one-quarter of the benefits that developing countries would obtain from their own tariff liberalization.

Finally, Anderson et al. (2005) employ the recursive dynamic LINKAGE model of the World Bank to simulate a range of possible Doha scenarios against a baseline projection for the year 2015. The same database is used as in Hertel and Keeney (2005) and their results are very similar with export subsidy elimination playing only a minor role in total welfare gains and harming a number of food-importing developing countries. For instance, one scenario that assumes cuts in agricultural domestic support in four major developed country markets and abolition of agricultural export subsidies in all countries, plus a 50 per cent cut in all tariffs on non-agricultural products for developed countries, 33 per cent for developing countries and none for least-developed countries, is compared to the same scenario with the exception that export subsidies would be retained. The gains for the whole world in 2015 would virtually remain the same at US$96 billion (again, all results at 2001 prices) if export subsidies were not reduced. The same is true for the principal "winners" among developing countries, such as Argentina (gains of US$1.3 billion with, US$1.2 billion without export

subsidy elimination), Brazil (US$3.6 billion and US$3.5 billion respectively), India (US$2.2 billion unchanged) and Thailand (US$2 billion unchanged). Developing countries as a group would lose US$5.4 billion if export subsidies are eliminated, which is again explained by the terms-of-trade deteriorations experienced by net food importers, such as China (gains of US$1.7 billion with, US$2.6 billion without export subsidy elimination) and Sub-Saharan Africa (minor effects versus US$700 million if export subsidies remain in place).

(h) Future evolution of agricultural subsidies

The trends in domestic support and export subsidies that have been observed in this Report and the agreements reached at the Hong Kong Ministerial Conference, particularly on export subsidies, provide grounds for optimism that the reduction in the most trade-distorting support in the agricultural sector would not only continue in the future but perhaps even accelerate.

In Hong Kong, Members agreed on the elimination of all forms of export subsidies by the end of 2013 and disciplines on all export measures with equivalent effect to be completed by the same date, as mentioned above. In the case of domestic support, there are signs of substitution away from the most trade-distorting of domestic support towards "decoupled" support.

But while there are good reasons to believe that decoupled payments are less distorting than output subsidies or price support, they are not entirely production-neutral. There are a range of non-price effects, such as the effect of these policies on the level of risk faced by producers (wealth and insurance effects) or the incentives to exit farming, which can be significant (see for instance De Gorter et al., 2004, and OECD, 2005g). Empirical studies have tended to confirm the existence of a production impact of decoupled payments.[239]

If farmers do not receive assistance from the government, a price of farm output that is not enough to cover fixed costs of production would lead to exit from farming altogether. With decoupled payments, this exit may not occur, thus preventing the market from performing its function of weeding out uncompetitive farms. Farmers who are provided decoupled payments obtain a claim on future income which increases their net wealth. The increase in wealth can affect farm investment decisions through better access to loans. Lenders are more willing to make loans to farmers with higher guaranteed incomes since they will be perceived to have a lower risk of default. This increased access to financing can facilitate additional investments in agricultural production. Farmers will also be more able to self-finance some of their investments in agricultural production, which may have been constrained in the past because of debt or limited liquidity. Finally, an increase in wealth can change the appetite for risk-taking so that farmers are more willing to plant riskier crops or take on riskier strategies, which have higher expected production outcomes.

239 Chavas and Holt (1990) developed an acreage response model for corn and soybeans during the 1954-85 period which uses wealth as one of the explanatory variables (wealth is defined as proprietor equity in agriculture multiplied by the share of farm acreage planted to the crops). They obtain an acreage elasticity of 0.086 for corn and 0.27 for soybeans. This means that a 10 per cent increase in wealth led to an increase of 0.86 per cent in corn acreage and to an increase of 2.7 per cent in soybean acreage. Young and Westcott (2000) take these coefficients and used them to estimate the impact of the Production Flexibility Contracts (PFC) on acreage. They estimated that the programme added between 180,000 to 570,000 acres across all seven crops (cotton, corn, wheat, barley, oats, sorghum and rice). The third study by Hennessy (1998) simulated the effect of removing all decoupled payments (under the PFC) on corn. The result is a reduction in corn production of between 1.5 per cent to 2.5 per cent.

Appendix Table 3
Final bound total AMS by Member

Member	Final implementation year	Currency	Final bound total AMS
Argentina	2004	In $ of 1992	75,021,292.4
Australia	2000	$A million	471.9
Bolivarian Rep. of Venezuela	2004	US$'000	1,130,667.0
Brazil	2004	US$'000	912,105.2
Bulgaria	2001	ECU million	520.0
Canada	2000	Can$ million	4,301.0
Colombia	2004	US$'000	344,733.0
Costa Rica	2004	US$'000	15,945.0
Croatia	2004	€	134,116,772.0
Cyprus	2004	£C million	50.6
Czech Republic	2000	Kc million	13,611.3
European Union (15)	2000	€ million	67,159.0
Former Yugoslav Rep. of Macedonia	2003	€ million	16.3
Hungary	2000	Ft million	33,808.0
Iceland	2000	SDR million	130.1
Israel	2004	US$'000	568,980.0
Japan	2000	¥ billion	3,972.9
Jordan	2006	JD	1,333,973.0
Korea, Republic of	2004	W billion	1,490.0
Lithuania	2005	US$ million	94.6
Mexico	2004	Mex$ 1991 million	25,161.2
Moldova	2004	SDR million	12.8
Morocco	2004	DH million	685.0
New Zealand	2000	$NZ million	288.3
Norway	2000	Nkr million	11,449.0
Papua New Guinea	2004	US$ million	34.2
Poland	2000	US$ million	3,329.0
Saudi Arabia	2015	Saudi riyals million	3,218.3
Slovak Republic	2000	Sk million	10,140.0
Slovenia	2000	ECU '000	61,845.7
South Africa	2000	R million	2,015.4
Switzerland-Liechtenstein	2000	SF million	4,257.0
Taipei, Chinese	2000[a]	NT$ million	14,165.2
Thailand	2004	B million	19,028.5
Tunisia	2004	D million	59.3
United States	2000	US$ million	19,103.3

[a] Member as of 1 January 2002. Taipei, Chinese committed to complete the phase-downs of its total AMS by the year 2000.
Source: WTO documents TN/AG/S/13 and WT/ACC/SAU/61/Add.1 part 2.

Appendix Table 4

Notified use of budgetary outlays for each product in national currency and as a percentage of the relevant annual commitment level, selected Members and most recent available year

	Outlays	Share of outlays	Share of commitments
European Union (15) (2001)	Million euros	per cent of total	per cent
Wheat and wheat flour	8.5	0.3	1
Coarse grains	112.8	4.4	11
Rice	30.3	1.2	82
Rapeseed	0.0	0.0	0
Olive oil	0.0	0.0	0
Sugar	482.8	18.8	97
Butter and butter oil	324.9	12.6	34
Skimmed milk powder	36.7	1.4	13
Cheese	188.6	7.3	55
Other milk products	402.2	15.6	58
Beef meat	388.4	15.1	31
Pig meat	20.0	0.8	10
Poultry meat	60.2	2.3	66
Eggs	6.0	0.2	14
Wine	22.9	0.9	58
Fruit and vegetables, fresh	20.8	0.8	38
Fruit and vegetables, processed	3.6	0.1	43
Raw tobacco	0.0	0.0	0
Alcohol	52.8	2.1	55
Incorporated products	411.6	16.0	99
Total	2573.1	100.0	-
Switzerland-Liechtenstein (2000)	Million SF	per cent of total	per cent
Produits laitiers	184.5	58.0	65
Bétail d'élevage et chevaux	2.8	0.9	13
Fruits	17.6	5.5	105
Pommes de terre	1.6	0.5	70
Produits transformés	111.8	35.1	97
Total	318.3	100.0	-
United States (2002)	Million $	per cent of total	per cent
Wheat	0.0	0.0	0
Coarse grains	0.0	0.0	0
Rice	0.0	0.0	0
Vegetable oils	0.0	0.0	0
Butter and butter oil	15.5	49.2	51
Skimmed milk powder	14.8	46.9	18
Cheese	1.2	3.9	34
Other milk products	0.0	0.0	0
Bovine meat	0.0	0.0	0
Pig meat	0.0	0.0	0
Poultry meat	0.0	0.0	0
Live dairy cattle (head)	0.0	0.0	0
Eggs (dozen)	0.0	0.0	0
Total	31.5	100.0	-
Norway (2001)	Million NOK	per cent of total	per cent
Bovine meat	12.8	4.4	37
Swine meat	13.4	4.6	15
Sheep meat	4.5	1.6	25
Poultry meat	0.0	0.0	0
Egg and egg products	17.0	5.9	99
Butter	16.2	5.6	30
Cheese	198.5	68.5	81
Whey powder	0.0	0.0	0
Fruit and vegetables	0.0	0.0	0
Honey	0.0	0.0	0
Processed agricultural products	27.2	9.4	75
Total	289.6	100.0	-

Source: WTO Secretariat.

3. INDUSTRY

In this subsection, the term industry is defined loosely as all that is not agriculture or services in the WTO sense. It includes the fisheries, forestry and mining sectors, among others, but does not include food and beverages or construction. As discussed in Section D above, the arguments for using subsidies differ significantly across sectors and across countries and so does the incidence of subsidies. In the absence of a comprehensive set of data allowing a comparison across countries, the discussion in this Section relies on four main sources of information. The first source is the subsidy notifications under the WTO's SCM Agreement which as explained above only provides a patchy and incomplete description of the subsidies landscape. The second group of sources includes the Australian Productivity Commission's Trade and Assistance Reviews and the EU's State Aid Scoreboard, which covers the EU (15) plus the 10 new EU Member States. These sources provide very interesting examples of subsidy policies. Unfortunately, however, these examples do not tell us much about the incidence of subsidies in other regions of the world. To the best of our knowledge, no other country provides the kind of information that can be found in either the Trade and Assistance Reviews or the State Aid Scoreboard which both focus on trade-distorting subsidies. The third source is national budget data. The problem here is that only very few countries provide disaggregated information on subsidies. In most cases, only broad aggregates including all sorts of subsidies are available. The fourth and last source of information used to describe the industrial subsidies landscape is regional or country case studies. They typically provide interesting stylized facts rather than quantitative information. Two industries are discussed in more detail: fisheries and coal. The case of fisheries is of particular interest for various reasons. First, the OECD provides information on fisheries subsidies that is comparable across countries. Second, fisheries subsidies are currently being discussed in the WTO. Finally, the case of fisheries subsidies illustrates how subsidies serve a variety of purposes both for a given country and across different regions. The case of coal provides an interesting example of adjustment-related subsidies but it also illustrates more generally the evolution of industrial policies and subsidies in a crucial industry.

(a) Industrial subsidies by country and region

Overall, notification figures show the diversity of the situations but fail to provide a very clear and reliable description of the industrial subsidies landscape. Over the period 1995 to 2002, a total of 54 economies (including the European Communities and its Member States) notified quantitative information on industrial and/or horizontal subsidies to the WTO under the SCM notifications requirement. For the reasons explained above, the figures in Appendix Table 5 should be interpreted with considerable caution. The median value of the industrial subsidies to GDP ratio for this sample is slightly less than 0.2 per cent. Four countries report a ratio of industrial subsidies to GDP in excess of 1 per cent in 2002 (Hungary, Israel, St Lucia and St Vincent & the Grenadines). According to the notifications, Canada, Japan and the United States provide relatively few subsidies to industry, while the EU is among the reporters which provide relatively large amounts of subsidies to industry. With more than one half of one per cent, the EU ratio is almost three times larger than the median value of the sample. The weighted sample average of the subsidies to GDP ratio has declined from 0.26 to 0.2 between 1995 and 2002. A relatively clear downwards trend can be distinguished in less than one-third of the countries. Notified industrial subsidies expressed as a share of GDP decreased, for example, in Brazil, Japan, the Republic of Korea, Latvia and Thailand. They increased in about five countries, including Chinese Taipei, Saint Lucia and Switzerland. In most of the others it is difficult to identify any trend.

To obtain a better sense of the situation and the evolution over time of industrial subsidies, we now turn to national sources. There are two main problems with those sources. First, only very few countries provide both comprehensive and detailed information. Second, data are usually not comparable across countries. We rely here on the Australian and EU sources referred to above.

The Australian Productivity Commission's (PC) Trade and Assistance Review provides an interesting complement to the information in the notifications. The PC data provide a richer but sometimes different picture of Australian subsidies from the one provided by notifications. First, the total amount of horizontal and industrial subsidies notified to the WTO has typically been less than half the level of total budgetary assistance to the industrial sector as reported in the PC Report. Second, Australian budgetary assistance to industry expressed as a share of GDP has declined from 0.37 per cent to 0.30 per cent between fiscal years 1999-00 and 2003-04,

while notifications show an increase over the same period. Budgetary assistance data which are more detailed than the notifications show that this decrease reflects the reduction in the level of assistance to manufacturing and mining. As can be seen in Table 22, budgetary assistance to manufacturing and mining had already started decreasing in the second half of the 1990s. Assistance to fisheries and forestry remained fairly stable between 2000 and 2004. The PC Report also compares budgetary assistance with assistance provided by tariffs. In 2003-04, tariffs provided the equivalent of an estimated US$5.33 billion of assistance on outputs which was virtually all directed to industries in the manufacturing sector.[240] This figure is considerably larger than the US$1.27 billion of budgetary assistance to the manufacturing sector for the same period.

Table 22
Australia: Budgetary assistance by industry, 1995/96 – 2003/04

	95/96	96/97	97/98	98/99	99/2000	2000/01	01/02	02/03	03/04
					Percentage share of GDP				
Total industry	...	...	...	...	0.37	0.33	0.36	0.33	0.30
Fisheries	...	...	...	...	0.01	0.00	0.01	0.01	0.01
Forestry and logging	...	...	...	...	0.01	0.00	0.01	0.01	0.01
Mining	0.06	0.08	0.05	0.04	0.04	0.03	0.03	0.02	0.01
Manufacturing	0.34	0.32	0.26	0.26	0.27	0.25	0.27	0.23	0.22
					Percentage of government expenditure				
Total industry	...	...	...	...	2.01	1.85	2.03	1.81	1.69
Fisheries	...	...	...	...	0.05	0.05	0.06	0.06	0.06
Forestry and logging	...	...	...	...	0.03	0.02	0.03	0.03	0.04
Mining	0.30	0.45	0.29	0.24	0.22	0.18	0.17	0.13	0.08
Manufacturing	1.81	1.74	1.41	1.42	1.51	1.38	1.53	1.30	1.22

Note that we exclude agricultural and services subsidies but include fisheries and forestry subsidies in "Total industry". Manufacturing subsidies include subsidies to "food, beverages and tobacco".
Source: Australian Government, Productivity Commission, Trade & Assistance Review, various issues and WTO calculations.

