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Transmission of shocks through stock markets channel: the case of the CEECs

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Abstract

Many scientists and economists state that the degree of global integration of the Central and Eastern European countries (CEECs) stock markets is very low. However, the recent turmoils in the major financial centers in USA, China, etc. raise the question about the possible transmission of the global shocks to the CEECs stock markets despite the low degree of financial integration. The main research questions are: can the spillover effect transmit from the major stock markets on the CEECs stock markets and what type of shocks cause the cross-border contagion risk transmission to the CEECs stock markets? The objective of this study – to identify the transmission of global shocks through stock markets channel in the CEECs. The research methods: the systemic, logical and comparative analysis of the scientific literature and statistical methods: Dynamic Conditional Correlation Generalized Autoregressive Conditional Heteroskedasticity (DCC-GARCH) model. The empirical results of this study suggest that the highest degree of global and regional integration of the stock markets was observed in Poland's, Czech Republic's, and Hungary's stock markets that can be explained by higher development level of these stock markets comparing to other CEECs. The collapse of Lehman Brothers bank in United States in 2008 was the most significant shock transmitted to CEECs stock markets. The empirical results also suggest that the transmission of other systemic shocks (e.g. the Middle East financial markets crash (May 2006), Greek debt crisis (April 23, 2010), Portugal's debt crisis (May 16, 2011)) was also observed on some of the CEECs countries.

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Keywords: global shocks; global integration, stock markets, the CEECs

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1. Introduction

The global and regional integration of the CEECs stock markets was investigated in many empirical studies (Mateus (2004), Maneschiold (2006), Nielsson (2007), Masood et al. (2010), Brannas et al. (2012), etc.). The results of the aforementioned scientific studies show that the degree of global integration of the CEECs stock markets is very low confirming that most of emerging stock markets (including CEECs) are less integrated at the global level. Many international investors have seen investment in emerging stock markets as a good portfolio diversification opportunity, however, the recent global shocks in USA's and China's stock markets raise the question about portfolio diversification opportunities during financial turmoil and the possible system wide global shocks transmission to the CEECs stock markets despite the low degree of global integration. The main research questions are: can the spillover effect from the major stock markets transmit on the CEECs stock markets and what type of shocks cause the spillover effect transmission? The objective of this study – to identify the shocks transmission through stock markets channel in the CEECs. The research object – stock markets in the CEECs. The research methods: the systemic, logical and comparative analysis of the scientific literature and statistical method: Dynamic Conditional Correlation Generalized Autoregressive Conditional Heteroskedasticity (DCC-GARCH) model.

2. Literature review

Many scientists and economists investigated the regional and global integration of the CEECs stock markets. However, only a few scientists (Soultanaeva (2008), Dubinskas and Stunguriene (2010), Syllignakis and Kouretas (2011), Kuusk et al. (2011), Brannas and Soultanaeva (2011), Nikkinen et al. (2012)) analyzed the transmission of shocks through stock markets channel in the CEECs countries.

Soultanaeva (2008) investigated the spillover effect of the political events from the Russian stock market to the Baltic stock markets. The main findings suggest that the reaction of the Baltic stock markets to political news and events in Russia decreased over time. Despite common characteristics of the Baltic stock makers there are significant differences among three stock markets in terms of market reaction to political events and news. Soultanaeva (2008) argues that the Baltic stock market reaction depends on the rate of information arrival as well as on differences in investors' interpretations of news announcements and opinions. Dubinskas and Stunguriene (2010) also focus on the causality among the stock markets of Russia and the Baltic States. The empirical results demonstrate a strong cointegration among all Baltic stock markets. The empirical study shows that the external shocks affect significantly the Estonian and Latvian stock markets while the reaction of investors in the Russian and Lithuanian stock markets remains more conservative. The empirical results confirm that during financial turmoils the expectations and interests of investors are related to largest stock markets that are normally considered more resilient and reliable. Syllignakis and Kouretas (2011) investigated the contagion effects among the CEECs stock markets and the German, USA, and Russian stock markets. The empirical study provides substantial evidence that transmission of contagion effect to the CEECs stock markets can be explained by the herding behavior of investors. These findings suggest that the contagion transmission from the major stock markets is a result of an increased financial liberalization, as well as an increased participation of foreign investors in the CEECs stock markets. Kuusk et al. (2011) investigated the financial contagion from the US stock market to the Baltic stock markets during the recent financial crisis. The results support the contagion hypothesis and suggest that linkages between the USA and the Baltic stock markets have become stronger after the collapse of Lehman Brothers bank in USA in 2008. Brannas and Soultanaeva (2011) investigated the impact of news from the Russian and USA stock markets on returns and volatilities of Baltic stock markets. They found no evidence of asymmetric impact of news from USA stock market on returns in the Baltic countries, however, the volatility spillovers from New York on Tallinn stock exchange was identified. Nikkinen et al. (2012) investigated the linkages between emerging Baltic stock markets and developed European stock markets. The empirical results indicate that the Baltic stock markets are closely related to the major European stock markets. The empirical study also provides substantial evidence on high degree of Baltic stock markets regional integration especially during the recent financial crisis period.

In summary, the empirical studies suggest that despite the low global integration of the CEECs stock markets the spillover effect from the major stock markets on the CEECs stock markets was identified. The main research questions of this empirical study are: can the spillover effect transmit from the major stock markets on the CEECs