International trade, foreign direct investment and global value chains

OECD

2017

JAPAN

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.

Although Japan is one of the largest OECD members, accounting for 8% of OECD GDP in 2015, its shares of OECD total trade and investment are lower than its share of GDP. Japanese exports and imports each accounted for 6.5% of the OECD totals; Japanese outward investment accounted for 6% of OECD total outward FDI, and inward investment accounted for just 1%. Japan is considerably below the OECD average in terms of export orientation as measured by the share of domestic value added that meets foreign final demand, at 14% of GDP, but is similar to the United States, another large economy. The import content of exports, an indicator of GVC integration, is relatively low for Japan at the aggregate level. Combined, these figures suggest that Japan participates in GVCs mainly through its domestic MNEs (or outward investment). Under a broader notion of international orientation that captures the impact on national income of both exports and sales through foreign affiliates, Japan's international orientation would likely be higher as it is a net outward investor, but, unfortunately, it cannot be calculated for Japan due to a lack of the needed data.

Looking at trade in value added as opposed to gross trade illustrates that the United States is a more important trade partner than China, highlighting the stronger dependencies of the Japanese economy to American consumers. From the import perspective, Japanese consumers are most reliant on value added from China, consistent with the gross import data.

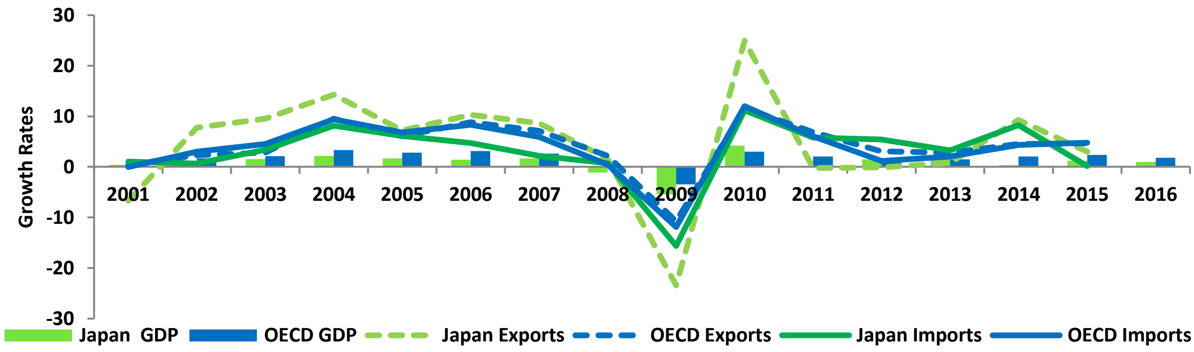
The top manufacturing exporting industries in Japan are computer, electronic and optical products (CEQ), motor vehicles (MTR) and machinery and equipment (MEQ). The import content of exports varies across manufacturing industries, but is high for the top exporters, illustrating the role that importing plays in supporting exports and indicating the degree of GVC integration of these industries.

Trade and investment in Japan

Growth in trade has recovered since the crisis and tsunami of 2011 but slowed in 2015

Like most economies, Japanese trade contracted significantly at the height of the crisis. Although it picked up in 2010, outpacing GDP growth, the impacts of the 2011 tsunami were evident in the following years. Preceding the crisis, Japanese export growth largely outpaced their import growth as well as OECD export growth; however, post 2011, import growth was higher than that of exports until 2014. In recent years, export growth has regained ground, but a drop in trade growth is evident for 2015.

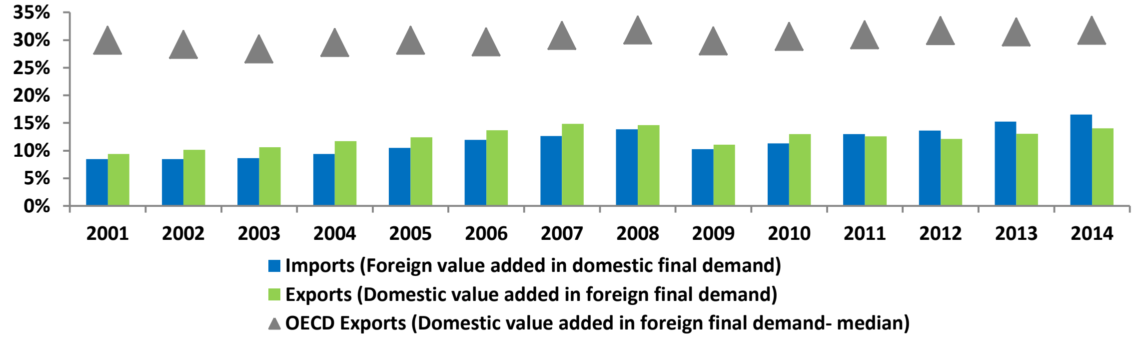
Figure 1. Growth rates of trade and GDP for the OECD and Japan, 2001-2016



