

Towards the development of trade statistics using
firm-level data



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Japan's Statistical System

- ▶ The Statistics Bureau and the Director-General for Policy Planning (Statistical Standards) of Japan play the central role in the official statistical system in producing and disseminating basic official.
- ▶ Statistics Commission proposes 5 year master plans for the development of official statistics. We are working on the production of the fourth master plan.
- ▶ The development of Trade by Enterprise Characteristics is one of the long-standing subjects, which has been proposed in the first, second and third master plans.

Trade by Enterprise Characteristics (TEC)

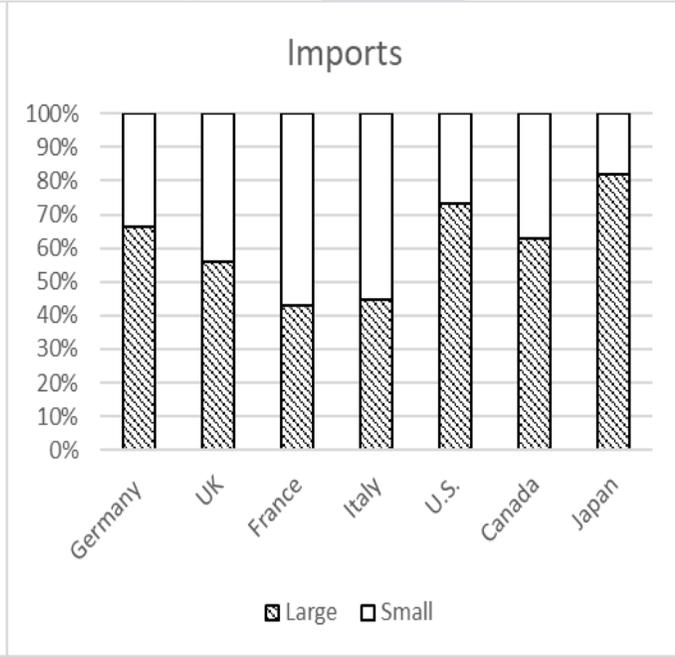
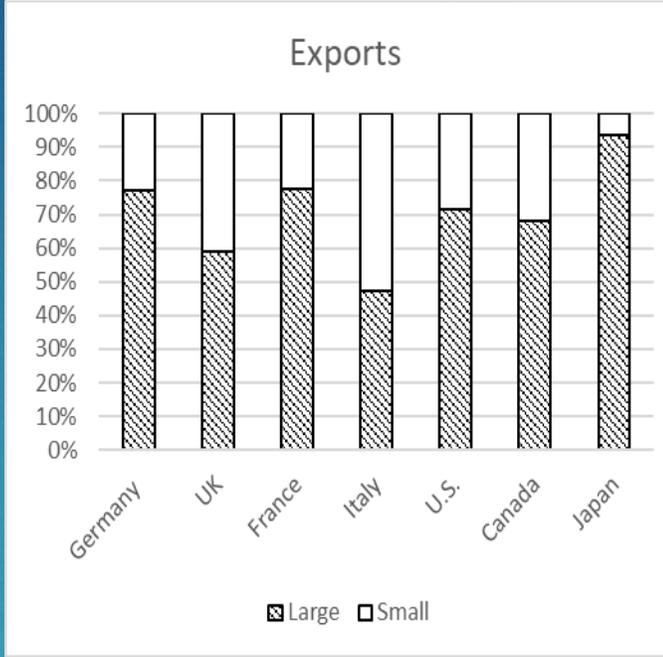
- ▶ Traditional trade statistics demonstrate data by products and by partner countries.
- ▶ The OECD has developed TEC to demonstrate trade data by characteristics of trading firms such as large/small, foreign/domestically owned, with/without foreign firms.
- ▶ The result indicates shares in both the trade amount and the number of firms.
- ▶ To identify usefulness of TEC, we estimated TEC using firm-level data of the Basic Survey of Japanese Business Structure and Activities.
- ▶ This Survey does not cover very small corporations, whose employees are less than 50 and whose capital is less than 30 million yen.

