THE IMPACT OF GLOBALIZATION ON THE CAPITAL MARKET IN ROMANIA

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Abstract:
The study examined the impact of globalization on the capital market operation in Romania, using the Bucharest Stock Exchange as a case study. In this paper we analyze the impact of globalization on the capital market in Romania using different tests and methods, taking into account the other studies on this subject. We exploit daily data of stock exchange for the period of August 2011- March 2017 and the variables included in the research are BETPLUS, BET-XT, BET-FI, BET-NG, BET-BK, BET-XT-TR, SPX, DJI, N225 and STOXX50E. In the course of examination, it was discovered that there are much influence of globalization on the capital market operations in Romania.

Keywords: economic globalization, capital market development, VAR, causality

JEL Classification: C32, F630, G10, G15

1.Introduction

The international economy is continually restructuring, impacting all nations, which will have to adapt to the changes taking place worldwide. Among the most important changes manifested in the global financial markets were those related to the phenomenon of accelerating their integration and globalization. This evolution directly caused by the liberalization of national financial markets, fast technological progress and huge jumps in telecommunications has led to occurrence of new investment opportunities and financing for financial market participants worldwide.

Romanian capital market falls among emerging markets, initiating a process of economic growth but not managing to reach a high level of development, characterized by a significant degree of economic and political instability. There are significant differences between the size of the Bucharest Stock Exchange and the dimensions of other markets such as those in Europe, U.S. and Asia, but as the domestic capital market is maturing, the correlation between this and other emerging economies become stronger and begin to be attractive for foreign investors.

2.Literature Review

Erdinc and Milla (2009) investigated whether there is cointegration between stock markets (France, Germany and UK). For the analysis was used monthly data of stock exchange for the period 1991–2006. The cointegration tests indicate that there exists a long term relationship between European countries.

Ishmael, Oluwalami, James and Osamor (2012) examined the impact of globalization on the Nigerian Stock Exchange and they discovered that globalization influence the capital market operations.

Liow and Ye (2012) showed that economic globalization could be one of the key driving forces of capital market integration. For their study used monthly observations (interbank interest rates, exchange rates and consumer price indices) from 1996 to 2011 for U.S., United Kingdom, China, Singapore, Taiwan, Hong Kong and Japan.

Ray (2012) analyzed the relationship between globalization and economic growth in India using annual data for the period, 1990-1991 to 2010-2011. Variables have long-run equilibrium relationship with economic growth and the Granger causality test show a bidirectional causality.

Munteanu, Filip and Pece (2014) researched the relationship between the returns obtained in 12 EEC (Emerging European Countries) and U.S., in the period 2005-2013, using a VECM and a Granger causality test. The results obtained show that between U.S. and EEC markets exists a strongly connection.

Another study of the effects of globalization on the capital market in Nigeria was made by Nwezeaku and Akujuobi (2015). They analyzed the relationship between globalization and the capital market development in Nigeria and the period analyzed is 1980-2013. They used OLS method, cointegration and causality tests and the variables included in their study are import, export, trade openness, foreign investment inflows and capital market development. The results indicate that the export causes market capitalization, and vice versa, and between import and market capitalization exists a unidirectional relationship. Nwezeaku and Akujuobi recommend paying attention on policy directions since the effect of globalization can be a positive one, but also it can have a negative effect on economic growth depending on the policy directions taken.

Nasreen, Mahalik, Abbas and Shahbaz (2015) find a significant effects of the financial development and changes in economic globalization on economic growth in the 1989-2014 period for 23 European countries, using a VAR and Granger causality test and the series used in analysis are domestic credit, private credit, money supply, stock market capitalization, turnover ratio and value traded. The authors also find that stock market indicators Granger cause economic growth.

Kilic (2015) analyzed the effects of economic, social and political globalization on economic growth for 74 developed countries, between 1981-2011 period. The analysis showed that between social globalization and economic growth is a negative relationship, while between economic/ political globalization and economic growth is a positive relationship. The Granger causality test showed the presence of a bidirectional relationship between economic globalization and economic growth and a unidirectional relationship between social globalization and economic growth.

3.Data and methodology

Estimates are made using daily data from August 2011 to March 2017. We have the following data series used to investigate the impact of globalization on the capital market: BETPLUS, BET-XT, BET-FI, BET-NG, BET-BK, BET-TR, SPX, DJI, N225 and STOXX50E. In an attempt to see what is the effect of globalization on the capital market in Romania we decided to take into consideration six indices representing Romania and four indexes representing the largest capital markets such as Europe, U.S. and Asia.

We use logarithmic data series to remove the presence of heteroscedasticity. In order to study the relationship between capital markets in Europe, U.S., Asia and Romania, we applied VAR and causality tests.