Source: OECD SNA

Gross exports amounted to USD 773 billion in 2015 (18% of GDP), and gross imports to USD 787 billion (19% of GDP). Gross trade figures however overstate the 'real' contribution of trade to the economy. In value added terms, exports contributed 14% of total GDP in 2014, down slightly from 2008, while the share of imports in domestic final demand reached 17% of GDP in 2014. Japanese exports (domestic value added that meets foreign final demand) are substantially below the OECD median value.

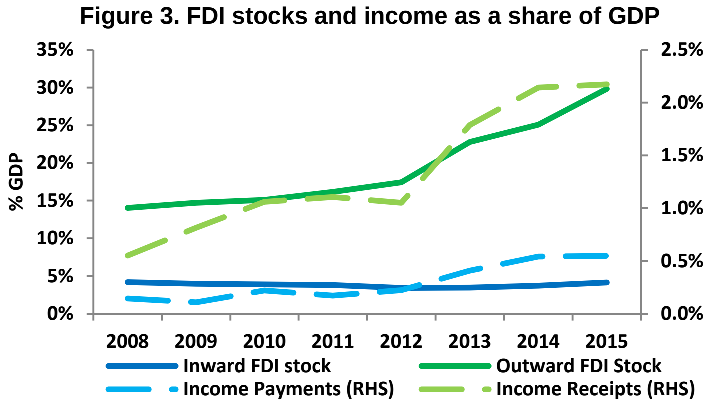
Figure 2. Trade in value added terms, imports and exports, 2001-2014



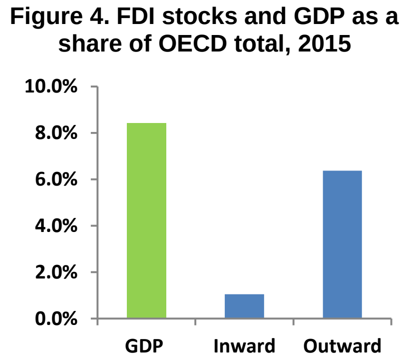
Source: OECD-WTO Trade in Value Added Data

Investment is substantially more outward than inward

Outward FDI has increased since 2012, while inward FDI has remained broadly stable, further adding to the significant outward orientation of Japanese investment. In 2015, outward stock was equivalent to 30% of GDP, while inward FDI stocks were much smaller at 4%. Outward FDI stocks as a share of the OECD total (6.4%) were below Japan's share of OECD GDP (8.4%) in 2015, and inward stocks accounted for a considerably smaller 1% of the OECD total (Figure 4).



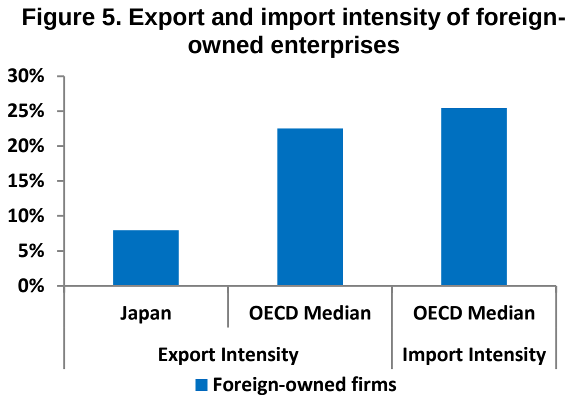
Source: OECD FDI Statistics (BMD4)



Source: OECD FDI Statistics (BMD4)

Foreign-owned firms directly sustained half a million jobs in 2013…

Reflecting its relatively low amount of foreign investment compared to other OECD economies, there were just 2,905 foreign-owned enterprises, accounting for just 1% of private labour force employment in 2013.