Total state aid by EU (15) Members less aid to agriculture, fisheries and transport decreased substantially from the mid-nineties (1995-97) to the end of the decade (see Table 23). Since then, the ratio of subsidies to GDP has remained stable.[241] This measure, which includes state aid to services but does not include state aid to fisheries, only approximates state aid to the industrial sector as defined in this study. State aid to services accounted for about 7.1 per cent of the above-mentioned total in 2004 while state aid to fisheries, if included, would have added between one and two per cent to the total. As already mentioned, state aid is defined as a form of state intervention used to promote a certain economic activity. It does not include general measures and public subsidies that have no effect on trade. Also, state aid statistics do not include Community subsidies. On average, for the EU (15) over the period 2001 to 2003, grants represented more than two thirds of state aid to manufacturing and services, while tax deferrals and tax exemptions represented about one quarter of the same total.

Despite some convergence between new and EU (15) Member States, Table 24 shows that differences among EU Members remain significant. While for the period 2000 to 2003 state aid as a percentage of GDP was significantly higher in the ten new EU-Member States (1.38[242]) than in the EU (15) (0.43), the difference was considerably lower in 2004 (see Table 24).[243] Between 2000 and 2003, the level of State aid increased from €5 billion to €9.2 billion as a result of very large awards of aid to the Czech banking sector and the Polish coal sector. In 2000-2003 disparities among the new Member States were relatively important with State aid reaching 3.5 per cent of GDP in Malta against 0.1 per cent of GDP in Estonia. The high figure for Malta reflected significant restructuring aid to shipbuilding and the ship-repair sector. As all these restructuring measures were being phased out under transitional arrangements or limited in time, state aid figures for new Members converged somewhat towards those of EU (15) Members in 2004.

240 Net tariff assistance, that is tariff assistance to output minus tariff assistance to inputs reached approximately US$3.5 billion. See Trade and Assistance Report 2003-04.

241 The source for 2000-03 data is EC (2005) State Aid Scoreboard Report, Spring 2005 update.

242 Weighted average.

243 Total state aid less state aid to agriculture, fisheries and transport.

Table 23
European Union (15) state aid, 1992–2004
(Billion euros and percentages)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
							Billion Euros						
Total state aid less agriculture, fisheries and transport	57.1	64.3	58.9	57.0	56.7	76.2	48.8	38.5	40.9	42.5	46.8	39.4	42.0
of which:													
Manufacturing	...	...	...	...	...	...	...	...	24.3	21.5	24.9	29.0	33.5
Services	...	...	...	...	...	...	...	...	2.1	3.4	2.9	3.2	3.0
Coal	...	...	...	...	...	...	...	...	7.6	6.0	5.4	5.3	5.1
Other non-manufacturing	...	...	...	...	...	...	...	...	3.5	2.6	1.0	0.0	0.5
Fisheries	...	...	...	0.3	0.2	0.2	0.3	0.3	...	...	...	...	0.5
							Percentage share of GDP						
Total state aid less agriculture, fisheries and transport	0.8	0.9	0.8	0.7	0.7	0.9	0.6	0.4	0.4	0.5	0.5	0.4	0.4

Source: European Commission Spring and Autumn 2005 updates and State Aid Scoreboard website, http://europa.eu.int/comm/competition/state_aid/scoreboard/

Table 24
European Union (15) and new Member States' state aid, 2004
(Billion euros and percentages)

	Total State aid less agriculture, fisheries and transport				
	Value	% of GDP		Value	% of GDP
EU (15)	42.00	0.4			
New Members (10)	3.40	0.7			
EU (25)	45.50	0.4			
Belgium	0.70	0.2	Luxembourg	0.00	0.2
Czech Republic	0.20	0.2	Hungary	0.70	0.9
Denmark	1.00	0.5	Malta	0.10	2.7
Germany	15.10	0.7	Netherlands	0.90	0.2
Estonia	0.00	0.1	Austria	0.50	0.2
Greece	0.30	0.2	Poland	2.00	1.0
Spain	3.10	0.4	Portugal	1.10	0.8
France	6.30	0.4	Slovenia	0.10	0.5
Ireland	0.40	0.3	Slovakia	0.20	0.6
Italy	5.40	0.4	Finland	0.60	0.4
Cyprus	0.10	1.1	Sweden	2.20	0.8
Latvia	0.00	0.2	United Kingdom	4.20	0.3
Lithuania	0.00	0.1			

Source: European Commission (2005) State Aid Scoreboard, Autumn 2005 update, COM(2005) 624 final.

The State aid figures discussed so far do not include subsidies granted by way of the main Community operations. The main Community funds, instruments and programmes that accounted for about two-thirds of the Community budget in 1998 include the Structural Funds, the guarantee section of the European Agricultural Guidance and Guarantee Fund (EAGGF), the Cohesion Financial Instrument and the Cohesion Fund, the Community Research and Technological Development Framework Programme, the European Coal and Steel Community financial operations (expired in July 2002), the European Investment Bank and the European Investment Fund. The Structural Funds, out of which payments for a total of €26 billion were implemented in 2003, include the European Regional Development Fund, the European Social Fund, the Guidance Section of the EAGGF, and the Financial Instrument for Fisheries Guidance. One-third of Structural Funds assistance is used to improve basic infrastructure, one-third goes to human resources and slightly less than one-third serves to improve the productive environment. The rest (2.8 per cent) is used for technical

assistance and innovative measures. A more detailed breakdown shows that forestry and fisheries each get about one per cent of total Structural Funds Assistance.[244]

As already mentioned, one other source of information on subsidies is national statistics and in particular disaggregated statistics on public expenditures. Unfortunately, only very few countries provide data on subsidies by either sector or objective. Moreover, this information is hardly comparable across countries. Three examples are nevertheless presented here. Colombia provides a very detailed disaggregation of its subsidies by industry (including agriculture and services). It shows that in 2002, the industrial sector accounted for only 3.5 per cent of all subsidies and that almost all of the industrial subsidies went to the mining industry. As shown in Appendix Table 7, the rest of the subsidies went mainly to services and in particular financial services and to utilities and in particular electricity. Brazil also provides information on subsidies by industry. In Brazil's case, as shown in Appendix Table 6 industrial subsidies account for slightly less than one-quarter of total subsidies and almost all of it is for the manufacturing sector. The third example is India, which provides a breakdown of its expenditure budget. Figures for 2004-05 show that food subsidies account for more than half of total subsidies while fertilizers account for one-third and petroleum for about 8 per cent of the same total. Subsidies to shipyards account for 0.04 per cent of total subsidies.[245]

Melo (2001) documents a turning point in industrial policies in the Latin American and Caribbean countries during the mid 1990s and attempts to characterize the emerging trend in business promotion policies in the region. The information provided is qualitative, but Melo also indicates broad trends. Three types of measures are discussed: (a) export promotion policies; (b) policies to promote output growth and investment; and (c) policies to promote higher productivity and competitiveness. Regarding export promotion policies, Melo notes that the main feature of the new pattern of fiscal incentives in the region is the diminishing role of subsidies. While a few subsidies remain, the dominant trend is towards their complete disappearance and their replacement with other measures (see below). As regards fiscal and financial incentives to production and investment, Melo notes that the emerging set of industrial policies assigns no significant role to tax incentives. In Latin American countries, tax incentives are a minor phenomenon. Another notable feature of the new policies is that the use of subsidies is not widespread.[246] The paper also includes a detailed description of incentives to promote growth and competitiveness, and in particular of policies to promote technological development as well as a detailed description of policies to promote Small and Medium size Enterprise (SME) development.

(b) Industrial subsidies by type of beneficiary

Among subsidy programmes notified under the SCM Agreement, a distinction can be made between those that are horizontal and those that are industry-specific (see Appendix Table 8). Industry specific subsidies differ from horizontal subsidies in that the latter are typically available across the board instead of being targeted to one particular industry.[247] Horizontal subsidies are generally categorized by functions or objectives and would typically include environmental and energy-saving subsidies, research and development subsidies, support to regional development, support to small and medium sized enterprises, support for human capital development, etc. Because there are reasons to believe that a substantial share of horizontal subsidies benefit firms in the industrial sector, they are discussed in this subsection.

A majority of countries notified more horizontal than industry-specific subsidies. Among the richer countries, the European Union notified a total of US$39 billion in horizontal programmes and a total of US$6 billion in subsidies to specific industries in 2002, while the United States notified respectively US$7 billion for horizontal and US$1 billion for industry-specific programmes. Japan, on the other hand, notified exclusively industry-specific programmes and their value decreased progressively from US$2.3 billion in 1995 to US$0.5 billion in 2002. A

244 See European Commission (2004b) 15th Annual Report on the Implementation of the Structural Funds, COM(2004) 721 final, Brussels: EC.

245 Note that these subsidies are most likely more transfers to consumers than subsidies to farmers.

246 Melo (2001) provides interesting details regarding the Chilean regionally-targeted subsidy schemes.

247 As already mentioned, in a number of ambiguous cases, the allocation of programmes amongst categories was left to the discretion of the authors.

majority of EU (15) Member States, including the largest ones, and most of the ten new Members, notified more horizontal than industry-specific subsidies. With respectively US$385 million and US$288 millions notified in 2002 for horizontal programmes, Brazil and Chile stand out among the 11 countries in South or Central America. Brazil was also the only country in this region with a substantial reduction of the amount notified – it was reduced tenfold between 1995 and 2002. Saint Lucia and Saint Vincent & the Grenadines on the contrary notified only industry-specific programmes and the amounts notified increased substantially. In Asia, Thailand only notified horizontal subsidies which decreased over time, while the Republic of Korea notified large but steadily decreasing industry-specific subsidies. On the other hand, Chinese Taipei's industry-specific subsidies increased from US$4 million in 1996 to more than US$1 billion in 2002.

Australian budgetary assistance statistics provide interesting complementary information. Budgetary assistance is broken down into six categories of which one is a residual. In 2002-03, industry-specific measures accounted for 44 per cent of total budgetary assistance, R&D accounted for 28 per cent and general export measures accounted for 15 per cent. Tax exemptions under the Automotive Competitiveness and Investment Scheme were the single most important industry-specific budgetary assistance program.

Table 25
Australia: Budgetary assistance to industry by activities targeted, 2002-03
(Million dollars and percentages)

	Forestry and logging	Fishery	Mining	Manufacturing	Total	Share in %
Industry-specific measures	9.6	..	0.2	525.0	534.7	44.1
Rural R&D measures	2.7	10.2	..	..	12.9	1.1
Sector-specific measures	2.1	20.3	..	..	22.4	1.8
General export measures	0.1	0.3	2.2	175.9	178.5	14.7
General investment measures	..	0.9	45.6	35.3	81.8	6.7
General R&D measures	8.9	19.1	53.1	257.4	338.4	27.9
Other measures	0.1	0.6	0.1	43.4	44.2	3.6
Total	23.5	51.3	101.1	1037.0	1212.9	100.0

Source: Australian Government, Productivity Commission, Trade & Assistance Review, 2003-04.

While EU state aid figures for 2000-2003 showed a striking contrast between EU (15) Members and new EU Members, the difference is much smaller in 2004 (see Table 26). On average for the EU (15) over the period 2000-03, three-quarters of the state aid went to horizontal objectives and only one-quarter was handed out to specific industries.[248] For the new Members, the proportions were more or less inverted. Three-quarters of total state aid went to specific sectors while only one-quarter was spent on horizontal objectives. In line with commitments undertaken at various European Councils, EU (15) Member States have redirected aid towards horizontal objectives. In the new Member States, the share of pre-accession aid to horizontal objectives was relatively low because of the strong support to several industries including coal, steel and the financial sector in the context of privatization or to ensure viability. Figures for 2004 (see Table 26) show that the share of horizontal aid has increased substantially in the new Member States.

Table 26
European Union (15): Share of state aid for horizontal objectives in total state aid, 2000-03 and 2004
(Percentage)

	2000-03	2004
Czech Republic	10	82
Cyprus	23	46
Estonia	100	100
Hungary	41	45
Latvia	31	100
Lithuania	5	49
Malta	6	8
Poland	29	26
Slovenia	72	70
Slovakia	28	35
New Members (10)	24	...
EU (15)	73	...
EU (25)	...	76

Source: European Commission (2005a) State Aid Scoreboard, Spring 2005 and Autumn 2005 updates.

248 See a more detailed disaggregation in Appendix Table 9.

As already mentioned, the qualitative survey of industrial policies in Latin America and the Caribbean countries suggests that the late 1980s and the 1990s represented a transition from the industrial policies of the import substitution model to industrial policies suitable for outward-oriented economies. The study documents the replacement of traditional direct subsidies and fiscal incentives with various other measures and in particular export processing zones (EPZs), grants and fiscal incentives aimed at promoting technological modernization, and policies to promote SME development.[249]

(c) Industrial subsidies by subsector

Mining, coal, steel, forestry, fisheries, shipbuilding, aviation and the automotive industry figure most prominently in SCM notifications. Eastern European countries typically notified programmes in mining and coal. Subsidies to the steel industry were listed by only four European countries. Forestry programmes were notified by Argentina, Bulgaria, Denmark, Hungary, Republic of Korea, Norway and the United States. Unfortunately, available data do not reflect any clear trend in the evolution of forestry subsidies over time. They were progressively phased out in the Republic of Korea and reduced in Norway but remained fairly stable in the United States and increased in Hungary. A total of 11 developed countries, including seven EU (15) Member States notified subsidies to shipbuilding. As for aviation, it was listed by four EU (15) Members. A few EU (15) Members also notified subsidies to high-tech industries, sometimes specifically for R&D, such as bio-tech or micro-electronics.

