

## The degree of economic freedom in the context of resistance to economic instability in EU countries<sup>1</sup>

Małgorzata Zielenkiewicz  
*University of Gdansk*  
*Department of Microeconomics*  
*Armii Krajowej 119/121*  
*81-824 Sopot, Poland*  
*ekomz@ug.edu.pl*

**Abstract.** The model of public regulation has an impact on different areas of the economy. The paper focuses on the aspect of the level of public intervention in the context of stability of economic growth. The aim of the research is to examine the statistical relationship between the degree of economic freedom (measured by Index of Economic Freedom) and the intensity of the reaction of the economy to the financial crisis of 2008 (measured by the standard deviation of the real GDP growth rate). The research hypothesis is the statement that such a relationship exists. The study is based on data from 2007-2011 for European Union countries. The following methods were used in the paper: statistical description and comparative analyses.

**Received:**  
March, 2012  
**1st Revision:**  
June, 2012  
**Accepted:**  
October, 2012

**Keywords:** public regulation, economic policy, economic freedom, economic growth, economic stability.

**JEL Classification:** H10, H70, I30, O43, P16.

### INTRODUCTION

The two major regulators of economic processes are market mechanism and public regulation. As a reason for state intervention in the economy it is usually considered such phenomena as allocative inefficiency of the market mechanism, economic instability and social inequalities, however there's no agreement among economists, what level of government intervention is optimal and the discussion on that issue has a long history. Thus, it is reasonable to undertake studies on the optimal degree of public regulation, because economic processes are dynamic phenomena, and also instruments of public regulation changes, so there is a need for redefining the factors important for the economy according to present situation. It is especially

---

<sup>1</sup> The publication is financed from European Social Fund in as a part of the project „Educators for the elite - integrated training program for PhD students, post-docs and professors as academic teachers at University of Gdansk” within the framework of Human Capital Operational Programme, Action 4.1.1, Improving the quality of educational offer of tertiary education institutions. This publication reflects the views only of the author, and the funder cannot be held responsible for any use which may be made of the information contained therein.

accurate while the world faces the financial crisis. Present situation shows, that Lukas's statement from 1995 about the end of the problem connected with crisis is solved was too optimistic (Krugman 2012).

The paper focuses on the aspect of the level of public intervention in the context of stability of economic growth. The aim of the research is to examine the statistical relationship between the degree of economic freedom (measured by Index of Economic Freedom) and the intensity of the reaction of the economy to the financial crisis of 2008 (measured by the standard deviation of the real GDP growth rate). The research hypothesis is the statement that such relationship exists. The study is based on data from 2007-2011 for European Union countries. The following methods were used in the paper: statistical description and comparative analyses.

## DIFFERENT APPROACHES TO PUBLIC REGULATION

An issue related to the regulation of markets is setting the optimal level of regulation, since it is possible to overshoot the market. Adjusting the markets is connected with a cost of acquiring information, people involved in the regulation and control bodies and other transaction costs (increasing with increasing regulation size), as well as the costs associated with the risk of error (decreasing with the increase in the number of participants in the legislative process (Wilkin, 2005).

Among economists there is also no the consensus about the capacity of public institutions to solve market problems. Advocates of economic freedom raises the question of government failure, such as the submission of private interests by public decision-makers, cognitive errors, a delay in time between the moment of applying the solution and the moment of appearing the results, obtaining or neutralization effects of public regulations by the market players due to predictability of government action and many more (Datta-Chaudhuri, 1990).

The quality of public institutions is main theme of considerations in many economic theories. For example, in economic theory of regulation there was formulated the model of optimal distribution of the benefits of price regulation and control inputs (Peltzman model), which maximizes political support function, where  $P$  is the price of the product, and  $\Pi$ -profits made by the company represents a pressure group. With the existence of many interest groups, the price is not on the socially optimal level or at the level of monopoly price, but between them and the benefits of public regulation are shared in proportion to the bargaining power possessed (Peltzman, 1976). In the Becker's model, in turn, competition among pressure groups leads to a favorable adjustment for this group, which is able to achieve the greatest advantage, while other groups bear the costs of regulation (Becker, 1983).

Regulation models have many expansions, including "capture theory" (Stigler, 1971) and the concept of "rent-seeking" which indicates the possibility of enforcement by market players such public regulation, which actually protects them from competition (Crew and Parker, 2006). It shows that public regulation is not always a response to the failure of the market mechanism or economic instability. If public institutions are imperfect, it may raise the question about necessity of regulating the economy.

