

## TRADE IN VALUE ADDED: UNITED STATES

The international fragmentation of production in global value chains (GVCs) challenges the way we look at the global economy. Today, “what you do” - the activities a firm or country is involved in - matters more for growth and employment than “what you sell” - the products that make up final sales or exports.

Understanding how GVCs work and how they affect economic performance is essential, as is determining which policies help derive the greatest benefits, and reduce the risks. The OECD-WTO Trade in Value Added (TiVA) database facilitates analysis of GVCs by measuring trade in value-added terms to generate new insights about the commercial relations among economies and the process of value creation. Drawing on the third version of the TiVA database, this note describes the United States trade patterns in value-added terms, with a view to informing policy debates in a range of areas, including trade, innovation, and investment.

Accompanying this note is a User Guide designed to assist interpretation and provide context to the indicators presented: [http://www.oecd.org/sti/ind/TiVA\\_2015\\_Guide\\_to\\_Country\\_Notes.pdf](http://www.oecd.org/sti/ind/TiVA_2015_Guide_to_Country_Notes.pdf)

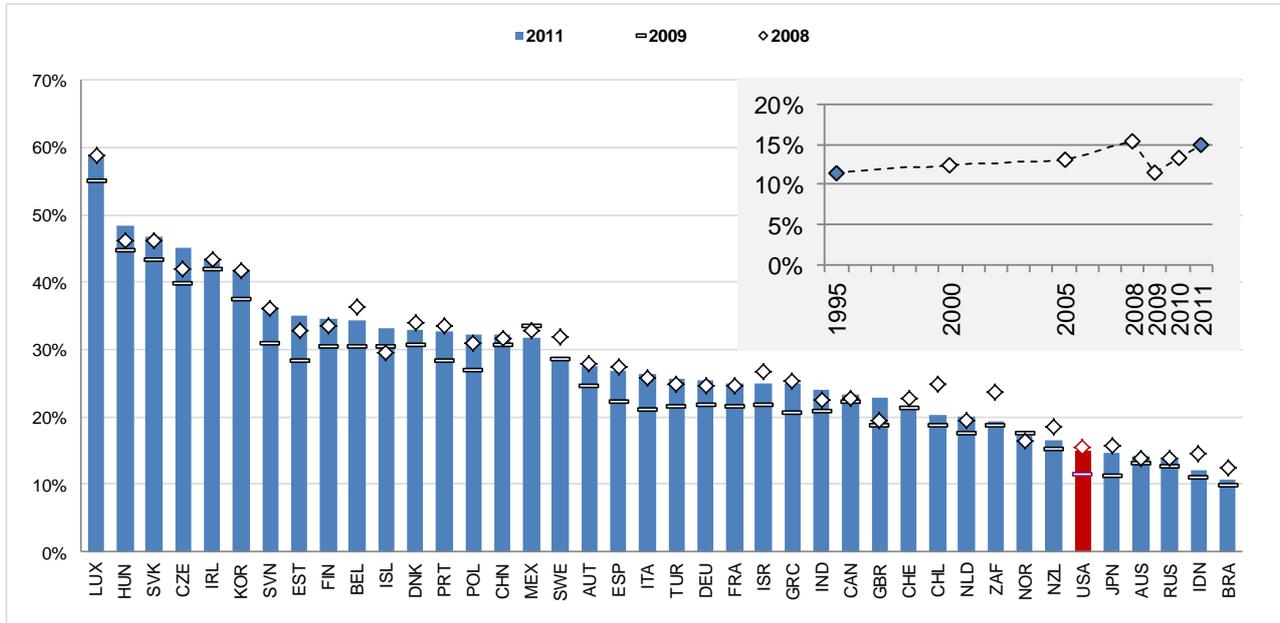
### Key findings

- The foreign content of US exports rebounded to 15.0% in 2011 from the crisis low of 11.5% in 2009.
- The services content of US total exports was 55.7% in 2011, slightly above the OECD average of 54.3%, and with a share of around one-third in manufacturing alone.
- In the ICT & electronics sector, the service sector content and foreign content both fell significantly between 1995 and 2011, which may point to an upgrading process through factory-less producers, with high in-house service content.
- Despite the downward bias introduced through its sheer size when compared to other economies, the export orientation of machinery (45.5%) and other transport equipment (40.6%) in the United States were high in 2011.

