The Impact of Institutional Investors on Economic Growth of European Countries

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Abstract. *Institutional investors have an important place in current financial markets. The big amount of assets and the high expectations from retail investors is putting a lot of pressure on their results. Our paper is based on financial and economic data of 45 European countries, for the period 1995-2015. The scope of our study is to check if the presence of mutual funds, pension funds and insurance companies is important not only for financial development but also for economic growth, expressed as GDP growth per capita. Our results show a positive relation between the assets of institutional investors and GDP growth per capita and of all types of institutional investors, the highest impact is from insurance companies.*

Keywords: mutual funds, pension funds, Insurance companies, financial development, GDP per capita.

JEL Classification: E44, G23, O16, O47.

1. Introduction

Institutional investors have a significant role in financial markets due to their activity in setting the stock prices, profitability and liquidity. Together with banks these represent major players who reallocate the exceeding amount of money, towards valuable assets which afterwards will bring significant benefits.

Nevertheless the presence of institutional investors is a signal of healthy, open and free financial market, with good compliance of law and corporate governance (Aggarwal *et al.*, 2011), (Duan, 2008), (Fich, Harford and Tran, 2015), (Erenburg, Smith and Smith, 2015), (Elyasiani and Jia, 2010).

The purpose of our study is to identify if not only financial development has a positive response to the presence of institutional investors but also the economy itself. The economic growth can be influenced by different factors, as legislation and tax system, but the assets of institutional investors can boost the productivity by funds allocations and costs improvement. We expect to have positive results considering the impact of institutional investors over GDP growth (Edison *et al.*, 2002), (Beck and Levine, 2004), (Levine, 1997) (Levine, 2005). In our study we will focus on GDP growth, more precisely in GDP growth per capita (Ruiz, 2018).

For checking the impact of institutional investors, we consider their influence as a group and of each category, too, as our paper is seeking for a connection between institutional investors and economic growth not only at the general level, but also for each type of institutional investors. The existing studies acknowledge the connection between mutual funds (Ruiz, 2018), pension funds (Davis and Hu, 2005) and insurance companies (Arena, 2008) and economic growth.

Our study takes into consideration 45 European countries with data from period 1995-2015, collected mainly from World Bank. We apply the Generalized Momentum Method (GMM) following the proposal of Ruiz (2018). Our equation is enlarged with control variables which show the macroeconomic situation for each specific country

and also the financial freedom and financial openness. Nevertheless we add some additional checks for robustness of our findings as Ordinary Least Squares with fixed effects and Panel-Corrected Standard Errors Method, as in the method proposed by Andries and Melnic (2016). In additional we estimated the impact of institutional investors for extra variables like stock market capitalization, stock market volatility, stock market return, private credits, deposits and financial intermediation.

Also, we conducted the same equation at the level of European Union countries and the results are positive and statistically significant only for the institutional investors as a group. The results of any type of institutional investors are not significant.

The remainder of the paper is organized as follows: Section 2 is presenting the literature review, in Section 3 we explain the data and the methodology, Sections 4 describes the results and in Section 5 we make the final conclusions of our study.

2. Literature review

Various studies tried to explain the relationship between the development of financial market and economic growth. Some authors can consider that the relationship can flow from both directions and both markets have implications in the development of the other one.

Various studies in this field were conducted by Levine, (Levine, 1997),(Edison *et al.*, 2002), (Levine, 2005) for explaining the beneficial effects of financial development and economic growth. Considering the globalization impact, the level of financial development can give good indicators about the economic growth perspectives, technology changes and investment decisions.

With dynamic panel generalized method of moments (GMM), considering the levels of financial development, for the financial market with small dimensions, the impact over the economic growth is insignificant, while there are positive impact in the segments with medium and high development, though less visible for the second level (Rioja and Valev, 2004).The authors are using three indicators for financial development: private credit, liabilities and the report between commercial bank assets and the assets of central bank together with the commercial bank assets.

A perspective to explore is also the structure of the financial system, if it is bank oriented or if it is oriented towards capital market (Ergungor, 2008), considering country's legal origin, level of shareholder rights, ethnic diversity and the compliance of law. Financial system oriented to banks has the advantage that it can give a boost to economic growth for the case of judicial system which cannot react fast to changes in the economic conditions. The methodology used is two stage least square with heteroscedasticity-consistent standard error.

