Accounting for within-industry firm heterogeneity in an Inter-Country Input-Output system

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A limitation of industry-by-industry Input-Output tables is the assumption that all firms allocated to a particular industry have the same average production function. However, as discussed in previous chapters, production functions of firms within the same industry can vary considerably, particularly in terms of exporting and importing activities. This paper summarises the motivation and statistical and methodological challenges of developing national Input-Output tables accounting for firm heterogeneity (FHIO) and integrating the estimates into the Inter-Country Input-Output (ICIO) Database. Splitting manufacturing industries to distinguish between processing firms and other firms in China and, â€œglobal manufacturersâ€• and other firms in Mexico, has been a unique feature of the latest editions of OECDâ€™s ICIO database. Using numerical examples the procedures for modifying national tables are outlined by reviewing existing statistics availability and the data harmonisation and validating procedures used. The impact of splitting manufacturing industries is summarised by comparing Trade in Value Added (TiVA) indicators derived from standard ICIO tables with those from FHIO integrated ICIO tables. For example, foreign value added content of exports by industry (backward linkages). Using the 2021 edition of OECD's ICIO tables as a benchmark database (covering 67 economies, 45 industries and 24 years), the overall impacts on TiVA indicators are also compared with other granular extension options e.g. the number of target economies and level of industry detail. The analysis confirms that separating the export processing-oriented firms within manufacturing industries has significant impacts on measures of globalisation e.g. particularly for earlier years when countries were in the early stages of integration into global value chains.