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

Source: OECD AMNE statistics

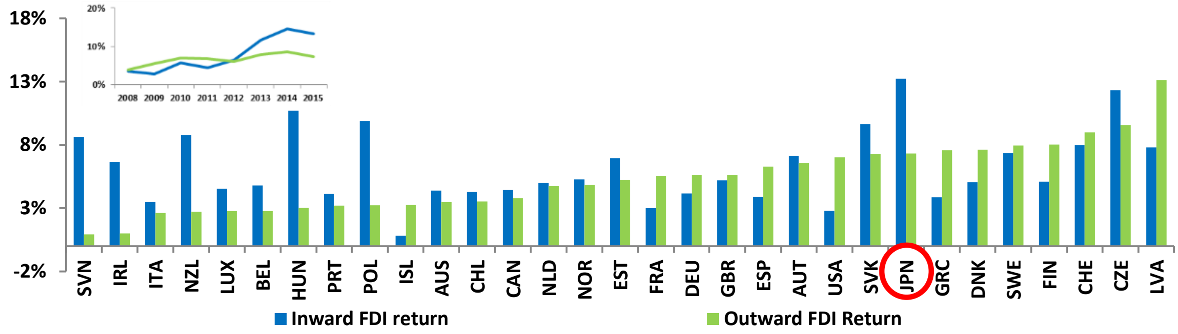
…across the OECD, foreign-owned firms are more export intensive than domestically owned firms

On average, across the OECD foreign-owned firms are more export and import intensive than their domestic counterparts. In Japan, foreign owned firms are less export intensive (share of exports in turnover) than foreign owned firms in the OECD. Their export intensity is much lower than the OECD median (Figure 5), partly reflecting a relative orientation towards serving the comparatively large Japanese market. Figure 5B shows the impact of the 2011 tsunami on the export behaviour of foreign-owned firms.

Domestic MNEs provide important channels to penetrate foreign markets via affiliates…

In 2015 Japan received USD 89 billion in income from its outward investment, comparable, as a share of GDP, to 2 per cent (Figure 6, blue bar). Japan's rate of return on its outward FDI is 7.3%, above the OECD median (green bar). This return has been increasing over time.

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

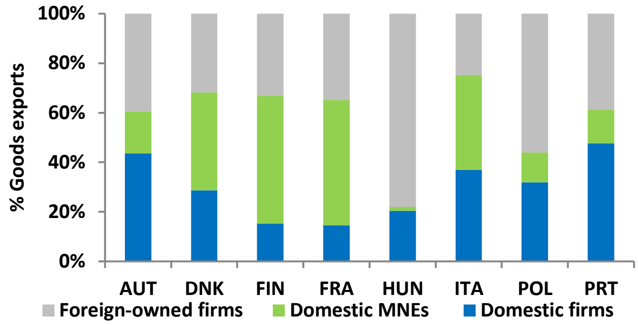


Source: OECD FDI Statistics (BMD4)

…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. For Japan it is likely that domestic MNEs are the main traders of goods.

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

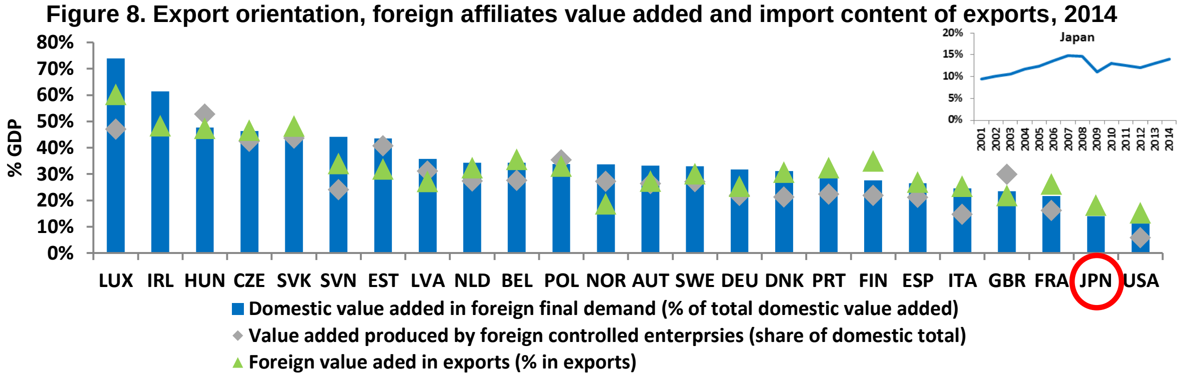


Source: OECD TEC statistics (2011)

