Proceedings of the Faculty of Economics in East Sarajevo
Year 2014, Issue 9, pp. 19-26
Received: 15th November 2014
UDC 339.137.2:338.22(497.1)
DOI: 10.7251/ZREFIS1409019K
Preliminary Communications

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ECONOMIC FREEDOM AND ECONOMIC PERFORMANCE IN FORMER SOCIALIST COUNTRIES - PANEL APPROACH

ЕКОНОМСКЕ СЛОБОДЕ И ЕКОНОМСКЕ ПЕРФОРМАНСЕ У БИВШИМ СОЦИЈАЛИСТИЧКИМ ЗЕМЉАМА - ПАНЕЛ АНАЛИЗА

Summary*: In this paper we will present the results of our survey on Economic Freedom, and impact of its individual categories on economic growth in former socialist countries which have joined the European Union (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia). To measure economic freedom we will use The Index of Economic Freedom published by the Heritage Foundation in cooperation with the Wall Street Journal. We find that economic freedom has a positive, but statistically insignificant impact on economic performance. Our result also indicates that individual categories of the Economic Freedom have a different impact on economic performance.*

Key words: *Economic Freedom. The Index of Economic Freedom, Economic Performance*

JEL classification: *C51, O11, O47, P51*

Резиме*: У овом раду приказаћемо резултате нашег истраживања о Економским слободама и утицају индивидуалних категорија економских слобода на економске перформансе бивших социјалистичких земаља (Бугарска, Хрватска, Чешка Република, Естонија, Мађарска, Летонија, Литванија, Пољска, Румунија, Словачка република и Словенија). Економске слободе мјерили смо Индексом Економских Слобода који објављује Херитиџ Фондација у кооперацији са Вол Стрит Журналом. Економске слободе имају позитиван утицај на економске перформансе., али тај утицај није статистички значајан. Наши резултати указију да индивидуалне категорије економских слобода имају различит утицај на економске перформансе.*

Кључне ријечи: *Економске Слободе, Индекс Економских Слобода, Економске перформансе*

JEL класификација: *C51, O11, O47, P51*

1. INTRODUCTION

Since 1989 and the fall of the Berlin wall the socialist countries have faced massive economic changes. Transition as an economic process, a shift from socialism to capitalism, it is a remarkable experiment offering a more in-depth insight into the problem of economic growth (Kašeljević 2006). Change of the economic system and economic growth is a very long and complex process. The economic growth theory has developed especially in the second half of the twentieth century. Nevertheless, the economic theory is still not able to provide a complete specification of all variables having a significant impact on economic growth. Adam Smith, the father of modern economics, defines economic growth as a function of two groups of factors. One group of factors is in neoclassical tradition. This group of factors is focused on traditional production factors, especially technological development and human capital (Aghion and Howitt 1998). The other group of factors covers the institutional framework, i.e. an environment that supports growth. Adam Smith attempted to answer a simple question: Why do some countries prosper? According to Smith the answer is simple. Countries become prosperous when they have a proper institutional framework, when they use unregulated private markets to the greatest extent possible, with the government playing the important but limited role of protecting liberty, property, and enforcing contracts (Borović 2014). A proper institutional framework means creation of the growth stimulating environment, an environment that encourages the creation of the wealth. Many other authors hold that an institutional framework is a necessary precondition for growth. Neoclasical growth theory provides an insight into the factors which are necessary condition for the growth – growth of the facilities (Kašeljević 2006). But, the growth of the facilities can not suport a sustainable growth. It takes a business stimulating environment for economic subjects, in which they will perform efficiently, expand in new markets and invest more.

In this survey we will investigate the relationship between economic performance and institutional setting, especially economic freedom. Our analysis will be conducted on eleven former socialist countries which are full European Union members (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia). They were all a part of socialist economic system with central planning. These countries have changed their economic system and shifted from socialism to capitalism. We will cover the time period between 2000 and 2013. To measure economic freedom we will use the Index of Economic Freedom (hereinafter IEF) published by the Heritage Foundation in cooperation with Wall Street Journal. But, a single measure presented as an overall index does not fully reflect the quality of the institutional framework, i.e. economic environment. Therefore, we will use the IEF building components in the panel analysis to investigate which components of the IEF are important for growth.

