



Capital Markets Integration and Economic Growth

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ARTICLE INFO

Received June 07, 2018
Revised from June 20, 2018
Accepted August 11, 2018
Available online September 15, 2018

JEL classification:

E44, F02, F36, G15, O47.

DOI: 10.14254/1800-5845/2018.14-3.2

Keywords:

capital markets,
integration,
economic growth,
European Union,
ARDL model.

ABSTRACT

Nowadays, the capital markets have an increasing role and weight in the modern financial systems. Economic (and financial) integration should allow companies to access more sophisticated and competitive capital markets for accelerating the economic development. The purpose of this paper is to investigate the impact of the capital markets' integration on economic growth in the EU countries and identify the main factors through which capital markets' development influences economic growth, especially in an economic (and monetary) union. In this article we had used the Autoregressive Distributed Lag model for the EU countries during 2004-2016. According to the results, we can say that the integration of capital markets has a positive impact on economic growth, and the main factors in which the capital market positively affects economic growth are stock market capitalization, capital mobility, value traded, stock indices, immigrants, and, to a greater extent, small, foreign portfolio investment. Policymakers in this area should pay attention reducing external debt, which is a significant proportion of foreign capital inflows, and encouraging the foreign portfolio investments to stimulate stock market development and growth, reducing extreme stock price volatility, fostering a good correlation of savings with investment (i.e. capital mobility), boosting volume growth transactions on stock markets, they should guarantee full employment through fiscal policy, monetary policy and trade policy as stated, by counteracting private sector or trade investment volatility, and reducing inequality, and stimulating increased labor mobility from developed countries to the least developed to balance the economy.

INTRODUCTION

An integral part of the financial system of the economy is represented by the capital market. It promotes economic growth, investment and saving in a country.

At a time when this area is ready to become more financially integrated, the current diversity of financial development in the European Union (EU) can be a great opportunity. Integration should allow companies to access more sophisticated credit and security markets to accelerate the development of the most recent financial markets.

According to Modigliani (1971), rising stock prices lead to a simultaneous growth of individual holdings, resulting in greater consumption or savings.

The relationship between capital markets integration and economic growth is a topic that has received great attention over the past decades, with different views on the role that financial systems in the capital market can play in economic growth.

The theoretical work focuses on increasing the role of capital market intermediary incorporate monitoring and exerting corporate control, diversifying risks, promoting liquidity, generating information for investment and capital allocation, providing vehicles for trading, and mobilizing savings.

1. PURPOSE OF THE PAPER

The purpose of this paper is to examine the impact of capital market integration on economic growth in EU countries, particularly in the context of financial integration being needed to achieve economic growth; strengthening capital markets. We also investigate the main factors in which the development of the capital market influences economic growth. For this goal, we chose the most appropriate variables and models that have been used in the recent literature on the subject. Research questions:

- What are the factors through which the integration of European capital markets influences the growth of the economy?
- Which of these factors have a greater impact on economic growth?
- What is the (positive or negative) impact of the integration of European capital markets on economic growth?

2. LITERATURE REVIEW

According to a current report of the European Central Bank, the Capital Markets Union (CMU) has the potential to become a key factor in financial integration in the EU. CMU is a natural complement to the banking union that will strengthen the European Monetary Union (EMU) and deepens the single market. It will support a homogeneous transmission of monetary policy, strengthen funding sources and investment opportunities to contribute to financial stability by creating, inter alia, deeper, more liquid financial markets, amplifying the resilience of the banking system and the economy. The CMU will also promote a greater sharing of cross-border financial risks, supporting the functioning of EMU by balancing economic cycles.

Funding via public bond and share markets is often referred to as “direct funding” as it directly transfers securities between investors and borrowers, without the need for intermediary funding. Undertakings may use organized markets to issue securities in the form of shares or bonds, or various other non-intermediate sources of finance, such as commercial credit and advances, corporate loans, family and friends loans, and equity issues own shares other than quoted shares.