Japan's export orientation is low relative to other OECD members

Although exports (in value added terms) contribute around 14% of Japan's GDP, this is low compared to other OECD economies, but comparable to the United States, another large economy. This may in part reflect low levels of inward investment and their relative inward orientation (compared to other OECD economies), resulting in both a lower integration in GVCs (as measured by its import content of exports) and a lower export orientation. While Japan does not publish data on the value added of foreign-owned firms (grey diamond), it is likely to be quite low as a share of GDP given the low levels of inward FDI. Japan's export orientation has increased since 2012 but remains below the level of 2007.

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

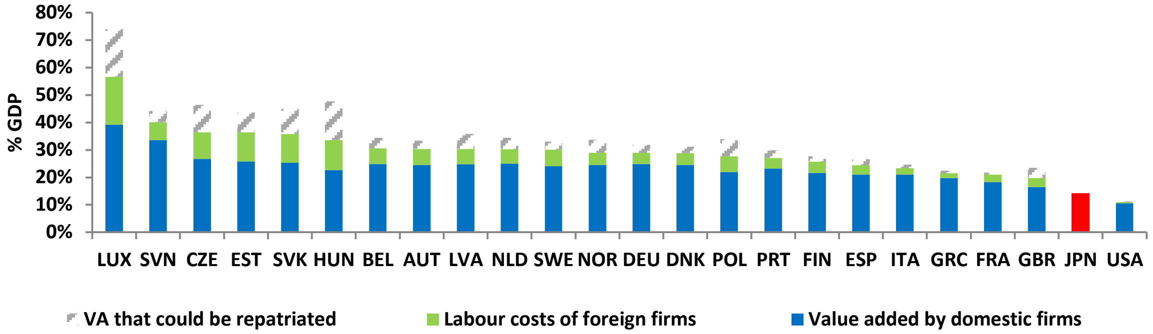


Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics

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 benefits as the profits earned by foreign-owned firms through exports are repatriated if they are not reinvested. Figure 9 shows the value added in exports that remains in the economy by identifying value added by domestically-owned firms (blue bar) and the wages paid by foreign-owned firms (green bar) which likely remain in the economy. It identifies the profits of foreign-owned firms (grey bar) which can be repatriated. Given the low inward investment in Japan, it is likely that much of Japan's domestic value added content in exports (12%) stays in the economy, similar to that of the United States, (due to data availability the split cannot be produced for Japan).

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

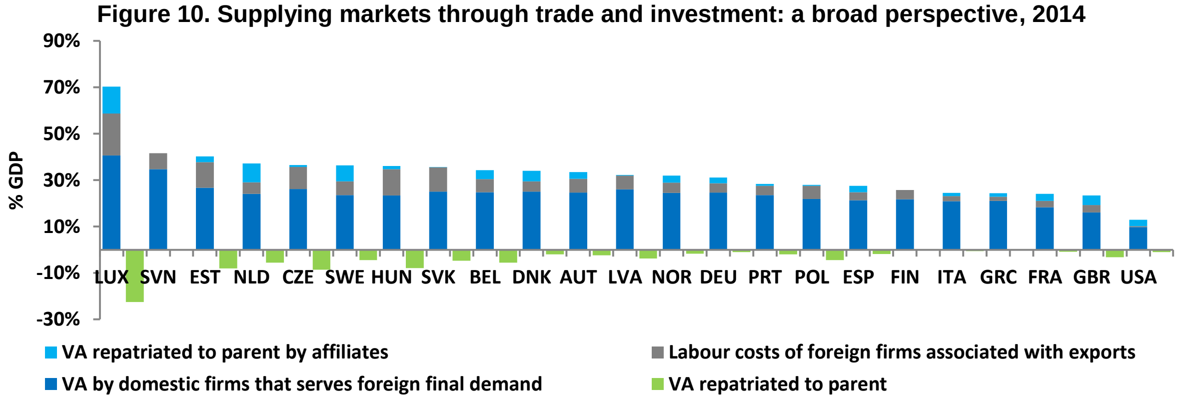


Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics

Taking a broader view by including the income of foreign affiliates can provide a more complete picture of the international orientation of an 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-owned 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 below the bar for information purposes (green bar). Due to limited data availability the following chart cannot be reproduced for Japan, but it is likely the broader measure would increase Japan's export orientation as it is a net outward investor.

