Do the emerging stock markets react to international economic policy uncertainty, geopolitical risk and financial stress alike?

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ABSTRACT

We examine the effects of international (US based) economic policy uncertainty, geopolitical risk and financial stress alike on the emerging stock markets. We consider 24 emerging markets to understand the receptivity of these markets to the various US based macroeconomic shocks. We use monthly data ranging from January 1997 to May 2018 and use the nonparametric causality-in-quantiles test as the methodological approach. We find that: (a) the impact of these shocks is heterogeneous across the markets in terms of causality and intensity. (b) the influence of EPU is mostly profound and significant as compared to other two shock indicators i.e. GPR and FS. (c) the causality-in-mean is more significant and stronger rather than the causality-in-variance. Lastly, (d) the predictability of EPU, GPR and FS is restricted in extreme upper tails. We believe these findings are relevant to the investors in EMs for the purpose of international portfolio diversification and developing investment strategies at times of turbulent economic conditions.

1. Introduction

1.1. Background

We investigate how different sources of newspaper-based US macroeconomic shocks influence the asset prices in the emerging stock markets (EMs). The EMs have been the most sought avenues for investment from the developed markets. The relevance of investment in EMs to optimize the mean-variance dynamics of the portfolio was initially highlighted in the late 1960′s to 1970′s by Grubel (1968), Levy and Sarnat (1970) and Errunza (1977). Since the 1990′s, a steady inflow of capital investment to EMs was observed soon after the liberalization of these markets (Bekaert, Harvey, & Lundblad, 2003). Bekaert and Harvey (1997) highlight some differential features of EMs, which may be attributed to the higher inflows of funds such as higher average returns and lower correlations with the developed markets. Prior to the observations of Bekaert and Harvey (1997), using the principles of standard economic theory, Lucas (1990) had also argued that the marginal returns to the capital is higher in relatively poorer economies.

Alternatively, the lenders of the capital from the fund-surplus economies can charge higher rates of interest from borrowers in the fund-deficit economies. Besides, it cannot also be denied that there are certain risks involved with investing in EMs on account of their weaker institutional and regulatory framework as compared to the developed markets (Claessens & Yurtoglu, 2013; Mnasri & Nechi, 2016). Additionally, Bekaert and Harvey (1997) also posit that EMs are also characterized by higher volatilities. Thus, these factors also qualify the investors from the developed world for the additional risk-premium.

The increasing flow of capital across the nations coupled up with decreasing information asymmetries with the evolution of superior information technologies has led the process of capital market integration (Beine & Candelon, 2011). The market integration signifies more synchronized behavior of stock markets across the nations. The higher level of market integration not only diminishes the benefits of international diversification but also induces the risk of adverse economic shock transmissions. Thus, Lehkonen (2015) refers market integration as a double-edged sword. Lehkonen (2015) further argues that the benefits of such globalization of markets were in question, particularly when these well-integrated markets propagated the shocks of the Global Financial Crisis (GFC) across the world. Longin and Solnik (2001) had also claimed that in the phases of high market volatility (or bad market conditions), the international equity markets tend to co-move strongly i.e. a state of market contagion.

Nevertheless, Forbes and Rigobon (2002) suggested that the artefact of contagion is nothing, but the underlying cross-market linkages that lead to the interdependence. The interdependence between the markets serves as a potential channel to transmit macroeconomic shocks to other markets. In particular, the US being the largest equity market has often been viewed as a barometer of world equity market conditions (Ko & Lee, 2015; Mensi, Hammoudeh, Reboredo, & Nguyen, 2014). Similarly, academic literature in the domain of finance and financial economics have readily recognized the influence of US based shocks on rest of the world (Antonakakis, Chatziantoniou, & Filis, 2013; Colombo, 2013; Das & Kumar, 2018; Ehrmann & Fratzscher, 2009; Ko & Lee, 2015). One of the crucial underlying reasons of this phenomenon is the fact that market participants often attempt to infer information from the other markets (and preferably from the largest markets with lower information asymmetries and the higher degree of corporate governance mechanisms). Thus, the tremors in larger equity markets are not only confined to them.

