International trade, foreign direct investment and global value chains

2017

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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.

Hungary is an open and internationally engaged economy, reflected in high volumes of both gross and value added trade and inward investment. Inward investment helps integrate the Hungarian economy into GVCs; foreign-owned firms are three times as export intensive as domestic firms. Reflecting their substantial presence, foreign affiliates directly support a quarter of all private sector jobs and half the private sector's value added. Hungary is one of the most export orientated countries in the OECD with 48% of its domestic value added being exported.

Taking a broader view of international orientation that captures the impact on national income of both exports and sales through foreign affiliates, Hungary has a lower international orientation than trade data alone suggest (36% of GDP) because it is a net recipient of inward investment. Nevertheless, it remains towards the upper end of OECD countries and the wages paid by foreign-owned firms are equivalent to 11% of Hungarian GDP, one of the highest in the OECD.

Considering both trade and investment can also shed new light on Hungary's most important partner countries. For example, Germany remains the most important partner, but, once activities of foreign affiliates are included, Austria and France become more important than Italy. Hungary supplies foreign markets mainly through trade, consistent with its relatively low outward investment.

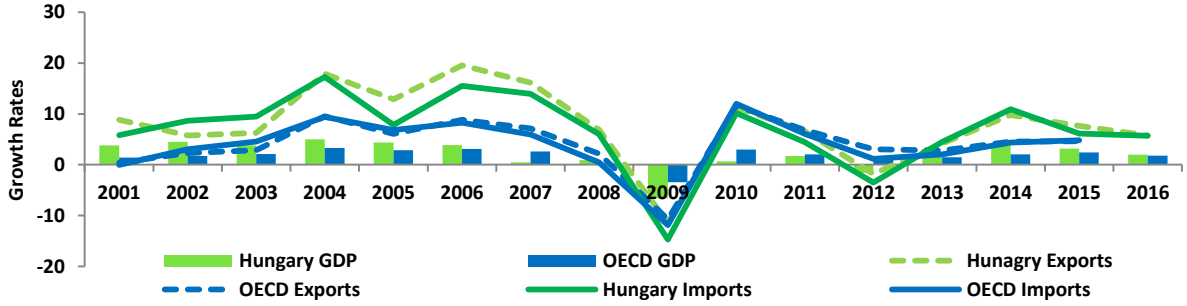
Hungary’s exports and inward investment are more focused on manufacturing than services. The computer electronics and motor vehicles industries are Hungary’s top exporting industries; both have high shares of value added produced by foreign-owned firms and high import content in their exports, an indicator of GVC integration.

Trade and investment in Hungary

Growth in trade has recovered since the global and euro crises

Like many European economies, Hungarian trade contracted significantly at the height of the global crisis and again during the euro crisis. Having outpaced OECD growth in trade for the pre-crisis years, Hungarian growth was below or close to the OECD growth after 2010. While Hungarian trade again outpaced the OECD rates from 2013, their growth slowed in 2015. In 2016, Hungarian growth in exports was 5.8% and 5.7% for imports, marginally below 2015 values.

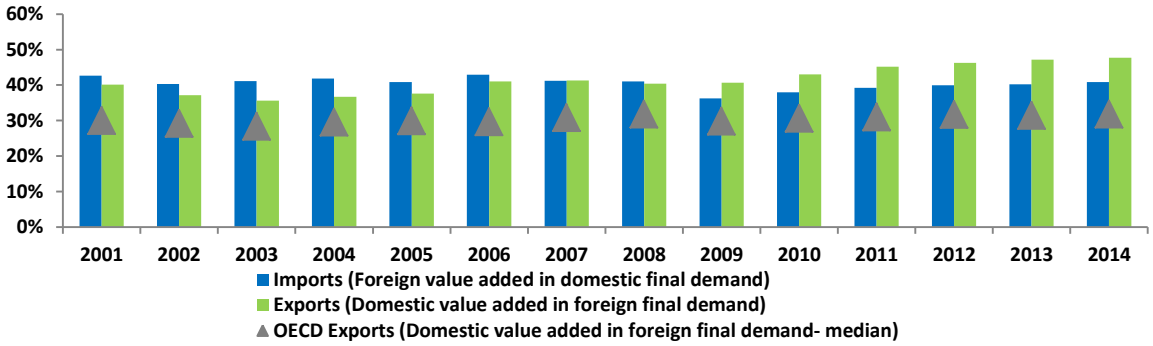
Figure 1. Growth rates of trade and GDP for the OECD and Hungary, 2001-2016



Source: OECD SNA

Gross exports amounted to USD 115 billion in 2016 (110% of GDP), and gross imports to USD 102 billion (97% of GDP). Gross trade figures however overstate the 'real' contribution of trade to the economy. In value-added terms, exports contributed 48% of total GDP in 2014, the highest value recorded in Hungary and substantially above the OECD median. The contribution of direct and indirect imports to domestic final demand measured 41% in 2014.