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

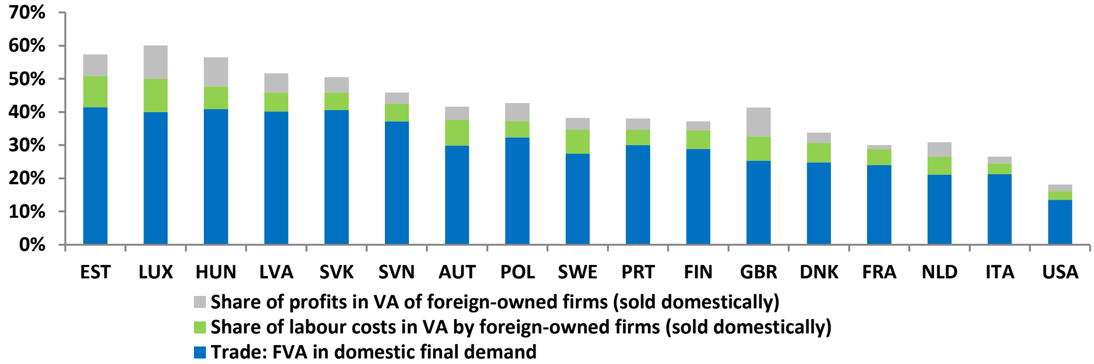


Source: OECD-WTO Trade in Value Added Data, OECD AMNE and OECD FDI (BMD4) statistics

This broader perspective can also shed light on how foreign firms serve a 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 produced for Japan, but it is likely that foreign firms serve the Japanese market more through trade than through investment as in other economies.

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



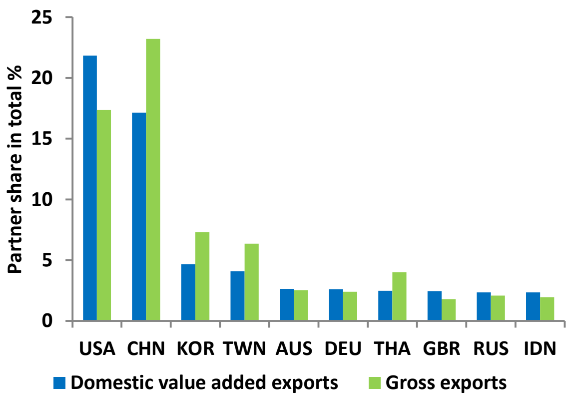
Source: OECD-WTO Trade in Value Added Data, OECD AMNE and OECD TEC statistics

Trade and investment by partner country

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

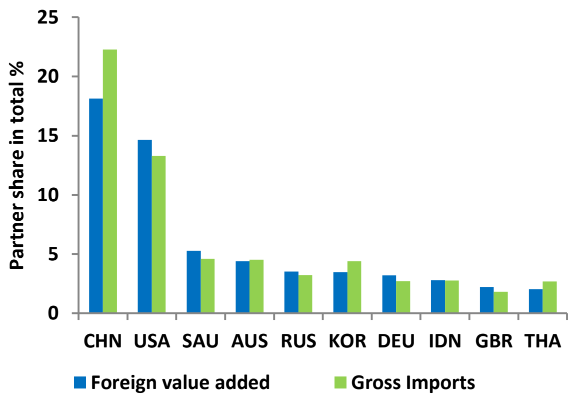
Gross bilateral trade figures can disguise the true nature of trade interdependencies, particular between final consumers in one country and producers at upstream parts of the value chain. Looking at domestic value added in foreign final demand (exports), the United States is a more important trade partner than China, the most important partner according to the gross figures. This highlights the strong dependencies of the Japanese economy to American consumers. Japanese consumers are most reliant on value added from China, consistent with the gross import 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