## The role of foreign and domestic value added in exports

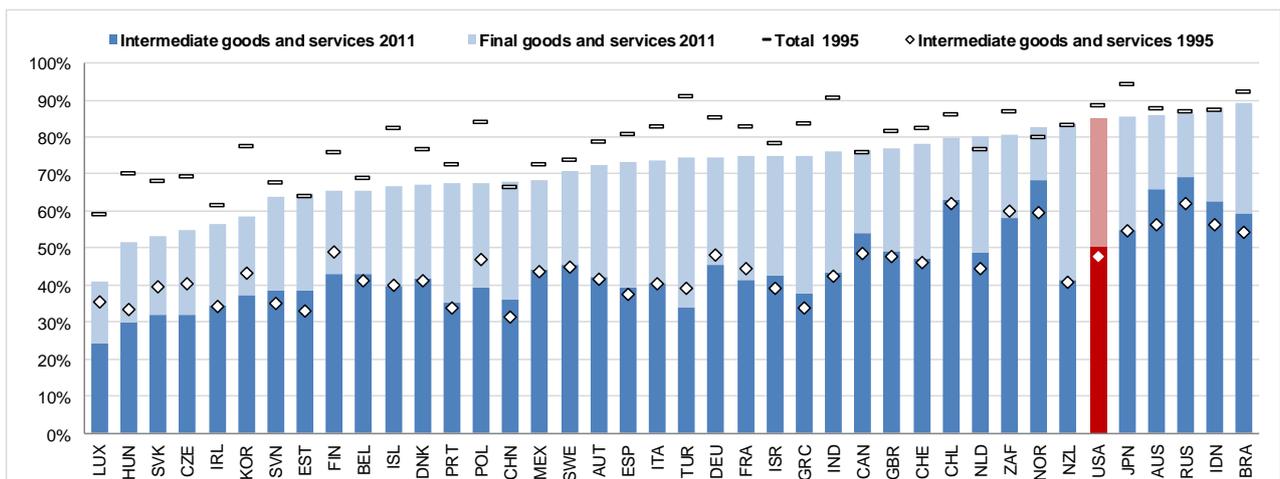
The foreign content of US exports rebounded to 15.0% in 2011, up from the crisis low of 11.5% in 2009 but marginally lower than the pre-crisis high of 15.5% in 2008 (Figure 1). The foreign content of US exports increased 3.5 percentage points since 1995.

**Figure 1. Foreign value added content of gross exports by country**  
percent, 2008, 2009, and 2011 (right insert = time series for United States)



Of US total exports of domestic value-added in 2011, 59.4% reflected exports of intermediates, higher than in 2009 (55.9%), in part reflecting the rebound in GVCs that were disproportionately affected by the crisis, and 1995 (53.8%), (Figure 2). The US's total exports of domestic value added share in intermediates in 2011 was below the OECD average of 61.5%.

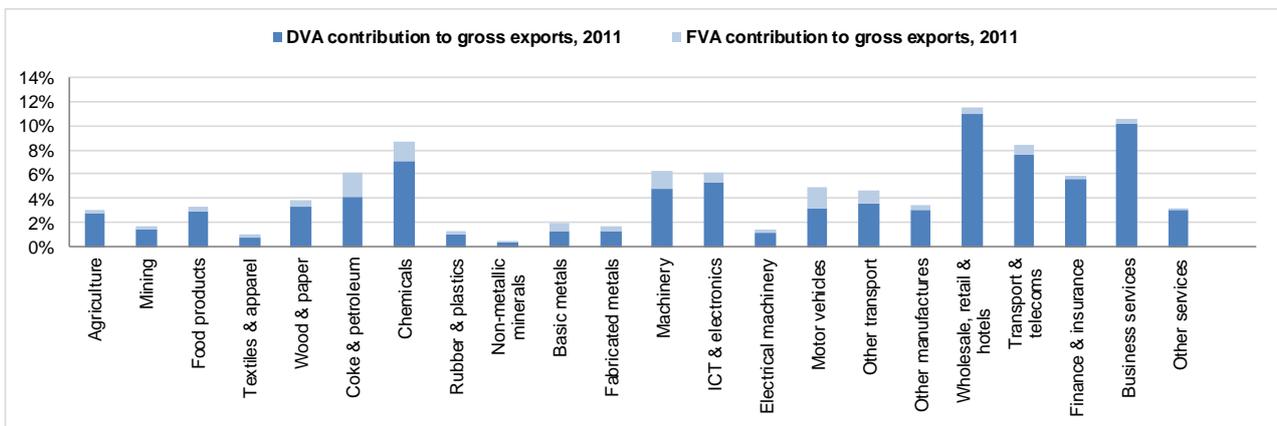
**Figure 2. Domestic value added content of gross exports by end-use category by country**  
percent, 1995 and 2011



