Measuring Global Flow of Funds:
Focus on Portfolio Investment among G-20 Countries

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This study seeks to measure global financial stability by constructing the Global Flow of Funds (GFF) matrix model based on its inherent market mechanisms. After investigating the basics of the Savings–Investment balance among G20 economies, we use GFF data to establish a GFF statistical matrix for the G20, which can be used to evaluate the financial risks and influences among its members, and to estimate bilateral exposures between countries for three different financial instruments within and across the G20 economies. We use a financial network analysis to construct an empirical analysis of financial relationships within the G20, focusing on the effects of a shock to portfolio investments in the United States, China, and Japan. We use who-to-whom (W-to-W) matrices to study the local propagation dynamics of shocks in investment and financing for the three countries. To that aim, we propose a decomposition of shocks into *n*-order effects on the basis of an "inverse of Leontief" representation of the W-t-W matrices. We further propose an eigenvector decomposition of the effects to provide an analytical description of the propagation process. This reveals the deep connections between the propagation role of financial instruments/countries and their centrality in the W-t-W network.

Keywords: global flow of funds; who-to-whom matrices; financial networks