(European Financial Stability and Integration Report, 2014). With regard to direct financing through debt and the capital market, it can be argued that the main advantage of financial markets is that they allow the collection of resources from more investors. The two main instruments on these markets, namely stocks and bonds, are standardized products, which means that these secondary markets can grow to allow them to be converted into liquidity at any time. In order to start and develop a business, a series of investments are needed, which are mostly funded by external funds. This requires the existence of well-functioning financial markets in the sense that their resources are channeled from less productive firms to larger productivity firms. Limited access to finance can hinder business dynamics by inhibiting channeling of resources from less productive companies to those with higher productivity, thus reducing resource allocation efficiency. In a real financial market, the price of a foreign guarantee, the price of a foreign guarantee faced by domestic investors is the result of the local price and the exchange rate. As the exchange rate fluctuates continuously, even if the local asset is risk-free, it becomes a risky asset for domestic investors. Only after its volatility has decreased, the foreign asset can be converted to risk. The universes of investment can be represented by a risky asset (the market portfolios), and a risk-free asset. Thus the risky asset in this economy can be interpreted as an index fund. According to a study by ECFIN, in the Eurozone, more developed financial markets favored the diminishing impact of the crisis on growth in sectors that are dependent on external financing. Lack of access to finance can stop companies from realizing their growth potential, which can lead to the destruction of structurally viable companies. A lower return on banks' equity, corresponds to a greater likelihood of access to finance becoming a delicate problem for the company.

The development of the capital market is considered as a factor contributing to economic growth through different channels:

- effective allocation of capital as a proportion of financial savings in all wealth;
- mobilizing savings by providing attractive tools and saving vehicles;
- providing vehicles for trading, pooling and diversifying risk;
- reducing the costs of collecting and processing information and, consequently, improving the allocation of resources;
- increasing production specialization, developing entrepreneurship and adopting new technologies (Dapeng, 2010).

A well-developed capital market facilitates the allocation of capital to an economy that is necessary for growth and economic development and provides large amounts of funding to successful entrepreneurs needed for corporate growth (McGowan, 2008). Also, diversification of market assets generates substantial profits (Guesmi et al., 2014). Moreover, the convergence of the European economies following the European monetary union, along with the more common dynamics in the return on money and capital, suggests that capital markets are at least partially integrated (Emiris, 2002). According to a study by Komatsubar et al. (2017), stock prices in East Asia are sensitive to stocks in Europe and the US, as European and American investors are actively investing in East Asian stocks. Indeed, periods reflect dramatic increases in integration, which roughly correspond to the start of Europe's intensive activity and US investment in Eastern Asia stock markets.

According to a study conducted in 2017, the development of the capital market had asymmetric effects on economic growth, the development of the government bonds market being negative, but the aggregate index of other subcomponents being positively associated with economic growth. (Coskun et al., 2017). Improving cross-border capital distribution will also increase the choice for both investors and companies seeking to fund, and will lead to higher economic growth, and a promotion of diversified funding sources would reduce dependence on bank lending. (CMU report, 2015). Moreover, D. Morelli (2010), K. Phylaktis (1997), showed that European capital markets are strongly integrated.

In other respects, both foreign direct investments and exports stimulate economic growth, contrary to studies that have found that FDI doesn't generate economic growth (Milovic and Jocovic, 2017). Politically, the government could spur foreign direct investments through incentives for investors, creating a good macroeconomic environment and a careful use of weak monetary policy for growth in the economy (Sunde, 2017).

According to another survey, the degree of integration in the Singapore market is satisfactorily explained by the degree of opening of trade and the first US interest rates that tended to grow, but these markets remain substantially segmented by the global market. Second, it was found that the local market risk premium explains a significant proportion of the total risk premium for the emerging market profitability (Teulon et al., 2014).

Financial integration has strong implications for financial stability. On the one hand, financial integration between economies contributes to improving their ability to absorb shocks and to foster development. On the other hand, financial ties in a world of increased capital mobility can also bear the risk of cross-border financial contagion (Yu et al., 2010).

