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**Volatility transmission and volatility impulse response functions in the main and the satellite Renminbi exchange rate markets**

**Abstract**

We analyse volatility spillovers between the on- and offshore (CNY and CNH) Renminbi exchange rates towards the US dollar (USD). The volatility impulse response (VIRF) methodology introduced by Hafner and Herwatz (2006) is applied to several shocks between January 2012 and December 2019.

Furthermore, we propose a novel way of estimating VIRFs based on Bayesian estimation of the MV-GARCH BEKK model. A simple Independence Chain Metropolis-Hastings algorithm allows drawing VIRFs in an efficient manner, allowing to analyse the significance and persistence of volatility shocks and associated volatility spillovers. The VIRF results show that the CNH exchange rate promptly reflects the global market demand and supply, while the CNY exchange rate reacts with a time lag. The VIRF results also show the existence of spillovers between the two markets as the co-volatility increases in response to shocks.

Keywords: Renminbi, volatility spillovers, volatility impulse responses, Bayesian estimation, multivariate GARCH models

JEL-Classification: C32, E58, F31, F51

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