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VOLATILITY SPILLOVERS AND DYNAMIC CORRELATIONS BETWEEN EMERGING ECONOMIES IN FOREIGN EXCHANGE AND BOND MARKETS

Abstract:

The global financial crisis reached its peak when Lehman Brothers declared its bankruptcy on 15th of September, 2008. To avoid the risk of a financial collapse, the Fed has taken steps to launch several quantitative easing (QE) programs. The Fed’s first exit signal from these QE programs was given by Chairman Bernanke on the 22nd of May, 2013 during a Congress hearing. Eventually, the Fed announced its tapering decision on 18th of December, 2013. These historical shocks (events and central banks’ decisions) are well known to have had a huge impact on the foreign exchange, money and credit markets, especially in such emerging countries as Brazil, India, Indonesia, South Africa and Turkey, recently referred to as the Fragile Five.

In this paper, we have four goals. We examine how these three historical shocks mentioned above affect not only the size but also the persistence of the volatilities among 1) exchange rates and 2) ten-year bond rates of the Fragile Five. We also investigate separately the dynamic interactions between 3) exchange rates and 4) ten-year bond rates of the Fragile Five. To that end, we first estimate a multivariate GARCH model (VAR-BEKK model) and derive conditional variances and dynamic (time varying) conditional correlations with covariances. Then, we analyze the effects of these historical shocks on the volatilities of exchange rates and interest rates. We utilize volatility impulse response functions (VIRFs) developed by Hafner and Herwartz (2006) to achieve these objectives.

Our results suggest that all three shocks have large and positive impacts on expected conditional variances of the exchange rate and bond rate returns of the Fragile Five. Specifically, Brazil seems to be the most responsive country among the Fragile Five to the shocks under investigation both in exchange rate and bond markets, while India appears to be the least sensitive one. Regarding the dynamic conditional correlations (DCCs) among the exchange rate and ten-year bond markets of the Fragile Five, we find that the DCC series of bond returns exhibit much lower correlations than those associated with exchange rate returns. This result indicates that ten-year bond markets provide a better diversification opportunity than foreign exchange markets in the Fragile Five. However, our results demonstrate that the correlations among the ten-year bond markets exhibit more volatility than the ones among exchange rate markets.

Keywords:

Shocks, Volatility Spillovers, Exchange Rates, Interest Rates, Emerging Markets

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