

# International trade, foreign direct investment and global value chains



2017

## SWITZERLAND

### TRADE AND INVESTMENT STATISTICAL NOTE

International trade and foreign direct investment (FDI) are the main defining features and key drivers of global value chains (GVCs). However, despite their strong complementarities, the two flows are typically presented and treated separately in the statistical information system. Drawing on new and improved measures of trade and investment, this country note provides relevant statistical information from OECD databases on trade, investment, the activities of multinational enterprises (MNEs) and global value chains (TiVA). It sheds new light on the trade-investment nexus by highlighting the interrelationships between trade and FDI, their economic impact in the context of GVCs, and the role of MNEs as the main directors of these flows. The data are as of 1 May 2017. More information and country notes are available at [www.oecd.org/investment/trade-investment-gvc.htm](http://www.oecd.org/investment/trade-investment-gvc.htm).

Switzerland is an open and internationally engaged economy, reflected in high volumes of both gross and value added trade and investment. Almost 40% (in 2014) of economic activity (GDP) in Switzerland depends on foreign markets, one of the highest in the OECD. Switzerland's outward investment (over 150% of GDP in 2015) was larger than its inward investment (107% of GDP). A broader notion of international orientation, which captures the impact on national income of exports and sales through foreign affiliates, would likely show that Switzerland has a higher international orientation than trade data alone suggest due to the activity of its affiliates overseas.

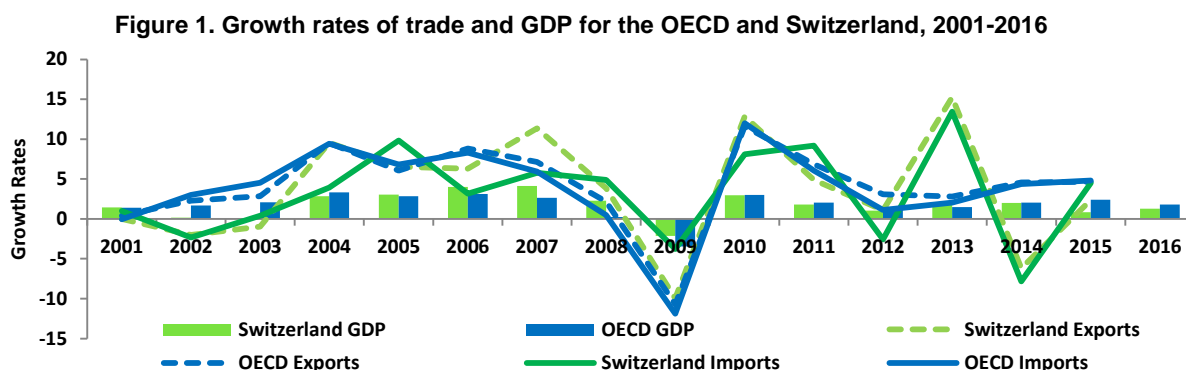
Gross bilateral trade figures can disguise the true nature of trade interdependencies, particularly between final consumers in one country and producers at upstream parts of the value chain. For example, gross figures suggest that Germany is the top destination for Swiss exports; however, from a value added point of view, the United States is actually the main consumer of Swiss production.

The top manufacturing exporting industries in Switzerland are chemicals and chemical products (CHM), computers and electronics (CEQ) and machinery and equipment (MEQ). The Swiss manufacturing industries are very export orientated and in some industries also have a relatively high import content of exports. Over time (2000-2014), those industries that have become more export orientated are also those that have increased their import content of exports. Switzerland has one of the highest services content in its exports at 63%, and this is correlated with a relatively high share of its inward investment going to the services sector.