As shown in Table 27, Australian Government budgetary assistance varies markedly among sectors, with the largest proportion directed to the manufacturing sector. The motor vehicles and parts industry receives the largest share of assistance both in absolute terms and relative to its gross value added. This assistance is provided through tariff concession schemes, and in particular through the Automotive Competitiveness and Investment Scheme. This Scheme, which started in 2001 and has recently been extended to 2015, provides transferable credits based on participants' domestic production, investment in plant and equipment, and in some cases investment in research and development. These credits can be used to reduce the customs duty payable on eligible imports. Other important beneficiaries of subsidies include the textiles and clothing industry, metal product manufacturing and petroleum, coal, chemical and associated products.

Table 27
Australia: Budgetary assistance by industry grouping, 2003-04
(Million US dollars)

	Budgetary outlays	Tax concessions	Total assistance
Fisheries	42.7	22.4	65.1
Forestry and logging	34.4	2.7	37.1
Mining	63.3	20.0	83.3
Manufacturing	553.3	711.1	1264.5
Food, beverages and tobacco	60.8	12.6	73.3
Textiles, clothing, footwear and leather	97.5	47.9	145.4
Wood and paper products	19.4	3.0	22.3
Printing, publishing and media	11.7	1.0	12.8
Petroleum, coal, chemical and associated products	94.9	9.5	104.5
Non-metallic mineral products	0.7	3.3	4.0
Metal product manufacturing	105.9	12.4	118.4
Motor vehicles and parts	2.2	478.5	480.7
Other transport equipment	14.1	32.4	46.5
Other machinery and equipment	49.0	20.9	70.0
Other manufacturing	69.2	14.5	83.6
Unallocated manufacturing	27.8	75.2	103.1

Source: Australian Government, Productivity Commission, Trade & Assistance Review, 2003-04 and author's calculations.

Currently available state aid data for EU Members do not provide an accurate picture of the final recipients of the aid. Appendix Table 10 nevertheless shows that the distribution of state aid across sectors varies

[249] See Rodrik (2004), Table 2, which expands to Asia and Africa an illustrative list of industrial policies in support of production and investment originally provided by Melo (2001) for Latin America and the Caribbean countries.

considerably among Member States. Eight countries provide state aid to the coal industry (see below). The share of manufacturing (including processed food) in total state aid varies between 13 per cent in the case of Portugal and 98 per cent in the case of Slovakia. Note that these shares include aid to specific sectors such as steel, shipbuilding or other manufacturing sectors, aid for general economic development and aid for horizontal objectives including research and development, SMEs, environment, energy saving, employment and training for which the specific sector is not always known. State aid to fisheries never exceeds 3 per cent of total state aid as support to fisheries is mainly provided through EU structural funds.

Appendix Table 9 provides a detailed breakdown of sectoral aid for the EU (15) and the new Member States in 2000-2003. It shows that coal accounts for most of industry-specific aid in the EU (15) but only for one-third in the new Member States, even if its share in total subsidies is larger for the new Members. The amount of state aid to the shipbuilding sector declined from an annual average of €1151 million for the period 1999-2001 to €658 million for the period 2001-2003. The highest amounts of aid were given to the restructuring of public yards in Spain in 2000. In 2003, a total of €685 million was granted to the EU (15) shipbuilding sector. Some 55 per cent of the overall figure constituted operating aid and represented essentially the use of the temporary defensive mechanism schemes approved by the Commission permitting exceptionally and temporarily direct aid in support of contracts for the building of container ships, chemical and product tankers and LNG carriers. Among the new Members, only Malta provides substantial aid to shipbuilding while only Slovakia and to a far lesser extent the Czech Republic subsidize the motor vehicle industry. Four of the ten new Members provide aid to the steel sector.

Various studies also provide often mainly qualitative information on subsidy schemes. For instance, in his survey of the main financial and fiscal incentives to production and investment in Latin American and Caribbean countries, Melo (2001) lists the specific sectors that benefit from loans or tax incentives. Among industrial sectors (excluding services and agriculture), those that are listed most frequently include primary industries and in particular forestry and mining, and cultural industries such as publishing, printing or newspapers. Another interesting example is Flatters (2005), which provides a detailed analysis of South Africa's Motor Industry Development Program (MIDP), which is widely regarded as a major success of South Africa's post-apartheid trade and industrial policies. He shows that the MIDP provides very large incentives to the automotive sector. From 1996 to 2003, automobile producers received and used Import Rebate Credit Certificates (IRCCs) worth over rand 55 billion. In 2002 and 2003 alone, their value exceeded rand 15 billion per year. In addition to the IRCCs, automobile producers benefited from duty drawbacks, duty-free allowances or productive asset allowances as well as from assistance provided by other government departments and agencies at the national, provincial and local levels. Finally, Mehra et al. (2004) give a brief and mostly qualitative description of some prominent schemes that provide subsidies to the Indian textile industry.

(i) Fisheries

The issue of fishery subsides is receiving growing attention. The WTO Ministerial Declaration agreed at Doha in 2001 commits WTO Members to negotiations to clarify and improve WTO disciplines on fisheries subsidies. In 2002 at the World Summit on Sustainable Developments, Heads of State called for the elimination of environmentally harmful fisheries subsidies.[250]

The reason is that marine resources have deteriorated severely over the last 30 years[251] and subsidies arising from government efforts to preserve employment in the shipbuilding and fishing industry, for example, have been blamed as one of the factors responsible for the overcapacity of fleets and the over-exploitation of fish stocks.[252]

250 Extensive literature exists on the impact of fishing subsidies (see for a review OECD, 2003b and 2005h, UNEP, 2001). This literature, in general, highlights that not all subsidies are environmentally harmful. For example, subsidies provided to fishermen for vessel decommissioning, aid to retraining and pre-retirement may be classified as environmental subsidies as they tend to reduce the incentive to fish and fleet capacity.

251 The proportion of global stocks classed by the FAO as over-exploited, depleted or recovering grew from 10 per cent of the total in the mid-1970s to an alarming 25 per cent by the early 1990s (The Economist, May 4th 2005 "The Tragedy of the Commons").

252 Fish stock is a common good and its exploitation suffers from what in economics is known as "the tragedy of the commons". That is, fishermen only consider the benefit they receive from one extra catch. They do not consider that there is a cost associated with catching one more fish – that is, the reduced stock of fish available to other fishermen. As a consequence, fishermen will fish more than socially optimal. In this context, a subsidy that increases the incentive to fish exacerbates the problem of over-fishing.

Central to the debate is the actual incidence of fishery subsidies. Despite many studies on the environmental impact of fishery subsidies, there are very few attempts to estimate the magnitude of support to the fishing industry worldwide. One exception is the study by Milazzo (1998) that estimated that global fishing subsidies in 1996 amounted to between US$14 billion and US$20 billion, representing around 20-25 per cent of world revenues in the sector.

International sources of systematically collected fishing subsides information are WTO notifications and the OECD data on government financial transfers (GFTs).[253] In addition, a study conducted by APEC (2000) provides fishing subsidy data for the years 1996 and 1997 for APEC countries. Table 28 provides data available from these different sources. Data are not directly comparable as different sources use different approaches to categorize and define subsidies. Nevertheless, the table is useful in providing a sense of the order of magnitude of subsidies and their evolution over time.

In general, Table 28 shows that OECD central governments dispensed around US$6 billion a year in transfers to their fishing industries, representing 20 per cent of the landed value of fish. Of this amount, about 40 per cent is provided by Japan, followed by the United States and the EU, representing about 15 per cent each. A substantial share of global fishery subsidies is accounted for by Canada, Republic of Korea and Russia, Indonesia and Chinese Taipei. Moreover, there appear not to be substantial variations in the level of subsidies over time.

Table 28
Fishery subsidies officially reported to international organizations (WTO, OECD and APEC)
(Million dollars)

Country	WTO notifications		OECD GFT		APEC
	1996-99	2000-03	1996-99	2000-03	1997
Canada	...	71	490	498	646
Mexico	...	...	16	...	7
United States	31	79	976	1156	158
Peru	...	...	...	...	1
EU[a]	676	530	1089	1033	...
Hungary	9	16	...	...	...
Iceland	...	...	37	30	...
Latvia	6	...	...	...	...
Norway	18	12	168	123	...
Slovenia	0	0			
Turkey	...	...	29	17	...
Russia	...	...	...	...	633
Australia	...	...	21	83	16
China					55
Hong Kong, China	...	...	...	...	13
Indonesia	...	...	...	...	254
Japan	35	62	2720	2526	2165
Korea, Rep. of	58	62	339	463	351
Malaysia	...	...	...	...	2
New Zealand	...	...	14	17	...
Philippines	...	...	...	...	2
Taipei, Chinese	5	13	...	...	188
Viet Nam	...	...	...	...	35

[a] GFT data for the EU are estimated as the sum of GFT for the 12 EU Members for which GFT data are available.
Source: OECD (2000d, 2001d, 2003d, 2005h), WTO notifications, APEC (2000).

[253] Annual statistics for OECD countries on GFT are published in the Review of Fisheries. This Review is published every two years, beginning in 2001.

A number of caveats need to be borne in mind when attempting to analyse available data sets on fishery subsides. First, infrastructure expenditure for the construction, improvement and maintenance of fishing ports are included in the list of subsidies programmes by APEC and the OECD, but, if they are "general infrastructure" they do not fall within the WTO definition of subsidies.[254] Since according to OECD data in 1999, for example, one-third of total government financial transfers were directed to the provision of fisheries-related infrastructure, this category may prove to be an essential element in explaining a large part of the gap between OECD and WTO subsidy notification figures.

Second, government payments to another government to acquire fishing rights for national fleets in foreign waters are included in the APEC and OECD datasets, but have not been reported to the WTO. This category appears particularly important for the EU, which currently has 22 bilateral fisheries agreements in force and whose annual expenditure for access to foreign waters exceeded US$250 million dollars on average between 1996 and 1997. Third, the part of government costs for managing fisheries resources that governments fail to recover from the fishery sector is counted as a subsidy in the APEC study and as government financial transfers (GFT) in the OECD series, while management expenditures have not typically been reported to the WTO. Fourth, the GFT definition of subsidies in the OECD also includes measures of market price support in the form of trade restrictions. These measures are excluded from the WTO definition of subsidies. To date, data on market price support equivalents have been provided to the OECD only by the United States.

Finally, as regards the coverage of subsidies in the data rather than the definition of subsidies, it needs to be borne in mind that, for example, the OECD data principally cover marine-capture fisheries. Data in GFT on subsidies to aquaculture and the processing and marketing sector are covered unevenly across countries (Cox, 2002). In contrast, subsidies to aquaculture and to the processing sector are largely covered in the APEC report. According to the APEC report, processing subsides are much smaller than subsidies to harvesting and farming. In addition, some categories of subsidies tend to be under-reported. For example, although most OECD countries provide fuel-tax concessions, the OECD dataset reports this information only for a few country cases. Also, OECD GFT data are collected at the national level and do not include transfers at the regional or local level.

A common feature of all official data available on fishery subsidies is that they provide a very limited coverage of fishery subsidies granted by countries other than the EU(15), United States, Canada, Norway, Iceland, Australia and New Zealand. Beyond the data provided for APEC countries and the Republic of Korea, Mexico and Turkey as OECD countries, WTO notifications provide data for Hungary, Latvia and Slovenia. But there appear not to be any official reports of fishery subsidies granted by other developing countries. A recent study (UNEP, 2004) reveals, however, that fishery subsidies do exist in developing countries and may also be important (see Box 17 for the case of fishery subsidies in Senegal).

Box 17: Fishery subsidies in Senegal

The fishing industry is Senegal's largest source of foreign exchange. Fishery exports in 2003 amounted to US$282 million, constituting 24 per cent of total merchandise exports in 2003, and 4.3 per cent of GDP. Fishing is the second most important source of employment, accounting for 15 per cent of the economically active population. Fish also provide the Senegalese population with 75 per cent of their animal proteins. Food security is, therefore, an important policy objective of the government in respect of its fishery sector.

Historically, government assistance to the fishery sector has seen two main phases. In the 1970s, support to the sector took the form of direct production subsidies to industrial fishing. Subsequently, the government turned to subsidizing small-scale fishing. At first, support to small-scale fishing was in the form of subsidies targeted to increasing output by means of encouraging the introduction of better equipment, modernization of vessels and improving infrastructure. Thereafter, state financial assistance to fishing was aimed at providing marketing support and encouraging exports. Free-trade zones and

[254] The question of the scope of "general infrastructure" in this context has never been tested through WTO dispute settlement, and there are a range of views on this matter.

duty-free export company status, the Lomé Convention, export subsidies, fisheries agreements and devaluation all contributed significantly towards increasing exports.

According to recent estimates (UNEP, 2004), during the 1990s and until today the main modalities for granting fisheries subsidies in Senegal have been:

- Tax reductions on fishing equipment for the modernization of *pirogues*. The accumulated amount granted by the government is estimated at CFAF 2.01 billion (approximately US$2.7 million).
- A fuel subsidy for the enhancement of fishing equipment and to prolong sea trips and open up fishing areas. The fuel subsidy to small-scale fishing alone rose from less than CFAF 2 billion in 1986 to over CFAF 6 billion in 1998 (approximately US$10 million).
- Subsidies to small-scale fishing through the *Caisse Nationale de Crédit Agricole du Sénégal* (CNCAS), the fund's portfolio has remained below CFAF 3.2 billion in ten years of intervention in the sector.
- Subsides to industrial fishing through the *Fonds de Promotion Economique* (FPE). This includes: (i) an "economic advancement" fund, which is a credit line of CFAF 39 billion; (ii) a guarantee fund (to cover risks involved in lending to SMEs); and (iii) a "participatory loans" fund of CFAC 3 billion set up by the State to offset inadequate equity of entrepreneurs.
- Investments in infrastructures, including the construction of fishing wharves and the creation of the Central Fish Market (CFM). The latter was built in 1992 at a cost of CFAF 3 billion (90 per cent was financed by Japan). The CFM was enlarged in 1998 at a total cost of over CFAF 3 billion (99 per cent financed by Japan) .
- Export subsidies (until 1994). By way of example, export subsidies to the trawler fishing industry in the fiscal year 1991/1992 amounted to CFAF 12 billion (approximately US$18 million).
- In 1995, a subsidy of CFAF 1.7 billion was granted to some 30 Senegalese companies as a means of financing up to 30 per cent of their investments to adapt to European standards, in cooperation with *Coopération Française*.