trade amount

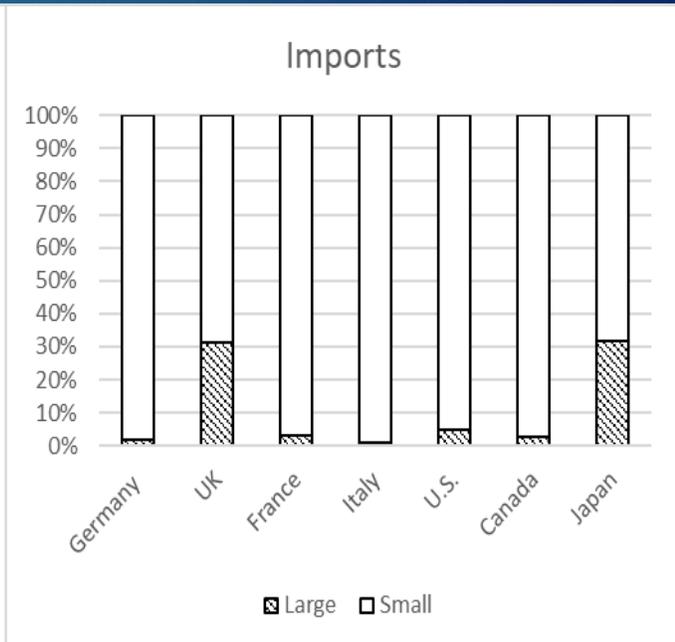
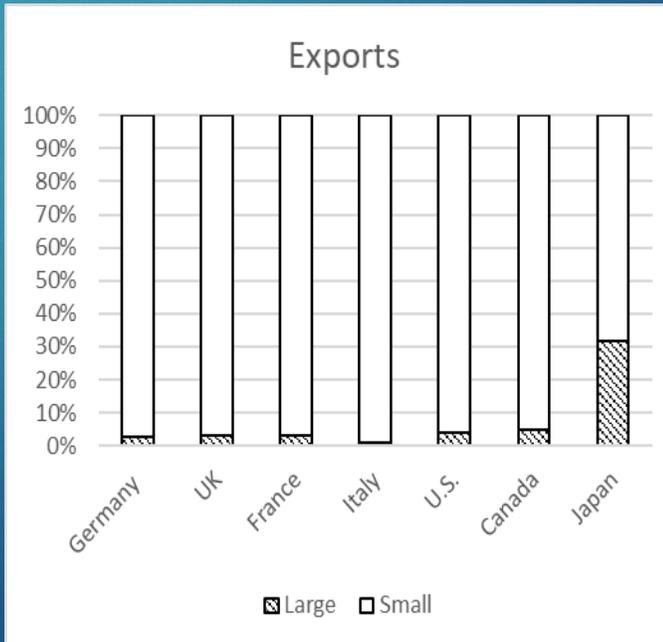
Heterogeneity between large and small firms

- In Japan (2017), share of exports and imports accounted for by large firms is larger than those in the European and North American countries and in both the trade amount and the number of firms.

(Source) Germany, U.K. and France Italy, U.S. and Canada: TEC in OECD.Stat, Japan: firm-level data of METI Basic Survey of Japanese Business Structure and Activities



