EUROPEAN FINANCIAL INTEGRATION AND ECONOMIC GROWTH

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Abstract: *Financial integration contributes to the development of the financial system by increasing competition, increasing stability, and the efficiency of financial intermediation, resulting in lower intermediation costs and a more efficient capital allocation. Financial integration increases the depth and liquidity of financial markets and thus enhances the resilience of the European financial system. The purpose of this paper is to analyze the impact of European financial integration on economic growth using the factors through which financial integration affects growth. Thus will be seen which of these factors had a significant impact on economic growth in the EU countries.*
Keywords: *financial integration, Europe, economic growth.*
JEL Classifications: F15, F36.

INTRODUCTION

Financial integration contributes to the development of the financial system by increasing competition, increasing stability, and the efficiency of financial intermediation, resulting in lower intermediation costs and a more efficient capital allocation.

Financial integration increases the depth and liquidity of financial markets and thus enhances the resilience of the European financial system. It offers opportunities for risk diversification, geographic and promoting consumer income.

Measurement of financial integration in the EU countries is one of the main concerns of the responsible persons for policies applicable, and researchers in this field. Both studies theoretical and empirical findings indicate that integration contributes to more efficient capital allocation, which in turn support economic growth.

The purpose of this paper is to analyze the impact of European financial integration on economic growth using the factors through which financial integration affects growth. Thus will be seen which of these factors had a significant impact on economic growth in the EU countries.

The analysis can be extended then a greater number of years, depending on the availability of data, and research results will continue to be used both in econometric purpose, for improving the method used, and for financial consideration, to notice which the factors are causing problems of growth and economic development.

LITERATURE REVIEW

Guevara and Maudos (2012) conducted a study where they analyzed the impact of development and financial integration on economic growth from the introduction of euro and the implementation of the Programme of Financial Sector Assessment (1999), quantifying the differential impact of the financial crisis in period 2008-2010.

Using data at the industry level, Friedrich, Schnabel and Zettelmeyer (2010) showed in their study that the European transition region benefited from financial integration in terms of economic growth, unlike others developing countries in the period that preceded the crisis. In the group of transition countries, the effect of financial integration is stronger in those countries that are politically closer to the EU.

Chen and Quang (2012) found that countries that are able to reap the benefits of international financial institutions fulfill certain conditions regarding the economic level, the institutional level and the inflation level.

Edison (2002) uses new data and econometric techniques to investigate the impact of financial integration on economic growth, and also to assess if this relationship depends on the level of economic development, financial development, the developing of legal system, corruption and macroeconomic policies. According to the results, the richer and the most educated countries tend to be more open to international financial transactions.

Mougani (2012) aimed in his study the providing of an empirical analysis about the impact of international financial integration on economic activity and macroeconomic volatility in African countries. The empirical results show that the impact of external capital flows on economic growth seems to depend mainly on the conditions and policies starting to stabilize foreign investment, increase domestic investment, productivity and trade, develop the domestic financial system, and expand trade openness and other actions to stimulating economic growth.

Abiad, Leigh, and Mody (2009) showed that Europe does not comply with the paradigm that capital flows "up" from poor countries to rich ones, and they bring few dividends when growth falls to poor countries.

Bonfiglioli (2008) stated that understanding the mechanism through which financial globalization affects economic performance is essential to assess the costs and benefits of opening financial markets. This paper tried to separate the effects of financial integration on two main determinants of economic performance: productivity and investment.

Hoxha, Ozcan and Volrath (2009) used in their study a model of optimum savings, which includes a production function. This production structure is consistent with empirical estimates of the real elasticity of substitution between the types of real capital.

Guevara and Maudos (2010) aimed in their study analyzing financial integration in Europe and its impact on growth from the introduction of the euro in 1999. Another important point of this paper is to focus on how the financial crisis international that began in 2007 affected the economic integration and growth. The results illustrate that a significant part of financial development can be attributed to progress in integration.

DATA AND METHODOLOGY

The empirical analysis will be performed based on simple and multiple linear regression between the dependent variable and the independent variables set, and as econometric software will be used the programs Eviews Statistics and SPSS, which will help me to create a clearer picture on the correlations between different variables .

The dependent variable used will be the real GDP growth per capita and the independent variables will be: EONIA (Euro Overnight Index Average), interbank lending rates, exchange rates of interest, government bond rates and gross capital formation.

EONIA is the standard rate of interest for deposits in Euro currency. The European Central Bank is responsible for calculating the indicator EONIA daily. Eonia is the effective euro reference rate. It is calculated as a weighted average of all overnight unsecured lending transactions in the interbank market, countries in the European Union and European Free Trade Association (EFTA).

The data used for empirical analysis focuses on the period 2000 - 2014, with an annual frecuency. These informations were obtained from the Eurostat, World Bank and European Central Bank databases.