Unquestionably, foreign investors keep a close vigilance upon the economic and financial conditions of the US. Thus, events such as fluctuations in asset markets or policy related turbulences in the US may be reflected in the behavior of the foreign investors (Su, Fang, & Yin, 2018). The altered behavior of the foreign investors in terms of the future economic outlook and prospects is translated into the changes in asset prices (since there will be a shift in demand and supply equilibrium of asset prices) and increasing volatility. It may be noted that the role of sequential information is primitive in this situation. Thus, in this article, we examine how the US based newspaper indexes of macroeconomic shocks are impacting the EMs. We consider three newspaper-based indexes of distinctive nature, they are Economic Policy Uncertainty (EPU), Geopolitical Risk (GPR) and Financial Stress Indicator (FS). The key question is that these streams of shocks impact the EMs differently or in a similar manner. Addressing to this question will disentangle the nature of shocks that are more detrimental for the EMs. Therefore, the findings may be useful to investors and other market participants to recognize the source of shock, which is more influential on price and variance risk.

1.2. Motivation and literature

The EPU has been a crucial determinant of economic cycle, investment decision and policy making (Bernanke, 1983). Despite of its relevance in the economic system, the earlier empirical researches fail to accommodate this variable since there were no quantitative, continuous and reliable measure of policy uncertainty. To overcome this hindrance Baker, Bloom and Davis (2016) developed a newspaper-based index of political uncertainty. This EPU index has been highly appreciated by the academic community and scholars across the globe used this index to understand the influence of EPU on several perspectives of the economy. For example, firm capital structure (Zhang, Han, Pan, & Huang, 2015), corporate cash holding (Demir & Ersan, 2017), exchange rate expectations (Beckmann & Czudaj, 2017; Kido, 2016), corporate investments (Wang, Chen, & Huang, 2014) and so on.[1]

Besides many other aspects of EPU, the relationship with regards to the asset prices has been a prominent field of research. Pastor and Veronesi (2012, 2013) theoretically postulate that the uncertainty in government policies will tend to lower the equity returns. On a similar note, Brogaard and Detzel (2015) empirically argue that the EPU has a negative impact on the equity prices and raises the risk premium. These notable studies were succeeded by an array of empirical literature focusing upon this relationship.[2] Overall the results suggest that EPU causes volatility in stock markets and negatively impacts the stock returns.

This article is motivated primarily because of two main reasons: (a) the arrival of two new newspaper-based indexes i.e. GPR and FS and (b) the phenomenon of information precision recently put forth by Pastor and Veronesi (2017). The GPR index of Caldara and Iacoviello (2018) primarily focuses on war-like events.[3] Caldara and Iacoviello (2018) compares EPU and GPR indexes and claim that the events captured by this index are more exogenous to business and financial cycles, which could escalate volatilities in the stock markets. Similarly, Püttmann (2018) argues that the events captured by FS index is more focused on the financial aspects of the economy and its scope is not wide as the EPU index. Thus, it becomes interesting to examine that which nature of shock influences the stock prices the most. Thus, the investors and other market participants may understand the nature of events that these markets are more vulnerable to.[4]

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[1] In this study we mainly focus upon the relationship of EPU with the stock prices. For a elaborative review of literature on EPU please refer Castelnuovo et al. (2017).

[2] The other relevant studies in this field of literature are as follows: Antonakakis et al. (2013), Raza et al. (2018), Kang et al. (2017), Kang and Ratti (2013), Christou et al. (2017), Arouri et al. (2016), Guo et al. (2018), You et al. (2017), Liu and Zhang (2015), Donadelli (2015), Yang and Jiang (2016), Ko and Lee (2015), Das and Kumar (2018), Tsai (2017), Su et al. (2018) among others.

[3] The brief outline of the GPR and FS indexes are presented in Section 3.

[4] The Federal Reserve Bank of St. Louis and Kansas City had developed their own Financial Stress index, which is based upon the several macroeconomic indicators such as 3-month LIBOR, 3-month treasury bills, swap rates, bank stock prices, S&P 500 returns index and many others. The previous empirical studies largely use these FS indexes (Das, Kumar, Tiwari, Shahbaz, & Hasim, 2018; Gupta, Hammoudeh, Modise, & Nguyen, 2014; Nazlioglu, Soytas, & Gupta, 2015; Reboredo & Uddin, 2016; Sun, Yao, & Wang, 2016). However, as we mention earlier, the FS index of Püttmann (2018) is based on newspaper articles and not on the economic indicators.