2. INDEX OF ECONOMIC FREEDOM, CONCEPT AND MEASUREMENT

The concept of economic freedom is based on the liberal ideas and its goal is to reduce to the minimum the role assigned to the government and to amplify that of the market and the private sector. The economic freedom can be defined in many ways. Economic freedom means the degree to which a market economy is in place, where the central components are voluntary exchange, free competition, and protection of persons and property (Gwartney et al. 2002, 5). The economic freedom is the condition in which individuals can act with maximum autonomy and minimum obstruction in the pursuit of their economic livelihood and greater prosperity (Miler et al. 2014). Economic freedom is a composite that attempts to characterize the degree to which an economy is a market economy - that is, the degree to which it entails the possibility of entering into voluntary contracts within the framework of a stable and predictable rule of law that upholds contracts and protects private property, with a limited degree of interventionism in the form of government ownership, regulations, and taxes (Berggren 2003). All defilitions reflect the verry esence of what economic freedom should include (Hanke and Walters 1997, 3; Gwartney et al. 1996; Johnson et al. 1998, 5):

- *Security of property rights.* When government fails to protect private property from governmental expropriation of property (unanticipated inflation, confiscatory taxation) it violates the economic freedom of the citizens. Government promotes economic freedom when it establishes a legal structure that provides for the even handed enforcement of contracts and the protection of individuals from violence, coercion and fraud. Without well defined property rights, both productivity and economic freedom are eroded.
- *Freedom to engage in voluntary transactions.* Economic freedom is the extent to which individuals are free to engage in transactions. Government must refrain from reactions that interfere with personal choice, voluntary exchange and the freedom to enter and compete in labor and product market, because it violates the economic freedom of the people. For example, price controls interfere with the freedom to make exchanges on the markets.
- *Access to sound money.* Government violates economic freedom when it provides no access to sound money. Alternative method of storing purchasing power (bank accounts abroad, foreign currency bank accounts domestically) represents a freedom to use alternative currencies. Countries with less predictable level of inflation have lower economic freedom.

- *Freedom to engage in voluntary transactions outside national borders.* Tariffs and taxes on exports interfere with the freedom of buyers and sellers to make exchanges on the international markets. International area indicates the consistency of policies with free trade.
- *Restrictions on the market and freedom to compete.* Restrictions that limit entry into occupations, market and business activities also retard economic freedom. It is very important how countries use market forces rather than political considerations to allocate capital. Privately owned banks are better because it is less likely that political influence will play a larger role in the allocation of capital.
- *Personal choice.* Economic freedom is reduced when taxes, government expenditures and regulations are substituted for personal choice, voluntary exchange and market coordination. Transfers and subsidies violate the economic freedom of individuals to keep their value, because it means less private consumption.

The institutions of a free and open market society do not discriminate either against or in favor of individuals based on their race, ethnic background, gender, class, family connections, or any other factor unrelated to individual merit (Miler et al. 2014). The first atempt to quantify the economic freedom is the Economic Freedom Index (hereinafter EFI) reported annualy in Economic Freedom of the World. The Economic Freedom of the World project was started in 1986 by the Fraser Institute and Milton and Rose Friedman. In our work we will use the IEF, which started in 1994, published by the Heritage Foundation in cooperation with Wall Street Journal. The IEF is constructed from ten subcomponents which are calculated from a number of subvariables and these ten components are equally weighted and averaged to produce an overall IEF. These ten components are grouped in four pillars of economic freedom (Miler et al. 2014):

- Rule of Law (property rights, freedom from corruption);
- Limited government (fiscal freedom, government spending);
- Regulatory efficiency (business freedom, labor freedom, monetary freedom);
- Open markets (trade freedom, investment freedom, financial freedom).

Every component is calculated from a number of subvariables, graded from 0 (no economic freedom) too 100 (full economic freedom), equally weighted and averaged to produce an overall economic freedom score for each economy.

