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The interactive relationship between the US economic policy uncertainty and BRIC stock markets

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ABSTRACT

The purpose of this paper is to investigate the dynamics of volatility spillovers between the US economic policy uncertainty and the BRIC equity markets. To do so, we perform the cross correlation function suggested by Cheung–Ng (1996) within a rolling approach. Although the mean return spillover between the BRIC stock indices and US uncertainty is negative, the volatility spillover is found to oscillate between negative and positive values. Therefore, it is highly risky for investors to invest in the US and BRIC stock markets simultaneously. In addition, we find that there is strong evidence of a time-varying correlation between US economic uncertainty and stock market volatility. Furthermore, the correlation is found to be highly volatile during periods of global economic instability. So, market participants in the BRIC stock markets do closely monitor the US economic policy conditions.

1. Introduction

The economic and financial system disturbances in one country could be significantly transmitted to other countries in the world, whether directly or indirectly. Besides, the effect magnitude becomes significant when it is originating from one of the world's leading economies (Forbes and Chinn, 2004; Sum, 2012c). The recent economic downturn and the US economic recession lead to the most

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complex financial crisis to date because of its rapid contagion effect. Indeed, the complexity of the crisis stems from its rapid spread from the US housing market to the US financial market, which then impacts on the rest of the world, specifically the emerging and frontier economies and their financial markets (Bianconi et al., 2013). For instance, the Brazil, Russia, India and China (BRIC) developing economies are middle-income countries with a relatively large size that could enhance the global economic growth.

Since the global financial crisis of 2007, an intensive debate emerged about the response of the emerging economies. A number of existing studies emphasize the inability of the developing countries to deal with the US financial turmoil (see, among others, Eichengreen and Park, 2008 and Eichengreen et al., 2009), whereas some other authors, are more concerned with the delayed impact of the global financial turbulence on the BRIC markets. Dooley and Hutchinson (2009) and Llaudes et al. (2010) claim that the response of the emerging economies to the subprime mortgage crisis varies and depends on different phases of the crisis. In fact, the response of the BRIC countries is found to be relatively limited at the beginning of the global financial crisis (hereafter, GFC).

In parallel, an extensive literature emerged concerning the economic policy uncertainty (hereafter, EPU). Indeed, the policies resulting from the lack of agreement or the frequent changes of economic policies by the policy-makers could be transmitted into a significant economic policy uncertainty. Hence, the EPU may cost the economy as a whole many jobs, dampen the economic recovery or lead to the collapse of stock markets. Specifically, the stock price dependence of corporate investment is found to be weak in election years (see, Durnev, 2011). Given that investors make and review their predictions about future macroeconomic policies, times of high volatility in the US stock market correspond to the times of high probability of electing the potential winner (see, Goodell and Vähämaa, 2013).

In the existent literature, it is clearly perceived that there is a long-term negative relationship between equity returns and the economic policy uncertainty (see Bansal et al., 2005). More precisely, during bad economic periods, a high economic policy uncertainty is highly linked to stock market volatility (see, among others, Pastor and Veronesi, 2013). Although many studies explore the links of returns between the economic policy uncertainty and stock price indices, only few studies examine the links of volatility between the two variables. For instance, Ulrich (2012) showed positive volatility spillovers between economic policy uncertainty and equity returns. On another side, there is a strong evidence of negative connectedness between the EPU and equity returns (see Ozoguz, 2009; Dzielinski, 2011; Sum, 2012a, 2012b, 2012c, 2012d; Bhagat et al., 2013). Moreover, the short and long-term associations between EPU and stock returns are found to be unstable. Using a rolling window approach, Li et al. (2013) show the existence of a causality linkage running in a bidirectional way between the EPU index and stock price returns. In sum, it is shown that the US EPU index is an increasing function of the US stock return volatility, whereas the US stock returns are a decreasing function of the US EPU index changes (see Antonakakis et al., 2013). Brogaard and Detzel (2015) provide evidence showing that the impact of a high degree of economic policy uncertainty is higher on the future stock returns than on the contemporaneous returns

Although few studies focus on the influence of the EPU index returns in the US on the stock market returns in Brazil, Russia, India and China (such as Sum, 2012c), the volatility spillover between the US EPU and the BRIC stock markets is disregarded in the existing literature. Given the growing integration of the BRIC economies into the advanced economies especially the US, shocks originating from the US are significantly transmitted to the BRIC economies (Sum, 2012c) and have a particular effect on the performance of the BRIC stock markets (Bansal et al., 2005; Dzielinski, 2011; Ozoguz, 2009).

In this paper, our attention is focused on the volatility shocks transmissions between the economic policy uncertainty in the United States and the BRIC stock markets. At least three main are motivating our research. First, the market participants can predict the BRIC stock markets' declines by observing the economic policy changes in the United States. In fact, they can determine whether the BRIC economies are insulated from the global financial stress. Second, the investors can check whether this group of emerging markets provides portfolios' diversification opportunities. Third, one can determine whether the four emerging economies can be viewed as a locomotive force for maintaining the US and the world economic growth.