In order to analyze the contribution of financial sector to economic growth, Andries and Melnic (2016) examined the role of macro prudential policies, by reducing the systemic risk and the impact is measured over GDP per capita growth rate, using also System GMM. The results are also positive and the authors emphasize the importance of adopting macro prudential policies.

A positive impact of capital markets and banks over economic growth is shown also by Beck & Levine (2004) using GMM, built results being without any potential bias as country specific situations or simultaneity.

There are some variables other than financial or economic indicators, as socio-cultural factors, which can influence the development of mutual funds industry: freedom of choice, trust, happiness, private ownership, religion. These values are associated to consumption, savings and investments, hence its can be linked to the objectives of mutual funds. Dragotă, Tatu-Cornea and Tulbure (2016) found a positive relation between development of mutual funds and happiness, private ownership, freedom of choice and expression. The authors could not find a direct connection with

level of religiousness and trust. Our scope is to use these types of variables for further studies and we consider that indicators like financial openness and financial freedom can already be integrated in our equation.

Aggarwal, Klapper and Wysocki (2005) analyze the information from firms and country level and institutional policies which influence mutual funds compared to market indices. Events as crisis have emphasized the importance of high quality financial information, strong legislation and also high accounting transparency. Financial integration has also a positive effect over economic growth as it is encouraging competition and financial services (Edison *et al.*, 2002).

3. Data and Methodology

We used a panel data compiled with information referring to 45 European countries, for time frame 1995-2015, obtained from various sources. Data regarding economic freedom were added from The Heritage Foundation Index of Economic Freedom, information about financial sector development, economic details and governance indicators are collected from statistics published by World Bank and IMF.

The methodology we used is System Generalized Method of Moments (System GMM), used also by other authors in this area of analysis (Ruiz, 2018), (Andries and Melnic, 2016), (Beck and Levine, 2004).

To analyze the impact of the several indicators over GDP per capita growth we used the following regression:

$$GDP\ cap\ growth_{j,\ t} = \beta_0 + \alpha \times GDP\ cap\ growth_{j,\ t-1} + \beta_1 \times InstINV_{j,\ t-1} + \Phi \times Macro\ controls_{j,\ t-1} + \mu_j + \upsilon_t + \varepsilon_{j,t} \qquad (1)$$

Where *GDP cap growth* is *Annual growth rate of GDP per capita* from country *j* in year *t* estimated using *GDP cap growth* with a one year lag, as logarithm of previous year growth.

The variable used to estimate the impact of financial sector is their level of assets. As we consider countries in different stages of development, which have financial market size in absolute number in disproportionate values, the influences of mutual funds, pension funds and insurance company assets are considered as percentages in GDP.

We used other several control variables, with impact on economic growth, as gross national expenditure, gross capital formation, current account balance and domestic credit to private sector. These variables are expressed as percentages in GDP and we expect to have positive influence from gross capital formation, as this is a measure of capital accumulation in one year. Gross national expenditure is a combined amount of all expenditures including those which are public or private, with negative impact over GDP. Current account balance and domestic credit to private sector both with should bring a positive impact.

We also introduced in the model the values of inflation, as consumer prices changes and the population growth, tax burden and governance score.

The validity of the instrumental variables set is tested using the Hansen J statistic, while the serial correlation between residuals is assessed using the Arellano–Bond test.

4. Results

In Table 1 we provide a statistical description for the dependent and control variables used in our study.