Table 1 The IEF in the selected countries

Country	IEF in 2000	IEF in 2013	Percentange change
Bulgaria (BUL)	47.3	65	37%
Croatia (CRO)	53.6	61.3	14%
Czech Republic (CZE)	68.6	70.9	3%
Estonia (EST)	69.9	75.3	8%
Hungary (HUN)	64.4	67.3	5%
Latvia (LAT)	63.4	66.5	5%
Lithuania (LIT)	61.9	72.1	16%
Poland (POL)	60	66	10%
Romania (ROM)	52.1	65.1	25%
Slovakia (SLV)	53.8	68.7	28%
Slovenia (SLO)	58.3	61.7	6%

Source: Heritage 2014

Table 1 presents the data on the IEF for selected countries. Bulgaria has the lowest overall index in 2000 and highest percentange change. Latvia has a verry high level of the IEF in its initial year and in 2013. Table 2 presents the data for the IEF components for selected countries in 2013.

Table 2 The IEF components for selected countries

Country	BUL	CRO	CZE	EST	HUN	LAT	LIT	POL	ROM	SLV	SLO
Property rights	30	40	70	85	65	50	60	60	40	50	60
Freedom from corruption	33	40	44	64	46	42	48	55	36	40	59
Fiscal freedom	94	75.4	82	80	79.7	84	92.8	76	87.9	84.7	65.7
Government spending	64.2	48.7	43.5	56	29.7	54	53.6	43	62.2	58	22.3
Business freedom	73.6	63	65.8	78	79.1	76	77.6	64	70.4	71	80.7
Labor freedom	74.8	42.4	85.5	56	64.4	64	64.1	62.9	63.5	72.2	40.4
Monetary freedom	78.6	81.1	81.7	77	77.1	78	78.3	77.7	74.7	79.1	81.6
Trade freedom	86.8	87.5	86.8	87	86.8	87	86.8	86.8	86.8	86.8	86.8
Investment freedom	55	75	70	90	75	80	80	65	80	75	70
Financial freedom	60	60	80	80	70	50	80	70	50	70	50

Source: Heritage 2014

Estonia has the highest score on almost every component, especially on property rights and freedom from coruption. The most corupted country is Bulgaria with weakest protection of property rights.

3. THEORETICAL BACKGROUND

Institutional framework is a necessary precondition for sustainable growth, and economic freedom is usefull tool which enables a researcher to determine a quality of institutional framework. Many authors use the EFI in their analysis because it goes back to 1970 and they all find a positive link between economic performance and economic freedom. The results of the most relevant surveys are presented in Table 3.

Table 3 Economic freedom and economic performance

STUDIES	DEPENDENT VARIABLE	INDEPENDENT VARIABLE	EFFECT
de Haan and Sturm (2000, 2001), Adkins, Moomaw and Savvides (2002), Cole (2003)	Growth	Change in the EF index	Significant, positive
de Haan and Sturm (2000, 2001), Adkins, Moomaw and Savvides (2002)	Growth	Level of the EF index	Not significant
Easton and Walker (1997), Scully (2002), Cole (2003), Powell (2003)	Growth	Level of the EF index	Significant, positive
Hanke and Walters (1997),	GDP per capita	Level of the EF index	Significant, positive
Heckelman and Stroup (2000)	Growth	Level of a version of the EFI with different weights	Significant, positive
Gwartney, Lawson and Holcombe (1998)	Growth	Government expenditure	Negative, significant
Gwartney and Lawson (1997)	GDP per capita, growth rate	Level of economic freedom	Positive, significant
Gwartney, Lawson (1999)	GDP per capita	Change in economic freedom	Positive, significant

Economic freedom has a strong impact on economic performance in transitional countries. Kašeljević (Kašeljević et al. 2006) and Engle (Engle 2006) have tested the link between economic freedom and economic performance in transitional countries. Kašeljević used both IEF and EFI in panel analysis for 24 transitional countries for the time period 1995-2004. Both indexes have positive impact on economic performance and impact is stronger in the case of the IEF. Engle used the IEF in his research on 12 European transition countries that would either join the EU in 2004 or are in negotiations with the EU (TC-12 countries Latvia, Estonia, Lithuania, Poland Czech Republic, Slovak Republic, Hungary, Slovenia, Bulgaria, Romania, Croatia, and Turkey) and he finds a positive correlation between GDP per capita and IEF of 0.73 and it is signifficant at 5% level.

Overall index of economic freedom can mask the true relationship between economic performance and the components of index. The results of the most relevant surveys are presented in Table 4.