Senegal has concluded many fishing agreements with foreign countries, by far the most important among them being those with Japan and the European Union. Those with Japan relate mainly to tuna, while those with the European Union concern coastal demersal and, more recently, pelagic fisheries. The European Community's total financial contribution to Senegal is of €16 million a year during 2002-2006.

Table 29
European Union (15) fishery subsidies, 2002-03
(Million dollars)

	2002	2003
OECD - GFT	949[a]	1170[b]
WTO notifications	710	
EU (15) - State Aid	320	440
CFP	1032	1026
of which FIFG	702	654

[a] Do not include Belgium and Austria; [b] Do not include Belgium, Austria and Denmark.
Source: OECD (2003d), WTO notifications, European Commission (2001), European Commission Budget Data, European Commission State Aid Scoreboard available at: http://europa.eu.int/eur-lex/budget/data/D2005_VOL4/EN/nmc-titleN15AFA/index.html
http://europa.eu.int/comm/competition/state_aid/scoreboard/indicators/k9.html#statsl.

An important source of fishery subsidy data for EU member countries is the EU state aid data. These data report annual notifications of subsidies by EU member countries to the Commission. Table 29 shows the data for fishery subsidies received by this sector in the EU as reported by the OECD, WTO notifications, EU state aid data and annual budget of the Commission. Again, large differences emerge. In this case, however, two points may explain a large part of these divergences. First, transfers from the EU are included in the GFT measure, while they are excluded from state aid. Second, overall outlays for the Common Fishery Policy (CFP) and the GFT measure include, for example, expenditure for agreements with third countries that are not included in the WTO notification.

Table 30 shows the relevance of EU fishery subsidies for the sector reported in EU state aid statistics and the OECD government financial transfer data in terms of subsidies as a share of total landed values. The differences between the two data sets are mainly driven by the flow of community subsidies to the sector. For example, Spain captures about 50 per cent of total Community structural funds.

A comparison of fishery subsidies across different sources of data at the country level is also possible for Australia. The Productivity Commission provides data[255] on Australian Government budgetary assistance. Table 31 shows data on fishery subsidies for Australia provided by the OECD and the budgetary assistance measure of the Productivity Commission. Both series show an upward trend for fishery subsidies in Australia, although figures from the Productivity Commission appear much lower. It is difficult to assess what generates this difference.

As far as the overall trend in fishery subsidies is concerned, the various sources of international fishery subsidy data all appear to suggest that fishery subsidies have remained substantially unchanged over time in absolute terms (see Table 28). However, what appears to have changed over time are the stated policy objectives. Fishery subsidies are intended to meet a number of objectives ranging from the provision of research and management services for sustainable fisheries to fleet modernization to regional development and income support. According to two studies by the OECD (2005d, 2005h), the recent trend, especially in developed countries, is to shift the emphasis toward environmental protection.

Table 30
European Union (15) subsidies to fishery as a share of total landed value
(Percentages)

	EU-State Aid 2002	OECD –GFT 2001
EU (15)	5	11
Austria	...	...
Belgium	7	7[c]
Denmark	1	2[c]
Finland	31[a]	26
France	5	5
Germany	10[b]	3
Greece	4	23
Ireland	4[c]	...
Italy	9	9
Netherlands	3	3
Portugal	3	0
Spain	6[b]	18[c]
Sweden	1	3
United Kingdom	5	0

[a] Landed value includes quota species only. [b] Data refer to 2001.
[c] Data refer to 2000. Shares of landings for the OECD are calculated on GFT direct payments and cost reducing transfers, general services transfers are excluded.
Source: OECD (2003) Review of Fisheries in OECD Countries, European Commission State Aid Scoreboard available at: http://europe.eu.int/comm/competition/state_aid/scoreboard/stat_tables.html#partone. European Commission (2004), Facts and Figures on CFP and WTO calculations.

Table 31
Fishery subsidies in Australia, 2000-03
(Million US dollars)

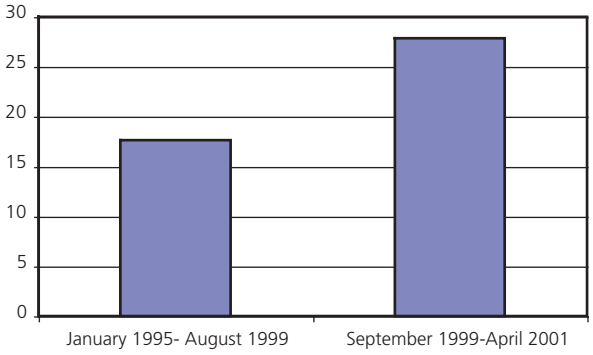
	2000	2001	2002	2003
OECD - GFT	82	76	78	96
	1999/2000	2000/01	2001/02	2002/03
Productivity Commission - Budgetary Assistance	34	34	41	50

Source: Australian Government Productivity Commission, Trade and Assistance Review, OECD (2003d, 2005i) Review of Fisheries in OECD Countries.

An increasing amount of support is provided with the stated objective of introducing more environmentally-acceptable fishing technologies, compensating fishermen for the closure of fishing grounds, the retraining of fishermen, the decommissioning of fishing vessels, retirement incentives for fishermen, renewal of the fishing stock for preservation and conservation of the catch and so on. The analysis of fishery subsidies notifications to the WTO under the SCM confirms this tendency. Between 1998 and 2001, a growing number of

[255] See Australian Government Productivity Commission, Trade & Assistance Review.

Chart 13
Fishery subsidies notifications with a stated environmental objective
(Percentage of total fishery subsidy notifiction)



Note: Data cover notified subsidies to the harvesting sector, the industry engaged in processing and/or sale of wild harvested fish and other subsides related to the fishing industry, such as R&D and marketing. Subsidies to the shipbuilding industry are excluded from the count.
Source: WTO (1998b, 1999, 2001).

environmentally-motivated subsidies have been notified to the WTO (see Chart 13).[256] The process appears to be driven by subsidy notifications of Sweden and Denmark for the EC and Japan. However, environmentally-motivated fishery subsidies have also been notified by Latvia, Slovenia and Tunisia. Some evidence of a move toward environmentally-motivated subsidies is also available from country-level data on fishery subsidy by objective for Cape Verde. For example, although total fishery subsidies in Cape Verde remained substantially unchanged between 1999 and 2000, there was a fall in subsidies for the purchase of ice and an increase in decommissioning grants.

(ii) Coal

To the best of our knowledge, there is no public database with statistics on coal subsidies that would allow a comparison of subsidy policies across the main producers in the world. The International Energy Agency (IEA) collects and publishes detailed information on coal production, consumption, trade, and prices for all its members but it does not collect information on subsidies.[257] Various sources are used in this Section to shed some light on coal subsidies. Available evidence fails to provide the full picture but points at a certain number of common trends as well as differences across countries and regions. While information on some of the largest coal producers in the world, including China, South Africa, Kazakhstan and Ukraine (see Table 32) is very limited, information on some of the others, such as Australia, Germany, Spain, Poland, Russia or the United States is fairly detailed. Our overview suggests that many coal-producing countries, developing or

Table 32
Producers, exporters and importers of coal, 2004
(Million tonnes)

Producers			Exporters		Importers	
	Hard coal	Brown Coal		Hard Coal		Hard Coal
China	1956[a]	...	Australia	218	Japan	183
United States	933	76	Indonesia	107	Korea, Rep. of	79
India	373	29	China	87	Taipei, Chinese	60
Australia	285	69	South Africa	66	Germany	39
South Africa	238	0	Russia	65	United Kingdom	36
Russia	210	70	Colombia	52	India	31
Indonesia	129	0	United States	43	Italy	25
Poland	100	61	Canada	27	United States	25
Kazakhstan	83	4	Kazakhstan	22	Spain	24
Ukraine	62	0	Poland	20	Netherlands	23
Rest of the world	260	570	Rest of the world	48	Rest of the world	229
World	4629	879	World	755	World	754

[a] Includes brown coal.
Source: Coal Information, IEA Statistics 2005, International Energy Agency.

256 Following the definition adopted by the Committee on Trade and Environment fishery subsidies notifications in Chart 13 count as environmental subsidies only if there is a reference to natural resource management, preservation and renovation, data collection, analysis and studies on these issues. If the objectives of the measure concern income support, restructuring of the sector, modernization of the vessels, etc., it is not considered to be environment-related (see WTO document WT/CTE/EDB/2). Note that under this definition no judgement is made on whether the subsidy has, in practice, a beneficial effect on the environment.

257 IEA member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, the Republic of Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States. The European Commission also takes part in the work of the IEA.

developed, grant or have granted subsidies to their coal industry. It suggests that in a number of cases the nature of the subsidies and their objectives have changed. It also shows that many countries have reduced their subsidies in the last decade.

Coal has played a crucial role in the process of industrial development of numerous countries. It can be used as a primary input to produce energy and it is a fuel for industries, including metallurgy, as well as households. In some regions, such as emerging Asia, coal continues to dominate electricity and industrial sector fuel markets. In some cases, governments subsidized the coal sector to promote industrial development and energy security.

In some regions, however, the strategic importance of coal decreased with the diversification of energy sources and the competitiveness of the domestic coal industry eroded progressively. Because of the historical and social importance of coal-mining activities to local economic activity and employment, governments intervened, sometimes heavily, to support the coal industry. Government intervention, however, often prevented necessary adjustments from taking place. Subsidies that were supposed to be part of the solution became part of the problem (Steenblik and Wigley, 1990). In a number of countries, the heavy cost of subsidies led governments to force the coal industry to embark on substantial restructuring measures, sometimes involving major cutbacks in activity. Restructuring of the coal sector, a World Bank focus since the early 1990s, has been undertaken in India, Mongolia, Romania, Russia and Ukraine. It has also been undertaken in Japan, Republic of Korea, Turkey and several EU Member countries. In most cases, restructuring has contributed to decreases in production. Coal production has declined significantly in both Western and Eastern Europe, in Japan and in the Republic of Korea.[258] It has also declined substantially in the CIS countries, even if there has been a rebound in the last few years. However, in other countries such as India, restructuring has accompanied an increase in production.

While one of the objectives of restructuring is usually to reduce subsidies, it typically involves granting some other forms of aid. In the case of the EU for instance, Council Regulation 1407/2002 on state aid to the coal industry recognizes the need for more efficiency in this sector and for cutting back subsidies while at the same time justifying the maintenance of coal-producing capability supported by state aid as part of an effort to strengthen the Union's energy security.[259] It states that production units that are not eligible for energy security-related aid must be able to benefit temporarily from aid to alleviate the social and regional consequences of their closure. It allows for aid to cover exceptional costs, inherited liabilities in particular, which in accordance with normal accounting practice do not affect the cost of production. Finally, the Council Regulation also allows Member States to grant aid for research and development and aid for environmental protection and training to the coal industry. Similarly, the objective of World Bank supported restructuring programmes is typically to help the coal industry become competitive financially and socially, as well as environmentally responsible.

PSE estimates from IEA for the year 2000 quoted in UNEP (2004) suggest that around 7 per cent of the 1.3 billion tonnes of hard coal produced by IEA member countries in 2000 received production subsidies.[260] State aid was granted by France, Germany, Japan, Spain, Turkey and the United Kingdom. The same source also notes that the amount of IEA hard-coal production receiving government financial assistance, as measured by the PSE, declined over the 1990s, both in absolute and in percentage terms. Between 1991 and 2001, subsidized production fell by 55 per cent. In 2000, total PSE assistance by all IEA members was estimated by IEA at US$5.8 billion, of which 68 per cent was accounted for by Germany. In all countries except Japan, subsidies were almost entirely in the form of direct aid.

[258] See IEA (2004) Coal Information, IEA Statistics, Paris: OECD/IEA.

[259] The European Coal and Steel Community Treaty expired on 23 July 2002 upon which this new Council Regulation was established as the new legal framework for state aid to the Community coal industry.

[260] Note that OECD (IEA plus Iceland, Mexico, Poland and the Slovak Republic) hard coal production was only about 35 per cent of total production in 2003 and only two (United States, Australia) of the ten largest hard coal producers in the world are IEA Members.

The above-mentioned IEA figures, which only cover certain IEA members and only assistance to current production, should be interpreted carefully. Evidence for the European Union (Table 33) shows that while operating aid was cut by about half over the period 1994 to 2000, other types of aid increased substantially. Aid for the reduction of activity was multiplied by a factor of three while other aid increased slightly. State aid figures for the period 2001-03 suggest that these trends have continued.[261] In 2003, around €5.4 billion was granted to the EU (15) coal sector, with some 60 per cent of this figure related to current production. Because Germany accounts for close to 70 per cent of total EU state aid to the coal sector, these trends are largely driven by changes in German coal policy. Over the whole period, France did not pay any operating aid while Spain slightly increased its operating aid and slightly decreased its aid for the reduction of activity.

Table 33
European Union (15): Total aid to the coal sector authorized, 1994-2000
(Million euros, euros/tonne)

	1994	1995	1996	1997	1998	1999	2000
				Million euros			
Total	7790	8235	7690	7855	8262	6756	6968
Operating aid	5115	5081	5673	3566	3023	2994	2439
Aid for the reduction of activity	800	558	550	2428	2394	2400	2400
Other	1875	2596	1466	1862	2846	1363	2130
				Euros/tonne			
Operating aid	68.3	42.6	51.3	35.7	34.6	35.0	34.4
Aid for the reduction of activity	71.9	53.4	51.3	135.8	152.1	155.7	159.9

Source: European Commission (2001), Commission Report on the Application of the Community Rules for State Aid to the Coal Industry in 2000, COM (2001) 327 final.

While the social and regional function of these aid programmes has been recognized, their cost-effectiveness ratio has been questioned (Steenblik and Wigley, 1990; Steenblik and Coroyannakis, 1995).[262] According to the European Commission, the annual sums paid in aid to current production in 2000 amounted to approximately €60,000 per worker in Germany, slightly less than €50,000 in France and slightly more than €40,000 in Spain. These figures, which do not include aid to cover exceptional costs or inherited liabilities nor specific social benefits paid by Member States, are appreciably higher than the average wages of the workers concerned. Moreover, given the very long period over which some Member States have been paying aid to the coal industry and the typically short duration of miners' professional careers, a great majority of the mine workers currently employed can be considered to have spent their entire careers working for firms that have been continuously state-supported. The growing awareness of those problems, in a context of pressure to cut public expenditure, has led governments to limit both the quantity and duration of state aid. The German restructuring plan for the period 2003-05 foresees a reduction in total aid from €3.3 billion to €2.7 billion, while French aid measures to cover the costs of closure of the last underground mines in France (which closed in April 2004) have just been approved.

