

The WTO "Trade in value-added and global value chains" country profiles give an overview of the key indicators that can be derived from trade in value-added statistics.

The profiles are broken down into four sections with insights on:

- The value-added contribution of foreign trade to an economy;
- The interconnection of national economies within global value chains (GVCs);
- The actual impact of the services industry on trade;
- The level of trade in merchandise and services intermediate products.

The indicators shown in the first three sections of the profiles rely on the online OECD Trade in Value-Added (TiVA) database stemming from a joint OECD-WTO initiative. The TiVA online database can be accessed from <http://oe.cd/tiva> and <https://www.wto.org/gvc>.

TiVA indicators are available for the time period 1995-2018. They cover goods and services for a set of 66 economies and 45 industries defined according to the International Standard Industrial Classification (ISIC Revision 4). Hence, the number of profiles available as well as top partners and industries shown in the tables reflect the current coverage of the TiVA database.

The annexes present the lists of economies and industries available in TiVA as well as the definitions of regional and industry groups used in the profiles.

As per convention, the symbol "..." is applied whenever data are "not available" or "not reported".

The "Trade in value-added and global value chains" profiles are divided into the following sections.

VALUE ADDED CONTENT OF GROSS EXPORTS

The estimation of trade in value added terms shows the decomposition of gross exports into their domestic and foreign value-added contents. The domestic value-added content of exports is composed of the following three elements:

Domestic value added sent to consumer economy corresponds to the domestic value added embodied either in final or intermediate goods or services that is directly consumed by the importing economy.

Domestic value added sent to third economies represents the domestic value added contained in intermediates (goods or services) exported to a partner economy that re-exports them to a third economy as embodied in other products. This illustrates the multiple value-added exchanges taking place among GVCs and corresponds to the "Forward GVC participation" shown in the next section.

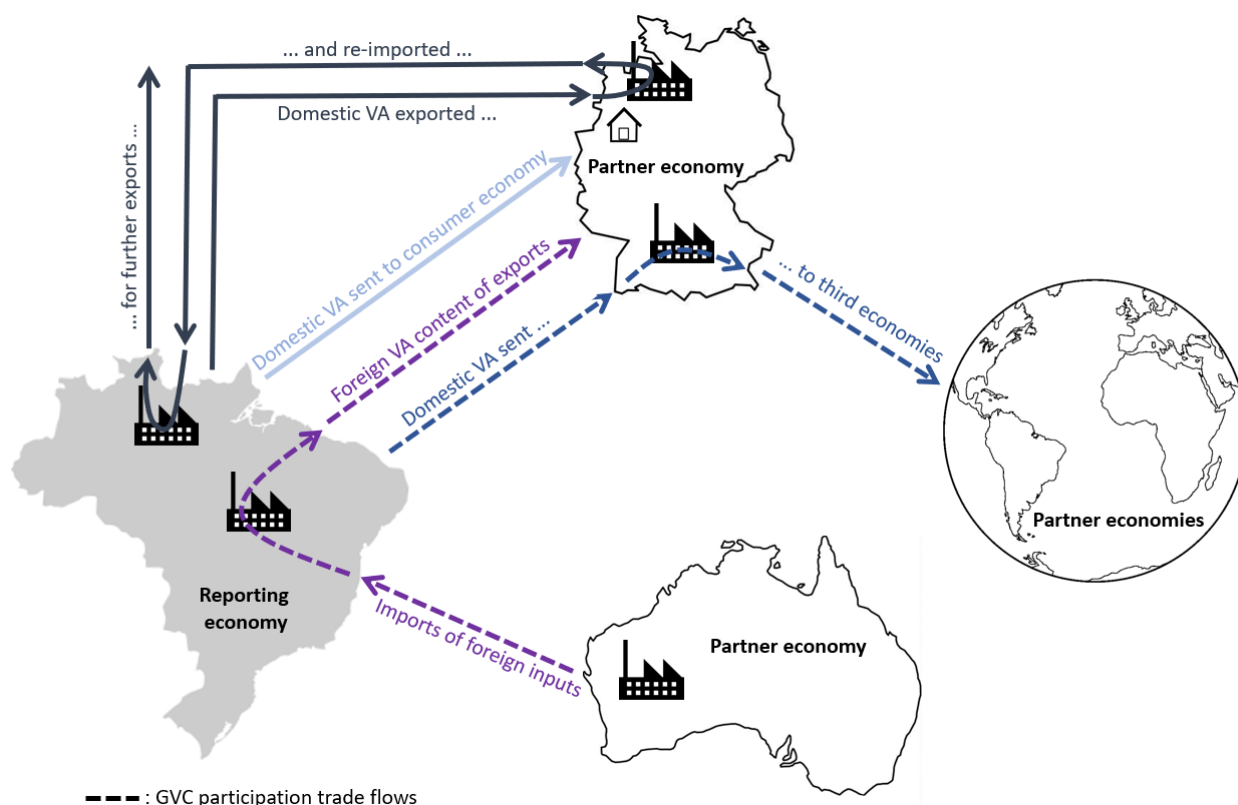
Domestic value added re-imported in the economy refers to the domestic value added of exported intermediates, or inputs, that is sent back to the economy of origin as embodied in other intermediates and used to produce exports. Such a value added round-trip between two (or more) economies highlights the domestic value-added content contained in an economy's imports.