Table 4 Economic freedom components and economic performance

Category	Positive effect of freedom	Negative effect of freedom	Insignificant effect of freedom
Size of government	Barro 1991; Knack and Keefer 1995; Gwartney et al 1998; Barro 1999; Kneller et al 1999.		Ayal and Karas 1998; Nelson and Singh 1998; Sala-i-Martin 1997; Kneller et al 1999.
Economic Structure and use of market	Ayal and Karas 1998; Kneller et al 1999.		Sala-i-Martin 1997a; Barro 1991; Torstensson 1994; Ayal and Karas 1998;
Monetary policy and price stability	Ayal and Karas 1998.	Gwartney et al 1998.	Sala-i-Martin 1997a.
Freedom to use alternative currencies	Ayal and Karas 1998; Barro 1994.		Ayal and Karas 1998; Sala-i-Martin 1997.
Legal structure and security of private ownership	Barro 1994; Torstensson 1994; Knack and Keefer 1995; Sala-i-Martin 1997a.		
International exchange – freedom to trade with foreigners	Sala-i-Martin 1997b, Torstensson 1994.	Ayal and Karas 1998.	
Freedom of exchange in capital markets	Ayal and Karas 1998.		

Carlsson and Lundstrom (Carlsson and Lundstrom 2002) find that four out of seven EFI components are positively and statistically significantly related to growth (economic structure and use of markets, freedom to use alternative currencies, legal structure and security of ownership, and freedom of exchange in capital markets), two are negatively and statistically significantly related to growth (the size of government and international exchange/freedom to trade with foreigners), and one is not statistically significantly related to growth (monetary policy and price stability). Ayal and Karas (Ayal and Karas 1998) have investigated the impact of economic freedom and its components on Total Factor Productivity and capital accumulation. They have identified six components of the EFI which have a statistically significant positive effect on growth. Their analysis imply that Total Factor Productivity is enhanced when the money growth rate and inflation variability are kept low, when the role of government enterprises is small, when negative real interest rates are rare, when the difference between the official and the black-market exchange rates is small, when the size of the trade sector is large, and when citizens are free to engage in capital transactions with foreigners (Ayal and Karas 1998). Panahi (Panahi et al. 2014) investigates the impact of economic freedom on economic growth in MENA (Malta, Marocco, Oman, Syria, Tunisia, UAE and Algeria) countries. According to this research, four out of five EFI components have a statistically significant positive impact on economic growth. The only variable which has a negative impact on economic growth is legal structure and security of private ownership. Borović (Borović 2014) conducted analysis on the relationship between the IEF components and economic growth for Bosnia and Herzegovina. The results show that two out of three components have a statistically significant negative impact on economic growth. The two components with negative impact are the rule of law and open markets. Similarly, in the MENA countries the weak protection of private ownership and high corruption will lead to economic growth. Ahmadpour (Ahmadpour 2014) investigates impact of the EFI and its components on economic performance for OPEC countries for the time period 2000-2009. Results show that economic freedom is positively and robustly correlated with growth. For OPEC countries one out of five EFI components has a negative impact on growth. Freedom to trade with foreigners has significant and negative impact on economic performance. The result suggests that one unit increase of the index decreases growth by 0.12 percentage points (Ahmadpour 2014).

4. MODEL AND METHODOLOGY

There are several factors which have a strong impact on economic performance in transitional economies. They can be divided in four groups (Kašeljević, 2006): (1) factors of long term economic growth (which are capital, labor and technological improvements), (2) short-run cyclical factors, used to capture the logic of the transition cycle (inflation, etc.), (3) economic freedom or institutional quality, which we are interested in and (4) other variables like war, geographical position etc. For purpose of this survey we chose the following equations with one limitation:

$$y_i = c + \beta_1 I_i + \beta_2 IEF_i + \beta_3 CPI_i$$
$$y_i = c + \beta_1 I_i + \beta_2 IEF_{1i} + \beta_3 IEF_{2i} + \beta_4 IEF_{3i} + \beta_5 IEF_{4i} + \beta_6 CPI_i$$
$$\sum_{n=1}^{4} IEF_{ni} = IEF_i$$

Where y_i is economic performance (measured with GDP and GDP per capita-Ypc) for country i, CPI is inflation for country i, I_i is average investment share to GDP for country i, and IEF is the overall level of economic freedom index for country i. IEF_{1i} refers to Rule of Law (property rights, freedom from corruption) for country i, IEF_{2i} refers to Limited government (fiscal freedom, government spending) for country i, IEF_{3i} refers to Regulatory efficiency (business freedom, labor freedom, monetary freedom) for country i, IEF_{4i} refers to Open markets (trade freedom, investment freedom, financial freedom) for country i.

