

# BRIC stock market importance — raw material suppliers versus manufacturing economies

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## Abstract

This paper investigates the relative importance of stock markets in a network consisting of the four BRIC (Brazil, Russia, India, China) markets, plus the USA. Each of these markets is represented by a stock index: Bovespa (Brazil), RTS (Russia), BSE Sentex (India), Shanghai Stock Index Composite (China), and Dow-Jones Industrial Average (USA), constituting the nodes of the network; edge weights are determined, on a daily basis, by return-to-volatility spillovers. The importance of a stock market as a risk spreader in the network can then be assessed by propagation values reflecting the network centrality of each node: the propagation value of a market measures the value of a shock to that market as seed for volatility creation in the network. This methodology has been developed only recently.

Within the BRIC group, Brazil and Russia are mainly raw material suppliers, while India and China are predominantly manufacturing economies. We hypothesize that the surge in crude oil prices beginning in late 2004 and causing liquidity shocks in Brazil and Russia has shifted the relative importance towards Brazil and Russia, and away from India and China. Indeed we find that structural breaks in the difference between propagation values of Brazil and Russia versus India and China confirm this hypothesis. Further structural breaks permit a detailed assessment of their respective relative stock market importance.

**Keywords:** BRIC; stock markets; propagation value; structural change

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