

Firm Heterogeneity in international trade and extension of 2020 IO Table in Japan

Topic: Enterprise Input-output Analysis

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This paper demonstrates main features firm heterogeneity in international trade in Japan using firm-level microdata from the "Basic Survey of Japanese Business Structure and Activities" conducted by Japan's Ministry of Economy, Trade and Industry (METI).

Our previous research, Hagino and Kim (2021)*, examined the usefulness of an extended input-output table (EIOT) incorporating the heterogeneity of Japanese firms based on differences in ratios of imported intermediate goods to total output. Developing Japan's EIOT in 2011 and 2015, we calculated the vertical specialization indicators and found that the EIOT captures the foreign value added more comprehensively.

Based on our former study, we adopt 2020 data for this paper. Our analysis shows the shares in export of foreign-owned firms and domestic-owned firms, large firms and small firms, as well as firms with foreign subsidiaries and firms without foreign subsidiaries. Recognizing that foreign firms are not significant in exports in Japan, we measure the differences in intermediate import ratios between exporting and non-exporting firms, between large and small firms, as well as firms with foreign subsidiaries and firms without foreign subsidiaries to identify which element of firm heterogeneity is relevant in extending Japan's input-output table.

Using the largest gaps in intermediate import ratio, we extend 2020 input-output table particularly focusing on its import table, as well as 2020 supply and use. Also, we will try to extend 2020 supply and use table, which was published in 2024 by Japanese government for the first time. Finally, we examine the impact of such extension in measuring the OECD TiVA indicators, comparing with the results of examining such impact for 2015 input-output table.

*Hagino S. and Kim J. (2021) The usefulness of extended input-output tables incorporating firm heterogeneity, *Journal of Economic Structures* 10:25, <https://doi.org/10.1186/s40008-021-00255-3>