# Trade and Investment in Switzerland

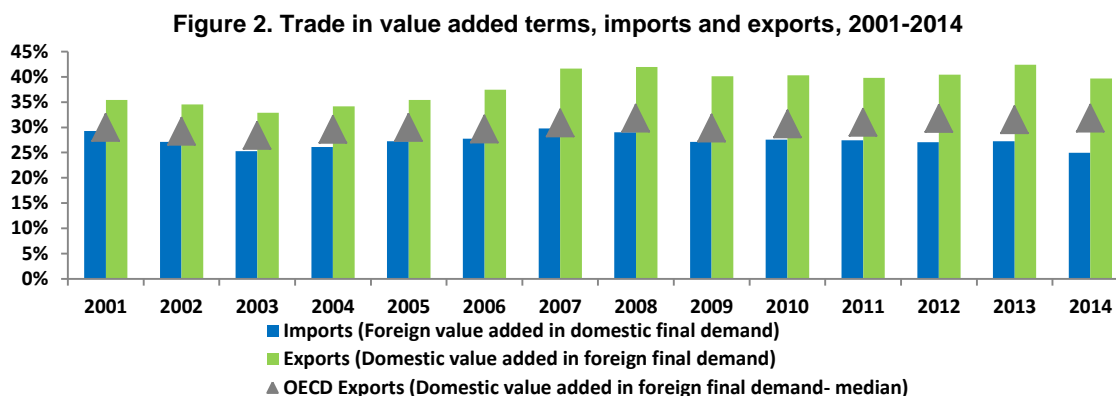
## Growth in trade has fluctuated since the global and euro crises

Like many European economies, Swiss trade contracted at the height of the global crisis and again during the euro crisis. Swiss growth rates also fell sharply in 2014 but this likely reflects the currency appreciation and conversion to the USD. Growth in Swiss trade moved broadly in line with OECD rates pre-crisis, but they have diverged substantially since 2008. In 2015, Swiss export growth was 2.3% and import growth was 4.5%, slightly below the OECD rate.



Source: OECD SNA

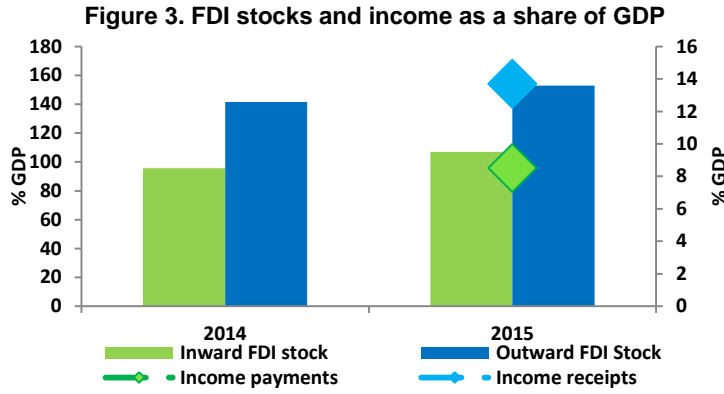
Gross exports amounted to USD 422 billion in 2015 (65% of GDP), and gross imports to USD 343 billion (53% of GDP). Gross trade figures, however, overstate the ‘real’ contribution of trade to the economy. In value-added terms, exports contributed 40% of total GDP in 2014, similar to recent years and above the OECD median (grey diamond). The contribution of direct and indirect imports to domestic final demand measured 25% in 2014.



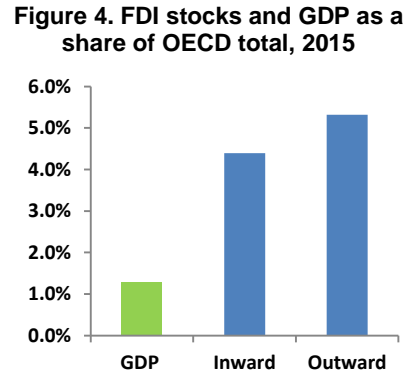
Source: OECD-WTO Trade in Value Added Data

## Investment is more outward than inward

Switzerland is an extremely open economy; inward direct investment was equivalent to 107% of GDP in 2015, and outward FDI stocks were over 150% of GDP. The difference in the stocks reflects Switzerland’s strong outward investment orientation (Figure 3). In 2015, Switzerland’s share of the OECD total inward FDI stock (4.4%) was more than three times higher than its share of GDP (1.3%), and its share in outward stock was higher still at 5.3% of the OECD total (Figure 4).



Source: OECD FDI Statistics (BMD4)



Source: OECD FDI Statistics (BMD4)

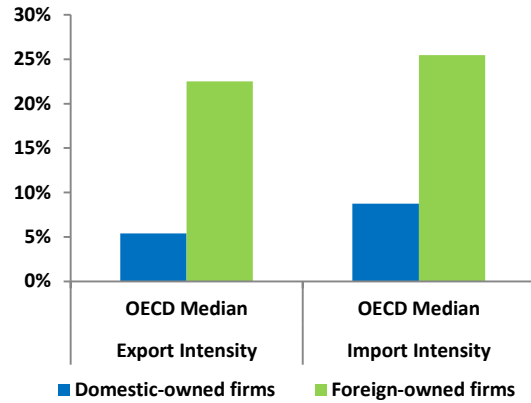
**...and are more export intensive than domestically owned firms**

On average, foreign-owned firms in the OECD are more export intensive (share of exports in turnover) than domestically owned firms. The import intensity of foreign-owned firms (share of imports in purchases) is also typically higher for foreign-owned than domestic firms.