Coal mining in the new EU Member States tends to be more competitive than in the EU (15) Member States.[263] Poland has by far the largest coal industry and produces far more than the rest of the EU put together. The Commission approved a long-term restructuring plan amounting to €1.5 billion for the period 2004-06. For Hungary, the Commission approved a long-term restructuring plan, which contains the granting of production aid up to 2010 to the value of €255 million. For the Czech Republic, the Commission approved aid measures not related to production but to inherited liabilities of the past up to 2007, amounting to €74 million.

The Korean (Republic of) government, for instance, is also rationalizing its coal mining industry, but its strategy seems to be slightly different. While most coal used in the Republic of Korea is imported, it is also the only

261 See European Commission (2005a) State Aid Scoreboard.

262 See IEA (2004) Coal Information, IEA Statistics, Paris: OECD/IEA.

263 See European Commission (2005a) State Aid Scoreboard, Autumn 2005 update.

fossil fuel found in significant quantities in the country. Between 1990 and 2003, domestic production decreased from 10.8 Mtce (million tonnes of coal equivalent) to 2 Mtce, while imports increased from 22.5 Mtce to 63.3 Mtce. Some 380 small mines closed between 1989 and 1995, which caused the loss of over 33,000 jobs. Domestic production is supported by a variety of government-funded measures, including direct subsidies for production, a tariff of one per cent on imported coal, a 10 per cent VAT on imported coal, and low-interest loans to coal producers. Financial assistance is also provided when uneconomic mines are closed and subsidies are paid to produce coal briquettes that are traditionally used for home heating and cooking. Between 1990 and 1999, production subsidies rose from a total of US$115 million to US$381.6 million, while assistance for mine closures fell from US$28 million to US$1.1 million.[264] In the early part of 2000, according to the IEA, the level of the Republic of Korea's production subsidies to coal was about that of France and slightly lower than in Japan, but those two countries had firm plans to reduce production, while production in the Republic of Korea was expected to stabilize at about 2 Mtce per year.

Available information suggests that among the main producers, exporters and importers, some subsidize their coal industry, while some others do not. China, the largest hard-coal producing country and the third leading exporter, seems to have reduced or even phased out its coal subsidies. Hard coal production in China has experienced a remarkable recovery since the late 1990s when the government instituted a series of company consolidations and mine closures. The state mandated 25,000 coal mines to close and also partially lifted price controls. There are indications that the government cut coal subsidies substantially after 1990.[265] The United States is the second largest producer in the world but only the seventh ranking exporter. Less than 5 per cent of its total production is exported, as most of US coal is used domestically for electricity generation. In 2000, coal accounted for 52 per cent of total electricity generation. Coal production is not subsidized. However, the National Energy Policy recommends investment of US$2 billion over ten years to fund research in clean-coal technologies and a permanent extension of the existing research and development tax credit for such technologies.[266] Fossil energy funding has roughly doubled between 1999-2000 and 2000-01 because of renewed emphasis on developing clean-coal technologies. Based on available information, it does not seem that India, the third largest producer of coal is subsidizing coal mining. Coal does not figure among the major subsidies in India's expenditure budget. Australia, the fourth largest producer and the main exporter of coal does not appear to subsidize coal production. Assistance to mining and petroleum, coal, chemical and associated products accounts for about 6 per cent of total assistance and the share of coal in this amount may be very small or even zero.[267]

Based on information at our disposal, it is not clear whether South Africa, Indonesia, Kazakhstan and Ukraine provide aid to their coal industries. However, available information suggests that both Russia and Poland provide subsidies to the sector. In 1993, subsidies to the Russian coal industry were about 1.05 per cent of GDP. This dropped to 0.47 per cent in 1996, 0.2 per cent in 1998 and 0.12 per cent in 2000. In line with the Ministry's restructuring initiative, as well as the World Bank loan conditions, subsidies to the coal sector were systematically reduced after 1995 and were increasingly aimed at social welfare, rather than at loss-making mines. In the early 2000, the sector was still dependent on subsidies and was expected to remain dependent in the foreseeable future. As mentioned above, the Commission just approved a long term restructuring plan for Poland amounting to €1.5 billion for the period 2004-2006.

264 See IEA (2002) Energy policies of IEA countries – Republic of Korea Review. According to UNEP (2003), subsidies had more or less stabilised at around US$500 million per year in 2002 and the Government was planning to phase out subsidies gradually.

265 Source: Global Energy Network Institute: http://www.geni.org/globalenergy/policy/renewableenergy/subsidies/subsidy_reform/coal/china/index.shtml, see also http://www.nrdc.org/media/pressReleases/010615.asp.

266 See IEA (2002) Energy Policies of IEA Countries, The United States 2002 Review.

267 See Productivity Commission (2004).

Appendix Table 5
WTO SCM Notifications: Sum of horizontal subsidies and subsidies to industry, 1995-2002
(Percentages of GDP)

WTO Member	1995	1996	1997	1998	1999	2000	2001	2002
Argentina	0.034	0.042	0.071	0.055	0.023	0.016	0.014	0.019
Australia	0.029	0.049	0.029	0.024	0.025	0.051	0.062	0.123
Austria	0.015	...	0.162	0.113	0.097	0.201	0.089	0.088
Barbados	...	...	...	0.108	0.586	0.770	0.011	...
Belgium	0.275	0.391	0.292	0.258	0.319	0.252	0.362	0.178
Brazil	0.574	0.505	0.499	0.508	0.389	0.280	0.069	0.084
Bulgaria	...	0.633	1.339	1.848	0.929	0.691	0.428	0.406
Canada	0.116	0.091	0.082	0.094	0.092	0.088	0.096	0.088
Chile	0.454	0.213	0.398	0.408	0.436	0.407	...	0.434
Colombia	0.249	0.021	...	0.078	0.107	0.125	0.133	0.108
Croatia	...	...	...	...	...	0.108	0.161	0.230
Cyprus	0.079	0.368	0.339	0.200	...	...	...	...
Czech Republic	1.041	0.523	...	...	...	...	0.332	0.192
Denmark	0.144	0.438	0.604	0.636	0.829	0.543	0.636	0.543
Estonia	...	...	...	...	...	0.062	...	...
European Community	0.517	0.525	0.531	0.546	0.551	0.622	0.583	0.514
Finland	0.432	0.402	0.343	0.315	0.279	0.277	0.273	0.278
France	0.165	0.214	0.209	0.196	0.140	0.120	0.150	0.130
Germany	0.245	0.273	0.222	0.265	0.157	0.121	0.102	0.092
Greece	0.612	0.475	...	0.039	0.132	0.030	0.435	0.310
Hungary	...	2.082	1.906	1.309	1.503	1.629	1.399	1.823
Iceland	0.127	0.112	0.117	0.118	0.120	0.101	0.088	...
Ireland	0.009	0.092	0.006	0.009	0.000	0.007	0.006	0.005
Israel	0.890	0.280	0.703	0.668	0.625	0.555	0.649	1.018
Italy	0.094	0.114	0.251	0.295	0.130	0.146	0.208	0.139
Jamaica	...	...	...	1.417	3.900	4.022	...	...
Japan	0.043	0.068	0.070	0.073	0.039	0.017	0.017	0.013
Jordan	...	...	...	...	...	...	0.010	0.083
Korea, Republic of	0.218	0.196	0.119	0.128	0.104	0.081	0.080	0.065
Latvia	...	...	0.772	0.685	0.355	0.265	0.281	0.222
Luxembourg	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Netherlands	0.055	0.036	0.189	0.098	0.116	0.135	0.136	0.142
New Zealand	...	...	...	...	...	...	0.027	...
Norway	0.520	0.490	0.439	0.337	0.457	0.392	...	0.297
Pakistan	0.002	0.000	0.002	...	...	...	...	...
Panama	...	...	...	...	0.390	0.429	0.340	0.274
Poland	9.470	1.218	2.351	3.079	0.849	...	...	...
Portugal	...	0.000	0.025	0.139	0.108	0.070	0.000	0.000
Romania	1.854	1.660	...	...	...	...	...	...
Saint Kitts and Nevis	...	...	...	...	...	...	0.273	...
Saint Lucia	...	...	...	...	0.854	1.061	1.717	2.160
Saint Vincent and the Grenadines	0.349	0.372	0.393	...	...	...	7.653	4.687
Slovak Republic	...	...	0.503	...	...	...	...	...
Slovenia	1.187	0.952	0.739	1.376	1.129	0.630	0.579	0.599
South Africa	0.027	...	...	...	...	...	...	...
Spain	...	...	0.196	0.101	0.145	0.107	0.120	0.093
Sweden	0.193	0.254	0.308	0.297	0.205	0.172	0.152	0.148
Switzerland	0.015	0.013	0.026	0.020	0.022	0.067	0.075	0.069
Thailand	1.109	1.059	1.117	0.707	0.153	0.181	0.000	0.000
Taipei, Chinese	...	0.002	0.001	0.272	0.502	1.878	0.659	0.530
Tunisia	2.070	2.002	...	2.076	2.556	2.069	...	...
United Kingdom	0.000	0.130	0.099	0.148	0.198	0.175	0.100	0.106
United States	0.076	0.074	0.063	0.010	0.059	0.058	0.054	0.080
Uruguay	...	...	...	0.172	0.284	0.102	0.378	0.420

Source: WTO Secretariat.

Appendix Table 6
Brazil: Subsidies by sector, 1999-2003
(Percentages)

	1999	2000	2001	2002	2003
Total	100.0	100.0	100.0	100.0	100.0
Agriculture	24.0	29.1	23.1	5.7	23.5
Industry	16.2	18.6	20.4	21.2	22.6
Mining	0.0	0.0	0.0	0.0	0.0
Manufactures	16.2	18.6	20.4	21.2	22.6
Vehicles (other than automobiles)	10.2	11.8	13.0	12.4	14.1
Services	59.7	52.3	56.5	73.0	53.9

Source: Instituto Brasileiro de Geografia et Estadistica (IBGE), Sistema de Contas Nacionals Brasil 2003, CONAC/DPE.

Appendix Table 7
Colombia: Subsidies by sector, 1998-2002
(Percentages)

	1998	1999	2000	2001	2002
Total	100.0	100.0	100.0	100.0	100.0
Agriculture	0.9	5.1	0.0	0.0	0.2
Industry	4.6	2.1	8.2	1.5	3.5
Mining	4.6	2.1	8.2	1.5	3.5
Manufactures	0.0	0.0	0.0	0.0	0.0
Electricity, water, construction	19.3	17.1	18.7	46.0	17.0
Services	75.1	75.7	73.1	52.5	79.4

Source: Colombia, Departamento Administrativo Nacional de Estadística.
http://www.dane.gov.co

Appendix Table 8
WTO SCM Notifications: Horizontal subsidies and subsidies to industry, 1995-2002
(Million dollars)

WTO Member	Sector	1995	1996	1997	1998	1999	2000	2001	2002
Argentina	Horizontal	72.22	98.08	53.20	...	...	...	...	...
	Industry	15.00	15.01	153.98	164.78	65.13	45.32	37.32	19.59
Australia	Horizontal	...	109.56	50.86	37.60	46.61	51.52	65.74	70.38
	Industry	108.69	91.49	70.73	49.79	53.28	146.10	161.33	435.86
Austria	Horizontal	35.20	...	293.82	242.29	206.22	389.77	171.43	183.06
	Industry	...	...	44.03	...	...	...	...	...
Barbados	Horizontal	...	...	...	2.58	14.55	19.95	0.27	...
Belgium	Horizontal	761.07	1053.64	713.26	641.35	786.87	573.34	822.81	435.62
	Industry	...	...	1.62	4.17	15.02	1.69	1.41	0.61
Brazil	Horizontal	4041.59	3913.32	4030.62	4004.76	2090.10	1682.78	352.00	385.70
Bulgaria	Horizontal	...	33.83	137.18	231.65	112.63	71.88	46.11	56.98
	Industry	...	28.85	1.63	3.69	7.68	15.13	12.07	6.16
Canada	Industry	673.76	548.90	516.89	571.40	596.26	629.37	675.79	640.28
Chile	Horizontal	327.35	161.72	329.38	324.00	318.28	304.79	...	288.32
	Industry	...	...	...	...	...	...	...	...
Colombia	Horizontal	230.60	20.57	...	76.95	92.01	104.79	109.00	88.40
Croatia	Horizontal	...	...	...	...	...	...	7.08	7.73
	Industry	...	...	...	...	...	19.95	25.00	44.72
Cyprus	Horizontal	5.08	9.92	6.16	5.59	...	...	...	...
	Industry	2.15	23.98	23.65	13.19	...	...	...	...
Czech Republic	Horizontal	394.53	105.88	...	...	...	...	122.15	137.94
	Industry	180.63	213.78	...	...	...	...	79.68	3.47
Denmark	Horizontal	132.46	502.86	732.44	490.22	811.85	461.08	427.13	355.97
	Industry	126.56	298.95	288.64	606.28	623.03	398.01	584.29	573.05
Estonia	Horizontal	...	...	...	...	...	3.41	...	...
	Industry	...	...	...	...	...	0.00	...	...
European Community	Horizontal	33367.34	35946.62	34582.55	36968.95	39392.53	43318.47	40321.79	38603.30
	Industry	11346.73	10335.26	9498.04	9969.18	7934.14	6022.94	6208.00	6031.61
Finland	Horizontal	560.21	513.76	420.67	407.11	356.15	331.84	331.38	366.43
France	Horizontal	2503.30	3268.06	2916.52	2813.89	1983.62	1411.62	1681.59	1484.87
	Industry	80.14	99.50	63.05	75.09	56.06	187.34	331.28	404.67
Germany	Horizontal	5629.78	6167.31	4649.21	5547.81	3208.65	2041.64	1654.65	1455.99
	Industry	544.14	481.66	144.81	238.22	154.23	254.95	278.26	413.01
Greece	Horizontal	23.12	21.21	...	1.35	2.64	0.98	10.88	17.88
	Industry	696.15	569.94	...	45.74	163.57	33.18	500.82	395.35
Hungary	Horizontal	...	747.72	720.25	525.32	568.32	616.40	575.00	756.95
	Industry	...	192.69	151.04	90.79	153.60	144.00	150.30	426.64
Iceland	Horizontal	8.67	7.98	8.44	9.41	10.07	8.46	6.67	...
Ireland	Horizontal	...	...	0.56	0.52	...	...	...	...
	Industry	6.11	67.37	3.94	7.20	0.02	6.70	6.36	6.28
Israel	Horizontal	338.40	266.33	279.76	284.72	279.13	17.67	421.80	426.29
	Industry	503.14	25.51	482.45	439.02	400.32	653.91	348.83	682.20
Italy	Horizontal	699.20	767.53	2491.66	3232.90	1298.81	1294.50	2025.01	1395.97
	Industry	328.71	640.95	436.85	291.55	231.04	274.63	241.31	250.31
Jamaica	Horizontal	...	...	...	109.70	301.50	317.70	...	...
	Industry	...	...	...	...	...	...	...	...
Japan	Industry	2282.86	3209.46	3029.99	2862.48	1733.14	809.94	725.99	503.78
Jordan	Horizontal	...	...	...	...	...	...	8.90	7.83
Korea, Rep. of	Horizontal	37.78	52.71	39.42	31.23	26.22	23.96	54.61	71.96
	Industry	1087.44	1040.05	576.46	412.16	437.82	390.01	329.79	281.70
Latvia	Horizontal	...	...	47.36	45.35	13.63	20.50	23.15	20.43
	Industry	...	...	...	...	12.01	...	...	...
Luxembourg	Horizontal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Zealand	Horizontal	...	...	...	...	...	...	13.87	0.00
Norway	Horizontal	413.57	450.47	363.16	326.36	299.79	284.43	0.00	302.20
	Industry	356.23	330.21	327.27	179.33	423.49	369.09	0.00	262.45

