

## **Extended Supply & Use Tables by Firm Heterogeneity: Methods and Applications for China**

Topic: Compiling and Applying the APEC TiVA Database

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Foreign invested enterprises (FIEs) and domestic owned firms (DOEs) are different in many aspects, such as production input, export pattern and impacts on the local country. For example, FIEs and DOEs play different roles in generating local value-added. A large part of value-added from global value chain in developing economies is generated by affiliates of multi-national enterprises (MNEs). Besides, FIEs and DOEs have different performance on technology dissemination and skill building. What's more, compared with DOEs, FIEs are more export-oriented. Therefore, firm heterogeneity should be reflected when compiling supply and use tables (SUTs) and input-output tables. Otherwise, the simple homogeneous assumption will cause biased estimation in many cases and thus mislead policy makers. Nowadays 12.7% of China's industrial enterprises above designated size are foreign invested enterprises which contribute 19.3% to total assets and 24.6% to total profits of industrial enterprises above designated size in 2017. So it's necessary for China to extend the Supply & Use Tables (and Input-Output Tables) by firm heterogeneity. At first we split the Input-Output tables by firm heterogeneity and construct the extended Supply Tables with FIEs and DOEs. Then based on the above extended tables, we calculate the extended use tables by firm heterogeneity under the commodity technology assumption. However, as for the case of China, there are many challenges for the compilation of SUTs with firm heterogeneity, such as the choice of basic statistical units, the challenging of basic prices, lack of data by ownership, etc. Given the SUTs compilation practice in China, this paper employs some methods to estimate SUTs with firm heterogeneity, and discusses the applicability and limitations of these methods.