**Domestic MNEs can provide important channels to penetrate foreign markets via affiliates...**

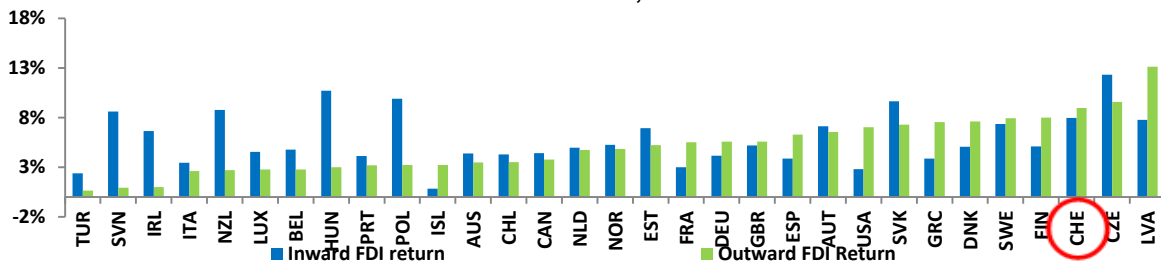
In 2015, Switzerland received USD 91 billion in income from its outward investment, equivalent to approximately 14% of GDP. Switzerland's rate of return at 9% (green bar) on its outward FDI is one of the highest in the OECD. On the other side, the return to foreign investors in Switzerland was 8% in 2015, also at the higher end of OECD countries.

**Figure 5. Export and import intensity of domestic and foreign-owned enterprises**



Source: OECD AMNE and Trade by Enterprise Characteristics (TEC) statistics (2011)

**Figure 6. Return on investment, income receipts and payments as a share of inward and outward stocks, 2015**

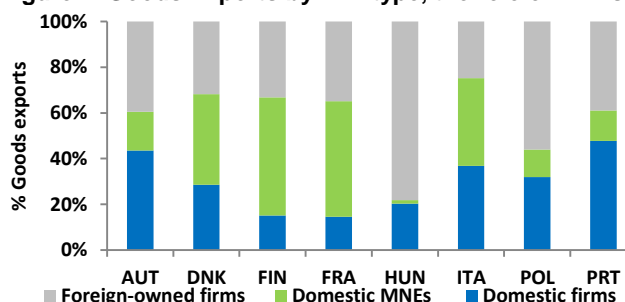


Source: OECD FDI Statistics (BMD4)

### ...and via exports

Looking across a selection of European economies, MNEs play a significant role in GVC integration. In some countries it is through the activity of MNE parents, while for other it is foreign-owned firms. In each country with available data, at least half of all goods exports are conducted by MNEs.

Figure 7. Goods Exports by firm type, the role of MNEs

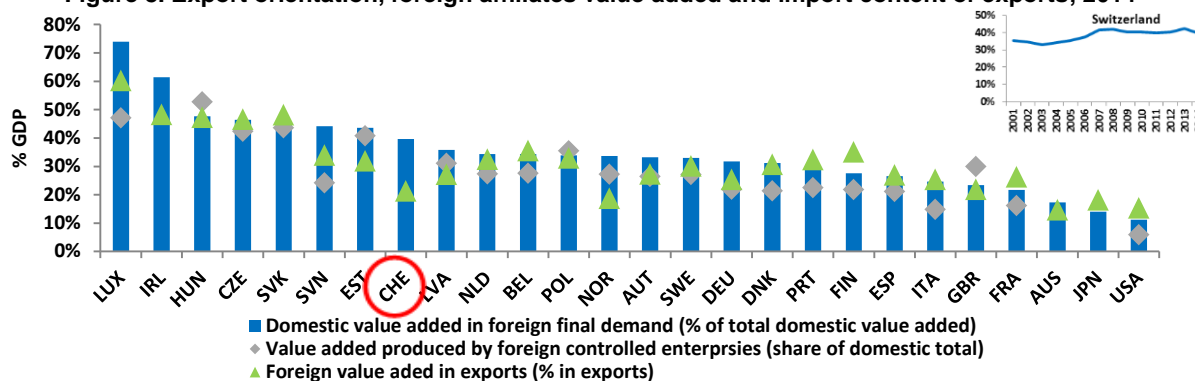


Source: OECD TEC statistics (2011)