Table no.1. Summary statistics of raw data

Variable	Obs	Mean	Std. Dev.	Min	Max
Mutual fund assets to GDP (%)	525	31,9136	81,9817	0,0100	788,2800
Pension fund assets to GDP (%)	517	22,3924	36,5382	0,0000	184,8300
Insurance company assets to GDP (%)	586	29,1314	33,8353	0,2500	189,6500
Institutional investors	670	67,7649	104,9698	0,0100	959,6700
GDP per capita growth (annual %)	906	2,9801	5,2843	-14,5599	92,1233
GDP (Current USD) logarithmic growth	874	0,0505	0,1315	-1,0349	0,6290
Mutual fund assets to GDP (%)	525	31,9136	81,9817	0,0100	788,2800
Gross national expenditure (% of GDP)	898	103,4327	13,1850	64,7652	171,0602
Gross capital formation (% of GDP)	898	23,5701	5,2013	0,3003	42,0000
Current account balance (% of GDP)	841	-2,4962	7,3146	-49,6630	17,4744
Inflation, consumer prices (annual %)	881	10,3320	48,7945	-4,4799	1058,3740
Domestic credit to private sector (% of GDP)	886	69,3278	49,3799	0,0000	312,1500
Population growth	880	0,0017	0,0080	-0,0382	0,0289
Governance Overall score	853	64,2226	9,3954	29,4000	82,6000
Tax burden	855	65,8275	16,2699	29,8000	94,1000
Financial openess Chi-Ito Index	820	0,7410	0,3316	0,0000	1,0000
Financial freedom	856	62,6752	17,3027	10,0000	90,0000

We assess the impact of institutional investor as a total and separately for each type of investors on Table 2.

Table no. 2. The impact of institutional investors on GDP per capita growth

GDP per capita growth (annual %)	Mutual funds	Pension funds	Insurance companies	All institutional investors
Mutual fund assets to GDP (%)	0.0097***			
	(0.0032)			
Pension fund assets to GDP (%)		0.0321**		
		(0.0155)		
Insurance company assets to GDP (%)			0.0434***	
			(0.0125)	
Institutional investors				0.0095***
				(0.0031)
L. GDP per capita growth (annual %)	0.2398	0.1016	0.1396	0.2868**
	(0.1743)	(0.1509)	(0.1444)	(0.1181)
Gross national expenditure (% of GDP)	-0.2066	-0.2155**	-0.0364	-0.1795
	(0.1501)	(0.0991)	(0.0634)	(0.1077)
Gross capital formation (% of GDP)	0.5136***	0.5118***	0.3408***	0.3501***
	(0.1277)	(0.1089)	(0.0774)	(0.0890)
Current account balance (% of GDP)	-0.0303	-0.1021	-0.0208	-0.0434
	(0.0927)	(0.0819)	(0.0631)	(0.0705)
Inflation, consumer prices (annual %)	-0.0380	-0.2313***	-0.0586**	-0.0721*
	(0.0322)	(0.0260)	(0.0218)	(0.0362)
Domestic credit to private sector (% of GDP)	-0.0240**	-0.0311**	-0.0239**	-0.0235***
	(0.0116)	(0.0136)	(0.0089)	(0.0084)
Population growth	-148.4255*	-132.8390***	-96.1638***	-111.7717***
	(32.2796)	(33.0208)	(31.1793)	(30.3096)
Governance Overall score	-0.1476*	-0.1449**	-0.1006	-0.1152*
	(0.0738)	(0.0672)	(0.0648)	(0.0637)
Tax burden	0.0123	-0.0065	-0.0320	-0.0249
	(0.0243)	(0.0379)	(0.0261)	(0.0272)
Financial openess Chi-Ito Index	-1.3362	-0.5449	0.2317	0.0874
	(1.2115)	(1.9046)	(0.7712)	(1.0708)
Financial freedom	0.0183	0.0427**	0.0228	0.0411**
	(0.0180)	(0.0195)	(0.0175)	(0.0185)
Number of observations	467	445	503	565
Number of countries	36	34	39	40
j	34	34	34	34
Hansen j statistic	3.8117	0.4941	4.6473	2.7248
Hansen j statistic p-value	0.2825	0.9202	0.1995	0.4360
Arellano-Bond test 1	-1.5316	-1.4988	-1.6973	-2.0913
Arellano-Bond test p-value 1	0.1256	0.1339	0.0896	0.0365
Arellano-Bond test 2	-0.9804	-2.4341	-0.4741	-0.0271
Arellano-Bond test p-value 2	0.3269	0.0149	0.6355	0.9783

Our results conclude that the GDP per capita growth is positively influenced by these types of investors in a statistically significant way, with 1 percent level. Considering the different types of institutional investors, the insurance companies show the highest level of influence with a positive coefficient with statistical significance of 1 percent. Pension funds have also a positive influence with a statistical significance of 5 percent level, while the mutual funds standalone assets are also statistically significant, but with a smaller coefficient.