The equations for the two regressions are expressed by the following formulas:

Method: Least Squares

Residual = Growth - (C _ ((1)) * EONIA)

Method: Panel Least Squares

Residual = Growth - (C _ ((1)) * Gross_capital_formation + C _ ((2)) * Interbank_landing_rates + C _ ((3)) * Exchange_rates + C _ ((4)) * Government_bonds_rates).

RESULTS

According to the indicator R-squared value, the variation in the dependent variable (economic growth) is explained in proportion of 19.3% by the variation of the independent variable (EONIA) of simple linear regression model.

Durbin-Watson test has a value of less than 2, which indicates that there isn't a serial correlation of errors, ie these does not have significant influence on the results of the regression model.

Akaike and Schwarz tests are used to compare two or more models. But in this paper is not the case (lower values are preferred).

As it can be seen in the attached table probability to T-test statistic is less than the benchmark (0.05) for variable EONIA, which means that this ratio is considered statistically significant. Also, the coefficient associated to this variable positively influences the model, having a positive value (0.45).

Fig.1 Results of regression from economic growth and EONIA in the euro zone countries

Dependent Variable: EC_GROWTH
Method: Least Squares
Date: 08/26/16 Time: 09:53
Sample: 1 15
Included observations: 15

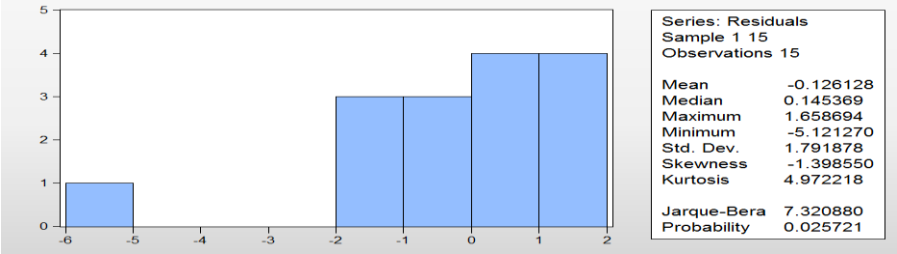
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EONIA	0.458957	0.179639	2.554889	0.0229

R-squared	0.193167	Mean dependent var	0.826667
Adjusted R-squared	0.193167	S.D. dependent var	2.000167
S.E. of regression	1.796628	Akaike info criterion	4.074040
Sum squared resid	45.19020	Schwarz criterion	4.121244
Log likelihood	-29.55530	Hannan-Quinn criter.	4.073538
Durbin-Watson stat	1.827808		

Source: Own Eviews Estimations Statistics.

According to the graph below, the distribution model variables has an average less than 0, presents an asymmetry negative (coefficient of asymmetry Skewness is less than zero), which means that the influence of variables in time registered a downward trend. How Jarque-Bera probability associated test is 0.02, lower than the reference level, it appears that the series is not normally distributed.

Fig.2 Histogram- Normality Test



Source : Own estimations Eviews.

According to the indicator R-squared value, the variation in the dependent variable (economic growth) is explained in proportion of 21.8% by the variation of the independent variables (gross capital formation, interbank lending rates, exchange rates of interest, government bond rates) of linear regression model.

As it can be seen in the table probabilities attached to test T-statistics are lower than the benchmark (0.05) for the variables gross capital formation, exchange rates and interest rates of government bonds, which means that these coefficients are considered significant statistically. The coefficients of the variables gross capital formation and interbank lending rates positively influences the model, with positive values, and the coefficients of the variables exchange rates and interest rates of government bonds have a negative influence.

Fig.3 Results of regression from economic growth and the others variables for the EU 28

Dependent Variable: REAL_GDP_GROWTH
Method: Panel Least Squares
Date: 10/06/16 Time: 11:15
Sample: 2000 2014
Periods included: 15
Cross-sections included: 28
Total panel (balanced) observations: 420