### Switzerland's export orientation is high relative to many similar sized economies

Exports (in value added terms) contribute around 40% of Swiss GDP; this is relatively high compared to other OECD economies and comparable with the Netherlands, reflecting the openness of the Swiss economy. However, relative to other countries with similar export orientation, Switzerland has a low import content of exports, an indicator of GVC integration. However given the strength of its domestic MNEs, it is likely that they play an important role in Switzerland's GVC integration. Export orientation has generally remained at the higher level reached before the crisis (see insert chart).

Figure 8. Export orientation, foreign affiliates value added and import content of exports, 2014

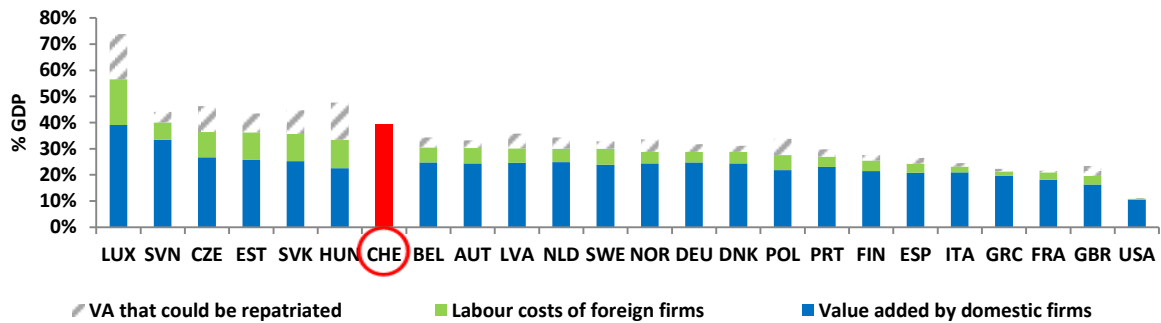


Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics

### And not all of the domestic value added content of exports sticks in the economy...

Gross export figures overstate the real economic impacts of trade to the exporting economy, but TiVA estimates can also overstate these impacts as the profits earned by foreign-owned firms through exports are repatriated if they are not reinvested. Figure 9 illustrates the importance of these flows across countries by showing the value added in exports of domestically-owned firms (blue bar), wages paid by foreign-owned firms (green bar), and profits of foreign-owned firms (grey bar), which in practice can be repatriated. The split cannot be calculated for Switzerland due to data availability.

**Figure 9. Exports by ownership and their contribution to income, as a share of GDP, 2014**

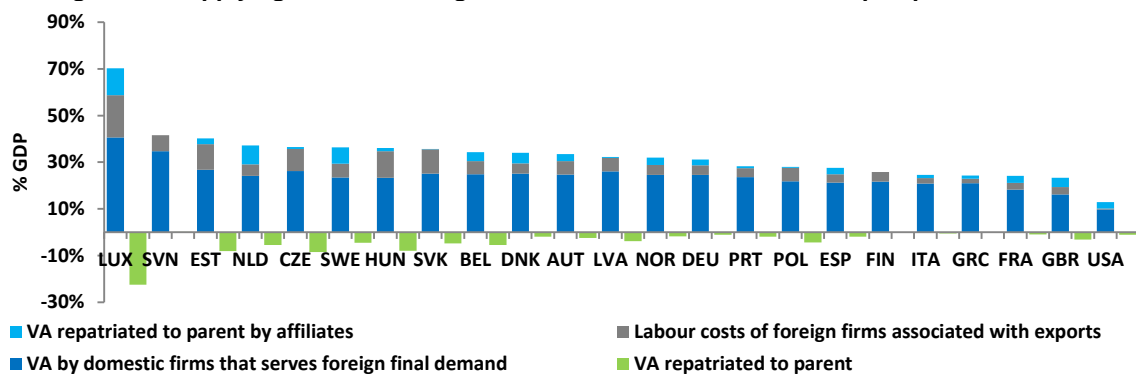


Source: OECD-WTO Trade in Value Added Data, OECD AMNE statistics.