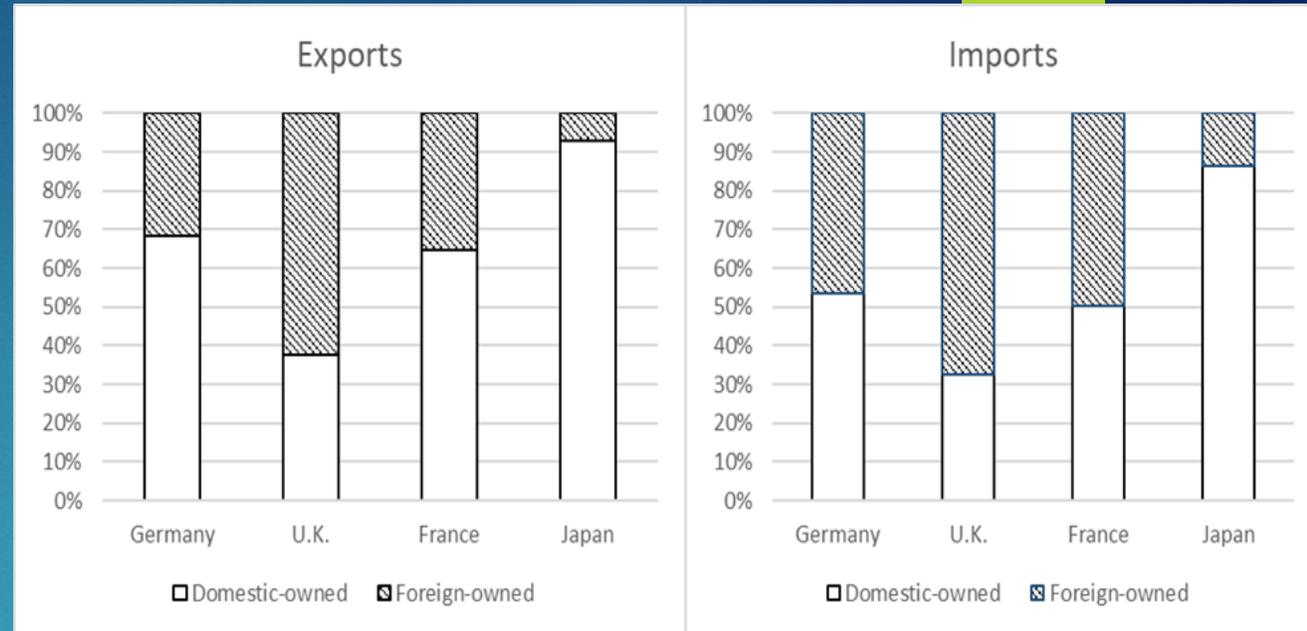
number of firms



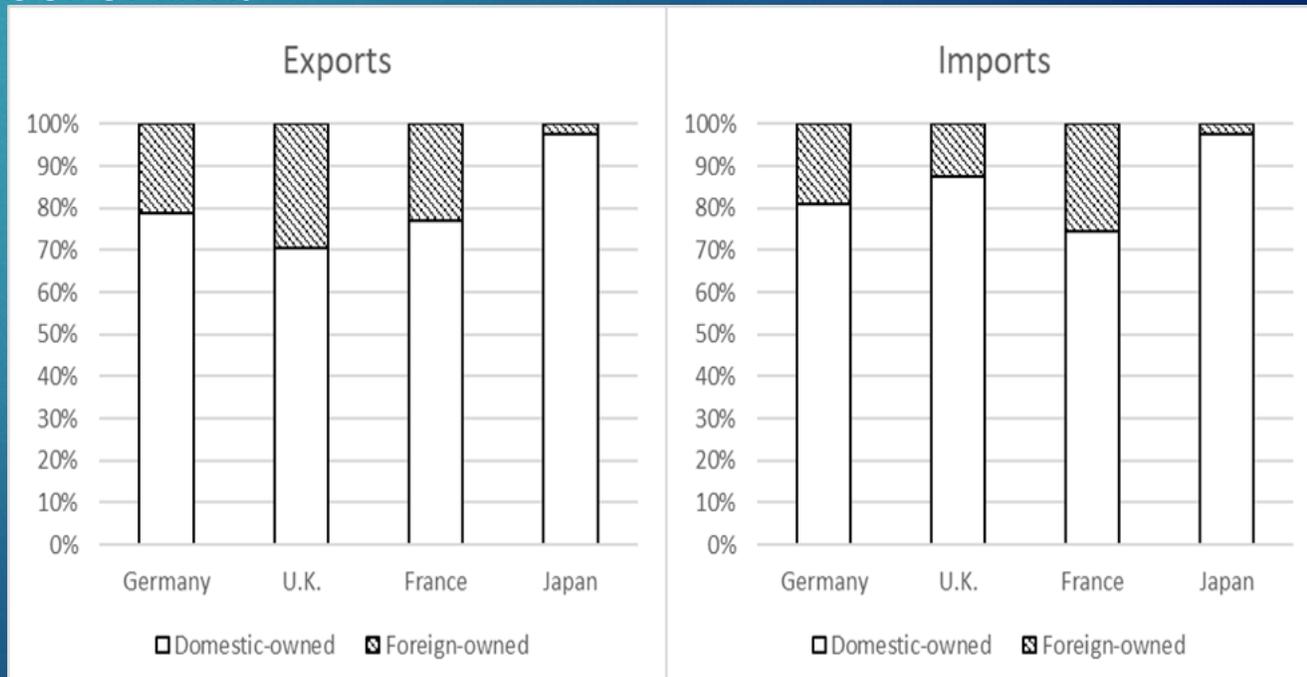
Heterogeneity between domestic-owned and foreign-owned corporations

- In Japan (2017), share of exports and imports accounted for by foreign firms is much smaller than in the European countries in both the trade amount and the number of firms.