From another point of view, job creation and stock market valuations are closely linked (Wu and Chen, 2017). The source of labor market volatility and stock market volatility is represented by the time variation of risk. In times of high risk, capital market assessments are low and unemployment is rising. Between the capital market and unemployment, there is a long-term relationship in both directions, with the stock market leading to higher unemployment, and the unemployment rate can help to predict stock prices (Wachter and Kilic, 2015). Economic growth in Nigeria is consistent with job creation as growth in the economy is negative and has a significant impact on unemployment. In this respect, it is important to drive the growth of the capital market in a way to create jobs by expanding listed companies and admitting new firms to the market (Ilo, 2015). Also, investors cannot use the internal rate of unemployment to anticipate the capital market, and thus get higher profits from their investments (Tapa and Zandile, 2016).

Following this review of the literature on this topic, we decided to use the variables, data, and methods presented in the following sections in this article. Thus, section 4 details the data and methods used in this study, section 5 presents the results of the empirical analysis, and section 6 discusses the implications of the research and concludes the study.

3. DATA AND METHODOLOGY

The data focus on the 2004-2016 period, with an annual panel frequency, and were obtained from Eurostat, European Central Bank, Datastream, Federal Reserve Economic Data, World Bank databases and used as a sample the 28 countries of the European Union. All indicators have been transformed to provide annual data, expressed as a percentage of GDP.

In terms of methodology, this study used the Autoregressive Distributed Lag (ARDL) model, Granger causality analysis, and cointegration analysis. Also, a series of tests, such as VAR, ADF, Johansen co-integration test, Granger causality test, were used to test the variables. Regressors may include delayed values of the dependent variable and the current and the delayed values of one or more explanatory variables. This model allows us to determine the effects of a change in a variable. Due to the fact that two dependent variables were used, namely GDP growth and multifactor productivity, the regression model equations were as follows:

$$GDP\ growth_{it} = \alpha_0 + \alpha_1 * Market\ capitalization_{it} + \alpha_2 * Value\ traded_{it} + \alpha_3 * Turnover\ ratio_{it} + \alpha_4 * Stock\ indices_{it} + \alpha_5 * Capital\ mobility_{it} + \alpha_6 * Foreign\ portfolio\ investments_{it} + \alpha_7 * Unemployment\ rate + \alpha_8 * Immigrants + \epsilon_{it}$$

$$Multifactor\ productivity_{it} = \alpha_0 + \alpha_1 * Market\ capitalization_{it} + \alpha_2 * Value\ traded_{it} + \alpha_3 * Turnover\ ratio_{it} + \alpha_4 * Stock\ indices_{it} + \alpha_5 * Capital\ mobility_{it} + \alpha_6 * Foreign\ portfolio\ investments_{it} + \alpha_7 * Unemployment\ rate + \alpha_8 * Immigrants + \epsilon_{it}$$

Also, the estimated equation using the lags is the following:

$$\begin{aligned}
 GDP\ growth_{it} = & \alpha_0 + \alpha_1 \sum_{s=0}^8 GDP\ growth_{i,t-s} + \alpha_2 * \sum_{s=0}^8 * Market\ capitalization_{i,t-s} + \\
 & \alpha_3 * \sum_{s=0}^8 Value\ traded_{i,t-s} + \alpha_4 \sum_{s=0}^8 Turnover\ ratio_{i,t-s} + \alpha_5 * \sum_{s=0}^8 * Stock\ indices_{i,t-s} + \\
 & \alpha_6 \sum_{s=0}^8 Capital\ mobility_{i,t-s} + \alpha_7 * \sum_{s=0}^8 Foreign\ portfolio\ investments_{i,t-s} + \\
 & \alpha_8 * \sum_{s=0}^8 Unemployment\ rate_{i,t-s} + \alpha_9 * \sum_{s=0}^8 Immigrants_{i,t-s} + \epsilon_{i,t-s}
 \end{aligned}$$

Where number 8 represents the number of lags according to the VAR estimate. For the equation in which multifactor productivity is used as a dependent variable.

4. RESULTS

Table 1 presents the descriptive statistics for the variables used in the empirical analysis. As we can see, there are considerable variations of the variables over time. For example, capital mobility varies from a minimum of -3.54 to 15.12. Stock market capitalization also varies from a minimum of 3.73 to 326.35.

