Vertical Specialization in an Intercountry Input-Output Framework

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Abstract:
Vertical trading chains exhibit an increasing interconnectedness of industries across countries. Vertical specialization occurs when each country specializes in certain stages of the sequence of production. In an influential paper, Hummels *et al.* (2001) narrowed the concept of vertical specialization by focusing on the imported inputs that are necessary for producing the exports. Vertical specialization for a country was measured by the export weighted average direct import coefficient or by the export weighted average import multiplier (including also the indirect import requirements). Essentially, what this measures is the import content of the exports. The empirical results were obtained from applying these measures to national input-output tables. The present paper extends the analysis by taking intercountry input-output tables as the starting-point. These tables are of the interregional type with countries acting as regions. Intercountry tables provide a detailed description of the interdependencies of industries between countries and thus reflect exactly what we are interested in. It may thus be expected that the results obtained from intercountry tables measure vertical specialization better than national tables do. To measure the import content of the exports, however, the standard formula does no longer suffice. The reason is that an important part of the exports is endogenous in the intercountry framework, whereas all exports are exogenous when using a national framework. We will adapt the method for measurement so as to cope with this endogeneity. The new measurement will be applied to the intercountry tables for six countries in the EU and the results will be compared to the results obtained from using the national tables only.