In order to check the robustness of our results we integrate some additional variables, following the model proposed by Ruiz (2018) in his model for checking the impact of financial development on economic growth.

We found positive results for the gross capital formation and negative coefficients for gross national expenditure, inflation, domestic credit and population growth. The results remain statistically significant for the complete group of institutional investors and for each type of institutional investors, too. These findings are plausible as the gross capital formation has a positive effect on productivity, caused by increased capacity and lower costs. The inflation has a negative impact on all groups of institutional investors, but with no statistical significance when it comes to mutual funds. This is explained as the high inflation generates insecurity and low trust in any method of saving or investment (Kremer, Bick and Nautz, 2013).

We enlarged the model by adding additional variables, as governance score, tax burden, financial openness and financial freedom. Our aim is to discover if the feeling of trust given by implementation of governance codes, financial freedom and openness have a significant role over economic growth. The tax burden can play a significant role in the decision of investment as the higher the taxes are, this can be a sign for covering deficiencies in the state budget revenue. The financial freedom and financial openness have a positive impact but only the financial freedom is significant, while tax burden and governance score have negative coefficients.

Further, in order to insure the robustness of our findings we applied the Ordinary Least Squares estimation method with fixed effects and also Panel-Corrected Standard Errors Method.

The OLS estimation with country fixed effects is used as we need to check the impact of variables over the time. PCSE is used for checking the spatial autocorrelation, contemporaneous correlation of errors across units and heteroscedasticity.

After running the tests OLS FE our results remain significant: institutional investors have a positive impact over economic growth, at 1 percent level. For the PCSE method the linkage is still positive and significant, at 10 percent level.

We run several other checks to consider to impact of financial investors assets over stock market capitalization, stocks volatility, stock market return, financial intermediation, private credit and deposits.

Stock market capitalization as percentage in GDP is estimated using the assets of institutional investors as a total, but also mutual funds, pension funds and insurance companies' assets with the control variable used for the model described previously. We found that institutional investors as a group of investors do not have a statistically significant impact over stock market capitalization, result discovered also for mutual funds and insurance companies only. The assets of pension funds, as this category is an important interim for investments due to mandatory status in most of the countries, have a significantly and positive impact.

Stock volatility is negatively influenced by the assets of institutional investors to GDP as a group, with significantly negative influence from pension funds only.

Stock market return is positive correlated with the assets to GDP of institutional investors but no significant result.