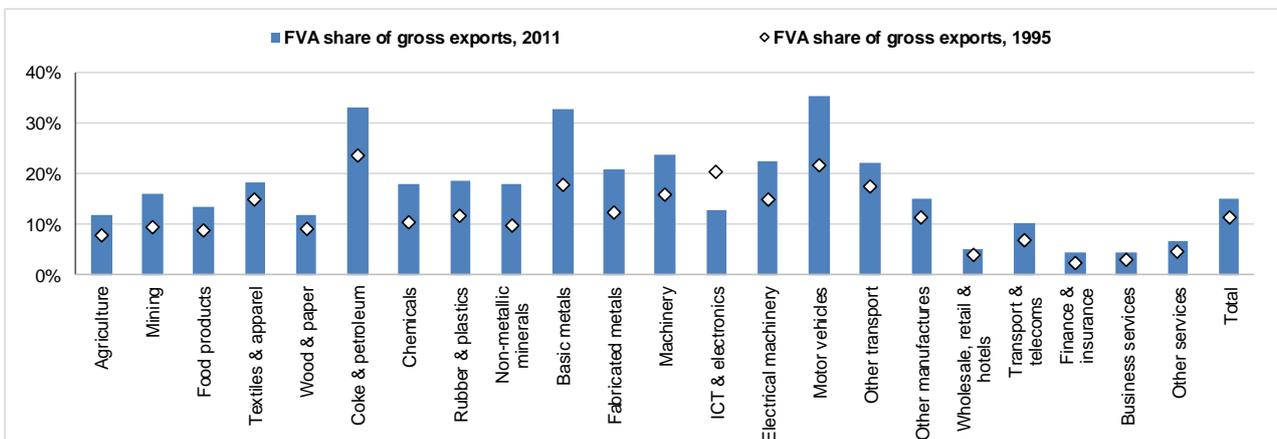
Direct exports by the Wholesale, Retail & hotels industry (reflecting tourism and upstream distribution services to exporters) generated the greatest source of domestic value added in 2011, accounting for 11.0% of the total value added of exports. The next three most important industries were Business services (10.1%), Transport & telecoms (7.6%), and Chemicals (7.1%) (Figure 3a). The largest foreign contributions were in the Coke & petroleum and Motor vehicles industries, which together contributed 3.8% of US total exports.

The foreign content of exports increased in nearly all sectors between 1995 and 2011, except notably in ICT & electronics, possibly reflecting upgrading and outsourcing of assembly activities. The three industries with the highest foreign value added shares in 2011 were Motor vehicles, Coke & petroleum, and Basic metals, with 35.4%, 33.0%, and 32.7% respectively, compared to 21.6%, 23.7% and 17.7% in 1995 (Figure 3b).

**Figure 3a. US industry share of domestic and foreign value content of gross exports**  
percent of total gross exports, 2011

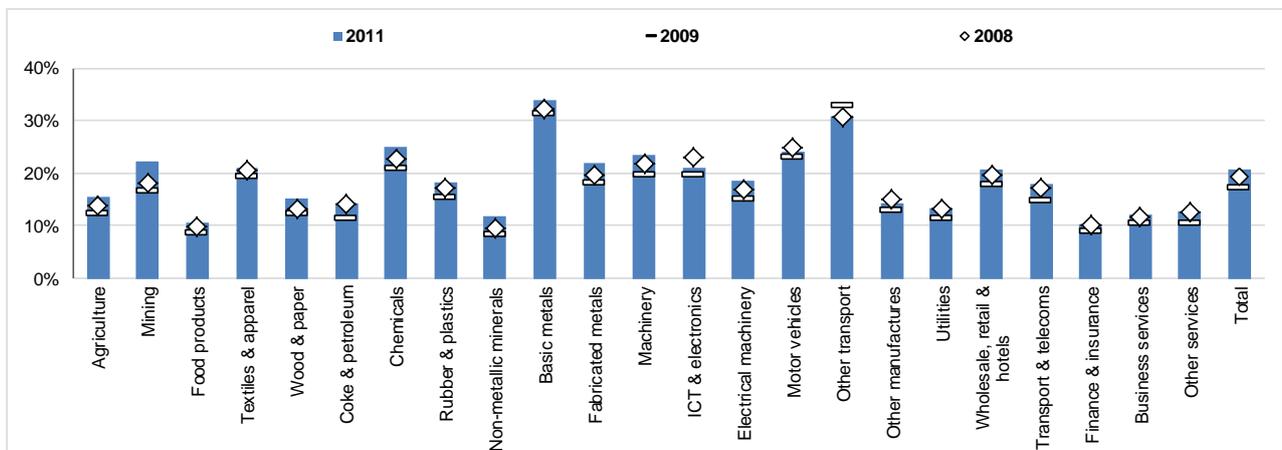


**Figure 3b. US foreign value added content of gross exports**  
1995 and 2011



Of the total value of US imports of intermediate products and services, 20.6% was subsequently embodied in exports, below the OECD average (39.3%) (Figure 4), but above the share in 2009 (17.4%). The products with the highest import shares were Basic metals (33.9%), Other transport (30.8%) and Chemicals( 25.2%).

