

An evolutionary perspective on production networks in the Asia-Pacific region

Topic: Trade and supply chains

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The complementarity of production system is both the cause and outcome of deepening economic interdependency between countries. The paper traces the development of cross-national production networks in the Asia-Pacific region over the last two decades.

The conventional approach to this kind of problem-settings is the linkage analysis, which generally concerns to measure the "strength" of interconnectedness among industries, by calculating the magnitude of backward and/or forward linkages between countries. In this paper, however, an alternative approach for the evaluation of cross-national production networks is introduced in addition to the above-mentioned traditional apparatus, by employing the input-output model of Average Propagation Length (Dietzenbacher et al. 2005). The APL is formulated as a weighted average of the number of production stages which an impact from industry j goes through until it ultimately reaches industry i , using the share of impact at each stage as a weight. It represents the average number of production blocks lining up in every branch of all the production chains, or, in short, an industry's level of fragmentation.

Using these two types of information, namely, the "length" and "strength" of linkages, the evolution of cross-national production networks in the Asia-Pacific region is visualised by using the time-series dataset of the Asian International Input-Output Tables.