Table no. 3. Robustness tests

	OLS FE				PCSE			
				All				All
	Mutual	Pension	Insurance	institutional	Mutual	Pension	Insurance	institutional
GDP per capita growth (annual %)	funds	funds	companies	investors	funds	funds	companies	investors
Mutual fund assets to GDP (%)	0.0101***				0.0107			
	(0.0034)				(0.0068)			
Pension fund assets to GDP (%)		0.0308**				0.0341***		
		(0.0150)				(0.0114)		
Insurance company assets to GDP (%)			0.0435***				0.0489***	
			(0.0117)				(0.0111)	
Institutional investors				0.0099***				0.0098*
				(0.0032)				(0.0051)
L. GDP per capita growth (annual %)	0.1565**	0.1664***	0.1388***	0.2384***	0.0104	0.0313	0.0169	0.1030*
	(0.0654)	(0.0602)	(0.0466)	(0.0513)	(0.0531)	(0.0521)	(0.0563)	(0.0562)
Gross national expenditure (% of GDP)	-0.2142	-0.2099**	-0.0364	-0.1845*	-0.2842***	-0.2429***	-0.0567	-0.2246***
	(0.1551)	(0.0996)	(0.0629)	(0.1082)	(0.0755)	(0.0717)	(0.0666)	(0.0710)
Gross capital formation (% of GDP)	0.5522***	0.4864***	0.3411***	0.3675***	0.6689***	0.5889***	0.4263***	0.4614***
	(0.1092)	(0.0975)	(0.0676)	(0.0818)	(0.0710)	(0.0635)	(0.0620)	(0.0637)
Current account balance (% of GDP)	-0.0352	-0.0953	-0.0208	-0.0460	-0.0580	-0.1017*	-0.0229	-0.0570
	(0.0970)	(0.0771)	(0.0628)	(0.0717)	(0.0581)	(0.0556)	(0.0508)	(0.0540)
Inflation, consumer prices (annual %)	-0.0421	-0.2309***	-0.0586***	-0.0737***	-0.0450	-0.2236***	-0.0568**	-0.0788***
	(0.0272)	(0.0277)	(0.0207)	(0.0363)	(0.0384)	(0.0469)	(0.0282)	(0.0277)
Domestic credit to private sector (% of GDP)	-0.0264**	-0.0285***	-0.0239***	-0.0248***	-0.0316***	-0.0351***	-0.0270***	-0.0287***
	(0.0105)	(0.0105)	(0.0079)	(0.0078)	(0.0078)	(0.0080)	(0.0061)	(0.0061)
Population growth	-149.4118***	-130.2262***	-96.1536***	-111.9431***	-155.9211***	-136.8659***	-104.9745***	-124.4243***
	(34.8112)	(36.6132)	(31.4487)	(32.2331)	(26.6956)	(26.2830)	(26.4981)	(28.3861)
Governance Overall score	-0.1518*	-0.1488**	-0.1006	-0.1144*	-0.1609***	-0.1603***	-0.1122**	-0.1190**
	(0.0783)	(0.0701)	(0.0683)	(0.0690)	(0.0558)	(0.0583)	(0.0538)	(0.0547)
Tax burden	0.0137	-0.0079	-0.0320	-0.0254	0.0158	-0.0037	-0.0234	-0.0248
	(0.0265)	(0.0381)	(0.0269)	(0.0289)	(0.0234)	(0.0257)	(0.0229)	(0.0234)
Financial openess Chi-Ito Index	-1.4556	-0.5579	0.2317	0.0898	-1.3203	-0.2002	0.3336	0.1816
	(1.2889)	(1.9055)	(0.7985)	(1.1273)	(1.0533)	(1.0521)	(0.9301)	(0.9336)
Financial freedom	0.0185	0.0405**	0.0228	0.0425**	0.0209	0.0421**	0.0228	0.0449***
	(0.0190)	(0.0177)	(0.0167)	(0.0183)	(0.0176)	(0.0176)	(0.0163)	(0.0171)
Constant	20.4950	22.1927**	5.5075	21.2144*	26.3643***	23.8578***	5.9291	23.7997***
	(16.6412)	(10.3220)	(8.3072)	(12.0231)	(8.3819)	(8.3284)	(7.5073)	(8.0589)
R-squared adj.	0.7678	0.7832	0.7376	0.7173	0.7452	0.7639	0.7203	0.6900
Number of observations	503	480	542	605	503	480	542	605
Number of countries	36	35	39	40	36	35	39	40

Financial intermediation described as domestic credit to private sector to GDP is negatively correlated with the assets of institutional investors.

Private credit by deposit money banks and other financial institutions to GDP is negatively correlated to assets of institutional investors to GDP.

We also analyzed the influence of institutional investors on GDP growth on first step and on GDP growth per capita on the second step, using the control variables and the results are significantly positive.

GDP capita growth is positively influenced by EU mutual funds but without statistical significance, also for pension funds and insurance companies. For the institutional investors as a group the results are statistically significant, at level of 10 percent.

5. Conclusions

In our study we check the impact of financial development, expressed by the level of assets of institutional investors at GDP. We fund positive results for the influence of institutional investors as a group and also for the different types of participants in the financial market.

The importance of our result is the emphasized necessity of institutional investors' presence in economy. The large amounts of assets redistributed by these investors have an important role in investment, especially because of costs control and stock prices effectiveness. These effects are increasing the productivity and lower the costs.

Nowadays the attempts for building a capital market union can bring advantages for investments due to possibility to access several foreign markets and increase the assets controlled by mutual funds, pension funds and insurance companies.

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