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

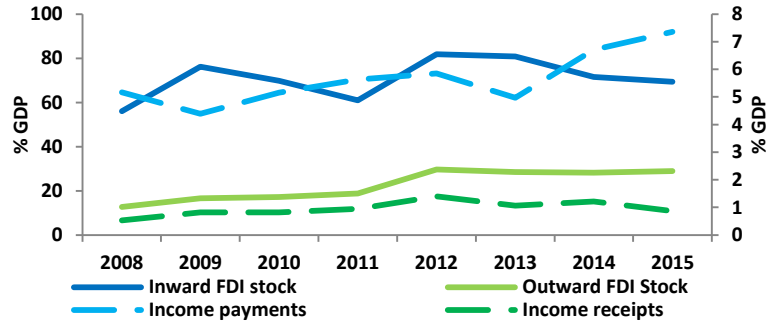


Source: OECD-WTO Trade in Value Added Data

Investment is more inward than outward

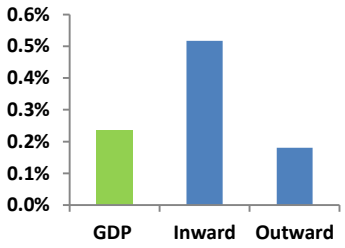
Despite the investment growth in outward FDI stock as a share of GDP and a drop since 2012 in the share of inward FDI, FDI remains heavily inward orientated in Hungary (Figure 3). In 2015, Hungary's share of the OECD total outward FDI stock is about the same as the share of GDP (0.2%), but its share in the inward stock is over twice as high (0.5%) (Figure 4).

Figure 3. FDI stocks and income as a share of GDP total



Source: OECD FDI Statistics (BMD4)

Figure 4. FDI stocks and GDP as a share of OECD total, 2015



Source: OECD FDI Statistics (BMD4)

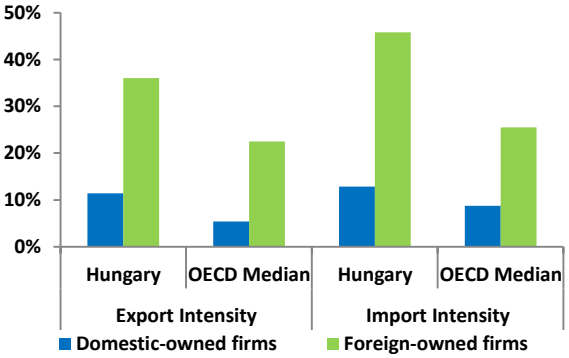
Foreign-owned firms directly sustained 25% of jobs in the private sector in 2013….

Reflecting the relatively large size of inward investment compared to other OECD economies, foreign-owned enterprises accounted for 25% of jobs in the private sector in 2014 and 53% of private sector value added produced in Hungary, excluding the agriculture and finance sectors.

…and are more export intensive than domestically owned firms

On average, foreign-owned firms in Hungary are three times as export intensive (share of exports in turnover) as domestically owned firms. The import intensity of foreign-owned firms (share of imports in purchases) is also significantly higher for foreign-owned than domestic firms. Hungarian domestic and foreign-owned firms are both more export and import intensive than the OECD median.

