TRADE IN VALUE ADDED: JAPAN

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 Japan’s 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

Key findings

- The foreign content of Japan's exports rebounded from 11.2% in 2009 to 14.7% in 2011 and has nearly trebled since 1995.

- The export orientation of Japan’s manufacturers was 28.7% in 2011, nearly twice the rate in 1995 and higher than both China and the United States.

- In value-added terms the United States was Japan’s most important export market in 2011 accounting for over one-fifth (20.9%) of Japan’s exports, with significant Japanese value-added passing through Chinese exports.

- One-third of the value of Japanese manufacturing exports reflects services content. But in many industries, the services content is below the OECD average.
The role of foreign and domestic value added in exports

The foreign content of Japan's exports rebounded to 14.7% in 2011, following the fall at the height of the crisis to 11.2% in 2009. Although this remains lower than the pre-crisis level of 15.7% in 2008 (Figure 1), the share has nearly trebled since 1995.

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

Of Japan's total exports of domestic value-added in 2011, 64.1% reflected exports of intermediates, higher than in 2009 (58.6%), in part reflecting the rebound in GVCs that were disproportionally affected by the crisis, 1995 (57.7%) (Figure 2). Japan’s share of intermediates in total exports of domestic value added was above the OECD average (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 (partly reflecting tourism and upstream distribution services) generated the greatest source of domestic value added in 2011, accounting for 16.7% of the total value added of exports. The next three most important industries were ICT & electronics (12.4%), Motor vehicles (11.5%), and Machinery (9.5%) (Figure 3a). The largest foreign contributions were in the ICT & electronics and Motor vehicles industries, which together contributed 4.4% of Japan's total exports.

The foreign content of Japan’s exports rose significantly between 1995 and 2011 across all industries. The three industries with the highest foreign value added shares in 2011 were Coke & petroleum, Textiles & apparel, and Chemicals, with 56.8%, 24.0%, and 23.8% respectively, compared to 25.6%, 7.8% and 6.8% in 1995 (Figure 3b).

Figure 3a. Japan’s industry share of domestic and foreign value content of gross exports
percent of total gross exports, 2011

Figure 3b. Japan’s foreign value added content of gross exports
1995 and 2011
Of the total value of Japan's imports of intermediate products and services, 20.4% was subsequently embodied in exports, below the OECD average (39.3%) (Figure 4), but somewhat above the share in 2009 (18.0%). The products with the highest share were Basic metals, Motor vehicles and Electrical machinery, at 42.1%, 38.5% and 36.0% respectively.

The destination of domestic value added produced in Japan

Of the total domestic value added produced by the manufacturing sector in Japan, 28.7% was driven by foreign final demand in 2011, higher than in 2009 (25.0%) but lower than in 2008 (30.7%) (Figure 5). Although below the OECD average (41.9%), export orientation rates have nearly doubled since 1995.
At the total economy level, 12.1% of Japan's domestic value added was driven by foreign final demand, but significant differences exist across industries. Other transport (64.1%) and Basic metals (50.5%) had the highest levels of export orientation in Japan, with the lowest shares in Food products (2.4%) and Agriculture (5.2%) (Figure 6).

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

In gross terms, China (25.2%), the United States (15.6%) and Korea (8.2%) were the three most important Japanese export market destinations. But in value-added terms, with significant Japanese value-added embodied in Chinese exports, the positions reverse; with the United States importing 20.9% and China 18.1% of all Japanese export value added (Figure 7, top). For imports, Japan's top three partners were China (21.4%), the United States (12.7%) and Australia (5.9%), while in value-added terms they were China (16.4%), the United States (13.9%), and Saudi Arabia (6.4%), partly reflecting the relatively higher domestic value added shares in the United States and Saudi Arabia but also Chinese and Australian value-added embodied in Japan’s exports (Figure 7, bottom).

**Figure 7. Japan’s 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, Japan’s major export destinations in 2011 were: China (29.4%), the United States (13.7%), Korea (10.0%), and Chinese Taipei (7.0%) (Figure 8); with the gap between China and the United States growing larger in recent years.

**Figure 8. Japan's 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 service content of total exports in Japan was 49.8%, below 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.
For exports of manufactured goods alone, one-third (33.2%) 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 15.6% of total gross exports, with Business services and Transport & telecoms accounting for 8.7% and 4.8% respectively (Figure 10).

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

At the individual sectoral level, the services content of exports was below the OECD average in most industries, but was on a par with OECD averages in the Chemicals (42.3%), Motor vehicles (38.6%) and Other manufacturing (38.4%) industries (Figure 11).

Figure 11. Japan’s 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, 12.0% of Japan's total final domestic consumption reflected foreign content, the lowest in the OECD, of which Europe contributed 2.1 percentage points, NAFTA 1.9 pp, East and Southeast Asia 3.9 pp, South and Central America 0.4 pp and other regions 3.8 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