

# Ownership-extended SUIOT: introducing firm heterogeneity by MNE-affiliation into supply-and-use and input-output tables



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## Summary of the Training Session:

Extended supply and use and input-output tables (SUIOT) have been presented as a means of addressing some of the current challenges for the national accounts that are induced by economic globalization. In these tables, within-industry firm heterogeneity that is not related to product characteristics is taken into account through a disaggregation of industries by various firm-level criteria such as size, ownership, or exporter status. This is in line with the vast academic literature on firm heterogeneity. Extended SUIOT are being produced by an increasing number of countries, and a handbook on their construction is currently being compiled by the OECD and the European Commission. Beyond their contribution to improving national accounts, these tables also allow to derive new analytical results on the participation of different categories of firms in domestic and global value chains.

In this training session, we first give an overview of why it is worthwhile constructing extended SUIOT for both statistical institutes and researchers and discuss the choice of disaggregation criterion. Subsequently, we highlight important aspects of the construction of such tables based on the example of the ownership-extension of the 2015 SUIOT for Belgium. This covers not only the definition and classification of firms according to whether they belong to a domestic or multinational enterprise group, but also other data requirements and methodological options for the construction process (industry coverage, sample size issues, top-down vs bottom-up approach, row disaggregation...). Furthermore, we will look into the way of presenting extended tables and provide exercises on descriptive statistics to be derived from the tables. Further exercises will be based on simple input-output calculations with the 2015 Belgian ownership-extended IOT. The aim is to (i) investigate the integration of the different types of firms into domestic value chains, (ii) quantify their contributions to the country's exports, and (iii) determine to what extent domestic value-added in exports is overestimated with conventional IOT compared to extended IOT. Finally, we will discuss issues that remain to be explored in the field of extended SUIOT.

## Outline:

**First Session**                      *Introduction & Scope: Why construct extended SUIOT? Which type of extension to choose?*

**Second Session**                      *Methodology & Data: How to construct ownership-extended SUIOT? What type of data are required?*

**Third Session**                    *Tables & Exercises: How to present extended SUIOT? Which descriptive statistics to extract from ownership-extended tables?*

**Fourth Session**                    *Analysis & Outlook: Which analytical possibilities are given by extended SUIOT? What areas remain to be explored?*

**Prerequisites:** We require a projector and internet connection in the classroom. Participants will bring their laptops. We do not expect any prior knowledge beyond very simple matrix calculation and spreadsheet handling (basic Excel). Prior to the training session, we would ask participants to briefly investigate:

- (i)        what type of extension of SUIOT would be of interest for their home country?
- (ii)       whether there exists any prior extended SUIOT work for their country?

### **Suggested References:**

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- Cadestin, C., De Backer K., Desnoyers-James I., Miroudot S., Rigo D. and M. Ye (2018), 'Multinational enterprises and global value chains: the OECD analytical AMNE database', *OECD Trade Policy Papers*, No. 211, OECD Publishing, Paris.
- Chong, S., R. Hoekstra, O. Lemmers, I. Van Beveren, M. Van Den Berg, R. Van Der Wal and P. Verbiest (2019), 'The role of small- and medium-sized enterprises in the Dutch economy: an analysis using an extended supply and use table', *Journal of Economic Structures*, Volume 8, Issue 8, pp. 1-24.
- Fetzer, J., T. Highfill, K. Hossiso, T. F. Howells III, E. H. Strassner and J. A. Young (2018), 'Accounting for Firm Heterogeneity within U.S. Industries: Extended Supply-Use Tables and Trade in Value Added using Enterprise and Establishment Level Data', forthcoming in *The Challenges of Globalization in the Measurement of National Accounts*, Ahmad, N., B. Moulton, J. D. Richardson and P. van de Ven, eds., NBER.
- Michel, B., C. Hambÿe and B. Hertveldt (2018), 'The Role of Exporters and Domestic Producers in GVCs: Evidence for Belgium based on Extended National Supply and use Tables Integrated into a Global Multiregional Input-Output Table', National Bureau of Economic Research Working Paper No. 25155, forthcoming in *The Challenges of Globalization in the Measurement of National Accounts*, Ahmad, N., B. Moulton, J. D. Richardson and P. van de Ven, eds., NBER.
- Michel, B., C. Hambÿe, B. Hertveldt and G. Trachez (2019), 'Extended supply and use tables for Belgium: where do we stand? An overview of achievements and outstanding issues', *Eurona 2/2019*, Eurostat