Structural Reorganization of ASEAN Price Transmission Networks

Tsubasa Shibata
Research Fellow, Bangkok Research Center (BRC)/IDE-JETRO

This study examines the evolution of price propagation networks in ASEAN economies under successive global shocks from 2008 to 2023. Using an international input—output framework, we apply a cost-push price model to decompose sectoral price changes into the contributions of import prices, trade coefficients, input coefficients, and value-added shares. Focusing on external cost factors, the decomposed results—particularly sectoral import prices and trade coefficients—are converted into inter-country linkages, forming a dynamic price-propagation network. Applying network theory, we calculate centrality indicators, including betweenness and eigenvector centrality, to identify countries playing pivotal roles in transmitting price pressures across the region. We also examine the distribution of link strengths to capture structural changes before and after the US—China trade conflict and the COVID-19 pandemic. The results suggest that ASEAN's price network has become more regionally connected, with Thailand, Vietnam, and Singapore emerging as key intermediaries. These findings provide a descriptive view of how ASEAN's production and price linkages have adapted to global shocks, offering new perspectives on regional integration and structural change.