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

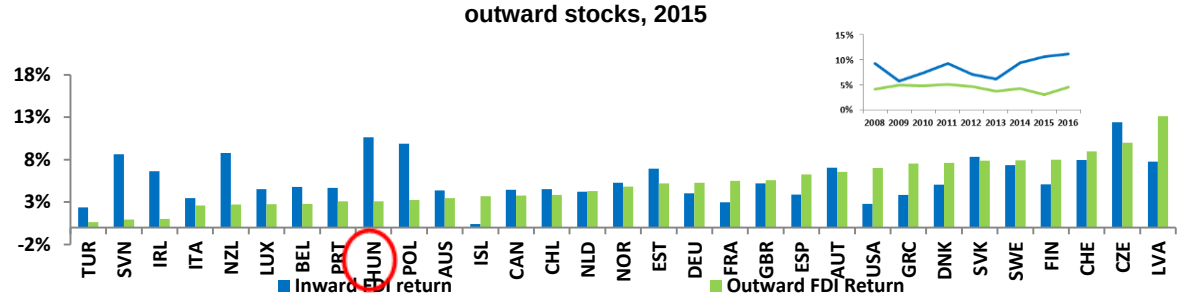


Source: OECD AMNE and Trade by Enterprise Characteristics (TEC) statistics (2011)

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

In 2015, Hungary received USD 1 billion in income from its outward investment, comparable, as a share of GDP, to approximately 1%. Hungary's rate of return at 3.1% (green bar), on its outward FDI is below the OECD median, and is lower than it was in 2011 (see chart insert). On the other hand the return to foreign investors in Hungary was 10.6% in 2015, one of the highest in the OECD.

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

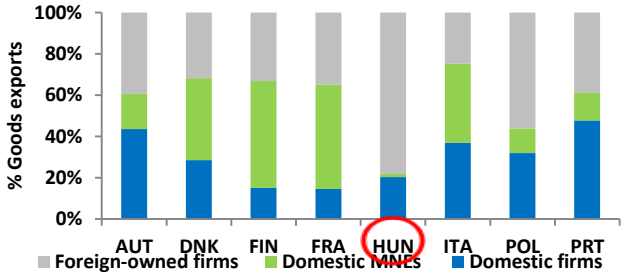


Source: OECD FDI Statistics (BMD4)

…and via exports

Reflecting the strong inward investment in Hungary–almost 80% of goods exports is by foreign-owned firms, 20% are by domestic firms, while one per cent is by domestic MNEs. So, it is foreign investment rather than domestic MNEs that drive Hungarian GVC participation.

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

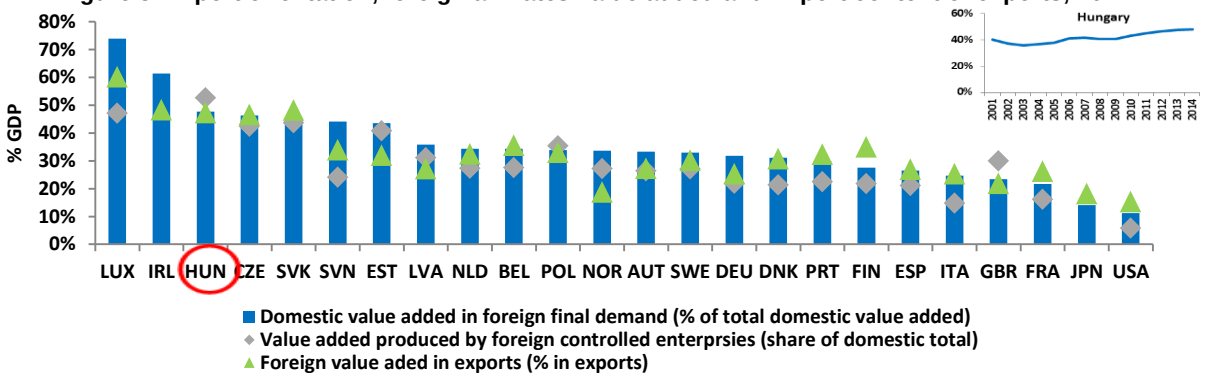


Source: OECD TEC statistics (2011)

Hungary's export orientation is high relative to similarly sized economies

Exports (in value added terms) contribute around 48% of Hungarian GDP, this is one of the highest in the OECD, which likely reflects high levels of inward investment and their high export intensity, contributing to Hungary's relatively high integration in GVCs as measured by its import content of exports. The chart insert illustrates that Hungarian export orientation has been increasing over time.