Table 1 Descriptive statistics

	Capital mobility	Foreign portfolio investments	GDP growth	Market capitalization	Multifactor Productivity	Stock indices	Value traded	Turnover ratio	Unemployment rate	Immigrants
Mean	1.23	-2.37	82121.5	47.62	1.006	2886.33	94.20	50.84	9.06	1230008
Median	0.30	-107	273.74	36.66	1.000	574.58	13.83	34.68	7.90	34918.50
Maximum	15.12112	2.32	3144050.	326.35	1.21	143131.6	1890.00	377.24	27.50	2016253
Minimum	-3.54	-6.03	6.04	3.73	0.79	0.01	0.02	0.04	3.40	759.00
St. Deviation	2.50	4.94	371076.6	38.89	0.04	11119.34	336.57	55.34	4.29	230251.3
Skewness	2.95	-5.21	6.104601	1.88	0.49	8.02	4.91	2.10	1.70	4.472714
Kurtosis	12.86	68.40	42.26473	10.40	6.40	83.22	25.49	10.41	6.43	30.54
Observations	364	364	364	364	364	364	364	364	364	364

Source: Authors' calculations

In order to estimate the ARDL, model, we need to know the appropriate number of lags. For this reason, we estimated the VAR lag order criteria. (Table no.2).

Table 2. VAR lag order selection

ENDOGENOUS VARIABLES: Capital mobility, Foreign portfolio investments, Market capitalization, GDP growth, Multifactor productivity, Value traded, Turnover ratio, Unemployment rate, Immigrants.						
Exogenous variable: C						
Sample: 2004 2016						
Included observations: 140						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-7719.65	NA	1.21e+38	110.39	110.56	110.46
1	-6632.38	2034.74	5.45	95.77	97.28	96.39
2	-6458.16	306.14	1.14	94.20	97.05*	95.36
3	-6365.31	152.52	7.70	93.79	97.99	95.49
4	-6274.35	139.03	5.46	93.40	98.95	95.65
5	-6147.06	180.02	2.37	92.50	99.39	95.30
6	-6055.32	119.27	1.77	92.10	100.34	95.45
7	-5953.33	120.92	1.20	91.56	101.14	95.45
8	-5800.92	163.30*	4.21*	90.29*	101.22	94.73*
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source: Authors' calculations.

Table no. 2 shows the VAR estimation for lag selection. We can see that the LR test, the final predictive error (FPE), the Akaike information criterion (AIC) and also the Hannan-Quinn information criteria show that the correct number of lags is 8. So we estimated the Granger causality test with 8 lags.

Table no. 3 presents the results of the Granger causality test. As we can see, there is a unidirectional causal relationship between turnover ratio and GDP growth (the probability is less than 0.05), between capital mobility and multifactor productivity, between capital mobility and GDP growth, between GDP growth and stock market capitalization, between immigrants and GDP growth, between multifactor productivity and unemployment rate, as well as between unemployment rate and GDP growth, which means that the change in turnover ratio influences the change in economic growth, capital mobility influences economic growth both in terms of gross domestic product and multifactor productivity, changes in gross domestic product influence changes in stock market capitalization, changes in immigrants influence the change in economic growth, changes in multifactor productivity influences the unemployment, and also changes in unemployment influences the change of economic growth. Similar results were obtained from Boubakari and Jin (2010) for stock market capitalization and GDP, J. Yu, M. Hassan and B. Sanchez (2012), M. Hoque and A. Y. Noor (2017) for stock market capitalization.

Table 3. Granger Causality Test

Sample: 2004 2016			
Lags: 8			
Null Hypothesis:	Obs.	F-Statistic	Prob.
Capital mobility does not Granger Cause Multifactor productivity	356	3.26943	0.001
Capital mobility does not Granger Cause GDP growth	356	3.35502	0.001
GDP growth does not Granger cause market capitalization	356	2.05683	0.039
Turnover ratio does not Granger cause GDP growth	356	3.58270	0.000
Immigrants do not Granger cause GDP growth	356	2.84626	0.004
Multifactor productivity does not Granger cause unemployment rate	356	3.17709	0.001
Unemployment rate does not Granger cause GDP growth	356	2.84966	0.004

Source: Authors' calculations.

