

Horizontal or Backward? FDI Spillovers, Input-Output Tables, and Industry Aggregation

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Author: Karolien Lenaerts

Co-Authors: Bruno Merlevede

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Several recent studies, such as Barrios et al. (2011), have questioned the measures used in the computation of spillover effects that have been unchallenged since their introduction by Caves (1974) and Javorcik (2004). These studies, however, neglect the basic fact that the level of industry aggregation found in the input-output tables typically determines the classification in horizontal and vertical spillovers. More specifically, the technical coefficients of the vertical spillovers are derived from IO-tables. Hence, the definition of the industry level for constructing horizontal and vertical spillover variables directly follows from the level of aggregation in the IO-tables. Consequently, the more aggregated the input-output tables used, the more likely that the horizontal spillover variable will also capture customer-supplier relationships. Because IO-tables are often only available at fairly aggregated classifications, the existing literature may fail to identify vertical spillovers to their full extent.

In this paper, we explore the importance of the level of industry aggregation in the analysis of FDI spillovers using a panel of Romanian manufacturing firms (Amadeus database). To this end, we calculate vertical spillovers with an input-output table obtained from the Romanian Statistical Office. This input-output table is aggregated at a Romanian level of classification that more or less maps into the NACE 3-digit level. We also collapse this table to the NACE 2-digit level, which allows us to make the comparison. We further point to some additional issues regarding the use of IO-tables, namely including or excluding the diagonal and final uses.

Estimation results suggest that using aggregated input-output tables gives rise to an upward bias of the horizontal spillover coefficient and biases results against finding significant backward spillovers. For the detailed IO-tables (at a higher level of disaggregation), including the diagonal results in a larger impact of the backward spillover on the level of TFP.

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