Initially we will study both the stationarity of the data unit root tests and their order of integration. We will use the Augmented Dickey-Fuller test to check-ADF stationarity. Augmented Dickey Fuller is used to determine the order of integration, and the null hypothesis is the existence of a unit root. To determine the optimal number of lags, we used criteria laid down by LR sequential tests, Akaike criterion, Schwarz and Hanna-Quinn Criterion tests.

4.Results

According to ADF stationary test, all ten variables are integrated of order zero. By using VAR equations we can analyse the causality between these variables and by applying these econometric models will allow us to verify the existence of the relationship of short term between variables. Below are the equations obtained by applying VAR. We aimed to investigate separately the relationship between the six Romanian stock indices with stock indices representing the capital market in U.S., Asia and Europe.

Table 1 VAR equations

BETPLUS =C(1)*BETPLUS(-1) + C(2)*BETPLUS(-2) + C(3)*DJI(-1) + C(4)*DJI(-2) + C(5)*N225(-1) + C(6)*N225(-2) + C(7)*SPX(-1) + C(8)*SPX(-2) + C(9)*STOXX50E(-1) + C(10)*STOXX50E(-2) + C(11)
BET-XT = C(1)*BETXT(-1) + C(2)*DJI(-1) + C(3)*N225(-1) + C(4)*SPX(-1) + C(5)*STOXX50E(-1) + C(6)
BET-FI = C(1)*BETFI(-1) + C(2)*BETFI(-2) + C(3)*DJI(-1) + C(4)*DJI(-2) + C(5)*N225(-1) + C(6)*N225(-2) + C(7)*SPX(-1) + C(8)*SPX(-2) + C(9)*STOXX50E(-1) + C(10)*STOXX50E(-2) + C(11)
BET-NG = C(1)*BETNG(-1) + C(2)*DJI(-1) + C(3)*N225(-1) + C(4)*SPX(-1) + C(5)*STOXX50E(-1) + C(6)
BET-BK = C(1)*BETBK(-1) + C(2)*BETBK(-2) + C(3)*DJI(-1) + C(4)*DJI(-2) + C(5)*N225(-1) + C(6)*N225(-2) + C(7)*SPX(-1) + C(8)*SPX(-2) + C(9)*STOXX50E(-1) + C(10)*STOXX50E(-2) + C(11)
BET-XT-TR = C(1)*BETTR(-1) + C(2)*BETTR(-2) + C(3)*DJI(-1) + C(4)*DJI(-2) + C(5)*N225(-1) + C(6)*N225(-2) + C(7)*SPX(-1) + C(8)*SPX(-2) + C(9)*STOXX50E(-1) + C(10)*STOXX50E(-2) + C(11)

Source: Authors' work

C (1) is the term error correction or adjustment speed towards equilibrium. According to the results obtained from estimating the six equations, the coefficient C (1) is not negative (but significant in the most cases), which mean the absence of long-term causalities from international capital markets to the capital market in Romania. Causality of short term can be verify by applying the Wald test. If the probability recorded is below the rate of 5%, this allows us to reject the null hypothesis, and that we can affirm the presence of a short term causality from the international markets to the Romanian market.

The empirical results confirm the presence of short term causality from U.S. and Europe to Romania. In the analyzed period, U.S. stock indices such as DJI and SPX shows causality in the short-term for BET-XT index. The European capital market influence over capital market in Romania is confirmed by the Wald test, especially on BETPLUS, BET-XT, BET-BK and BET-XT-TR. Indices BET-FI and BET-NG records a probability that is above the rate of 5%, which allows us to accept the null hypothesis, that we can affirm the absence of causality in the short term from foreign capital markets to Romania.

The variance decomposition for stock indices is shown in table below. This is because the influence of globalization on capital market is the main issue of concern in the study. The role of the variance decomposition is to ascertain the proportion of forecast error variance in one variable explained by its innovation and other variables. It is a device for measuring the amount of shock received by the variable from itself and other variable.