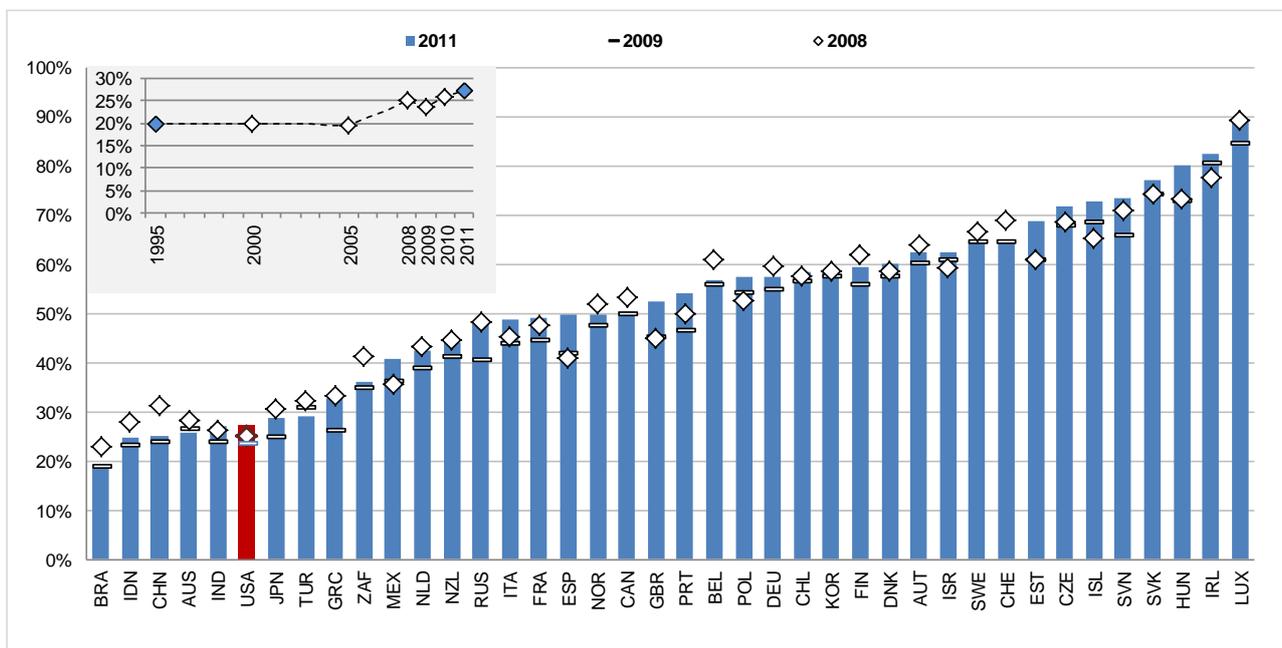
**Figure 4. US imported intermediate inputs used for exports, by import category**  
percent of intermediate imports, 2008, 2009, and 2011



### The destination of domestic value added produced in the United States

Of the total domestic value added produced by the manufacturing sector in the United States, 27.3% reflected foreign final demand in 2011, higher than the equivalent figure in 2009 (23.5%) and higher than in 2008 (25.0%) (Figure 5), but below the OECD average (41.9%) in 2011.