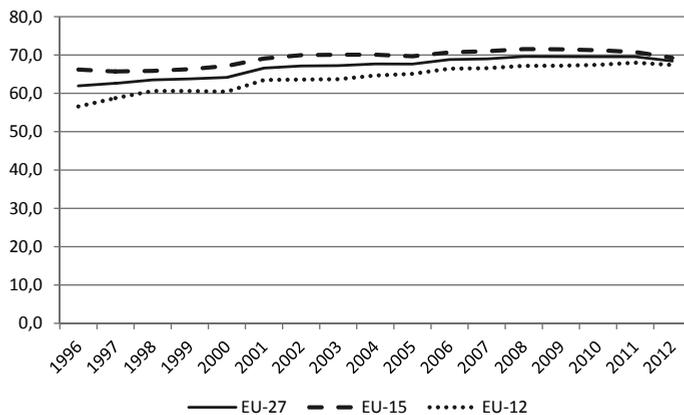
## ECONOMIC FREEDOM IN EUROPEAN UNION

Public regulation includes many different areas of activity of public institutions. For measuring the scale of the activity of the state in the economy it might be used Index of Economic Freedom (IEF). IEF is an index published by The Wall Street Journal from 1995 year and is based on statistics from organizations like the World Bank, the International Monetary Fund, the Economist Intelligence Unit and various

government agencies, websites, news reports and journal articles. All data received from government sources are verified with independent, internationally recognized sources. In this index each country is rated on a scale from 0 to 100 points (where 100 is the maximum of economic freedom) according to the criteria divided into 10 categories (<http://www.heritage.org/index>):

- Business Freedom: measures the ability to start, operate, and close a business;
- Trade Freedom: measures the absence of barriers that affect imports and exports of goods and services;
- Monetary Freedom: measures price stability with an assessment of price controls;
- Government Spending: measures the level of government expenditures (including consumption and transfers) as a percentage of GDP;
- Fiscal Freedom: measures the tax burden imposed by government;
- Property Rights: measures the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state;
- Investment Freedom: measures the constraints on the flow of investment capital;
- Financial Freedom: measures banking efficiency, independence from government control and interference in the financial sector;
- Freedom from Corruption: measures the level of corruption (the higher the level of corruption, the lower the level of economic freedom score);
- Labor Freedom: measures the level of regulation of country's labor market.

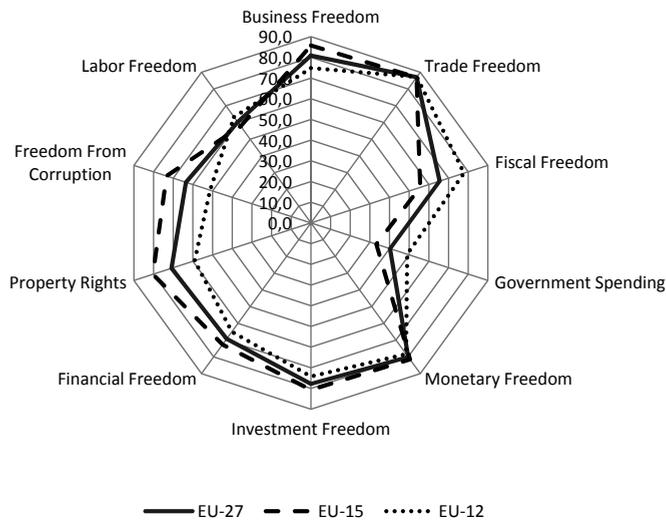
Total IEF is an average of scores obtained in the different areas by each country. The index was used in the research because of its complexity in terms of the impact of the public regulation on different areas of the economies.



Picture 1. The dynamics of IEF in European Union in 1995-2012

Source: <http://www.heritage.org/index>.

Picture 1 shows the dynamics of IEF in a period 1996-2012 in old and new members of European Union. The level of economic freedom generally shows an increasing trend, especially in EU-12 countries, however after financial crisis the economic freedom was slightly limited. The differences between old and new members decreases but “old” Union is still on the higher level of economic freedom than EU-12.



**Picture 2. The level of IEF's components in European Union in 2012**

Source: <http://www.heritage.org/index>.

Picture 2 shows the level of economic freedom in particular areas of government activity. The main differences between EU-15 and EU-12 appears in area of fiscal and government spending freedom, business freedom, the level of corruption and respecting the property rights. "Old" EU is more engaged in activities typical for welfare states but seems to show higher quality of public institutions (freedom from corruption) and also gives higher freedom for business activities undertaken by citizens. An analysis of relationship between this kind of differences and the level and stability of GDP in EU countries is the main aim of the next part of the paper.