Furthermore, to make the ARDL model, we need to check the stationary properties of the variables and also the cointegration relationship between them. So I used the Augmented Dickey-Fuller test and the Johansen Cointegration test.

Table 4. ADF unit roots test

<i>Variables</i>	<i>Fisher Chi-Square statistic at level</i>	<i>Fisher Chi-Square Statistic at first difference</i>
GDP	-4.04***	-10.39***
FOREIGN PORTFOLIO INVESTMENTS	-4.35***	-7.46***
TURNOVER RATIO	-4.70***	-7.18***
MULTIFACTOR PRODUCTIVITY	-6.54***	-8.91***
VALUE TRADED	-4.58***	-6.25***
MARKET CAPITALIZATION	-3.78***	-7.80***
STOCK INDICES	-3.32**	-9.08**
CAPITAL MOBILITY	-4.57***	-6.87***
UNEMPLOYMENT RATE	-3.76***	-10.46***
IMMIGRANTS	-4.19***	-7.77***
*** p<0.01, ** p<0.05, * p<0.1		

Source: Authors' calculations.

Table 4 shows the results of the root unit ADF test. The null hypothesis is that the data has a unit root. ***, ** means that the probability is less than the significance level, so the null hypothesis is rejected and the data has no unit root, which means that the variables are stationary, i.e. their statistical properties remain constant over time.

Table 5 Johansen cointegration test

Kao Residual Cointegration Test				
Series: CAPITAL MOBILITY, GDP GROWTH, FOREIGN PORTFOLIO INVESTMENTS, MULTIFACTOR PRODUCTIVITY, TURNOVER RATIO, VALUE TRADED, MARKET CAPITALIZATION, STOCK INDICES, IMMIGRANTS, UNEMPLOYMENT RATE				
Sample: 2004 2016				
Included observations: 364				
Null Hypothesis: No cointegration.				
Trend assumption: No deterministic trend.				
			t-Statistic	Prob.
ADF			0.374651	0.354
Residual variance			1.868804	
HAC variance			1.378236	

Source: Authors' calculations.

Table 5 presents the results of the cointegration test. As can be seen, the probability of T-test statistics is greater than the significance level (0.05), so we can accept the null hypothesis that the variables are not cointegrated.

Table 6. Estimated long-run coefficients using the ARDL approach

<i>Dependent variable : GDP growth</i>		
Variables	Coefficients	T statistics
Turnover ratio	-0.01	-1.77*
Value traded	0.00	3.75***
Stock indices	3.11	2.20**
Market capitalization	0.01	2.18**
Capital mobility	0.62	4.04***
Foreign portfolio investments	1.65	1.66*
Unemployment rate	-0.71	-7.47***
Immigrants	0.68	5.25***
C	3.32	6.02***
*** p<0.01, ** p<0.05, * p<0.1		

<i>Dependent variable : Multifactor productivity</i>		
Variables	Coefficients	T statistics
Turnover ratio	-2.70	-0.74
Value traded	2.93	0.57
Stock indices	7.95	0.41
Market capitalization	0.00	2.69***
Capital mobility	0.78	23.86***
Foreign portfolio investments	1.79	0.45
Unemployment rate	-0.00	-6.97***
Immigrants	3.27	0.96
C	0.30	7.99**
*** p<0.01, ** p<0.05, * p<0.1		

Source: Authors' calculations.

In Table 6 are the results of applying the ARDL (Autoregressive Distributed Lag) model. In the first part of the table, where the GDP growth was used as dependent variable, it can be noticed that, while the value traded, stock indices, stock market capitalization, capital mobility and immigrants have a positive and statistically significant influence ($p < 0.01$), foreign portfolio investments also have a positive influence but lower for a 10% risk), the turnover ratio and the unemployment rate have a negative influence on the economic growth, expressed by GDP growth.