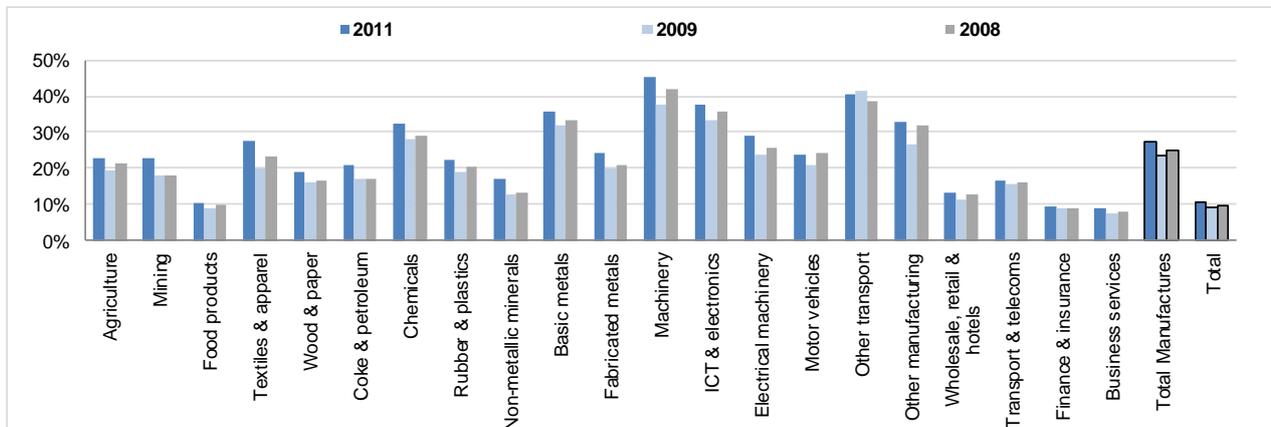
**Figure 5. Manufacturing domestic value added in foreign final demand by country**  
percent of total manufacturing value added, 2008, 2009, and 2011 (left insert = time series for United States)



Note: Final demand excludes inventories: See also [http://www.oecd.org/sti/ind/TiVA\\_2015\\_Guide\\_to\\_Country\\_Notes.pdf](http://www.oecd.org/sti/ind/TiVA_2015_Guide_to_Country_Notes.pdf)

At the total economy level, 10.5 % of US domestic value added was driven by foreign final demand, but significant differences exist across industries. Machinery (45.5%) and Other transport equipment (40.6%) had the highest level of export orientation in United States, with the lowest shares in Business services (8.9%) and Finance & insurance (9.6%) (Figure 6).

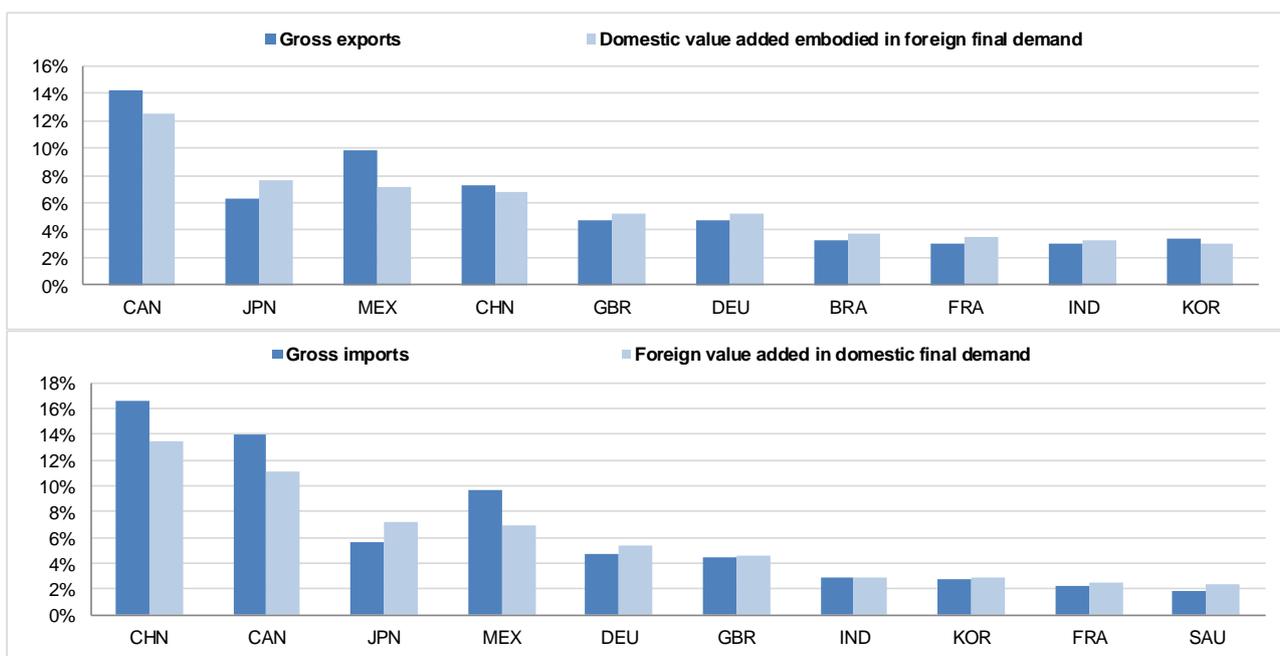
**Figure 6. US domestic value added in foreign final demand**  
percent of value added by industry, 2008, 2009, and 2011