## THE RELATIONSHIP BETWEEN ECONOMIC FREEDOM AND THE LEVEL AND STABILITY OF THE ECONOMIC GROWTH IN EU COUNTRIES

The aim of this part of the research is to identify the statistical relationship between Index of Economic Freedom (and its components), the level of GDP per capita and the standard deviation of the real GDP growth rate in EU countries. In order to examine which countries (according to the level of economic freedom) have coped better with financial crisis of 2008, the study was conducted in the following stages:

- Checking of the level of economic freedom before the crisis (data from 2007);
- Checking of the level of GDP per capita in 2007 and the real GDP growth rate in a period 2007-2011;
- Calculating the standard deviation for the growth rate during the considered period to examine the intensity of instability of GDP during crisis period;
- Ranking the countries according to the intensity of the standard deviation;
- Calculating the Pearson's and Spearman's correlation coefficients for IEF, its components, GDP per capita and standard deviation of the GDP growth rate;

- Ranking the components of IEF according to its intensity of determining the level of GDP and the deviation from GDP growth rate.

Table 1 shows the level of economic freedom in 10 areas measured by IEF in the year before the crisis of 2008. Table 2 shows GDP per capita and the position in the ranking (first place means the highest GDP per capita), real GDP growth rate in period 2007-2011, standard deviation for the fluctuations of the rate and the position in the ranking (first place means the minor fluctuations).

The highest level of total IEF had Ireland, Denmark, Luxemburg, Estonia, The Netherland and United Kingdom. Last in the ranking were Italy and Greece. Except of Estonia, these are not the countries which has reacted most intensively to the financial crisis. The major fluctuation took place in following countries: Latvia, Lithuania, Estonia, Romania, Slovakia and Slovenia. The most stable situation was in Poland, Portugal, France and Belgium. There are also an interesting cases, where after strong decrease of GDP growth rate, the rate increased rapidly and reached the positive result in 2010 (Estonia, Lithuania). However, the ability to raising form the collapse doesn't provide the resistance to the fluctuations. It seems that total IEF doesn't have the major meaning for resistance of economies to the GDP growth rate instability. Correlation coefficients confirm that assumption.

Table 1

The level of Index of Economic Freedom and its components in EU countries in 2007

Country	Total IEF	Business Freedom	Trade Freedom	Fiscal Freedom	Government Spending	Monetary Freedom	Investment Freedom	Financial Freedom	Property Rights	Freedom From Corruption	Labor Freedom
1	2	3	4	5	6	7	8	9	10	11	12
Austria	71,9	81,7	86,6	50,3	24,7	86,0	70	70	90	87	70,1
Belgium	70,2	92,6	86,6	44,1	26,5	80,5	90	80	80	74	70,8
Bulgaria	64,9	70,3	70,8	82,4	57,8	75,8	60	60	30	40	79,8
Cyprus	73,3	70,0	81,6	79,4	44,8	84,7	70	70	90	57	70,0
Czech Republic	70,4	61,1	86,6	69,9	47,1	86,3	70	80	70	43	59,7
Denmark	78,6	94,8	86,6	34,2	12,8	86,8	80	90	90	95	99,9
Estonia	75,2	79,9	86,6	84,5	61,8	83,0	90	90	90	64	49,7
Finland	74,0	95,3	86,6	63,1	23,5	89,9	70	80	90	96	45,6
France	64,6	87,2	81,6	46,3	13,5	81,0	50	60	70	75	56,1
Germany	71,8	88,9	86,6	61,4	33,7	81,5	90	50	90	82	44,2
Greece	60,3	69,7	81,6	62,4	53,4	78,4	50	40	50	43	58,0
Hungary	66,6	70,2	86,6	68,8	26,8	76,6	70	60	70	50	68,7
Ireland	78,7	92,1	86,6	71,7	65,9	85,3	90	90	90	74	80,6
Italy	60,3	77,0	81,6	52,8	31,5	80,5	70	60	50	50	74,4
Latvia	65,8	74,5	86,6	83,9	61,3	74,2	70	70	50	42	66,9
Lithuania	71,3	84,3	86,6	86,5	70,8	81,1	70	80	50	48	57,3
Luxembourg	76,2	76,9	86,6	65,3	44,0	80,2	90	80	90	85	47,8
Malta	65,7	70,0	86,6	61,1	27,7	80,0	50	70	90	66	60,0
Poland	64,1	55,3	86,6	68,6	44,8	80,3	50	50	50	34	61,4