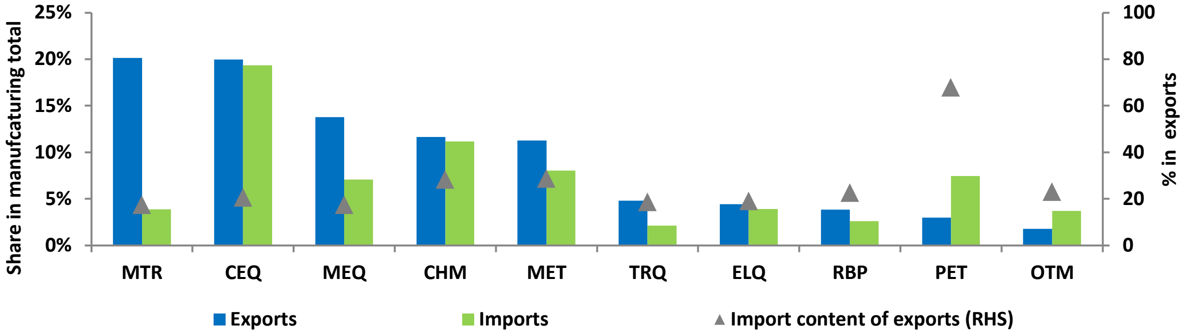
Source: OECD-WTO TiVA Data

Figure 14, Supplying the domestic market via trade and investment, cannot be produced for Japan due to limited data availability.

Trade and investment by industry

The top manufacturing exporting industries in Japan are motor vehicles (MTR), computer, electronic and optical products (CEQ) and machinery and equipment (MEQ). The import content of exports varies across industries although are typically high–illustrating the role that importing plays in supporting exports and indicating the degree of GVC integration of these industries.

Figure 15. Top exporting manufacturing industries in Japan, 2014

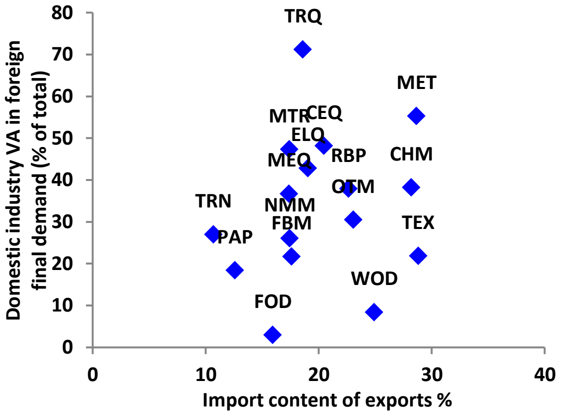


Source: OECD-WTO Trade in Value Added Data, and OECD AMNE statistics. See page 10 for a description of industry codes.

Exports and imports often go hand in hand…..

Across many OECD countries, there is a strong 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 imports and exports. In the case of Japanese manufacturing industries (Figure 16), this is less obvious, reflecting a greater role for domestic, rather than imported, supply of inputs. Figure 17, foreign investment and export orientation, and figure 18, trade by enterprise type and industry, cannot be produced for Japan due to data limitations.

Figure 16. Import content and export orientation, by industry for Japan, 2014

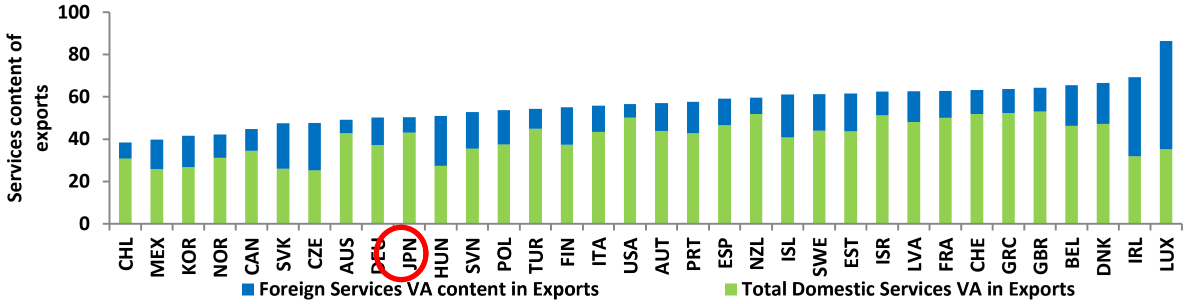


Source: OECD-WTO TiVA Data

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 Japan's total exports of goods and services was 50% in 2014 (Figure 19), towards the lower end in the OECD, and Japan had a relatively low share of foreign (i.e., imported) services content in its exports. Japan also had one of the lowest shares of services embodied in its exports of manufactured goods, at one third, within the OECD.