Appendix Table 8
WTO SCM Notifications: Horizontal subsidies and subsidies to industry, 1995-2002 (cont'd)
(Million dollars)

WTO member	Sector	1995	1996	1997	1998	1999	2000	2001	2002
Pakistan	Industry	1.32	0.04	1.38	...	...	...	...	...
Panama	Horizontal	...	...	...	...	...	...	...	...
	Industry	...	...	...	...	44.70	49.90	40.10	33.60
Poland	Horizontal	256.12	1080.33	2325.94	551.22	124.05	...	...	...
	Industry	12614.25	792.28	1288.19	4670.18	1272.53	...	...	...
Portugal	Horizontal	...	0.29	0.23	12.89	0.68	0.00	0.10	0.51
	Industry	...	0.09	26.13	142.88	123.68	74.48	0.16	...
Romania	Horizontal	254.17	211.37	...	...	...	...	...	...
	Industry	403.73	374.97	...	...	...	...	...	...
Saint Kitts and Nevis	Industry	...	...	...	...	...	...	0.94	...
Saint Lucia	Horizontal	...	...	...	...	...	...	...	...
	Industry	...	...	...	...	5.71	7.25	11.23	14.62
St. Vincent and the Grenadines	Industry	0.92	1.04	1.16	...	...	...	26.48	16.92
Slovak Republic	Horizontal	...	...	96.87	...	...	...	...	...
	Industry	...	...	9.80	...	...	...	...	...
Slovenia	Horizontal	133.25	87.98	96.83	169.55	176.69	108.34	104.81	128.16
	Industry	104.33	103.83	47.11	117.42	64.07	12.02	8.86	4.33
South Africa	Horizontal	...	...	...	...	...	...	...	...
	Industry	41.36	...	...	...	...	...	...	...
Spain	Horizontal	...	...	172.70	162.18	471.00	289.15	328.31	320.43
	Industry	...	...	962.01	451.07	427.94	330.14	399.03	319.49
Sweden	Horizontal	459.54	659.56	678.60	697.68	467.65	409.24	325.29	344.04
	Industry	18.89	28.33	83.95	39.55	48.60	1.63	7.70	14.35
Switzerland	Industry	46.51	38.67	68.70	54.77	57.25	165.20	188.65	190.55
Taipei, Chinese	Horizontal	...	...	...	...	...	2850.69	22.04	429.62
	Industry	...	4.43	3.77	750.80	1478.29	2622.12	1757.47	1054.83
Thailand	Horizontal	1862.66	1927.69	1685.41	790.63	187.84	222.60	0.51	0.52
	Industry	...	...	...	...	...	...	...	...
The Netherlands	Horizontal	224.20	80.02	536.30	224.07	292.00	311.25	361.18	456.80
	industry	3.11	66.89	176.30	162.67	171.46	188.51	161.51	136.55
Tunisia	Horizontal	373.00	391.23	...	410.58	530.29	401.26	...	...
	Industry	0.25	0.81	...	0.71	1.27	1.07	...	...
United Kingdom	Horizontal	...	1478.55	1244.27	2040.48	2854.54	2464.64	1246.01	1547.04
	Industry	3.62	65.70	63.50	57.21	45.03	50.44	185.11	110.59
United States	Horizontal	4210.00	4596.50	3673.95	801.35	4534.40	4372.70	4054.60	7240.20
	Industry	1382.25	1169.32	1490.96	85.61	945.99	1326.85	1371.14	1078.73
Uruguay	Industry	...	...	...	38.47	59.34	20.58	70.14	51.54

Source: WTO Secretariat.

Appendix Table 9
European Union (15): Horizontal and sectoral state aid, 2000-03
(Million euros, percentages)

	EU (15)		New Members	
	Value	Share	Value	Share
Horizontal objectives	29841	73	1462	24
R&D	5286	15	116	2
Environment	6868	16	149	2
SME	5388	14	147	2
Commerce	377	1	14	0
Employment aid	1211	2	348	6
Training aid	918	2	79	1
Heritage conservation, cultural aid	631	1	44	1
Natural disasters	54	0	4	0
Risk capital	24	0	1	0
Regional aid	9085	23	560	9
Sectoral aid	9977	25	4608	75
Manufacturing	1753	4	1441	24
Shipbuilding	903	2	105	2
Steel	13	0	246	4
Motor vehicles	17	0	73	1
Coal	6657	17	1413	23
Other non-manufacturing	240	1	51	1
Financial services	1162	3	1685	28
Other services	165	0	15	0
Total aid less agriculture, fisheries and transport	39839	100	6067	100

Source: European Commission (2004), State Aid Scoreboard, Autumn 2004 update.

Appendix Table 10
European Union (25): Share of state aid by sector, 2004
(Percentages, million euros)

	Share					Value
	Manufacturing	Fisheries	Coal	Other[a]	Total	Total
EU (25)	59	1	9	31	100	61617
Belgium	65	0	0	35	100	972
Czech Republic	37	6	4	53	100	352
Denmark	71	1	0	28	100	1375
Germany	66	0	18	16	100	17236
Estonia	24	0	0	76	100	35
Greece	66	2	0	32	100	473
Spain	49	3	28	20	100	3975
France	54	1	10	35	100	8915
Ireland	33	0	0	67	100	951
Italy	72	2	0	26	100	7037
Cyprus	35	0	0	65	100	184
Latvia	25	0	0	75	100	44
Lithuania	16	1	0	83	100	122
Luxembourg	48	0	0	52	100	78
Hungary	63	0	5	32	100	1015
Malta	87	0	0	13	100	134
Netherlands	47	0	0	53	100	1813
Austria	32	0	0	68	100	1427
Poland	51	0	17	32	100	2873
Portugal	13	1	0	86	100	1475
Slovenia	46	0	6	48	100	250
Slovakia	98	0	0	2	100	212
Finland	22	0	0	78	100	2483
Sweden	75	0	0	25	100	2745
United Kingdom	71	2	1	26	100	5442

[a] "Other" includes services (excluding railways), agriculture and other non manufacturing.
Source: European Commission (2005), State Aid Scoreboard, Autumn 2005 update.

4. SERVICES

Providing an overview of the worldwide distribution and evolution of services subsidies is a challenging task. Data on subsidies in services are scarce and most of the time only available from national sources, which renders cross-country comparisons difficult. In addition, the extent of disaggregation of services subsidies data from national sources is very limited. Therefore, it is difficult to assess the distribution of services subsidies across various types of subsidies and their evolution over time.

Detailed information is provided by the Australian Productivity Commission's Trade and Assistance Reviews. These data show that the amount of total subsidies the Australian Government provide to the services sector has significantly increased in the last decade, surging from US$395 million in FY 1995-96 to US$659 million in FY 2004-05. Yet, the share of total Australian government subsidies to services sectors fell from 27 per cent to 19 per cent in the same period, thus implying that subsidies to the services sector have increased less than total subsidies. At the sub-sectoral level, the largest share of total services subsidies is provided to cultural and recreational services, business, communication, finance and transport services, totalling together over 65 per cent of total services subsides in FY 2004-05. Finally, although budgetary outlays are a more common form of subsidies to the services sector in Australia, there are substantial differences across sectors as to the type of subsidies they receive. Over 90 per cent of subsidies to financial services are provided by way of tax exemption, while budgetary outlays represent a similar share of total subsidies granted to communication services.

Data available for other countries are very far from providing this kind of detailed information. Notwithstanding this limitation, an attempt will be made in this Section to discuss the incidence of services subsidies by country and sub-sector. Within each sub-sector, the major motivations for providing subsidies and the use of different types of instruments will also be discussed.

(a) Services subsidies by region

A useful, though not comprehensive, source of information on subsidies is the series of background notes done by the WTO Secretariat for the Working Party on GATS Rules (S/WPGR/W/25 and addenda). These Notes, which compile information contained in Trade Policy Reviews (TPR) on subsidies in services (from 1995

Table 34
Subsidy information contained in TPRs of Members by region and sector, 1995-2004
(Number of countries)

	North America	Western Europe	Central and Eastern Europe	Africa	Middle East	Asia	Latin America	Total number of Members targeting sector
Number of Members reviewed	3	6	6	24	1	17	24	81
Tourism	1	4	4	22	1	10	20	62
Transportation	1	2	4	7	...	7	2	23
Maritime	2	2	1	2	...	11	7	25
Air transport	3	1	1	2	...	5	2	14
Rail transport	...	3	2	4	...	4	..	13
Banking	2	4	3	7	...	10	7	33
Other financial services	1	...	...	3	...	6	7	17
IT and communication	1	1	1	3	...	5	4	15
Construction	1	1	1	2	...	5	5	15
Recreation, culture and sports	1	1	...	2	1	3	4	12
Telecom	2	...	...	6	...	3	7	18
Audiovisual	2	1	...	3	...	3	2	11
Wholesale and retail trade, distribution	...	1	1	2	...	3	4	11
Real estate	1	...	...	...	...	3	1	5
Energy	1	1	2	2	...	4	4	14
Other and unspecific sectors	1	1	3	7	...	7	9	28

Note: EU (15) is treated as one country.
Source: WTO Secretariat, in the light of information collected from TPRs in S/WPGR/W/25/Add.1-4.

to February 2004), suggest that subsidies in services sectors are widespread, but particularly frequent in transport, tourism and banking.[268]

Table 34 presents the information compiled in the background notes by services sector and by region. Subsidy programmes for transportation, including maritime, air and rail transport, are those most frequently granted by WTO Members reviewed in the period covered. Although it should be kept in mind that the frequency of the programmes as reported in TPRs does not say anything about the size of these subsidies, it is worth noting that information on subsidies in the tourism sector was mentioned in the TPR of the majority of Members.

The discussion in the following Sections shows that the reasons given for applying subsidies in different sectors vary substantially. In developing countries tourism subsidies are often justified as being part of a development strategy. Subsidies in the financial sector are sometimes given to ailing banks in order to avoid bankruptcies that may have severe economy-wide repercussions. Subsidies to the transport and telecommunication sector sometimes appear to be motivated by such objectives as the provision of universal access or the development of infrastructure.

Table 35 shows the choice of subsidy instruments deployed by region. Nearly all Latin American WTO Members reviewed over the relevant period used tax incentives, duty free inputs and free zones to support certain activities. Direct grants, preferential credit and credit guarantee arrangements, and above all equity injections, are less popular instruments in the region. A similar picture arises for Africa, although tax incentives, duty free inputs and free zones are used to a lesser extent. The use of direct grants and preferential credit and guarantee arrangements is more popular in industrialized countries, although all three North American countries also use tax incentives.

Table 35
Subsidy information contained in TPRs of Members by region and instrument, 1995-2004
(Number of countries)

Regions	North America	Western Europe	Central and Eastern Europe	Africa	Middle East	Asia	Latin America	Total
Number of members reviewed	3	6	6	24	1	17	24	81
Direct grants	2	5	3	7	1	6	8	32
Preferential credit and guarantees	2	2	3	6	0	6	6	25
Equity injections	2	2	2	2	0	4	0	12
Tax incentives	3	2	2	14	1	13	22	57
Duty-free inputs and free zones	0	1	2	13	1	9	20	46
Other and unspecified measures	1	1	4	8	0	9	3	26

Source: WTO Secretariat, in the light of information collected from TPRs in S/WPGR/W/25/Add.1-4.

(b) Services subsidies by sub-sector

This subsection will refer to the use of subsidies in a number of services sectors, such as transport and telecommunication, banking, tourism and audiovisual services. These are the sectors that TPR reports tend to indicate as the largest beneficiaries of subsidies. The nature of these sectors differs substantially, as do the reasons for applying subsidies and the instruments used.

(i) Transport services

There are a variety of policy goals that government claim to pursue through subsidies to the transport sector. The case for public support to transport services is, in general, put forward on the grounds of market failures due to the existence of large economies of scale, the network nature of the services, and the desirability

[268] For a discussion of the limitations which need to be kept in mind when drawing inferences from the information contained in TPR reports, see Box 12 and WTO Secretariat documents S/WPGR/W/25 and addenda.

of providing universal access.[269] Transport services are often regarded as "merit" goods, which should be available to everyone. Not only are they essential inputs in virtually all other economic activities, but they are necessary to satisfy the needs of everyday life. For this reason, granting universal access to the transport network at an accessible price is a government policy objective almost everywhere. Subsidies are provided to guarantee the supply of services at locations and times when it would not otherwise be profitable. For example, prior to September 2001, support to the US air transport industry had been confined largely to the provision of federal subsidies for service to remote areas.[270] Similarly, Australia provides financial assistance to shippers of freight between Tasmania and the mainland.

