Asian FX Shock Transmission Networks:

Singapore Dollar Centrality and Role Shifts under U.S. Monetary Tightening

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Abstract

This paper examines exchange rate shock transmission networks among eight Asian currencies during 2000–2024, with particular attention to the U.S. monetary tightening period. Using a VARX-GFEVD framework, the analysis controls for common U.S. monetary and exchange rate conditions and measures directional spillovers among regional currencies. The results show three main findings. First, the Singapore dollar, denoted as SGP in the empirical analysis, occupies a stable central position in the Asian FX shock transmission network. Second, the U.S. monetary tightening period is associated with a marked increase in regional shock transmission, as reflected in a higher total spillover measure. This suggests that Asian currencies became more strongly interconnected under tighter global monetary conditions. Third, the role of the Japanese yen changes during the tightening period, moving toward a more transmitter-like position within the regional network. These findings suggest that Asian FX risk should be understood not only through common U.S. factors or country-specific exchange rate movements, but also through the changing network structure of regional shock transmission.

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Keywords: Asian currencies; exchange rate spillovers; shock transmission networks; VARX-GFEVD; Singapore dollar; U.S. monetary tightening