1	2	3	4	5	6	7	8	9	10	11	12
Portugal	64	78,6	86,6	62,3	35,4	80,4	70	50	70	65	41,5
Romania	64,7	73,2	84,0	85,9	71,0	69,7	50	60	30	30	58,0
Slovakia	69,5	70,7	86,6	89,5	53,7	76,6	70	80	50	43	76,1
Slovenia	64,6	72,9	86,6	54,6	30,9	78,9	70	50	50	61	41,2
Spain	70,2	78,0	86,6	55,2	54,8	78,5	70	80	70	70	49,3
Sweden	71,9	94,2	81,4	33,1	3,6	83,8	80	70	90	92	65,0
The Netherlands	74,7	88,4	86,6	48,8	34,9	87,2	90	80	90	86	62,7
United Kingdom	74,5	91,2	86,6	62	42,7	81,3	90	90	90	86	79,0

Source: <http://www.heritage.org/index>.

Table 2

The level of GDP per capita and real GDP growth rate in EU countries in 2007-2011

Country	GDP per capita (2007)	Position in the ranking	Real GDP growth rate						
			2007	2008	2009	2010	2011	Standard deviation	Position in the ranking
Austria	30 900	5	3,7	1,4	-3,8	2,1	2,7	2,62	10
Belgium	28 900	9	2,9	1	-2,8	2,4	1,8	2,03	4
Bulgaria	10 000	27	6,4	6,2	-5,5	0,4	1,7	4,38	20
Cyprus	23 600	14	5,1	3,6	-1,9	1,3	0,5	2,44	6
Czech Republic	20 700	17	5,7	3,1	-4,5	2,5	1,9	3,38	15
Denmark	30 600	6	1,6	-0,8	-5,7	1,6	1,1	2,77	12
Estonia	17 500	20	7,5	-4,2	-14,1	3,3	8,3	8,39	25
Finland	29 400	7	5,3	0,3	-8,5	3,3	2,7	4,83	21
France	26 900	11	2,3	-0,1	-3,1	1,7	1,7	1,97	3
Germany	28 900	10	3,3	1,1	-5,1	4,2	3	3,36	14
Greece	22 500	15	3,5	-0,2	-3,1	-4,9	-7,1	3,70	18
Hungary	15 400	22	0,1	0,9	-6,8	1,3	1,6	3,15	13
Ireland	36 600	2	5,4	-2,1	-5,5	-0,8	1,4	3,63	17
Italy	26 000	13	1,7	-1,2	-5,5	1,8	0,4	2,70	11
Latvia	14 300	24	9,6	-3,3	-17,7	-0,9	5,5	9,36	27
Lithuania	14 800	23	9,8	2,9	-14,8	1,5	5,9	8,43	26
Luxembourg	68 500	1	6,6	-0,7	-4,1	2,9	1,7	3,58	16
Malta	19 500	19	4,6	4	-2,4	3,4	1,9	2,52	8
Poland	13 600	25	6,8	5,1	1,6	3,9	4,3	1,69	1
Portugal	19 600	18	2,4	0	-2,9	1,4	-1,7	1,94	2
Romania	10 400	26	6,3	7,3	-6,6	-1,6	2,5	5,15	24
Slovakia	16 900	21	10,5	5,8	-4,9	4,4	3,2	5,01	23
Slovenia	22 100	16	7	3,4	-7,8	1,2	0,6	4,89	22
Spain	26 200	12	3,5	0,9	-3,7	-0,3	0,4	2,32	5
Sweden	31 200	4	3,3	-0,6	-5	6,6	3,7	4,02	19
The Netherlands	33 100	3	3,9	1,8	-3,7	1,6	1	2,51	7
United Kingdom	29 100	8	3,6	-1	-4	1,8	0,9	2,60	9

Source: own study on the basis of data from Eurostat.

Table 3 shows Pearson's and Spearman's correlation coefficients for Index of Economic Freedom, its components, GDP per capita and the standard deviation for GDP growth rate in EU countries. Pearson's correlation coefficient ( $r_p$ ) measures the linear relationship between factors. For standard deviation negative result means, that the higher level of economic freedom is accompanied by a lower instability of GDP growth rate, therefore the minus result was treated as conducive factor for economic stability. For GDP per capita negative result means, that the higher level of economic freedom is accompanied by a lower level of GDP, therefore minus result was classified as not supportive for stability. Spearman's correlation coefficient ( $r_s$ ) is based on the positions in the rankings, therefore positive result in all cases means the factor is supportive.