A number of other policy goals are also declared by governments as justification for the subsidies provided. For example, one reason behind the subsidization of some specific modes of transport, such as rail transport, is that of pursuing an environmental target – rail transport is generally deemed to be less polluting than road transport. Other stated policy objectives include technology transfer and economic development. Venezuela, for example, provides income tax reductions to persons earning revenue from the supply of public air transport services. The law is designed to foster new investment in modernizing fleets compatible with environmental protection requirements, incorporating new technologies in relation to the supply of the service and training technical aviation personnel.[271]

No commonly accepted measure of subsidies exists in the transport sector. Many transport economists favour a normative definition of transport subsidies that also includes all those "implicit" subsidies that arise from the failure to include in the price paid by the user of a transport service the cost represented by negative externalities. For example, an implicit subsidy arises from the cost of the environmental damage for which a person driving a car is responsible but not required to pay (air pollution, noise nuisance, the probability of an accident and congestion). In this case subsidies are estimated as the difference between total revenues and total social costs. On the basis of this measure of subsidies, support for road and rail transport in the European Union, Hungary and Switzerland was estimated at US$40 billion in 1998 (Nash et al. 2002), and rail transport is estimated to be relatively more subsidized than road transport.

Although appealing for economists, this concept is very difficult to reconcile with public finance and the way other practitioners define subsidies. This subsection therefore focuses on the more "conventional" measures of subsidies (namely, that do not include externality costs) to provide an understanding of the incidence of subsidies in the sector. An essential element to bear in mind when analysing data on subsidies to the transport sector is the distinction between government support to the industry (e.g. the support to private railways operator) and government investment in infrastructure. Whether or not the latter is included in the definition used to estimate the incidence of subsidies to the sector makes a big difference to the results.[272]

Rough estimates based on a definition of subsidies including direct financial transfers, tax breaks and the provision of infrastructure show that in OECD countries, subsidies to the transport sector amount to nearly one-third of total OECD subsidies. Transportation represents the second most important sector after agriculture in terms of the flow of subsidies, while in non-OECD countries the importance of transport subsidies is much lower – below 10 per cent of total non-OECD subsidies. However, it is difficult to assess the reliability of these estimates.[273]

269 See also Sections C and D.

270 The main programmes were the Department of Transportation's Essential Air Service (EAS) Subsidy Programme (under which approximately US$100 million was spent in 2002) and the grants provided to small communities under the Small Community Air Service Development Pilot Program (approximately US$20 million), under which funds were appropriated for the first time in FY 2002 (October 2001-September 2002). Under the EAS Program a community is eligible for subsidies if it is more than 70 miles away from the nearest medium or large hub airport, and if the service costs less than US$200 per passenger (WTO document S/WPGR/W/25/Add.4).

271 See WTO document S/WPGR/W/25/Add.4.

272 Some countries have notified transport subsidies to the WTO, but the country coverage is very limited. One reason is that to the extent that they are infrastructure subsidies, they are not included in the WTO definition of subsidies.

273 Data refer to the period 1994-98 and are obtained from van Beers and de Moor (2001) Table 3.1.

Official data for the EU show that state aid to the transport sector represents the largest share of total EU state aid. In 2001, 46 per cent of state aid was granted to the transport sector. In addition, in 2003, the largest share (15 per cent) of EU Structural Funds was allocated to transport infrastructure. EU state aid awarded to the transport sector as a whole, excluding railways, averaged €1.5 billion annually over the period 2001-03, up by 50 per cent compared to the period 1999-2001. Interestingly, support to the transport sector in the EU has been principally motivated by the need to develop the European transport network in order to reduce transport costs among EU Member countries and achieve deeper integration.

In the case of air transport services, state aid fell significantly after liberalization. From over €2.5 billion in 1994 and 1995, total state aid to the air transport sector dropped to €265 million on an annual average basis over the period 2001-03. There was an increase in support in the period 2001-03 relative to the previous period (1999-2001) on account of the special measures taken after 11 September 2001 (see WTO document WT/TPR/S/126). In order to assist the US aviation industry, the US federal government made available funds to compensate US air carriers' losses suffered as a result of the attacks.[274] By the time of the closure of this programme on 31 December 2002, the United States Department of Transportation (DOT) had transferred a total of just over US$4.6 billion to 426 US air carriers. In addition to the federal grants, the Act made available to airlines up to US$10 billion in federal loan guarantees.[275] Approximately US$1.6 billion in loan guarantees had been committed as of October 2003.

In general, the analysis of the motivation for subsidies to the transport sector differs across countries. Take maritime services, for example. The TPR report for Chile in 1997 records that, in general, maritime transportation services are not subsidized, with the exception of coastal transportation to isolated areas, where there is not enough demand to justify the existence of a regular shipping service. In the Republic of Korea, subsidies to maritime transport are motivated by regional development considerations; in Japan they are aimed at keeping up competition with the maritime industry of other countries that provide preferential tax treatment for their ships. In India, subsidies to the shipping industry are motivated by the need to develop the industry and in Indonesia investment incentives, such as income tax, value-added tax, and luxury tax exemptions are provided, for new investors in designated "pioneer" industries, such sea and air transport.

(ii) Telecommunications

A good deal of liberalization in telecommunication services took place in the late 1990s and early 2000s. For example, while in the early 1990s most telecommunication services were provided by monopolies (state or privately owned), by 2004 there were no countries with a monopoly for the provision of fixed network services remaining in the OECD area. This process of liberalization proceeded jointly with the development of regulations to guarantee the provision of universal access. Increasing competition erodes the ability of providers to cross-subsidize the provision of local services with revenue from inflated prices on long-distance and international services.

Almost every country has universal access to telecommunications services as a public policy goal.[276] An important difference exists in the definition of universal access objectives between developed and developing countries. While in developed countries the definition of the objective of universal access focuses on ensuring the "affordability" of the services to all, in developing countries it focuses on guaranteeing the "availability" of the service, including through expanding telecommunication infrastructure.

Depending on the importance of competition in the telecommunication sector, the maturity of the network, the existence of other infrastructure and the information available on the cost of universal access, various countries have adopted different measures to achieve the universal access objective.[277] The bill for the provision

[274] The Air Transportation Safety and System Stabilization Act is available online at: http://www.treas.gov/offices/domestic-finance/atsb/hr2926.pdf.

[275] See, for example, US General Accounting Office, GAO (2001).

[276] See also Section D.

[277] For further studies on trends and practices in universal services refer to the following website: http://www.itu.int/ITU-D/treg/related-links/links-docs/uso.html.

of universal services is either at the cost of the incumbent (like in the UK, Sweden, Finland and Japan), of new entrants or of the government, through the provision of subsidies.[278]

There is a global tendency to reduce government subsidies for the provision of universal services. A study of the OECD (2003c) claims that the importance of direct subsidies for universal telephone services is declining in OECD countries. For example in Australia,[279] the subsidy provided by the Government to Telstra for its universal service obligation fell from A$548 million in 1998 to around A$280 million in 1999 and 2000, and continued to fall in the subsequent years, to A$231.7 million in 2004.[280] However, recently the issue of extending the coverage of the definition of universal services to include services other than basic voice, such as emergency calls, long distance services, directory assistance and broadband internet have revived the issue of government-support policies in the telecommunication sector.[281]

Another example of the reduced importance of direct subsidies for universal access is that of Canada. In November 2000, the Canadian Radio-television and Telecommunication Commission (CRTC) established a national revenue-based contribution collection mechanism, whereby companies would contribute a percentage of their revenues that are considered to be contribution-eligible. The purpose of the contribution is to fund local telephone services in high-cost areas (i.e. rural and remote areas). Other than these subsidies, all cross-subsidies have been eliminated in the telecommunications industry, and competitive services offered by incumbent operators are not being subsidized by other monopoly or near-monopoly service offerings.

Around the world, the financing of universal service obligations is increasingly carried out through Universal Service Funds (USF). Initiated in Chile and Peru, the USF approach is increasingly seen as the best option in both developed and developing countries.[282] Over 60 countries worldwide now have USFs in place. In general, the fund is financed by a tax on telecommunication sector operators, general tax funds or sale of resources such as privatization or sale of licences. The latter is the case for example of the United States. In Europe, France and Italy have set up USFs. Table 36 provides an indication of the incidence of USFs in some Latin American countries. Among the countries reported in the Table, Chile and El Salvador rely mainly on government subsidies to fund USFs. Box 11 in Section D provides further information about the Chilean experience.

There are also USFs in African countries, including Madagascar, Mauritania, Niger and Togo.[283] Information reported in the TPRs indicates the intention of the Governments of Botswana and Namibia to set up USFs.

Information collected on the basis of the TPR reports appears to indicate that while in North America, Western Europe, Latin America (excluding the Caribbean) and Africa subsidies to the telecommunication sector are principally aimed at providing universal access, the stated objective in Asian and Caribbean countries includes the development of the network (e.g. Singapore, St. Kitts and Nevis), job creation (Trinidad and Tobago) and fostering investment (e.g. India). Interestingly, incentives to the development of the telecommunication sector include the establishment of technology parks (St. Kitts and Nevis), enterprise zones (Trinidad and Tobago) and export processing zones (St. Lucia).

278 Note that subsidies here would indirectly subsidize the consumer, via the company, and not the industry.

279 WTO document WT/TPR/S104, p. 119, para. 98.

280 These figures approximate US$372, 176 and 165 million in 1998,1999 and 2004 respectively.

281 OECD (2003c)

282 The mechanism adopted in Peru, based on the "lowest bid wins" principle proved to be quite successful. According to this principle, the moneys gathered from mandatory levies on telecom operators' revenue, government budget, charges on interconnecting services, levies on subscribers or funding from international development agencies are put under the authority of an institution, which organizes competitive tenders for licenses to provide at least a minimum specific service within a given geographical area. For example, for the pilot project conducted in Peru (2000), the winning bid requested a subsidy 41 per cent lower than the administrative authority (Osiptel) had estimated and 74 per cent lower than the previous offer by the incumbent operator. More importantly, this financing scheme has attracted a significant amount of additional private investment. The pilot project in Peru required a subsidy of only 11 dollars per inhabitant, while mobilizing an estimated 22 dollars per inhabitant of private investment. In Chile, every one dollar of one-time government subsidy has attracted 20 dollars private investment in new rural facilities.

283 See ITU (2000).

Table 36
Universal service funds in selected Latin American countries
(Million dollars)

Country	Regulating authority	Source of finance	Period considered	Maximum subsidy available	Subsidy granted
Chile	Fondo de Desarrollo de las Telecomunicaciones	Government budget	1995-97 1998-99 2000	24.2 14.4 1.9	10.2 9.8 1.8
El Salvador	Telephone Investment Fund	Government budget	2002	...	5.5
Peru	Fondo de Inversión en Telecomunicaciones	1% operator levy	1998 1999-2003 2002-04	4.0 50.0 59.5	1.7 11.0 27.8
Colombia	Fondo de Comunicaciones	5% operator levy and government contribution	1999-2003	70.6	31.8
Guatemala	Fondo para el Desarrollo de la Telefonía	spectrum auctions[a]	1998 1999	... ...	1.5 4.5
Dominican Republic	Fondo de Desarrollo de las Telecomunicaciones	2% operator levy	2001	3.8	3.4

[a] Guatemala's spectrum law has been effective because it has recognized property rights in radio waves, thus converting them into a new resource. In a nutshell, the spectrum reform brought about the creation of usufruct titles. Any person or company, national or foreigner could request title to a spectrum band not currently assigned to other users. The auctions have generated over $100 million in revenue. Seventy percent of these funds have been allocated by the state to subsidize rural telephone services (The Wall Street Journal, What Guatemala Can Teach the FCC, December 27, 2002).
Source: Intelecom Research, Universal Access Funds and Universal Service Funds: insights and experience of international best practice, July 2005-09-22.

(iii) Tourism

Tourism is one of the sectors most frequently targeted by services subsidies, according to the information collected from TPR reports. Subsidy programmes targeting tourism were mentioned in 62 of the 97 TPR reports completed between January 1995 and February 2004. Many developing countries consider tourism to be a sector with significant growth potential and governments wish to stimulate the sector by using subsidies. This is notably the case in Africa, a region that is widely recognized for the quality of its resource endowment for tourism, but where the industry is far from reaching its full potential, notwithstanding promising growth figures at the beginning of this decade.[284]

Table 37 categorizes information on subsidies in tourism according to the stated objective of the subsidizing authority. It reveals that in the subsidy programmes of a number of African Members, tourism is explicitly mentioned as one of the industries targeted in the context of the Member's development strategy. This is also the case in a number of Asian and Latin American countries. Subsidy programmes in some countries target exporting industries in general and the tourism sector is explicitly mentioned in this context. Poor infrastructure is one of the factors frequently blamed for the underperformance of the tourism industry in developing countries. Many African, Asian and Latin American Members use subsidies for investments in infrastructure relevant for the tourism sector.

In industrialized countries tourism subsidies are also frequently intended to be a development tool, though they tend to be used for regional development in those countries. Chart 14 is based on information from the European Union's Support Measures Database and shows that by far the largest part of support in the tourism sector occurs in the context of regional development programmes, implying that the tourism industry in a particular region is targeted. Support measures also frequently target SMEs. Although the information from the TPR reports and the EU Support Measures Database are not directly comparable and are not necessarily representative at the global level, this discussion indicates that the nature of the activities targeted within the tourism sector may differ significantly between industrialized and developing countries.