Foreign value-added content of exports corresponds to the value added of inputs that were imported in order to produce intermediate or final goods/services to be exported. It corresponds to the "Backward GVC participation" shown in the next section. It is also referred to as "Vertical specialization" when expressed as a percentage of gross exports.

Source: WTO calculations based on the OECD TiVA Database.

To further illustrate the above terms, Figure 1 shows the production and trade flows corresponding to the value-added components of exports.

Figure 1. The value-added components of gross exports and related GVC trade flows



PARTICIPATION IN GLOBAL VALUE CHAINS (GVCs)

The GVC participation index provides an estimation of how much an economy is connected to global value chains for its production and foreign trade.

The indicator is composed of two components reflecting the upstream and downstream links in international production chains. Basically, individual economies participate in global value chains by importing foreign inputs to produce the goods and services they export (backward GVC participation) and also by exporting domestically produced inputs to partners in charge of downstream production stages (forward GVC participation). See Figure 1.

Backward GVC participation refers to the ratio of the "Foreign value-added content of exports" (see definition in Section 1) to the economy's total gross exports. This is the "Buyer" perspective or sourcing side in GVCs, where an economy imports intermediates to produce its exports.

Forward GVC participation corresponds to the ratio of the "Domestic value added sent to third economies" (see Section 1) to the economy's total gross exports. It captures the domestic value added contained in inputs sent to third economies for further processing and export through supply chains. This is the "Seller" perspective or supply side in GVC participation.

Source: WTO calculations based on the OECD TiVA Database.

ROLE OF SERVICES VALUE ADDED IN EXPORTS

The compilation of trade in value added terms also allows for estimating the actual contribution of services to an economy's exports, with a bigger weight than that observed with traditional statistical methods.

This section provides insights on the contribution of services in exports of manufactures, where firms combine goods and services into product packages, as well as in total exports.

The "Top services industries' contributions to exports" figures include both domestic and foreign origins.

Source: WTO calculations based on the OECD TiVA Database.

TRADE IN INTERMEDIATE PRODUCTS

Intermediate goods and services are tangible and intangible products utilized as inputs in production, excluding fixed assets. Trade statistics on intermediate products reflect the exchanges of parts, components, accessories and intermediary services taking place within supply chains.

Merchandise exports/imports of intermediate goods

The definition of intermediate goods relies upon the United Nations' Broad Economic Categories (BEC) classification, which groups commodities by main end-use, distinguishing between consumption, capital and intermediate goods. The following (sub-)categories are included:

- Food and beverages, including primary (BEC code 111) and processed (121) intermediate products mainly for industry
- Parts and accessories for transport equipment (53)
- Parts and accessories (excluding transport equipment, 42)
- Other manufacturing inputs, including primary (21) and processed (22) industrial supplies.

Fuels are excluded from the calculations.

Source: UN Comtrade Database.

Intermediate commercial services exports/imports

The definition applied in the profile combines both "Other business services" and "Information and communications technology (ICT) services" as a proxy of intermediate commercial services.

Other business services include:

(i) Research and development services, which consist of services that are associated with basic and applied research, and experimental development of new products and processes. (ii) Professional and management consulting services, including: (a) legal services, accounting, management consulting, managerial services, and public relations services; and (b) advertising, market research, and public opinion polling services. (iii) Technical, trade-related, and other business services, including: (a) architectural, engineering, and other technical services; (b) waste treatment and depollution, agricultural, and mining services; (c) operating leasing services; (d) trade-related services; and (e) other business services n.i.e.

Information and communications technology (ICT) services cover:

(i) Telecommunications services, which encompass the broadcast or transmission of sound, images, data, or other information by telephone, telex, telegram, radio and television cable transmission, radio and television satellite, electronic mail, facsimile, and so forth, including business network services, teleconferencing, and support services; (ii) Computer services consisting of hardware- and software-related services and data-processing services; (iii) Information services including news agency services, such as the provision of news, photographs, and feature articles to the media as well as database services.

Source: WTO Statistics Database.

Domestic and foreign value-added content in exports of intermediate products

This TiVA indicator provides estimates on the domestic and foreign (from supply chains) sources of value added used to produce the exported intermediates (goods and services), by main industry category.

Source: WTO calculations based on the OECD TiVA Database.