Figure 19. Services content of exports for OECD countries, 2014

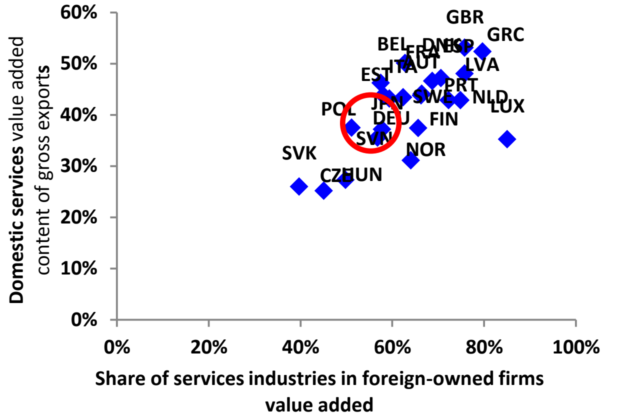


Source: OECD-WTO TiVA Data

…and so inward FDI in the services sector can be an important channel for export success

Figure 20 shows a positive relationship between foreign investment in the services industry and the domestic services value added content of exports across OECD economies. That is, greater foreign investment in the services sector is associated with higher services content in exports. Japan has a relatively low service content of exports and relative to other OECD countries, a low share of foreign investment goes to services industries.

Figure 20. Share of services industries in foreign-owned firms value added and domestic services value added content of gross exports, 2014



Source: OECD-WTO TiVA data and OECD AMNE statistics
Note: For Japan, the share of inward FDI in services of total inward FDI is used as value added data are not available.

Links and data sources

Guide to the trade and investment statistical notes
www.oecd.org/investment/Guide-trade-investment-statistical-country-notes.pdf

Activity of Multinational Enterprises - AMNE 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

Foreign Direct Investment (FDI) Statistics www.oecd.org/investment/statistics.htm

Trade by Enterprise Characteristics - TEC
www.oecd.org/std/its/trade-by-enterprise-characteristics.htm

Trade in Value Added - TiVA
www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm

Annex: Further data requirements

To make this note as informative as those of other OECD members, more detailed data about Japanese 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, 13,16, 17).

Secondly, data on trade by enterprise characteristics (TEC) would benefit the analysis. In the case of Japan this is particularly important given the scale of domestic industry and the location of Japan 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
Primary Industries	AGR	Agriculture, hunting, forestry and fishing
	MIN	Mining and quarrying
Manufacturing	FOD	Food products, beverages and tobacco
	TEX	Textiles, textile products, leather and footwear
	WOD	Wood and products of wood and cork
	PAP	Pulp, paper, paper products, printing and publishing
	PET	Coke, refined petroleum products and nuclear fuel
	CHM	Chemicals and chemical products
	RBP	Rubber and plastics products
	NMM	Other non-metallic mineral products
	MET	Basic metals
	FBM	Fabricated metal products except machinery and equipment
	MEQ	Machinery and equipment n.e.c
	CEQ	Computer, electronic and optical products
	ELQ	Electrical machinery and apparatus n.e.c
	MTR	Motor vehicles, trailers and semi-trailers
	TRQ	Other transport equipment
	OTM	Manufacturing n.e.c; recycling
Services	EGW	Electricity, gas and water supply
	CON	Construction
	WRT	Wholesale and retail trade; repairs
	HTR	Hotels and restaurants
	TRN	Transport and storage
	PTL	Post and telecommunications
	FIN	Finance and insurance
	REA	Real estate activities
	RMQ	Renting of machinery and equipment
	ITS	Computer and related activities
	BZS	Research and development & Other Business Activities
	GOV	Public admin. and defence; compulsory social security
	EDU	Education
	HTH	Health and social work
	OTS	Other community, social and personal services
	PVH	Private households with employed persons