These results are due to the fact that the volume of transactions shows market liquidity, is an indicator used by investors to confirm a market trend, stock indices express the performance of a market for the most efficient management of investors' portfolios, market capitalization shows the size and development of the market, capital mobility expresses the correlation of savings with investments for profit, (in an integrated economic area, savings should not be strongly correlated with investments), foreign portfolio investments can offer to investors the ability to diversify its asset portfolios internationally, a high turnover ratio leads to increased fund costs and lower returns on shareholders, the number of immigrants is important because, reducing barriers to labor mobility between developing countries and developed countries would be one of the most efficient tools of poverty reduction, and the unemployment rate has a negative influence because, a rising rate is seen as a sign of weakening economy, this can help forecast stock prices, stock price stability boosting the stability of the economy.

Similar results were obtained by: (Idenyi, Ifeyinwa, Samuel and Chibuzor, 2017) for the traded and stock market capitalization, M. Hoque and A. Y. Noor (2017), S. Raza and S. Jawaid (2012) for stock market capitalization Ilo (2015), M. Holmes and N. Maghrebi, (2016), W. Pan (2017) for unemployment rate. In the second part of the table, where multifactor productivity was used as dependent variable, we can observe that the variables that have a significant and positive influence are capital mobility and stock market capitalization, turnover ratio and unemployment rate have, as in the first case, a bad influence.

These results are due to the fact that labor productivity, expressed through factor productivity, is influenced by stock market capitalization, because a highly developed market determines it to be more productive than a weakly developed one, and to link economies and investments with the goal of achieving productivity and profit. Turnover ratio has a negative impact because a rise in costs, a drop in shareholders' returns makes a fund unprofitable and unproductive. The unemployment rate has a negative influence because the full employment of the workforce, and thus the reduction of unemployment leads to higher productivity.

CONCLUSIONS

The positive correlation between stock market development and economic growth is a well-known fact from an empirical point of view. Stock markets appear to emerge and develop only when economies reach a reasonable size and the level of capital accumulation is high.

The purpose of this study was to investigate the relationship between capital market integration and economic growth in the countries of the European Union and to see what are the main factors in which the development of the capital market influences economic growth. We used data from 28 EU countries during 2004-2016.

First, we analyzed the causality between capital market integration and economic growth using the Granger causality analysis. This test has shown that there is a unidirectional causal relationship between turnover and gross domestic product growth, between capital mobility and multifactor productivity, between capital mobility and gross domestic product growth, between immigrants and GDP growth, between multifactor productivity and unemployment rate, between unemployment rate and GDP growth, as well as between gross domestic product growth and stock market capitalization. This means that, taking this test into view, the main factors in which the capital market influences economic growth are stock market capitalization, unemployment rate, immi-

grants, capital mobility and turnover.

Second, we used the ARDL model to analyze the relationship between variables. This model expands the results of the Granger causality test, showing that several variables such as traded value, stock indices, stock market capitalization, capital mobility, immigrants have a positive and strongly significant influence on economic growth, the turnover ratio and the unemployment rate have a negative influence on the economic growth, expressed by GDP growth, the foreign portfolio investments also have a positive but lower influence. These results are due to the fact that the volume of transactions shows market liquidity, is an indicator used by investors to confirm a market trend, stock indices express the performance of a market for the most efficient management of investors' portfolios, capitalization shows the size and development of the market, capital mobility expresses the correlation of savings with investments for profit, (in an integrated economic area, savings should not be strongly correlated with investments), foreign portfolio investments can offer to investors the ability to diversify its asset portfolios internationally, a high turnover ratio leads to increased fund costs and lower returns on shareholders, the number of immigrants is important because, reducing barriers to labor mobility between developing countries and developed countries would be one of the most efficient tools of poverty reduction, and the unemployment rate has a negative influence because, a rising rate is seen as a sign of weakening economy, this can help forecast stock prices, stock price stability boosting the stability of the economy. Also, using multi-factor productivity as an indicator of economic growth, the variables that have a significant and positive influence are capital mobility and stock market capitalization, turnover ratio and the unemployment rate, as in the first case, have a negative influence. These results are due to the fact that labor productivity, expressed through factor productivity, is influenced by stock market capitalization, because a highly developed market determines it to be more productive than a weakly developed one, and to link economies and investments with the goal of achieving productivity and profit. Turnover ratio has a negative impact because a rise in costs, a drop in shareholders' returns makes a fund unprofitable and unproductive. The unemployment rate has a negative influence because the full employment of the workforce, and thus the reduction of unemployment leads to higher productivity.