Table 2 Variance decomposition for Romanian stock indices

Period	BETPLUS	DJI	N225	SPX	STOXX50E
2	98.59763	0.000750	0.116033	0.253767	1.031824
3	96.32394	1.640596	0.158869	0.463872	1.412728
12	96.29753	1.646596	0.165562	0.476219	1.414094
	BETFI	**DJI**	**N225**	**SPX**	**STOXX50E**
2	99.60367	0.274350	0.046782	0.051011	0.024183
3	97.19131	2.571377	0.045972	0.112016	0.079323
12	97.17509	2.577812	0.050425	0.112419	0.084250
	BETXT	**DJI**	**N225**	**SPX**	**STOXX50E**
2	98.48338	0.290887	0.168487	0.485902	0.571349
3	98.46909	0.291379	0.168446	0.491172	0.579908
12	98.46892	0.291395	0.168476	0.491275	0.579938
	BETNG	**DJI**	**N225**	**SPX**	**STOXX50E**
2	99.31389	0.023949	0.220300	0.264359	0.177504

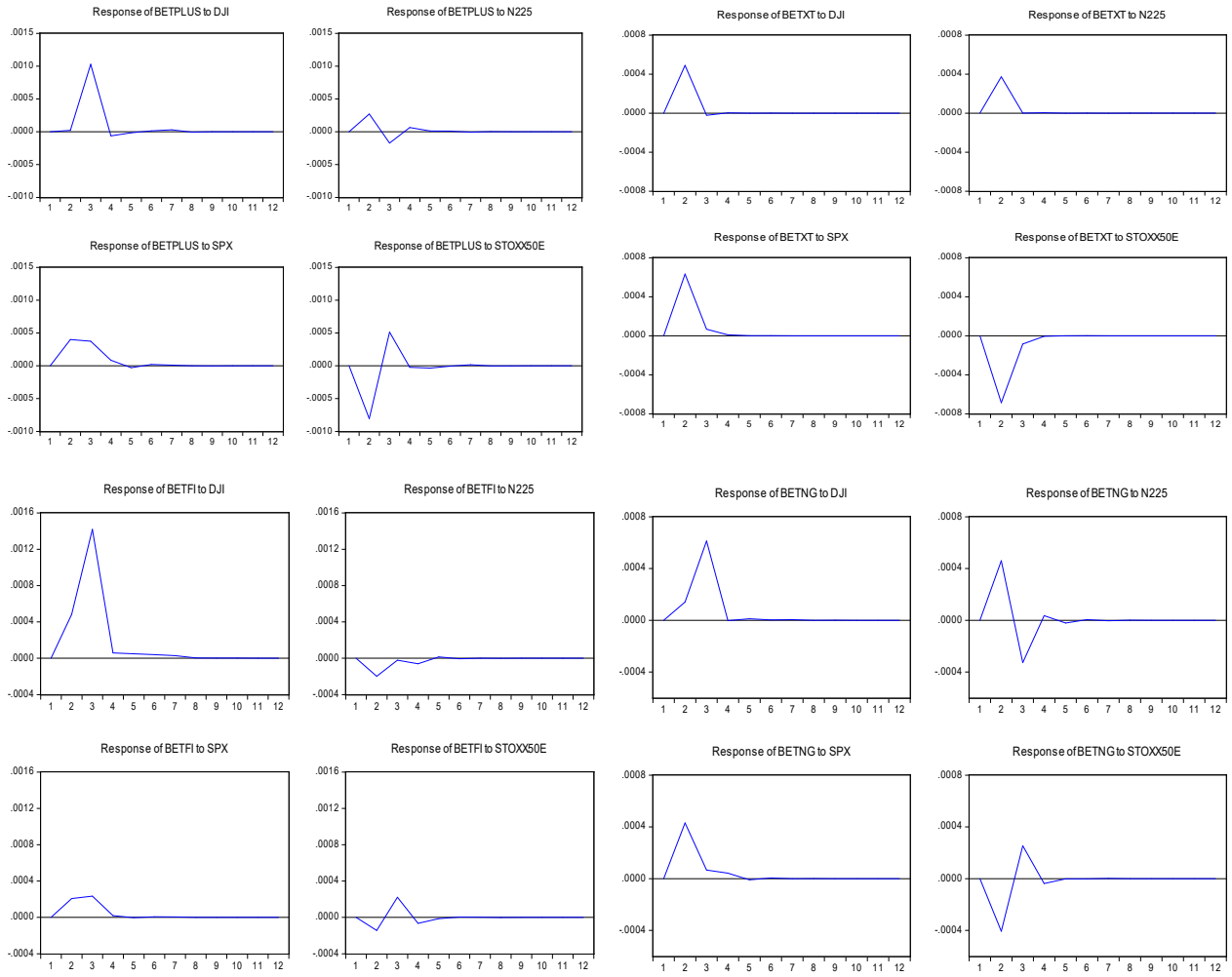
3	99.31260	0.023951	0.220893	0.264825	0.177732
12	99.31259	0.023953	0.220895	0.264830	0.177732
	BETBK	**DJI**	**N225**	**SPX**	**STOXX50E**
2	98.84139	1.056728	0.060803	0.040961	0.000115
3	97.38594	2.401575	0.152723	0.040623	0.019139
12	97.36772	2.405201	0.159448	0.047852	0.019775
	BET-XT-TR	**DJI**	**N225**	**SPX**	**STOXX50E**
2	96.83607	2.461249	0.639366	0.053482	0.009837
3	92.30551	5.816922	1.711392	0.137955	0.028225
12	92.19637	5.824412	1.746075	0.192099	0.041046