**Taking a broader view by including the income of foreign affiliates can provide a more complete picture of the international orientation of the domestic economy.**

Firms serve foreign markets by exporting or by selling through their foreign affiliates. Figure 10 takes a broader view of an economy’s international orientation by taking account of both trade and investment. The chart begins with the domestic value added in exports that remains in the economy – exports of value added by domestic firms (blue bar) and wages paid by foreign-owned firms associated with exporting (grey bar) – and adds to it the profits that domestic MNEs receive from the activities of their foreign affiliates as measured by FDI income receipts (light blue bar). The income payments made to foreign parents are presented for information purposes (green bar). This broader measure cannot be calculated for Switzerland due to data availability; however, it would likely be higher than the export orientation measure because Switzerland is a net outward direct investor.

**Figure 10. Supplying markets through trade and investment: a broader perspective, 2014**

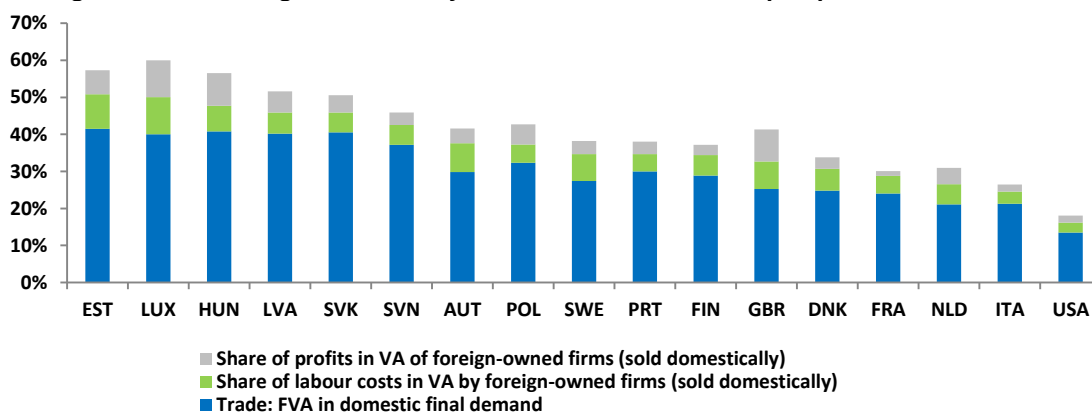


Source: OECD-WTO Trade in Value Added Data, OECD AMNE and OECD FDI (BMD4) statistics

**This broader perspective can also shed light on how foreign firms serve the domestic market**

Foreign producers supply products and services for final consumption through trade (foreign value added in domestic final demand) blue bar, and sales by foreign affiliates sold domestically (green and grey bar) (Figure 11). Foreign production can be split between labour costs and profits, the profit component of value added by foreign-owned firms can be repatriated to the parents. Due to limited data availability, the following chart cannot be reproduced for Switzerland, but it is likely that foreign firms serve the Swiss market more through trade than through investment as in other economies.

**Figure 11. How foreign firms serve your market: a value added perspective, 2014**



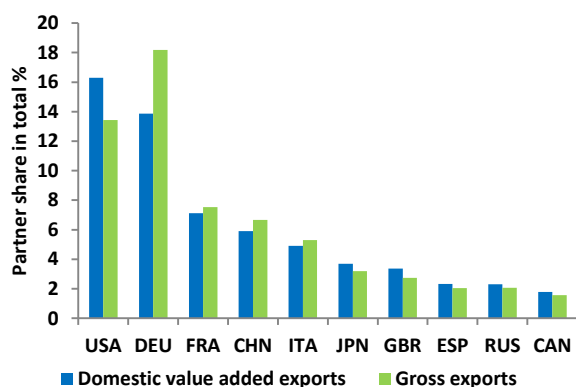
Source: OECD-WTO Trade in Value Added Data, OECD AMNE and OECD TEC statistics

