

Examining the Impacts of COVID-19 on the Systemic Risk of the Global Economy: Evidence from the DY and Frequency Connectedness Approaches

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Abstract:

It is well documented in the recent literature that the COVID-19 pandemic has severely and deeply affected global financial markets, and the financial connectedness have markedly surged since the COVID-19 outbreak. Departing from this phenomena, in this study, we aim to concentrate on the impacts of the COVID-19 pandemic on the connectedness of the systemic risk indicating the US, other advanced economies (Japan and the Eurozone) and emerging countries. In this context, we use the Office of Financial Research financial stress index categorical indicators such as credit, equity valuation, funding, safe assets, and volatility in 2010/01/01 and 2021/01/22 in the empirical analysis. In doing so, we estimate connectedness between systemic risk of the US, other advanced economies and emerging countries by employing the Diebold-Yilmaz approach in a 200-day moving window and the Frequency Connectedness methodology on the frequency bands $(\pi, \pi/4)$, $(\pi/4, \pi/10)$ and $(\pi/10, 0)$ in a 300-day rolling window, respectively. Additionally, we focus on the network topologies of directional spillovers reflecting before and after the COVID-19 periods.

Keywords: Diebold-Yilmaz Connectedness, Frequency Connectedness, Time-Frequency Domains, Network Analysis

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