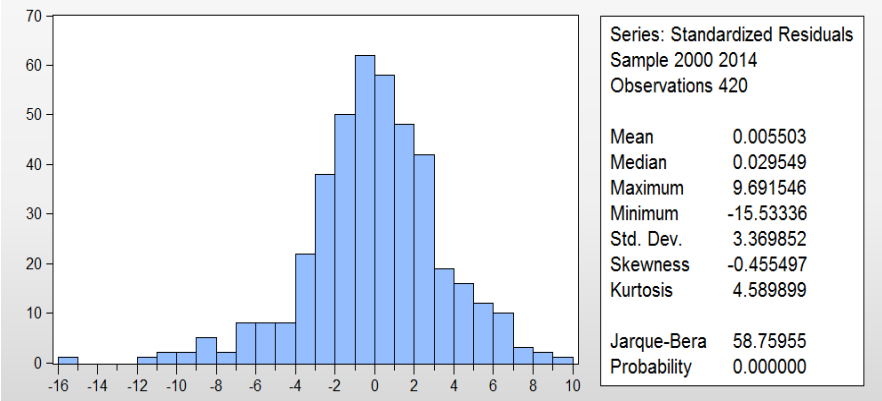
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTERBANK_LANDING_RATES	0.122226	0.070517	1.733276	0.0838
EXCHANGE_RATES	-0.051063	0.010360	-4.928854	0.0000
GOVERNMENT_BONDS_RATES	-0.410142	0.092314	-4.442897	0.0000
GROSS_CAPITAL_FORMATION	0.368105	0.040581	9.070954	0.0000

R-squared	0.218351	Mean dependent var	1.982619
Adjusted R-squared	0.212714	S.D. dependent var	3.811584
S.E. of regression	3.381986	Akaike info criterion	5.284281
Sum squared resid	4758.136	Schwarz criterion	5.322760
Log likelihood	-1105.699	Hannan-Quinn criter.	5.299490
Durbin-Watson stat	1.054991		

Source: Own estimations Eviews.

According to the graph below, the distribution model variables has an average greater than 0, presents an asymmetry negative (coefficient of asymmetry Skewness is less than zero), which means that the influence of variables in time registered a downward trend. How Jarque-Bera test probability associated is 0, lower than the reference level, it appears that the series is not normally distributed.

Fig.4 Histogram- Normality Test



Source: Own estimations Eviews

Table Model Summary provides the value of the regression coefficient, denoted R^2, which is identical to the correlation coefficient between the two variables. Its value indicates that 21.9% of the variation in the dependent variable (GDP growth) is explained by the variation of the independent variables.

Table nr.1
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.468[a]	.219	.211	3.38527	1.071

a. Predictors: (Constant), Interbank_landing_rates, Investments, Exchange_rates, Government_bond_rates

b. Dependent Variable: GDP

Source: Own estimations SPSS

According to ANOVA table, its Sig value (0.000) is less than the threshold alpha (0.05), which entitles us to reject the null hypothesis and accept that there is a significant relationship between GDP growth and the independent variables taken into account.

Table nr.2
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1331.372	4	332.843	29.044	.000[b]
	Residual	4755.932	415	11.460		
	Total	6087.303	419			

a. Dependent Variable: GDP

b. Predictors: (Constant), Interbank_landing_rates, Investments, Exchange_rates, Government_bond_rates

Source : Own estimations SPSS

According to the table Coefficients, the coefficients of the variables investment and lending rates of government bonds are statistically significant. (Sig <α).

Table nr.3
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.954	2.175		.439	.661
	Investments	.363	.042	.380	8.543	.000
	Government_bonds_rates	-.410	.092	-.205	-4.432	.000
	Exchange_rates	-.059	.021	-.128	-2.829	.005
	Interbank_landing_rates	.115	.072	.072	1.597	.111

a. Dependent Variable: PIB

Source: Own estimations SPSS

Similar results were obtained others authors, such as Chen and Quang (2012), which demonstrated in their study that FDI and portfolio liabilities stimulate economic growth. Capital accumulation is a major channel that leads to increased financial integration, directly controlling the volume of domestic investment in the regressions. According to Guevara and Maudos (2012), both financial development and integration have been drivers of European growth. Also, Friedrich, Schnabel and Zettelmeyer (2010) demonstrated in their study that the effect of financial integration on growth is not only statistically significant but also important economically.

CONCLUSIONS

Empirical analysis was based on achievement regressions between the two indicators, economic growth, expressed by the growth of the gross domestic product, and European financial integration, expressed by several indicators (EONIA, interbank lending rates, and exchange rates of interest, government bond rates and gross capital formation). The results of the regression coefficient shows that the most significant of the variables used are EONIA and the gross capital formation. Empirical analysis also reveals that the exchange rates of interest and government bond rates have a negative influence on economic growth.

Therefore, increasing the share exchange interest rates and government bond rates would influence the growth rate of economy contraction in European Union countries.

Following the analysis we noticed that there is a significant relationship between the two variables, namely financial integration and economic growth. Consistent with most studies on this subject, the results confirmed that financial integration has a positive impact on economic growth in the European Union, during the time under review.

Financial integration affects several aspects of economic performance, particularly increasing rates of investment, technology transfer, trade openness, stimulates the development of the domestic financial system and economic growth. Financial integration is known as a potential source of macroeconomic instability.

In the future, financial integration should facilitate access to investment opportunities in less developed countries, leading to increased competition in these countries and to improve financial efficiency by reducing intermediation costs.

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