Note: Final demand excludes inventories: See also [http://www.oecd.org/sti/ind/TIVA\\_2015\\_Guide\\_to\\_Country\\_Notes.pdf](http://www.oecd.org/sti/ind/TIVA_2015_Guide_to_Country_Notes.pdf)

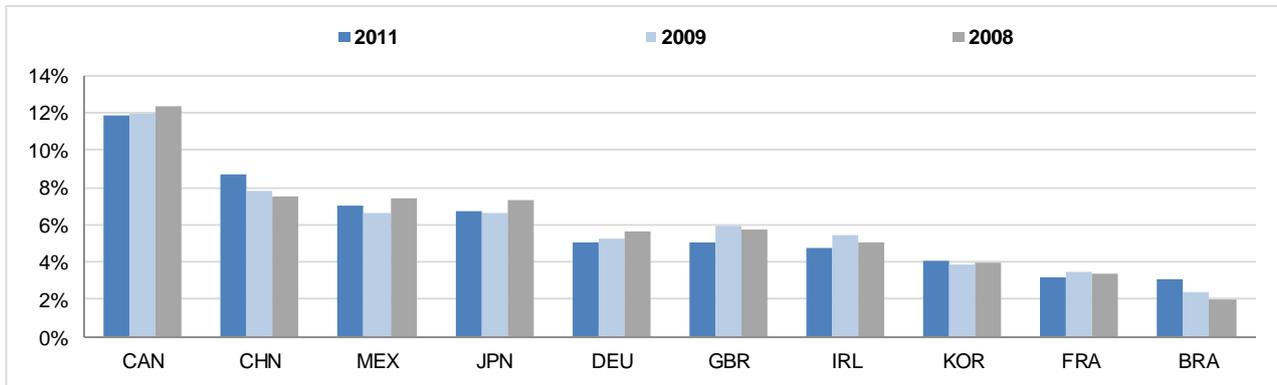
In gross terms, Canada (14.2%), Mexico (9.9%) and China (7.3%) were the three most important American export market destinations in 2011. While in value-added terms, the top three export destinations were Canada (12.5%), Japan (7.7%), and Mexico (7.2%), partly reflecting US value-added embodied in Chinese exports to Japan (Figure 7, top). For imports in gross terms, the US's top three partners in 2011 were China (16.6%), Canada (14.1%) and Mexico (9.7%), while in value-added terms Japan (7.2%) displaced Mexico in third place, reflecting Mexican value-added embodied in US exports and the relatively high domestic value-added content of Japanese exports (Figure 7, bottom).

**Figure 7. US exports to and imports from main partner countries**  
percent of total gross and value added exports and imports, 2011



Looking only at exports of intermediates goods and services, US major export destinations in 2011 were: Canada (11.8%), China (8.7%), Mexico (7.0%), and Japan (6.7%) (Figure 8).

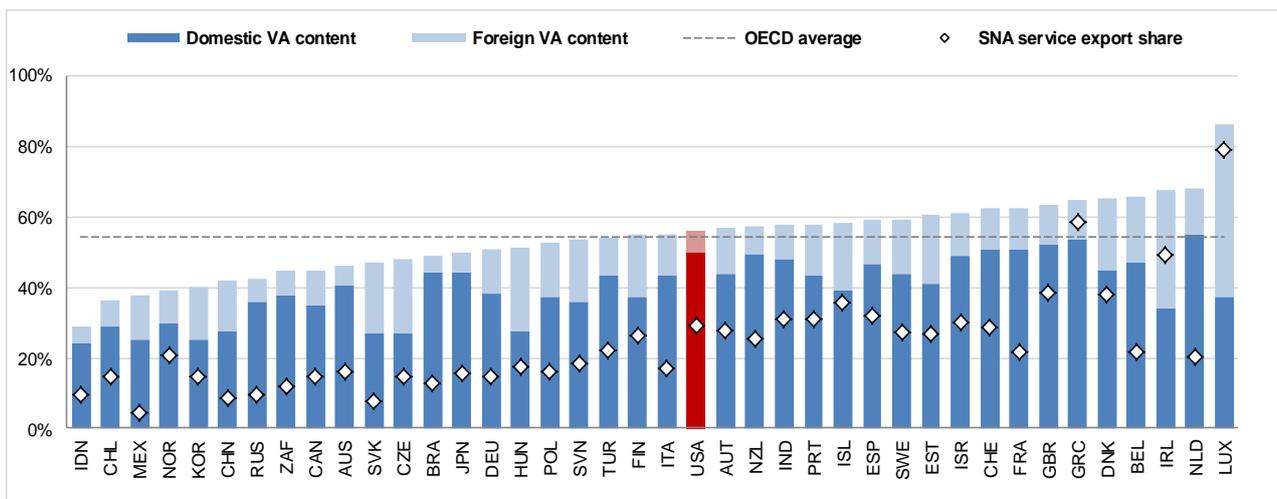
**Figure 8. US domestic value added embodied in intermediate exports to main partner countries**  
*percent of total intermediate exports, in value added terms, 2008, 2009, and 2011*



### The importance of services

In 2011 the services content of total exports in the US was 55.7%, slightly above the OECD average of 54.3%, (Figure 9).