(Source) Germany, U.K. and France: TEC in OECD.Stat, Japan: firm-level data of METI Basic Survey of Japanese Business Structure and Activities

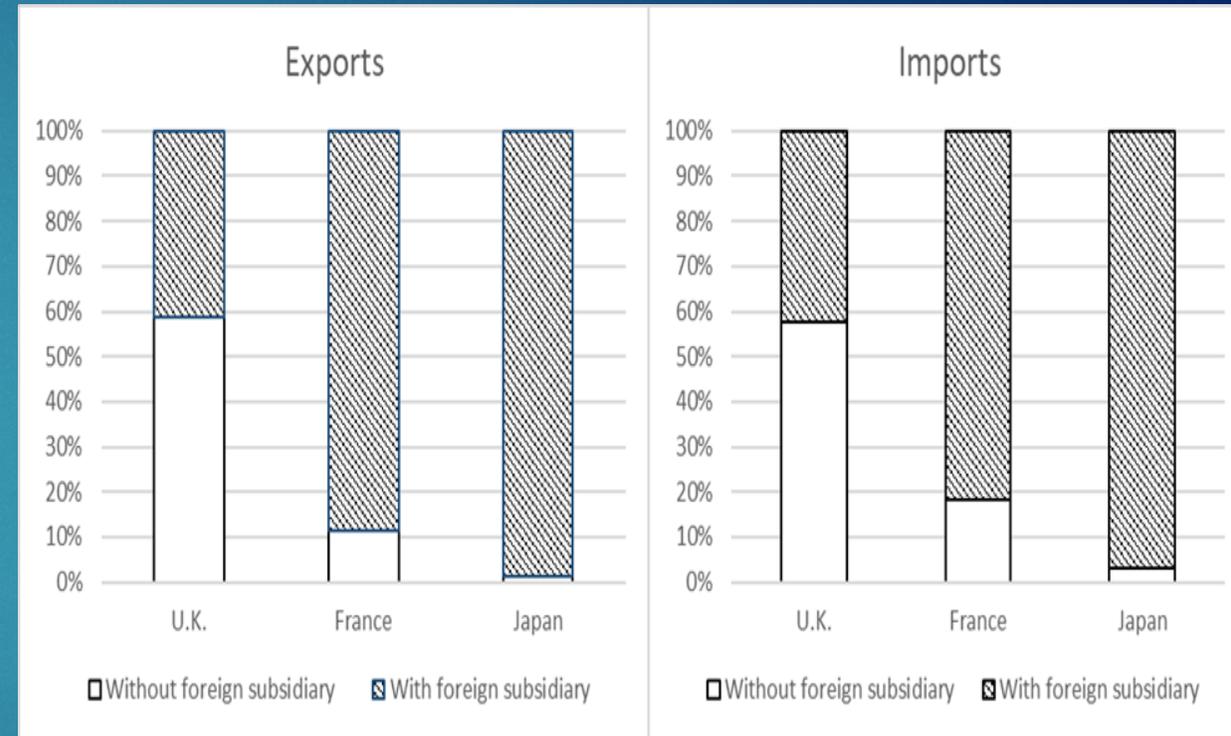


number of firms



Heterogeneity between corporations with foreign subsidiaries and those without foreign subsidiaries

- Many firms with foreign subsidiaries import intermediate goods from such subsidiaries
- Such firms play an important role in international trade in general.
- For Japan, firms with foreign subsidiaries account for more than 95% of all exports and imports, which is considerably higher than for France and the U.K..