Table 3

Correlation coefficients for Index of Economic Freedom, its components, GDP per capita and the standard deviation for GDP growth rate

	Conductive			Unconductive		
	Kind of freedom	$r_p$	$r_s$	Kind of freedom	$r_p$	$r_s$
Stability	Freedom From Corruption	-0,30	0,27	Fiscal Freedom	0,59	-0,56
	Property Rights	-0,30	0,14	Government Spending	0,54	-0,44
	Monetary Freedom	-0,26	0,20	Financial Freedom	0,19	-0,11
	Labor Freedom	-0,14	0,07	<b>Total IEF</b>	0,06	-0,12
	Business Freedom	-0,01	0,00	Investment Freedom	0,07	0,02
	Trade Freedom	0,05	0,03	Trade Freedom	0,05	0,03
	Investment Freedom	0,07	0,02			
Level of GDP per capita	Conductive			Unconductive		
	Kind of freedom	$r_p$	$r_s$	Kind of freedom	$r_p$	$r_s$
	Freedom From Corruption	0,69	0,87	Fiscal Freedom	-0,44	-0,64
	Property Rights	0,61	0,74	Government Spending	-0,30	-0,51
	Investment Freedom	0,55	0,70	Labor Freedom	-0,06	0,08
	<b>Total IEF</b>	0,54	0,62			
	Business Freedom	0,43	0,66			
	Monetary Freedom	0,43	0,66			
	Financial Freedom	0,33	0,46			
	Trade Freedom	0,23	0,52			
Labor Freedom	-0,06	0,08				

Source: own study.

According to the calculations, the most conducive for resistance to GDP instability are: Freedom From Corruption, Property Rights, Monetary Freedom. Negative and relatively the strongest correlations has Fiscal Freedom and Government Spending. It suggest that welfare states economies are statistically more resistant to fluctuation of GDP growth rate, in condition of the high quality of public institutions. The correlation of Trade and Investment Freedom is not specified (contradictory results) and for other kinds of economic freedom the correlation is very low.

In case of the level of GDP per capita economic freedom seems to have greater importance. Freedom From Corruption, Property Rights and Investment Freedom are most correlated with GDP per capita. Also Business and Financial Freedom seems to be supportive for reaching the high level of GDP. There is negative correlation between Fiscal Freedom and Government Spending. Labor Freedom has contradictory results.

The common for the both areas (stability and the level of GDP) is positive correlation for Freedom From Corruption, Property Rights, Monetary Freedom, Business Freedom and negative correlation for Fiscal Freedom and Government Spending.

## CONCLUSIONS

Public regulation in the context of the level and stability of economic growth is a complicated and wide issue, and it can't be simplified only to separated elements of economic policy. Such items as historical conditions or other elements of institutional environment can have a great importance. The correlation coefficients used in the article doesn't explain if components of IEF are the cause of resistance to economic instability. It might suggest however that that kind of institutional environment is supportive for the stability of economies. There are elements of economic freedom which seem to be conducive for both: high level of GDP per capita and the stability of GDP growth rate. These are: Freedom From Corruption, Property Rights, Monetary Freedom, Business Freedom. There are also two elements of economic policy (Fiscal Freedom and Government Spending) where high level of economic freedom doesn't seem to be a proper solution, at least in the countries with high level of development and high quality of public institutions. That issue requires further studies on individual cases and that's the direction of future researches.

## REFERENCES

- Becker, G. (1983), *A Theory of Competition among Pressure Groups for Political Influence*, The Quarterly Journal of Economics, Vol. 98, pp. 371-400.
- Crew M., Parker, D. (ed.) (2006), *International Handbook on Economic Regulation*, Edward Elgar, Cheltenham/Northampton.
- Datta-Chaudhuri, M. (1990), *Market Failure and Government Failure*, *Journal of Economic Perspective*, Vol. 4, No. 3, pp. 25-39.
- Krugman, P. (2012), *Powrót recesji. Kryzys roku 2008*, WaltersKluwer, Warsaw.
- Peltzman S. (1976), *Toward a More General Theory of Regulation*, *Journal of Law and Economics*, August, pp. 211-240.
- Stigler, G. (1971), *The theory of economic regulation*, *Bell Journal of Economics and Management Science*, No. 3, pp. 3-18.
- Wilkin, J. (ed.) (2005), *Teoria wyboru publicznego. Wstęp do ekonomicznej analizy polityki i funkcjonowania sfery publicznej*, Wydawnictwo Naukowe Scholar, Warsaw.
- Website: <http://www.heritage.org/index>.
- Website: [ec.europa.eu/eurostat](http://ec.europa.eu/eurostat).