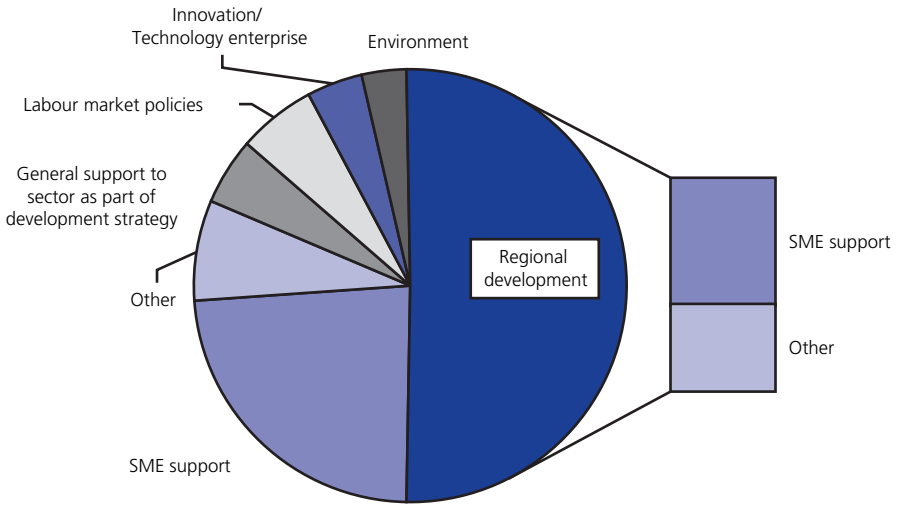
[284] Christie and Crompton (2001). The annual growth rate in international tourist arrivals in Africa has tended to outperform the growth rate for the world as a whole over the past decade. In particular, it is the only region that was able to record positive growth rates in 2001, 2002 as well as 2003, three years that have been particularly difficult for the tourism industry (World Tourism Organization, 2005).

Table 37
Tourism subsidies by region and stated objective

	North America and Western Europe	Central and Eastern Europe	Africa and Middle East	Asia	Latin America	Total
Tourism as a development strategy	Turkey		Lesotho Nigeria		Dominican Rep. Bolivarian Rep.of Venezuela Barbados	6
Support for exporters			Zambia	Philippines	Bolivarian Rep.of Venezuela	3
Support for infrastructure	Canada Turkey	Czech Rep.	Niger Egypt Senegal S. Africa	Brunei, D. Macau, China Sri Lanka India	Uruguay Solomon Is.	13
Support for hotel investment	Switzerland		Zambia Burundi Morocco Nigeria The Gambia Madagascar Ghana Mauritius Uganda Botswana Lesotho Kenya	Thailand	Bolivarian Rep.of Venezuela Honduras Guyana Costa Rica Dominica Grenada St. Kitt & Nevis Saint Lucia St. Vincent & the Grenadines. Haiti Jamaica Solomon Is. Trinidad &Tobago Nicaragua Barbados	29
Marketing support	Canada Turkey Switzerland Liechtenstein	Slovenia	Morocco Mauritius S. Africa Senegal	Thailand Indonesia	Honduras St. Vincent & the Grenadines Barbados	14
Eco-tourism + preservation of cultural heritage	Turkey		Burundi Gabon The Gambia S. Africa	Brunei, D. Thailand Singapore		8
Transport			Morocco Botswana Egypt Senegal	Macau, China	Costa Rica Bolivarian Rep. of Venezuela Honduras	8
SME support	Switzerland	Slovak Rep.	Gabon		Trinidad & Tobago	4
Training	Turkey		Morocco Botswana		Costa Rica	4
Labour market policy			Botswana Senegal		Haiti	3
Objective not explicitly mentioned	Iceland	Bulgaria	Israel Mauritania Mozambique Cameroon Guinea Malawi Tanzania	Australia New Zealand Hong Kong, China Indonesia (Rescue)	Guatemala Argentina Peru	16

Source: WTO Secretariat, in the light of information collected from TPR reports in S/WPGR/W/25/Add.1-4.

Chart 14
European Union (15) support to tourism by objective
(Percentage of total number of programmes)



Source: European Commission, Support Measures Database.

(iv) Financial Services

Financial services comprise five broad categories of services. These are banks, insurance, securities, asset management and financial information. In the past, these five types of services corresponded to categories of financial institutions. For example, the main activity of a bank was traditionally that of taking deposits and granting loans. Nowadays, capital markets and non-bank financial institutions also provide these services, while an increasing proportion of banks' revenues comes from fee-based services such as underwriting, trading, brokerage and advising on mergers and acquisitions.

Data available on the incidence of subsidies from national or supra-national sources, such as EU state aid data and the data provided by the Australian Productivity Commission, do not distinguish between banking and other financial services. For this reason, we treat the whole sector jointly. However, the fragmented information contained in TPR reports indicates that subsidies to the financial sector are concentrated in the banking sector.

Table 38 categorizes information on subsidies in the financial sector according to the stated objective of the subsidizing authority. It reveals that all regions provide assistance to the banking sector in order either to rescue or restructure the banking sector. However, while support to restructuring the sector in the context of privatization occurs in Eastern and Central Europe and Latin America, support for adjusting to international standards of capital ratios or for merging banks is mentioned as an objective in countries in Europe and Asia. Asian countries appear more often among those that explicitly mention the promotion of off-shore banking as one of the objectives for subsidies to the financial sector. Support for start-up financial institutions, for investments in micro-financing and promotion of foreign direct investments is concentrated among African countries.

In both industrialized and developing countries, restructuring aid has frequently been given to banks during the process of privatization. More generally, governments intervene to rescue a bank that is in trouble, thus avoiding bank closure or the sale of assets to new investors. The "systemic risk" related to bank closure is most of the time given as an argument for public intervention. Different definitions of systemic risk exist.[285] The Bank for International Settlements (BIS) refers to systemic risk as being "the risk that the failure of a participant to meet its contractual obligations may in turn cause other participants to default with a chain reaction leading to broader financial difficulties". This may occur, for example, if Bank A defaults on a loan, deposit, or other payment to Bank B. This default produces a loss greater than B's capital, and forces B to default on payments to Bank C with losses that are larger than C's capital, and so on down the chain. Note that banks, particularly within a

[285] See, for instance, Kaufman and Scott (2000).

country, tend to be closely interconnected through inter-bank deposits and loans. The danger of a systemic crisis is bigger, the larger the bank in trouble. It could therefore be argued that certain banks benefit from implicit state guarantees by virtue of the rationale that they are "too big to fail". This implicit guarantee may give the relevant bank a competitive advantage, for instance because it will positively affect its credit rating.[286]

Table 38
Financial services subsidies by objective and region

	North America and Western Europe	Central and Eastern Europe	Africa and Middle East	Asia	Latin America
Financing restructuring costs of privatization		Czech Republic			Brazil
Incentives to restructure, including merging operations and meeting standards of minimum capital ratios	Turkey	Poland		Malaysia India	
Rescue from crisis ailing institutions	Norway EC		Brunei Darussalam	Indonesia Thailand	Bolivarian Rep. of Venezuela Mexico Paraguay Peru
Assist financial institutions with excess bad debts	United States	Slovak Republic		India Korea, Republic of	
Establish regional and rural banks		Poland	Ghana		
Support public policy	United States				
Development of distressed regions					Trinidad and Tobago
Development of the sector through promotion of R&D and investments				Australia Singapore	
Promote off-shoring banking	Cyprus		Mauritius Morocco	Thailand Singapore Macau, China Australia	Jamaica Barbados
Promotion of micro-finance banks			Tanzania		
Support start-ups			Southern Africa Customs Union		
Promote foreign direct investment			Uganda		
Stabilize share prices				Hong Kong, China	
Other, non specified	EC Switzerland and Lichtenstein		The Gambia	New Zealand	Brazil Uruguay Costa Rica Saint Lucia St. Vincent and the Grenadines

Source: WTO Secretariat, in the light of information collected from TPRs in S/WPGR/W/25/Add.1-4.

In the European Union, for example, the financial sector figures prominently among the sectors receiving state aid. Between 1995 and 2003 the number of approved state aid cases to all sectors in the European Union was 86, of which 34 were rescues and 53 involved restructuring aid.[287] Construction and engineering was the sector most frequently in receipt of rescue and restructuring aid (10 companies). The financial services (nine companies) and machinery and equipment sectors (eight companies) were the next largest recipients. Most of the cases in the financial sector involved restructuring aid.[288] Restructuring cases involved banks in

[286] The triple-A rating from credit-rating institutions for German Landesbanken has, for instance, been related to the institutional guarantees these banks enjoy. It should, however, be noted that these guarantees are explicit.

[287] London Economics (2004).

[288] Rescue aid is intended to be short-term aid to keep an ailing firm afloat for the time needed to work out a restructuring or liquidation plan. This aid has to be reimbursed within 12 months. Restructuring aid, instead, should be based on a feasible, coherent and far-reaching plan to restore a firm's long-term viability.

different countries and included: Banco di Sicilia and Sicilcassa, Banesto, Crédit Lyonnais, Crédit Agricole, and Westdeutsche Landesbank.[289]

Data on the type of instrument used to subsidize the financial sector show they differ across countries. In the EU most subsidies to the financial sector take the form of equity participation, while soft loans, credit guarantees and tax exemptions represent only a very small share of total subsidies to the sector. In contrast, national data on subsidies to the financial sector in Australia show that about 90 per cent of total assistance to the financial sector took the form of tax concessions.

In order to have a view of the relative use of various instruments across regions worldwide, Table 39 reports the list of countries for which TPR reports have identified subsidies to the financial sector by type of instruments. Despite the limitations of these data[290], the Table indicates that subsidies to the financial sector in the form of equity appear more concentrated in Asia and Western Europe, while tax incentives are relatively more frequent among African and Caribbean countries. A third type of assistance exists in Germany, where certain publicly-owned banks enjoy institutional guarantees.[291]

Table 39
Form of subsidy to the financial sector
(Number of countries)

	Direct grants	Preferential credits and guarantees	Equity injection	Tax incentives	Duty-free inputs and free zones	Other unspecified measures	Number of members reviewed
North America	...	1	...	1	...	...	3
Western Europe	...	1	2	1	...	...	6
Central and Eastern Europe	1	2	1	1	...	2	6
Africa and Middle East	1	...	...	3	4	1	25
Asia and Oceania	1	2	4	7	2	2	17
Latin America and Caribbean	1	1	1	4	5	1	24

Source: WTO Secretariat, in the light of information collected from TPRs in S/WPGR/W/25/Add.1-4.

(v) Audiovisual services

In the classification list used for scheduling commitments under the GATS, the audiovisual sector includes services relating to motion pictures (e.g., production, distribution, projection), radio and television, and sound recording.[292] Typically, public intervention in the sector, including subsidies, are justified by the governments concerned on the basis of the pursuit of cultural objectives, such as the promotion of national and regional culture or minority culture, the protection of cultural heritage, social cohesion, and languages. Policy interventions can take the form of domestic content quotas, restrictions on the allocation of licences, foreign equity limitations, must-carry regulations, or public broadcasting, depending on the sectors and jurisdictions. Subsidies in the form of grants, tax incentives or financing at preferential rates are often used in support of television programming or sound recording, but are especially a common feature in the film industry.

The key tenet of subsidy programmes in the audiovisual sector appears to be the promotion of certain domestic content. Assistance targets production activities, but also more specifically distribution, exhibition, training, promotion, script writing or the use of new technologies. The source of financing varies by country. In many cases, assistance is channelled through the State or through a State-funded agency, sometimes at sub-national level, while in other cases assistance takes the form of requirements imposed on satellite or cable distributors to invest in domestic production, or of cinema admissions, television fees and lottery revenues which are channelled to support local production. Subsidies are typically awarded only if certain nationality

289 Detailed description available in Ehlermann and Everson (1999).

290 See Box 12.

291 See Box 1 in Section B for an overview of the types of subsidy instruments used in the banking sector.

292 See the Services Sectoral Classification List (WTO document MTN.GNS/W/120).

criteria are met, i.e., in addition to the recipient being established on the territory of the granting authority. Definitions may vary and take into account in different ways the internationalization of production. Criteria may include a combination of the following: national ownership and control of the company producing the content as well as the nationality of the director, the crew, the authors, the national relevance or sensitivity of the storyline, or the location where the content will be shot or produced. A more recent policy trend in the film sector in particular concerns the granting of incentives to attract the shooting of movies by foreign production companies in ones' territory.

Data on subsidies to the audiovisual sector are mainly available from national sources and are difficult to compare. Available information, principally from some developed countries, suggest significant levels of subsidies to the audiovisual sector. In Australia, for example, average subsidies to the film industry over the period 2001-04 represented more than 15 per cent of total services subsides. Available data also suggests that they have been increasing over time.[293]

Another source of data for subsidies to the audiovisual sector is provided by a recent study of the European Audiovisual Observatory (EAO) published in cooperation with the European Investment Bank (2004). The study reports total European public funding to the audiovisual sector, where public funding is defined as the money allocated by the public agencies to the TV and cinematographic sector, thus including money that does not derive from the local or central government budget.[294] These data show an upward trend in the public funding of the TV and cinematographic industry in Europe between 1998 and 2002. Since 1999, in EU (15) more than €1 billion has been awarded annually by public funding bodies to support various activities in film, television and multimedia. The five largest countries (France, Germany, Italy, Spain and the United Kingdom) represent 72 per cent of the overall European total. France alone accounted for 46 per cent of direct public funding in 2002. At the EU level, the MEDIA programme is equipped with a budget of about €400 million (period 2001-05) to support the audiovisual sector. It is intended to improve the competitiveness of the European audiovisual sector on both the European and international markets, to promote linguistic and cultural diversity in Europe, and to improve the transnational movement of European works.

In practice, for many countries, subsidies to the audiovisual sector are one of an array of policy tools used to promote domestic content and pursue cultural objectives. Subsidies are often used in conjunction with such restrictions as content quotas or foreign equity limitations. For example, the Canadian Radio-Television and Telecommunications Commission (CRTC) support for the sound-recording sector includes Canadian content and French language airtime requirements, contributions towards the development of Canadian talent, and requirements to offer tangible benefits to the music industry for certain ownership transactions. An example is that licensees of private radio stations are asked to make financial commitments to Canadian talent development as part of their renewal applications.

Views on the extent to which government intervention is needed or effective in attaining cultural objectives vary.[295] While, for example, some would justify government intervention on such grounds as the need to ensure the production of domestic audiovisual content and industries because of their contribution to social cohesion or identity, others would consider that limiting consumer choice, competition, and exchanges may be culturally counterproductive and economically inefficient.

293 Australian Government Productivity Commission (2004), Trade and Assistance Review 2003-04.

294 Other sources of financing include, for example, levy on cinema tickets, on cable TV operators, direct contributions from TV, etc.

295 See Section D.