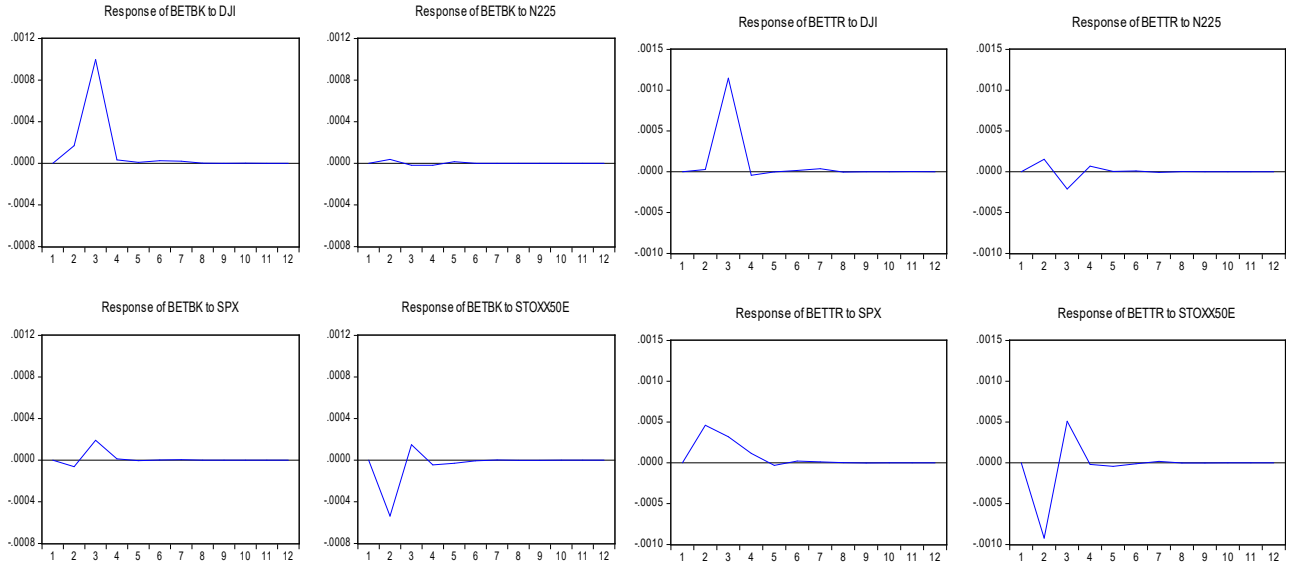
Source: Authors' work

The forecast horizon is in months. In the long-term the U.S. stock market represented by DJI contribute to over 1.6% of the BETPLUS forecast error variance, and SPX contribute about 0.5% of the BETPLUS forecast error variance. N225 index become stronger in the long-run but is practically insignificant in explaining fluctuations in Romanian's capital market evolution.

The result shows that BET-XT-TR variance decomposition receives the largest shock of 5.82% from DJI, followed by 1.74% from N225, which are the biggest contributions from U.S. stock market and Asian stock market. Other indices which present a higher contribution from U.S. stock market are BET-FI and BET-BK.

Figure 1 Impulse-response function for the Romanian indices





Source: Authors' work

Except BET-NG, the Granger causality test confirms the existence of a bidirectional causality between stock indexes representing the U.S. capital market and stock indexes in Romania. The empirical results from Granger causality tests highlight no causality from the Asian capital market. An unidirectional causal relationship has been identified from the European capital market to Romanian capital market, excepting BET-NG and BET-FI. Results confirm that the capital market in Romania is influenced by external markets, with the strongest impact from U.S..

5.Conclusions

The objective of the study is to identify if there exists a significant relationship between the returns obtained in the U.S., Asia and Europe stock market and those obtained in the Romanian stock market. Furthermore, we aim at identifying the causality that describes the relationship between the returns obtained in distinctive stock markets, using six indices representing the capital market in Romania. The results provided present a general picture of stock market globalization suggested by both techniques approached: VAR statistically significant coefficients on the one side and by the rejection of the null in the case of Granger causality test, on the other.

We observe that the direction of causality between U.S. stock market and Romania stock market is generally bidirectional (causality runs in both directions). Another result obtained is the presence of a unidirectional causal relationship between European stock market to Romanian stock market. Even though the results reveal a high degree of stock market globalization, further, detailed information about stock market interconnection should be investigated.

6.References

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