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



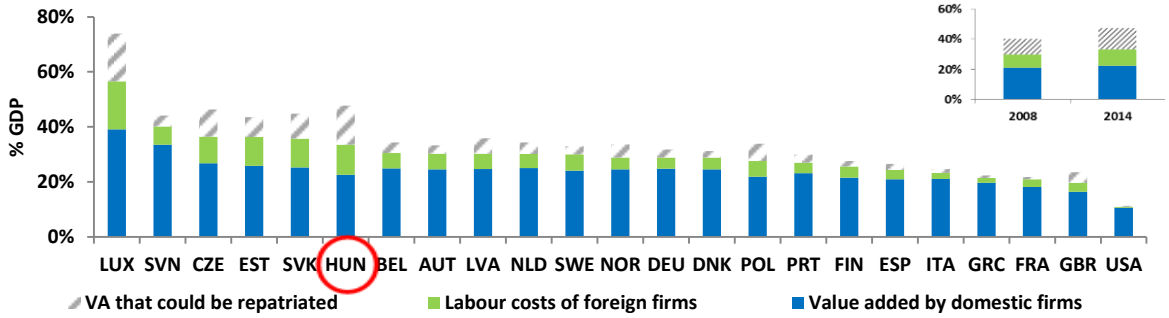
Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics

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 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. Excluding these profits Hungarian exports contain 33% of value-added that remains in the economy. So, almost one third of Hungary's exported domestic value added represents profits of foreign-owned firms while 23% represent the labour costs of these firms. The share of value added that remains in the economy increased since 2008, (see chart insert).

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

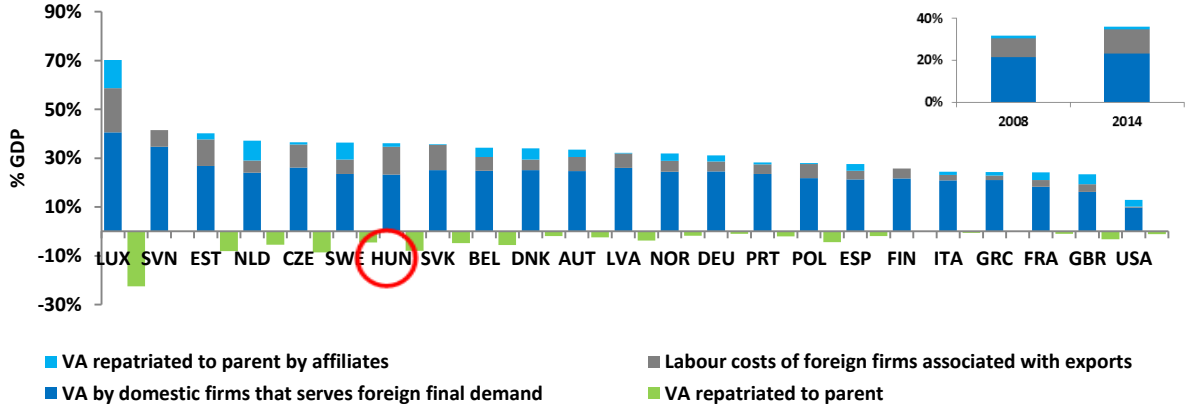


Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics

Taking a broader view by including the income of foreign affiliates can provide a more complete picture of the international orientation of the Hungarian 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). For Hungary, this broader measure is less than the export orientation measure from TiVA because Hungary is a net recipient of FDI. Hungary remains at the upper end of OECD countries using this measure, and this has increased since 2008, largely due to growth in wages paid by foreign-owned firms (see chart insert).

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

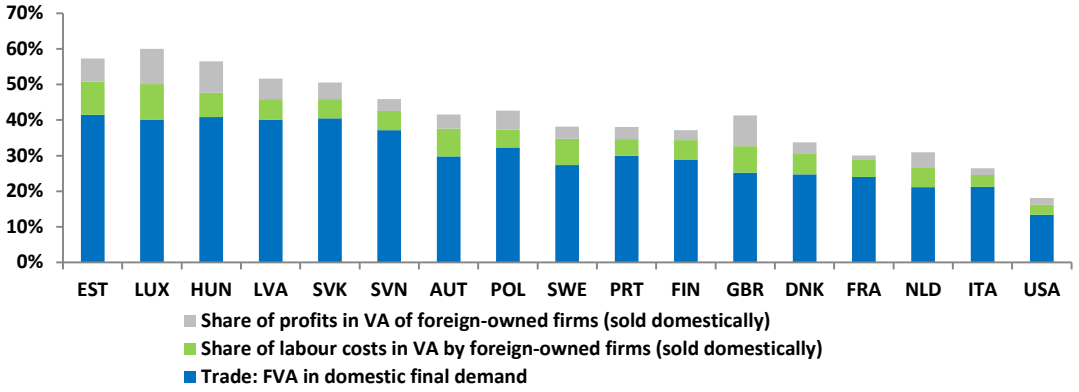


Source: OECD-WTO Trade in Value Added Data, OECD AMNE and OECD FDI (BMD4) statistics