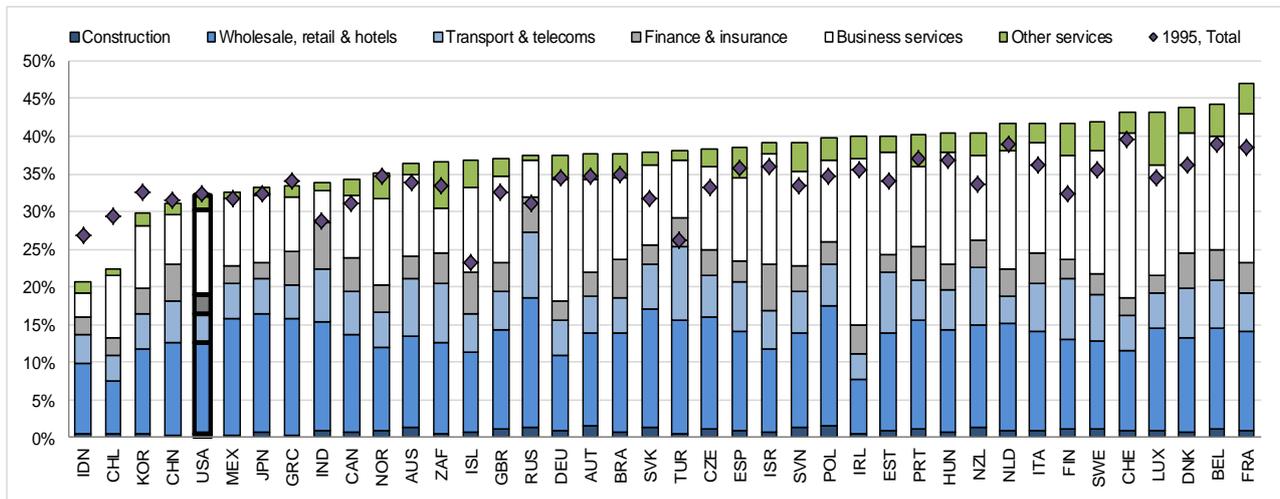
**Figure 9. Services content of gross exports by country, gross and value-added terms**  
*percent of total gross exports, 2011*



Note: SNA services export shares include re-exports in the denominator, and include any actual differences in free on board and basic prices (the distribution margin provided by resident distributors to resident exporters) in goods.

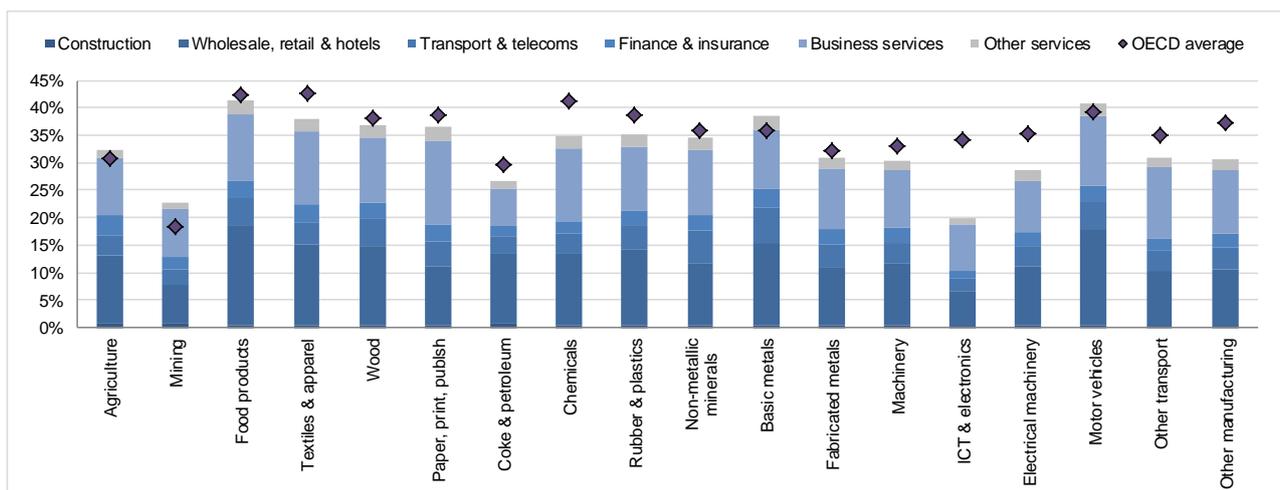
As for exports of manufactured goods alone, just less than one-third (32.1%) of the total value reflected services sector value-added, below the OECD average (36.9%). Of this share, the Wholesale, retail & hotels sector accounted for 12.2% of total gross exports, with Business services and Transport & telecoms accounting for 11.3% and 3.9% respectively (Figure 10).

