

Volatility Spillovers among Global Stock Markets: Measuring Total and Directional Effects

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In this study we construct volatility spillover indexes for some of the major stock market indexes in the world. We use a DCC-GARCH framework for modelling the multivariate relationships of volatility among markets. Extending the framework of Diebold and Yilmaz [2012] we compute spillover indexes directly from the series of returns considering the time-variant structure of their covariance matrices. Our spillover indexes use daily stock market data of Australia, Canada, China, Germany, Japan, the United Kingdom, and the United States, for the period January 2001 to August 2016. We obtain several relevant results. First, total spillovers exhibit substantial time-series variation, being higher in moments of market turbulence. Second, the net position of each country (transmitter or receiver) does not change during the sample period.

However, their intensities exhibit important time-variation. Finally, transmission originates in the most developed markets, as expected. Of special relevance, even though the Chinese stock market has grown importantly over time, it is still a net receiver of volatility spillovers.

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