According to these results, we can say that the integration of capital markets has a positive impact on economic growth, and the main factors in which the capital market positively affects economic growth are stock market capitalization, capital mobility, value traded, stock indices, immigrants, and, to a greater extent, small, foreign portfolio investment.

Policymakers in this area should pay attention reducing external debt, which is a significant proportion of foreign capital inflows, due to its negative impact on economic growth and encouraging the other component of foreign capital inflows, ie foreign portfolio investments to stimulate stock market development and growth, reducing extreme stock price volatility, as the inflation rate has a negative impact on growth, fostering a good correlation of savings with investment (i.e. capital mobility), boosting volume growth transactions on stock markets, they should guarantee full employment through fiscal policy, monetary policy and trade policy as stated, by counteracting private sector or trade investment volatility, and reducing inequality, and stimulating increased labor mobility from developed countries to the least developed to balance the economy.

The link between the capital market and the unemployment rate is very important and has not been discussed in many of the papers analyzed so far. Also, the immigration is an important factor which has not been used so far with reference to the integration of capital markets.

Continuous development and stock market stability are essential to economic growth and can not be ignored in any economy.

The integration of capital markets is nowadays essential for both market participants and policymakers. In the integrated markets, capital flows circulate freely if they generate the highest return. Integrated capital markets have easier access to foreign capital but are also more vulnerable to financial crises in other parts of the world (Büttner and Hayo, 2011). Moreover, an increase in

the degree of global financial market integration decreases the opportunity for diversification. It is therefore essential to achieve a better understanding of the factors that lead to the integration of the financial market.

An investor who owns a portfolio often tries to reduce the risk, taking into account the correlations between the component assets. If an investor opts for invest in different stock indices to give a well-diversified portfolio, the risk reduction is lost if the stock indices are cointegrated. Hence, an investor cannot spread geographical risks, as cointegration markets will act as a single market with similar risk factors. This result can influence a large proportion of investors in the European financial markets. This is due to the fact that many investors have a long-term investment horizon, with little change in the composition of the portfolio. Thus, the presence of cointegration creates greater requirements for private and professional portfolio managers because an investor cannot rely exclusively on a geographic strategy and on a risk-based correlation basis to create an efficient portfolio. In addition, the results can also be interpreted from the point of view of an investor who wants to allocate a portfolio in an efficient way. This is primarily about the long-term diversification opportunities that are affected by the identified cointegration relationship and thus imposing higher requirements on private investors and professional investors who assemble efficient portfolios.

