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Stock Market Volatility Spillovers: Evidence for Latin America

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We extend the framework of Diebold and Yilmaz [2009] and Diebold and Yilmaz [2012] and construct volatility spillover indexes using a DCC-GARCH framework to model the multivariate relationships of volatility among assets. We compute spillover indexes directly from the series of asset returns and recognize the time-variant nature of the covariance matrix. Our approach allows for a better understanding of the movements of financial returns within a framework of volatility spillovers. We apply our method to stock market indexes of the United States and four Latin American countries. Our results show that Brazil is a net volatility transmitter for most of the sample period, while Chile, Colombia and Mexico are net receivers. The total spillover index is substantially higher between 2008Q3 and 2012Q2, and shock transmission from the United States to Latin America substantially increased around the Lehman Brothers' episode.

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