Annex 1 - List of economies' names and codes

Country Name	Code
Argentina	AR
Australia	AU
Austria	AT
Belgium	BE
Brazil	BR
Brunei Darussalam	BN
Bulgaria	BG
Cambodia	KH
Canada	CA
Chile	CL
China	CN
Colombia	CO
Costa Rica	CR
Croatia	HR
Cyprus	CY
Czech Republic	CZ
Denmark	DK
Estonia	EE
Finland	FI
France	FR
Germany	DE
Greece	GR
Hong Kong, China	HK
Hungary	HU
Iceland	IS
India	IN
Indonesia	ID
Ireland	IE
Israel	IL
Italy	IT
Japan	JP
Kazakhstan	KZ
Korea, Republic of	KR

Country Name	Code
Lao People's Democratic Republic	LA
Latvia	LV
Lithuania	LT
Luxembourg	LU
Malaysia	MY
Malta	MT
Mexico	MX
Morocco	MA
Myanmar	MM
Netherlands	NL
New Zealand	NZ
Norway	NO
Peru	PE
Philippines	PH
Poland	PL
Portugal	PT
Romania	RO
Russian Federation	RU
Saudi Arabia, Kingdom of	SA
Singapore	SG
Slovak Republic	SK
Slovenia	SI
South Africa	ZA
Spain	ES
Sweden	SE
Switzerland	CH
Chinese Taipei	TW
Thailand	TH
Tunisia	TN
Turkey	TR
United Kingdom	GB
United States of America	US
Viet Nam	VN

Annex 2 – Definitions of regions

Region/Country name	Code
Asia	
Australia	AU
Brunei Darussalam	BN
Cambodia	KH
China	CN
Hong Kong, China	HK
India	IN
Indonesia	ID
Japan	JP
Korea, Republic of	KR
Lao People's Democratic Republic	LA
Malaysia	MY
Myanmar	MM
New Zealand	NZ
Philippines	PH
Singapore	SG
Chinese Taipei	TW
Thailand	TH
Viet Nam	VN
North America	
Canada	CA
Mexico	MX
United States of America	US
Central and South America	
Argentina	AR
Brazil	BR
Chile	CL
Colombia	CO
Costa Rica	CR
Peru	PE

Region/Country name	Code
Europe	
Austria	AT
Belgium	BE
Bulgaria	BG
Croatia	HR
Cyprus	CY
Czech Republic	CZ
Denmark	DK
Estonia	EE
Finland	FI
France	FR
Germany	DE
Greece	GR
Hungary	HU
Iceland	IS
Ireland	IE
Italy	IT
Latvia	LV
Lithuania	LT
Luxembourg	LU
Malta	MT
Netherlands	NL
Norway	NO
Poland	PL
Portugal	PT
Romania	RO
Slovak Republic	SK
Slovenia	SI
Spain	ES
Sweden	SE
Switzerland	CH
Turkey	TR
United Kingdom	GB

Annex 3 - List of industries' codes, names and categories

TiVA Code	Short name (shown in profiles)	Long name (shown in the OECD TiVA database)
Primary products		
D01 to 02	Agriculture	Agriculture, hunting, forestry
D03	Fishing	Fishing and aquaculture
D05 to 06	Mining (energy products)	Mining and quarrying, energy producing products
D07 to 08	Mining (non-energy products)	Mining and quarrying, non-energy producing products
D09	Mining (support activities)	Mining support service activities
Manufactures		
D10 to 12	Food and beverages	Food products, beverages and tobacco
D13 to 15	Textiles and clothing	Textiles, textile products, leather and footwear
D16	Wood products	Wood and products of wood and cork
D17 to 18	Paper products	Paper products and printing
D19	Petroleum products	Coke and refined petroleum products
D20	Chemical products	Chemical and chemical products
D21	Pharmaceutical products	Pharmaceuticals, medicinal chemical and botanical products
D22	Plastic products	Rubber and plastics products
D23	Other mineral products	Other non-metallic mineral products
D24	Basic metals	Basic metals
D25	Metal products	Fabricated metal products
D26	Computer/electronic products	Computer, electronic and optical equipment
D27	Electrical equipment	Electrical equipment
D28	Other machinery and equipment	Machinery and equipment, nec
D29	Motor vehicles	Motor vehicles, trailers and semi-trailers
D30	Other transport equipment	Other transport equipment
D31 to 33	Other manufacturing equipment	Manufacturing nec; repair and installation of machinery and equipment
Services		
D35	Electricity/gas supply	Electricity, gas, steam and air conditioning supply
D36 to 39	Water supply	Water supply; sewerage, waste management and remediation activities
D41 to 43	Construction	Construction
D45 to 47	Wholesale and retail trade	Wholesale and retail trade; repair of motor vehicles
D49	Land transport	Land transport and transport via pipelines
D50	Water transport	Water transport
D51	Air transport	Air transport
D52	Warehousing for transportation	Warehousing and support activities for transportation
D53	Postal and courier activities	Postal and courier activities
D55 to 56	Accommodation and food services	Accommodation and food service activities
D58 to 60	Publish./audiovisual activities	Publishing, audiovisual and broadcasting activities
D61	Telecommunications	Telecommunications
D62 to 63	IT services	IT and other information services
D64 to 66	Financial services	Financial and insurance activities
D68	Real estate activities	Real estate activities
D69 to 75	Scientific/technical activities	Professional, scientific and technical activities
D77 to 82	Admin./support activities	Administrative and support services
D84	Public services	Public administration and defence; compulsory social security
D85	Education services	Education
D86 to 88	Health/social work activities	Human health and social work activities
D90 to 93	Arts and entertainment	Arts, entertainment and recreation
D94 to 96	Other service activities	Other service activities
D97 to 98	Private households services	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use