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Editorial Note on BRICS Based Panel VAR Model

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Editorial

Using the monthly data from December 2008 to March 2018 and a panel vector autoregression (PVAR) model, this paper empirically analyzes the spillover effects of U.S. monetary policy normalization on the total output, inflation, trade balance, and exchange rates in BRICS. The results show that the Fed's interest rate hike and balance sheet shrinking will both lead to a decrease in BRICS' output, a decline in inflation, a deterioration in the trade balance, and a depreciation of the exchange rate. In addition, the spillover effects of the Fed's interest rate hike and shrinking of a balance sheet are both relatively long lasting, but there is a certain difference between the two effects; that is, the Fed's interest rate hike has a greater impact on the macroeconomic variables of BRICS countries than the shrinking of balance sheet. Based on the conclusions, we propose to establish and improve the regulatory system of international capital flows, pay close attention to commodity prices, and strengthen policy coordination and communication among BRICS countries so as to mitigate the adverse impact of U.S. monetary policy normalization.

Against this background, this paper aims to explore whether U.S. monetary policy normalization has significant spillover effects on output, inflation rate, trade balance, and exchange rate in BRICS countries. If so, what is the direction of this spillover effect? and how long will the effects last?, answering these questions will help to understand the impact of the U.S. monetary policy on the BRICS countries during the period of global monetary policy divergence; it will also help strengthen the coordination of monetary, trade, and exchange rate policies among the BRICS countries. The marginal contributions of this paper are twofold. First, to the best of our knowledge, different from the previous studies which only examined the spill over effect of the U.S. single monetary policy, this is the first attempt to examine both the spill over effect of the U.S. interest rate policy and the balance sheet policy on BRICS countries. Second, different from the previous studies which focused on the impact of the U.S. monetary policy on a single country, we use the PVAR model to study the impact of U.S. monetary policy normalization on BRICS countries within the same technical framework. There is a large body of early literature analysing the spill over effects of an unconventional monetary policy. As the U.S. monetary policy gradually returns to normalization, the relevant literature begins to emerge. The relevant literature on U.S. monetary policy normalization can be broadly divided into three categories:

The first stream of literature focuses on the impact of the Fed's interest rate hike on macroeconomic variables of other economies. Most of the literature studies have found that fed rate hikes have negative spill over effects on other economies. Sun and Zhang used the TVP-VAR model to test the impact of the Fed's interest rate hike on China's output. The empirical results found that the impact of the Fed's interest rate hike on China's output was time varying, and the impact of the Fed's interest rate hike in 2015 on China's output was negative. By constructing a two country DSGE model, Banerjee empirically documented that a negative U.S. monetary policy shock leads to a retrenchment in EME capital flows, a fall in EME GDP, and a falling exchange rate, and found that financial friction exacerbated international spill overs. Georgiadis used the GVAR model to study the determinants of the global spill over effects from the U.S. monetary policy and found that a U.S. contractionary monetary policy has a negative impact of output in most emerging economies, and the spillover effect on non-advanced economies is usually less than advanced economies [1-5].

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