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

Foreign producers supply products and services for Hungarian final consumption equivalent to 57% of GDP, the majority is through trade (foreign value added in Hungarian final demand equals approximately 40% of GDP), but value added generated by foreign-owned firms in Hungary for domestic (non-export) sales (Figure 11) accounts for almost 20% of GDP, more than most other OECD economies. Although some of this value added can be repatriated to parents, the amount generated that is paid in wages is 7% of GDP, one of the highest in the OECD.

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



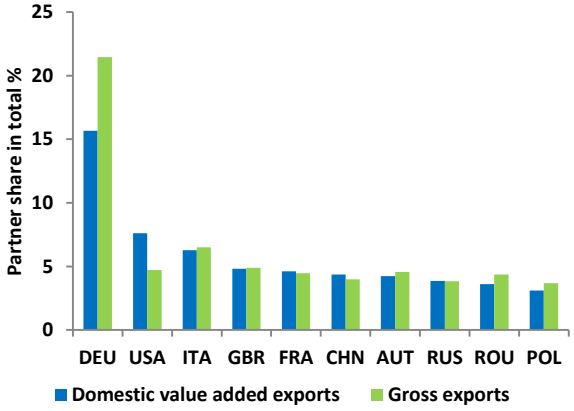
Source: OECD-WTO Trade in Value Added Data, OECD AMNE and OECD TEC statistics

Trade and investment by partner country

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

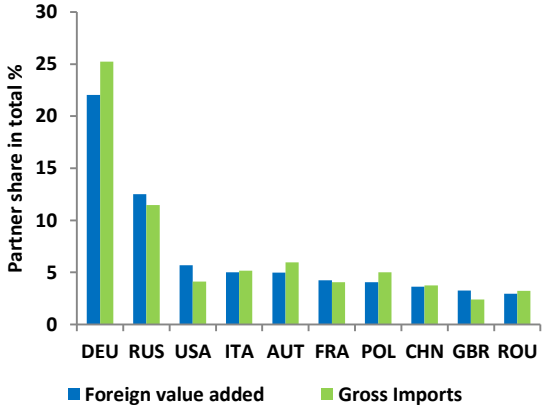
Gross bilateral trade figures can disguise the true nature of trade interdependencies, particular between final consumers in one country and producers at upstream parts of the value chain. For example, more exports of Hungarian value added are destined for the United States than Italy, contrary to what gross data suggest. While imports from Austria are less important than those from the United States and Italy once value added data are used.

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



Source: OECD-WTO TiVA Data

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

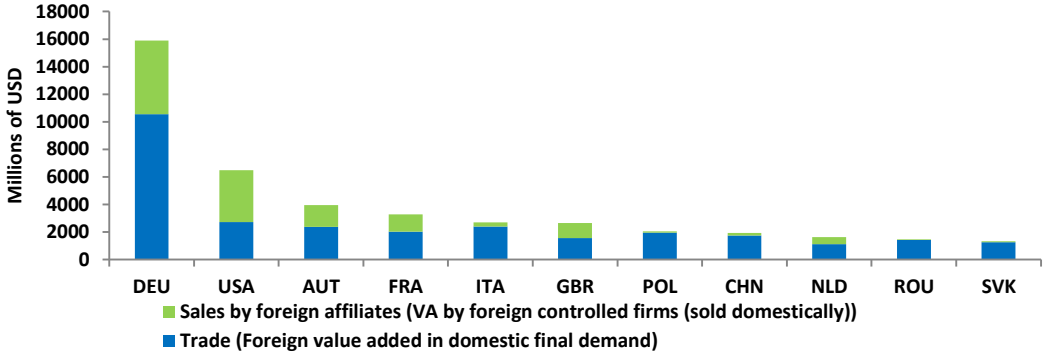


Source: OECD-WTO TiVA Data

…and interdependencies are further revealed when looking at the broader notion of 'trade'

Foreign firms can serve an economy though trade or sales by foreign affiliates; bringing the trade and investment perspectives together can shed a different light on who a country's most important partners are (Figure 14). Substantial variation exists across countries in how they supply the Hungarian market. For example, while Germany, the United States, Austria France, and the United Kingdom supply Hungary via trade and sales by foreign affiliates, Italy, Poland and China do so almost entirely through trade.