(Source) Germany, U.K. and France: TEC in OECD.Stat, Japan: firm-level data of METI Basic Survey of Japanese Business Structure and Activities

Future challenge

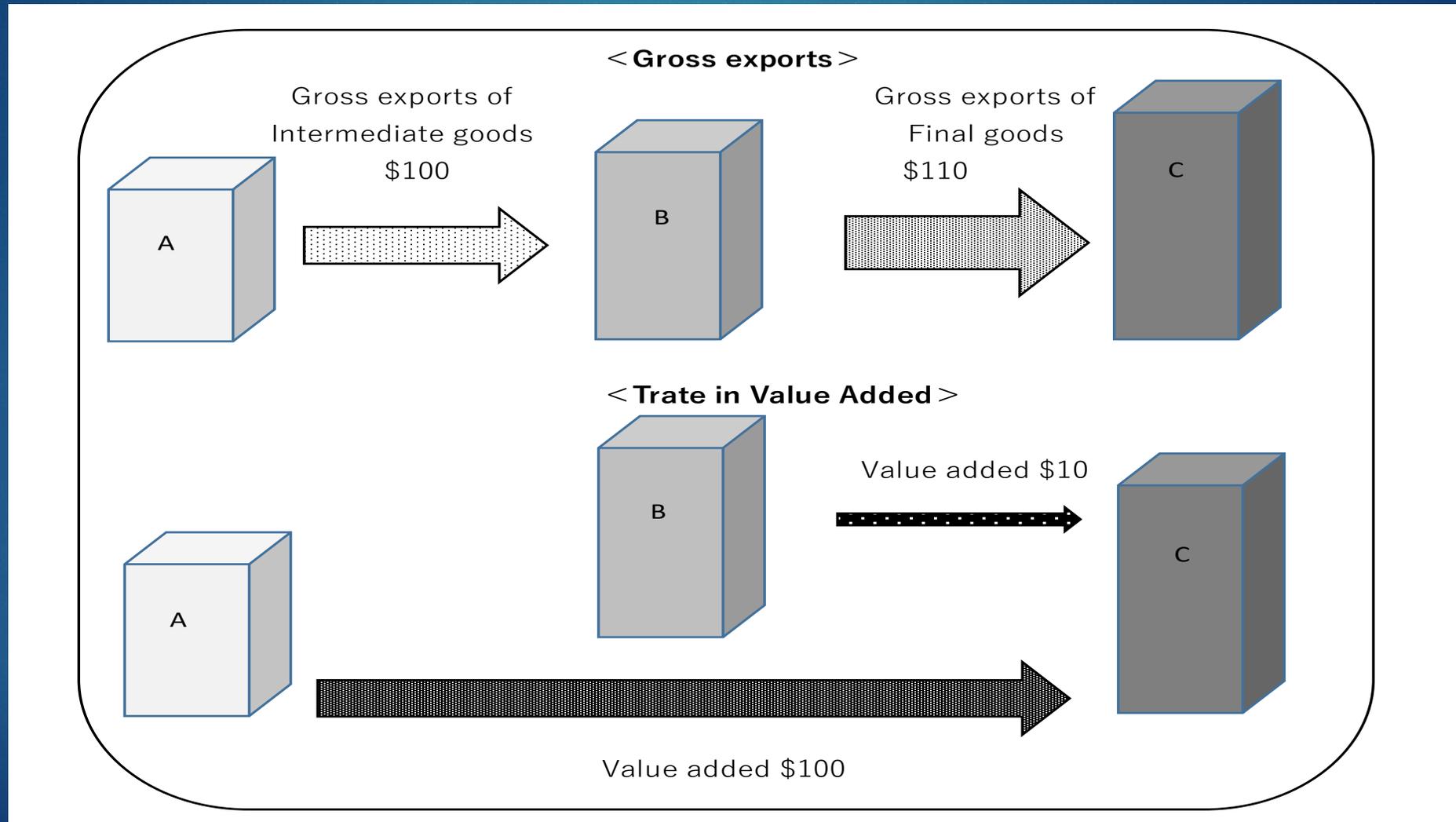
- ▶ In many OECD countries, TEC data are compiled by linking customs data and business statistics at a firm level.
- ▶ In Japan, firm-level customs data have not been available. As a result, Japan have not officially reported TEC data to the OECD.
- ▶ In 2021, however, the Ministry of Finance made such data available to researchers.
- ▶ The Ministry of Internal Affairs and Communications will work with the Ministry of Finance to come up with the official TEC data.
- ▶ The approach of TEC will be useful for the improvement of OECD's TiVA indicators.