## Trade and investment by partner country

### Trade measured from a value added perspective better reflects the bilateral relationships

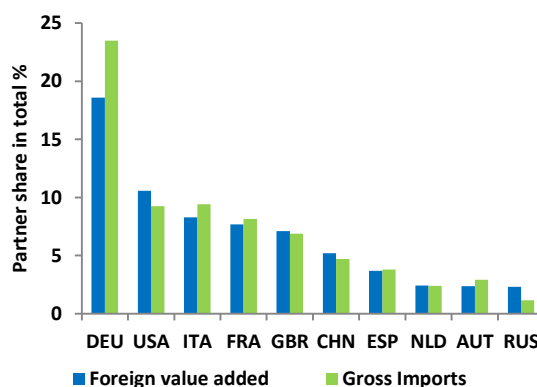
Gross bilateral trade figures can disguise the true nature of trade interdependencies, particularly between final consumers in one country and producers at upstream parts of the value chain. For example, gross figures suggest that Germany is the top destination for Swiss exports; however, from a value added point of view, the United States is actually the main destination for Swiss production. On the import side, the Netherlands is a larger supplier to the Swiss market than Austria, this is not evident using gross data.

**Figure 12. Exports: gross and value added terms, by partner country, 2014**



Source: OECD-WTO TiVA data

**Figure 13. Imports: gross and value added terms, by partner country, 2014**

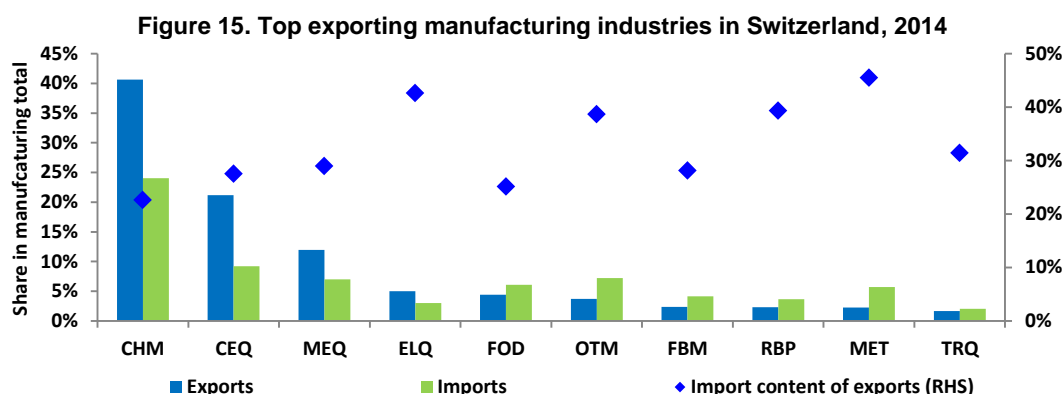


Source: OECD-WTO TiVA data

Figure 14, supplying the domestic market through trade and investment, cannot be produced for Switzerland due to data availability.

# Trade and investment by industry

The top manufacturing exporting industries in Switzerland are chemicals and chemical products (CHM), computers and electronics (CEQ) and machinery and equipment (MEQ). The import content of exports is relatively high across industries—illustrating the role that importing plays in supporting exports and indicating the degree of GVC integration in these industries.



Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics. See page 10 for a description of industry codes.

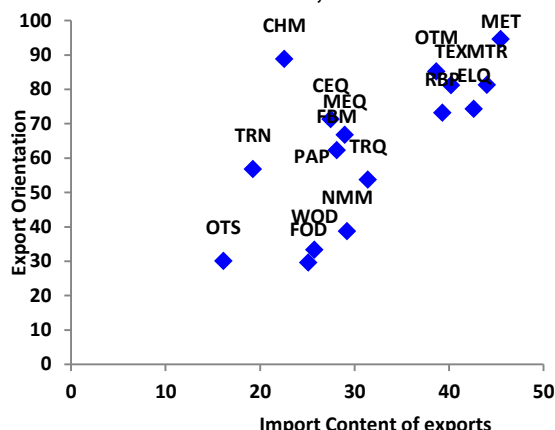
## Exports and imports go hand in hand...

Across most industries there is a strong positive correlation between higher import content of exports and a higher share of their domestic value-added being exported (export orientation) illustrating the strong complementarity of exports and imports. Figure 17, foreign investment and export orientation, and figure 18, goods trade by ownership and industry, cannot be produced for Switzerland due to data limitations.

## Service industries play an important role in the export orientation of an economy...

Typically, services account for a large share of the value added in the economy but conventional gross trade statistics understate this as they cannot reveal the contribution that the upstream services industry plays in the production of goods exports. Accounting for this contribution, the services content of Switzerland’s total exports of goods and services was 63% in 2014 (Figure 19), at the higher end of OECD countries. Considering the services content of manufactured goods alone, 43% of manufacturing exports reflects services value added, significantly above the OECD average of 36%.