Figure 14. Supplying the Hungarian market via trade and investment: Top 10 partner countries, 2014



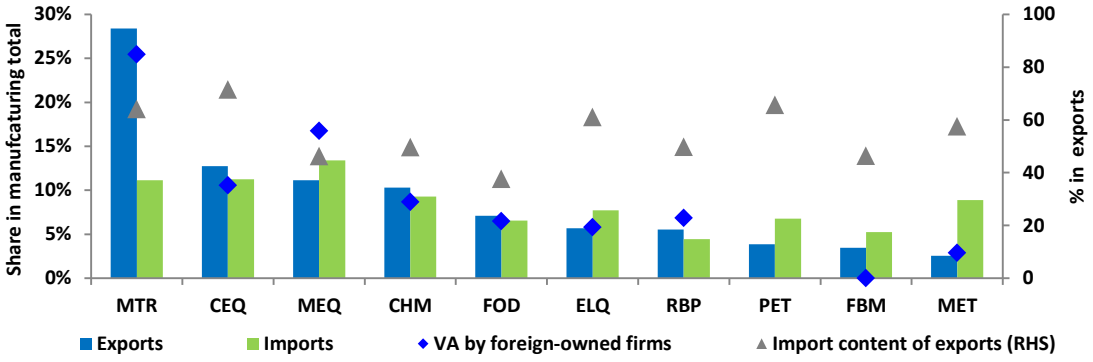
Source: OECD-WTO TiVA Data and OECD AMNE statistics

Trade and investment by industry

Inward investment helps shape Hungary's GVC integration

The top manufacturing exporting industries in Hungary are motor vehicles (MTR), computer electronic and optical products (CEQ) and machinery and equipment (MEQ). The import content of exports is high across industries these industries–illustrating the role that importing plays in supporting exports and indicating the degree of GVC integration in these industries. MEQ and the MTR account for the highest shares of value added by foreign-owned firms.

Figure 15. Top exporting manufacturing industries in Hungary, 2014

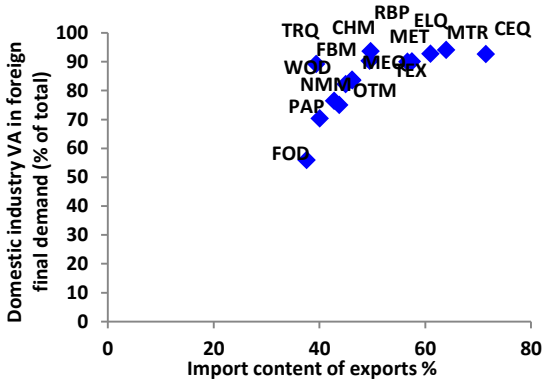


Source: OECD-WTO Trade in Value Added Data and OECD AMNE statistics. See page 10 for a description of industry codes.

Exports and imports go hand in hand…

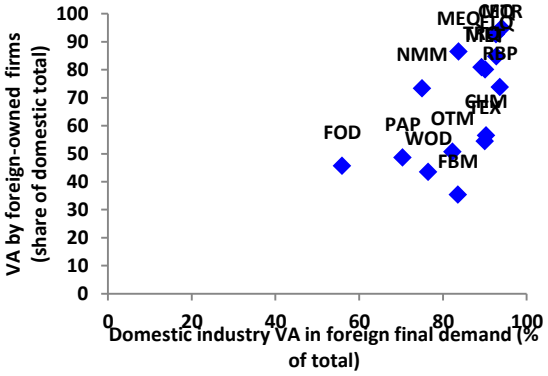
Across most industries there is a strong correlation between higher import content of exports and a higher share of their domestic value-added being exported (export orientation) illustrating the strong complementarity of exports and imports.