Trade in Value Added (TiVA)



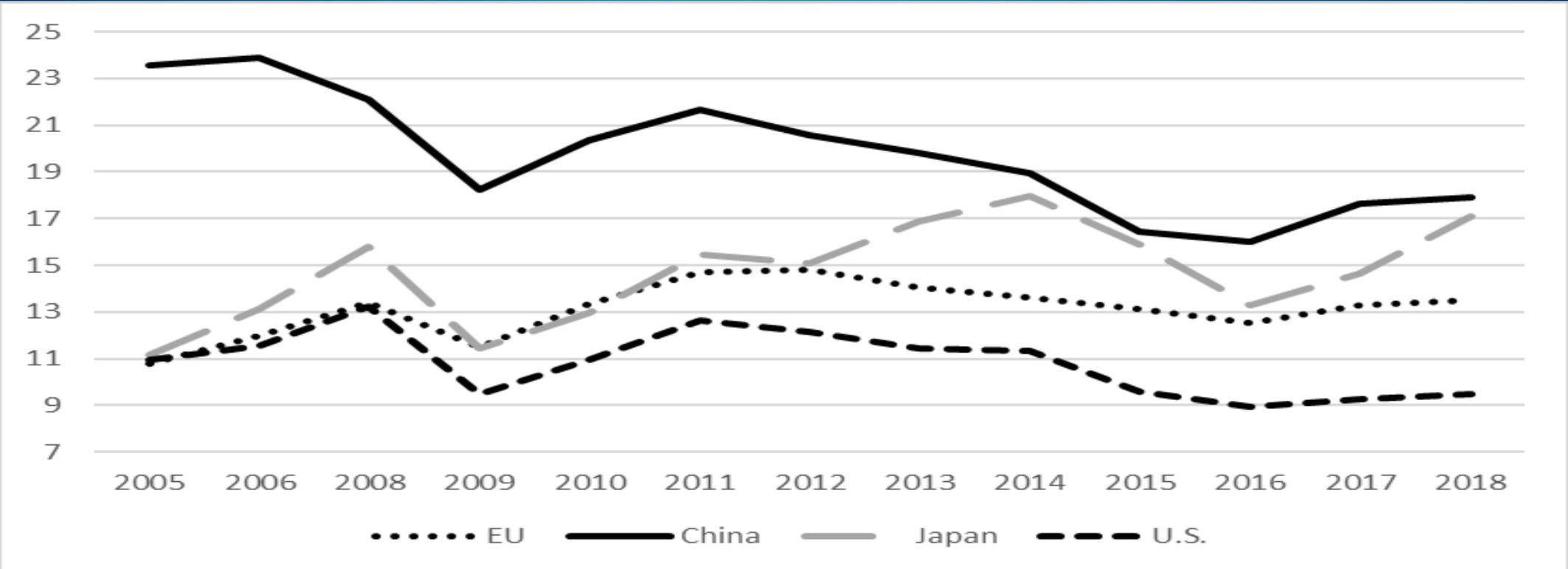
- ▶ Traditional trade statistics record gross flows of goods and services each time they cross a border. This creates a double-counting or multiple counting problem.
- ▶ The TiVA approach avoids double-counting by accounting for the net trade flow between countries.
- ▶ A Chinese firm, which exports cellphone to the U.S., may need to import components such as memory chips. A Japanese firm may exports such components to the Chinese firm.
- ▶ The TiVA method allocates the value added by each of these firms involved in the manufacture of the final cell phone export.

Example of Global Value Chain



Share of Foreign Value added included in exports

demonstrates the contributions of foreign countries in a country's exports. The shares of EU, Japan and US hover between 10 and 15 percent. The China's share has turned from downward to upward trend. This might be due to the recent development of inter-country production networks by Chinese firms, in the same way as those of EU, Japan and U.S., after developing domestic production network to provide for substitutes of imported intermediate inputs.