**Figure 16. Import content of exports and export orientation, 2014**



Source: OECD-WTO TiVA data and OECD AMNE statistics





## Links and data sources

### **Guide to the trade and investment statistical notes**

[www.oecd.org/investment/Guide-trade-investment-statistical-country-notes.pdf](http://www.oecd.org/investment/Guide-trade-investment-statistical-country-notes.pdf)

**Activity of Multinational Enterprises - AMNE** [www.oecd.org/sti/ind/amne.htm](http://www.oecd.org/sti/ind/amne.htm)

### **OECD Benchmark Definition of Foreign Direct Investment - 4th Edition (BMD4)**

(see Chapter 8 for information on the intersection of AMNE and FDI data)

[www.oecd.org/investment/fdibenchmarkdefinition.htm](http://www.oecd.org/investment/fdibenchmarkdefinition.htm)

**Foreign Direct Investment (FDI) Statistics** [www.oecd.org/investment/statistics.htm](http://www.oecd.org/investment/statistics.htm)

### **Trade by Enterprise Characteristics - TEC**

[www.oecd.org/std/its/trade-by-enterprise-characteristics.htm](http://www.oecd.org/std/its/trade-by-enterprise-characteristics.htm)

### **Trade in Value Added - TiVA**

[www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm](http://www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm)

## Annex: Further data requirements

To make this note as informative as those of other OECD countries, more detailed data about Swiss trade and investment are needed. Primarily, more complete data on foreign-owned firms or inward AMNE statistics at the aggregate, industry and partner country level. Data on the value added by foreign-owned firms, their labour and personnel costs and gross operating surplus would greatly enhance the extent of the analysis that could be completed (Figures 8, 9, 10, 11, 13, 15, 16, 17). Secondly, data on trade by enterprise characteristics (TEC) would benefit the analysis. In the case of Switzerland this is particularly important given the scale of domestic industry and outward investment and the location of Swiss enterprises at the start of GVCs, in this vein not only trade by domestic or foreign –owned firms, but information on the domestic enterprises; whether they are domestic MNEs or domestic non-MNEs.

## Table of industry codes

Industry Type	Ind Code	Industry Description
<b>Primary Industries</b>	<b>AGR</b>	Agriculture, hunting, forestry and fishing
	<b>MIN</b>	Mining and quarrying
<b>Manufacturing</b>	<b>FOD</b>	Food products, beverages and tobacco
	<b>TEX</b>	Textiles, textile products, leather and footwear
	<b>WOD</b>	Wood and products of wood and cork
	<b>PAP</b>	Pulp, paper, paper products, printing and publishing
	<b>PET</b>	Coke, refined petroleum products and nuclear fuel
	<b>CHM</b>	Chemicals and chemical products
	<b>RBP</b>	Rubber and plastics products
	<b>NMM</b>	Other non-metallic mineral products
	<b>MET</b>	Basic metals
	<b>FBM</b>	Fabricated metal products except machinery and equipment
	<b>MEQ</b>	Machinery and equipment n.e.c
	<b>CEQ</b>	Computer, electronic and optical products
	<b>ELQ</b>	Electrical machinery and apparatus n.e.c
	<b>MTR</b>	Motor vehicles, trailers and semi-trailers
	<b>TRQ</b>	Other transport equipment
	<b>OTM</b>	Manufacturing n.e.c; recycling
	<b>Services</b>	<b>EGW</b>
<b>CON</b>		Construction
<b>WRT</b>		Wholesale and retail trade; repairs
<b>HTR</b>		Hotels and restaurants
<b>TRN</b>		Transport and storage
<b>PTL</b>		Post and telecommunications
<b>FIN</b>		Finance and insurance
<b>REA</b>		Real estate activities
<b>RMQ</b>		Renting of machinery and equipment
<b>ITS</b>		Computer and related activities
<b>BZS</b>		Research and development & Other Business Activities
<b>GOV</b>		Public admin. and defence; compulsory social security
<b>EDU</b>		Education
<b>HTH</b>		Health and social work
<b>OTS</b>		Other community, social and personal services
<b>PVH</b>	Private households with employed persons	