

The Country-Level Pass-Through Frequency

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As economies develop, the complexity of supply chains is increasing. While supply chain analysis has become indispensable under these circumstances, it has also become more difficult, requiring new analytical methods. One of the important indicators for supply chain analysis is Trade in Value Added (TiVA), which reveals how value added from different countries is distributed globally. In a sense, it provides an understanding of supply chain structures from a volume perspective. On the other hand, Inomata and Hanaka [Structural Change and Economic Dynamics, 68, pp. 177--193, 2024] recently proposed an indicator called the pass-through frequency (PTF), which measures the average number of times supply chain paths go through a specific sector. This new measure represents the properties of supply chain structures from a frequency perspective. In this study, we formulate the PTF at the country level. An advantage of this formulation is that it can estimate the propagation impact of supply chains based on the number of times supply chain paths go through a specific sector. This study also shows that our new formulation yields similar results to the original PTF. Moreover, we find a relationship between the PTF and the hypothetical extraction method.