**Figure 10. Services value added embodied in manufacturing exports, by country**  
percent of total gross exports, 1995 and 2011



Although the US share of services content of manufactured exports was amongst the lowest of all economies, this may partly reflect compositional effects, with the services content in most industries only marginally below or around the equivalent OECD average. The services content in the ICT & electronics sector however was around half the OECD average, which may point to upgrading within the industry, in particular via factory-less production, with specialised services provided in-house. At the individual sectoral level, the services content of exports was highest in Food products (41.2%), Motor vehicles (40.7%) and Basic metals (38.6%) (Figure 11).

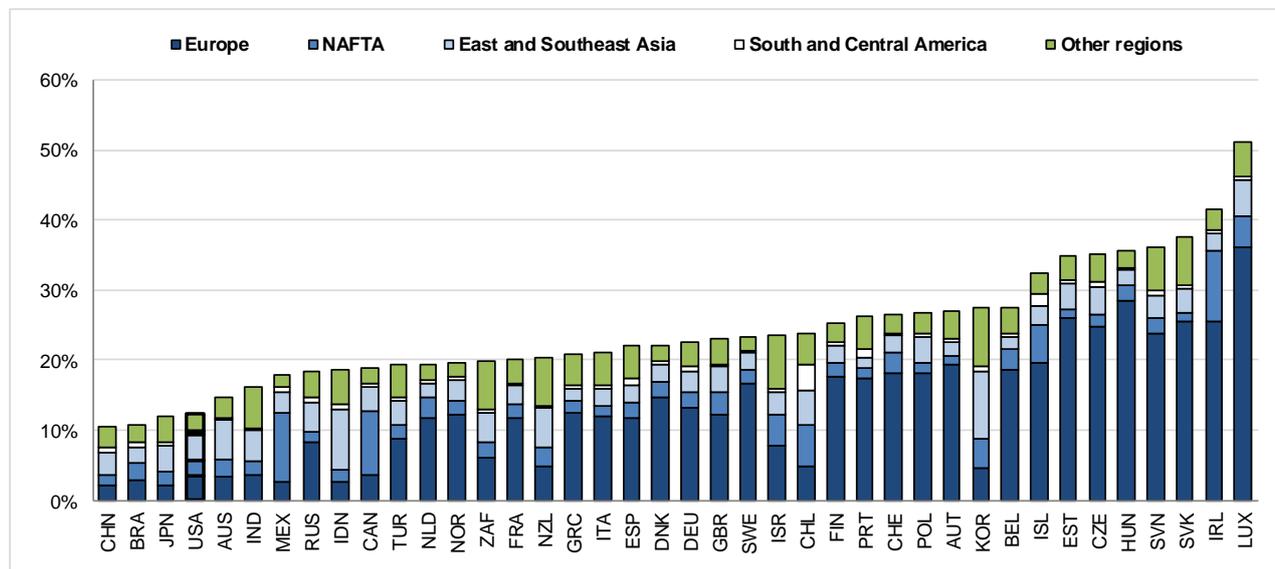
**Figure 11. US Services content of gross exports, by exporting industry and service category**  
percent of gross exports by industry 2011



## The origin of domestic consumption

In 2011, 12.3% of US total final domestic consumption reflected foreign content, of which Europe contributed 3.4 percentage points (pp), NAFTA 2.3 pp, East and Southeast Asia 3.7 pp, South and Central America 0.5 pp and other regions 2.5 pp (Figure.12).

Figure 12. Foreign value added content of domestic consumption by country  
by source region, 2011



### Further Information

The information included in this note is based on the 2015 edition of the Trade in Value Added (TIVA) database.

» Access the data at <http://oe.cd/tiva>

» Please contact us with your questions at [tiva.contact@oecd.org](mailto:tiva.contact@oecd.org)