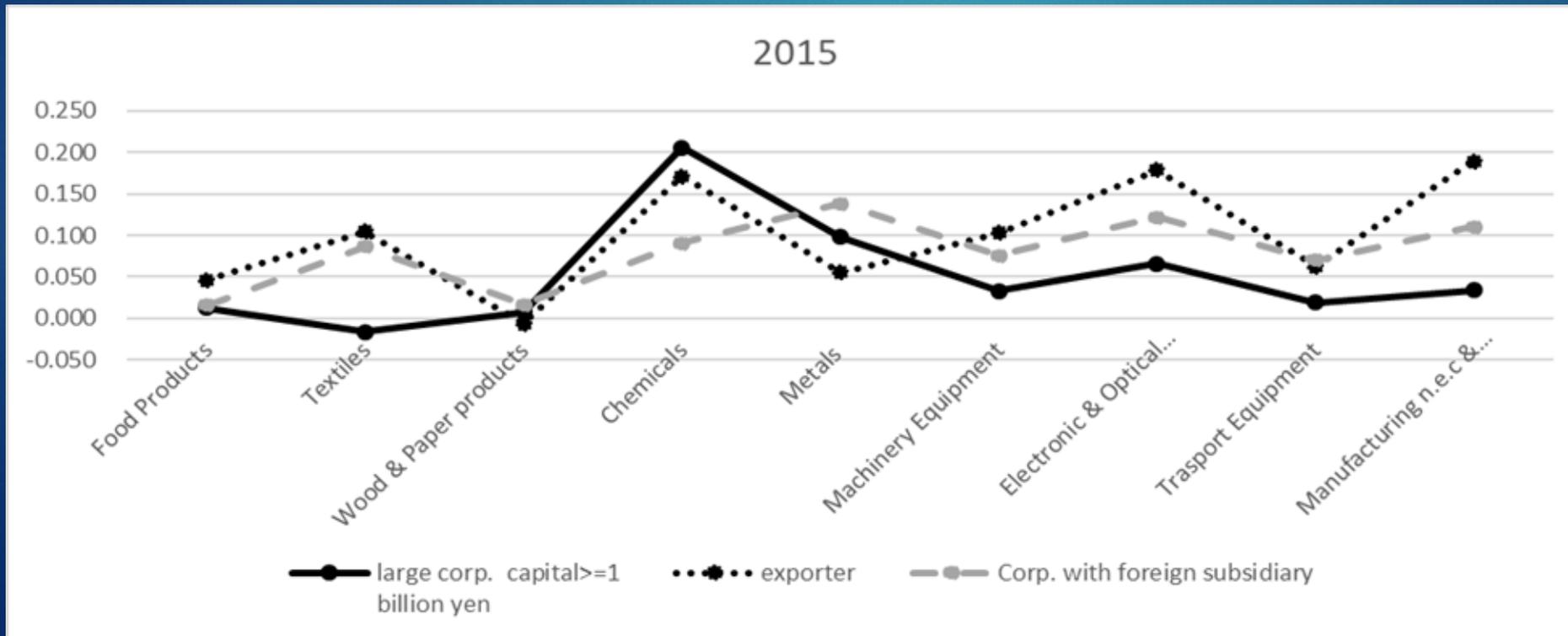


Extended Supply Use Table (ESUT)

- ▶ The OECD encourages the development of EIOT/ESUT as a mean of improving the accuracy of its TiVA indicators.
- ▶ For the calculation of TiVA, it is important to estimate the amount of imported intermediate goods as accurately as possible, as this is key for calculating foreign value added.
- ▶ Against this background, we consider different elements of firm heterogeneity in Japan:
 - 1) exporting/non-exporting,
 - 2) large/small,
 - 3) foreign/domestic and
 - 4) with/without foreign subsidiaries.

Differences in import intermediate ratio

- In the metal industry the difference between firms with and without foreign subsidiaries are larger than those between exporters and non-exporters as well as those between small and large firms. In the textile industry and the wood and paper products industry, the differences between firms with and without foreign subsidiaries are as large as those between exporters and non-exporters.



(Source) Firm-level data of METI Basic Survey of Japanese Business Structure and Activities