REFERENCES

- Boubakari, A., Jin, D. (2010), "The Role of Stock Market Development in Economic Growth: Evidence from Some Euronext Countries", *International Journal of Financial Research*, Vol. 1, No. 1, pp. 14–20.
- Büttner, D. Hayo, B. (2011), "Determinants of European stock market integration", *Economic Systems*, Vol. 35, No. 4, pp. 574–585.
- Capital Market Union Report (2015), "Integration of Capital Markets in the European Union", *PWC Market Research Centre*, pp. 1–70.
- Coskun, Y., Seven, U., Ertudrul, M. Ulussever, T. (2017), "Capital market and economic growth nexus: Evidence from Turkey", *Central Bank Review*, Vol. 17, No. 1, pp. 19–29.
- Dapeng, J. I. (2010), "Stock market and economic growth: The empirical study of China", *2010 2nd international Conference on Education Technology and Computer (ICETC)*.
- Emiris, M. (2002), "Measuring capital market integration", *Bank of International Settlements Paper*, Vol. 12, No. 1, pp. 200–221.
- European Commission (2015), *European Financial Stability and Integration Report 2014*.
- Guesmi, K., Teulon, F., Muzaffar, A. T. (2014), "The evolution of risk premium as a measure for intra-regional equity market integration", *International Review of Financial Analysis*, Vol. 35, pp. 13–19.
- Holmes, M. J., Maghrebi, N. (2016), "Financial market impact on the real economy: An assessment of asymmetries and volatility linkages between the stock market and unemployment rate", *Journal of Economic Asymmetries*, Vol. 13, pp. 1–7.
- Hoque, M. E., Noor, A. Y. (2017), "Revisiting stock market development and economic growth nexus: The moderating role of foreign capital inflows and exchange rates", *Cogent Economics & Finance*, Vol. 5, Issue 1, pp 1–17.
- Idenyi, O., Ifeyinwa, A., Samuel, O., Chibuzor, C. (2017), "Capital Market Indicators and Economic Growth in Nigeria; An Autoregressive Distributed Lag (ARDL) Model", *Asian Journal of Economics, Business and Accounting*, Vol. 2, No. 3, pp. 1–16.
- Ilo, B. M. (2015), "Capital market and unemployment in Nigeria", *Acta Universitatis Danubius*, Vol. 11, No. 5, pp. 129–140.
- Komatsubara, T. Okimoto, T., Tatsumi, K. (2017), "Dynamics of integration in East Asian equity markets", *Journal of the Japanese and International Economies*, Vol. 45, pp. 37–50.
- Mcgowan, C. B. (2008), "A Study of the Relationship Between Stock Market Development and Economic Growth and Development for 1994 to 2003", *International Business & Economics*

Research Journal, Vol. 7, No. 5, pp. 79–86.

- Milovic, N., Jocovic, M. (2017), "Impact of Foreign Direct Investment on Competitiveness of Montenegrin Economy", *Transformations in Business & Economics*, Vol. 16, No 1 (40), pp. 222-232.
- Morelli, D. (2010), "European capital market integration: An empirical study based on a European asset pricing model", *Journal of International Financial Markets, Institutions and Money*, Vol. 20, No. 4, pp. 363–375.
- Pan, W. F. (2017), "Does the stock market really cause unemployment? A cross-country analysis", *North American Journal of Economics and Finance*, Vol. 44, pp. 34-43.
- Phylaktis, K. (1997), "Capital market integration in the Pacific-Basin region: An analysis of real interest rate linkages", *Pacific-Basin Finance Journal*, Vol. 5, No. 2, pp. 195–213.
- Raza, S. A., Jawaid, S. T. (2014), "Foreign capital inflows, economic growth, and stock market capitalization in Asian countries: An ARDL bound testing approach", *Quality and Quantity*, Vol. 48, No. 1, pp.375–385.
- Sunde, T. (2017), "Foreign direct investment, exports and economic growth: ADRL and causality analysis for South Africa", *Research in International Business and Finance*, Vol. 41, pp. 434–444.
- Tapa, N., Zandile, T., Lekoma, M., Ebersohn, J., Phiri, A. (2016), "The unemployment-stock market relationship in South Africa: Evidence from symmetric and asymmetric cointegration models", *MPRA paper*, No. 74101, pp. 1–27.
- Teulon, F., Guesmi, K., Mankai, S. (2014), "Regional stock market integration in Singapore: A multivariate analysis", *Economic Modelling*, Vol. 43, pp. 217–224.
- Wachter, J. A., Kilic, M. (2015), "Risk, Unemployment, and the Stock Market: A Rare-Event-Based Explanation of Labor Market Volatility", *NBER Working Papers*, No. 21575, pp.1–61.
- Wu, Z.-C, Chen, J.-L. (2017), "Financial Obstacles, Bank Credit, and Trade Credit: Evidence from Firm Surveys in China", *Transformations in Business & Economics*, Vol. 16, No 2B (41B), pp. 787-801.
- Yu, J.-S., Kabir Hassan, M., Sanchez, B. (2012), "A re-examination of financial development, stock markets development, and economic growth", *Applied Economics*, Vol. 44, No. 27, pp. 3479–3489.