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



Source: OECD-WTO TiVA Data and OECD AMNE statistics

Figure 17. Foreign-owned firms and export orientation, 2014

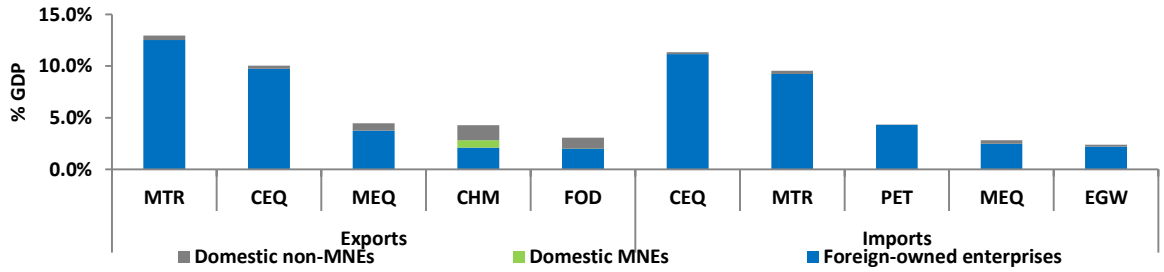


Source: OECD-WTO TiVA Data and OECD AMNE statistics

...and investment and export orientation can also go hand in hand

At the same time, strong complementarities exist between inward investment and export orientation (Figure 17). For Hungary, the industries where foreign-owned firms produce more of the value added are also those that are more export orientated, or where a higher share of domestic value added meets foreign final demand. Figure 18 illustrates the trade in goods by firm ownership; foreign-owned firms are the main traders, but the domestic MNEs in the chemicals and chemical products (CHM) industry play a significant role.

Figure 18. Gross trade in goods by enterprise ownership and industry, as a per cent of GDP

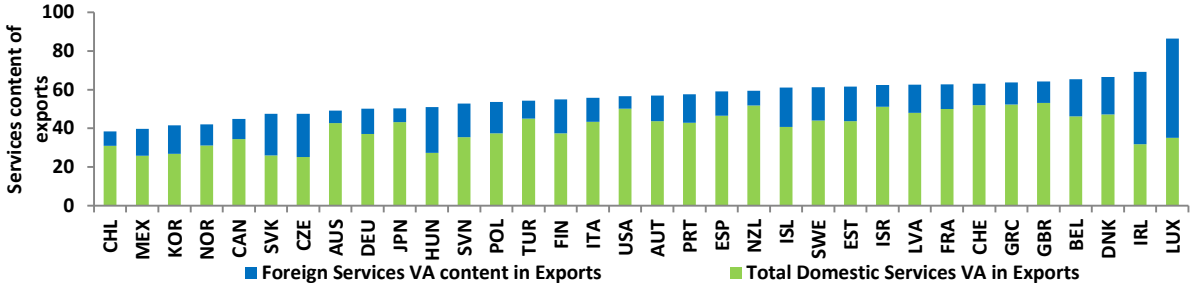


Source: OECD TEC Statistics, 2011

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 Hungary's total exports of goods and services was 51% in 2014 (Figure 19), below the OECD average of 53%. Looking at the services content of manufactured goods alone, 40% of the total value of Hungarian manufacturing exports reflects services value added, above the OECD average of 36%.

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

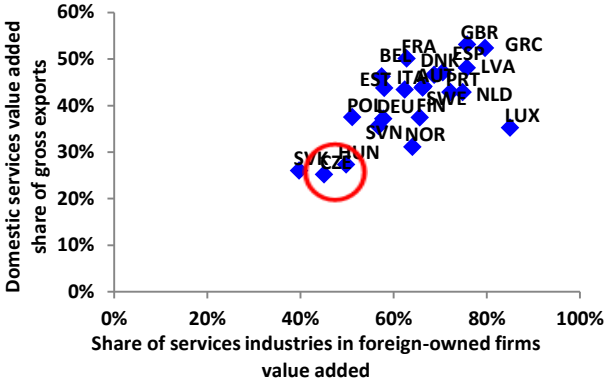


Source: OECD-WTO TiVA Data

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

Greater foreign investment in the services sector is associated with higher services content in exports. For Hungary, the share of investment in services is at the lower end for OECD economies which could contribute to the relatively low services content in exports.

Figure 20. Share of services industries in foreign-owned firms' value added and domestic services value added share of gross exports, OECD countries, 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

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

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