5. DATA AND RESULTS

Data on IEF are collected from the Heritage Foundation web site http://www.freetheworld.com. Data on GDP (in $), GDP per capita (in $), CPI and investment share are collected from World Economic Outlook Database http://www.imf.org. Descriptive statistics are presented in Table 5. Data on investment share are in percentages, data on GDP are in bn, and data on GDP per capita are in units.

Table 5 Desriptive statitics

	Mean	Max	Min	Std
Y	2392.8415	2620.8149	1994.6621	201.94025
Ypc	10734.884	16030.162	4319.546	4222.0722
I	24.896162	31.026455	20.424727	3.3233051
CPI	107.88896	134.54064	80.038727	18.353695
IEF	64.230519	67.263636	59.390909	2.4305865
IEF1	9.8142857	10.418182	9.2090909	0.4253522
IEF2	12.238831	13.066364	10.743636	0.7068853
IEF3	20.769416	21.401818	19.083636	0.5967633
IEF4	21.407987	22.640909	19.870909	1.0346395
Number of observation	11			

Source: Author's calculations

Table 6 presents the results of panel analysis for time period 2000-2013. Choice between fixed and random effect is made based on Hausman test.

Table 6 Panel data regression results for the 2000-2013

Dependent variable log(Y) (Random effect)				Dependent variable log(Ypc) (Random effect)			
	Coef.	t	p value		Coef.	t	p value
log(IEF)	0.62	1.56	0.12	log(IEF)	0.59	1.51	0.13
log(I)	0.37	3.59	0	log(I)	0.39	3.74	0
log(CPI)	2.11	16.5	0	log(CPI)	2.19	17.1	0
C	-9.6	-7.1	0	C	-4.8	-3.69	0
Decomposing the effect (Random effect)				Decomposing the effect (Fixed effect)			
	Coef.	t	p value		Coef.	t	p value
log(IEF1)	-0.31	-1.54	0.12	log(IEF1)	-0.28	-1.36	0.17
log(IEF2)	0.76	4.35	0	log(IEF2)	0.72	4	0
log(IEF3)	-0.96	-4.4	0	log(IEF3)	-0.95	-4.28	0
log(IEF4)	0.83	3.17	0	log(IEF4)	0.79	2.96	0
log(I)	0.51	5.2	0	log(I)	0.53	5.26	0
log(CPI)	2.14	18.9	0	log(CPI)	2.24	19.4	0
C	-8.52	-10	0	C	-3.76	-4.7	0

Source: Author calculations

We will focus on institutional framework and its impact on economic performance. Also, we will direct our attention to the building components of the IEF and their impact on economic performance.

6. DISCUSSION AND CONCLUSION

We have conducted our analysis on eleven European countries which all have been a part of socialist economic system with central planning. These countries have shifted from socialism to capitalism, they have changed their economic system and they have started building a growth stimulating environment. Our results show a strong, positive impact of the IEF on the GDP. But this impact is not statistically significant. We obtain the same result in the case of the GDP per capita. Decomposing the IEF gives us an insight in the IEF building components and its impact on the economic performance. Two out of four IEF components have a negative impact on economic performance. Rule of Law (property rights, freedom from corruption) and Regulatory efficiency (business freedom, labor freedom, monetary freedom) have a negative impact on economic performance. The impact of the Rule of Law (property rights, freedom from corruption) is not statistically significant. The results show that increase of Regulatory efficiency will decrease the economic performance. Limited government and Open markets have a positive and statistically significant impact on economic performance. It is very unusual that Rule of Law and Regulatory efficiency have a negative impact. Increase in protection of private rights and increase of business freedom, labor freedom and financial freedom will decrease the economic performance.

The IEF impact is not statistically significant and two out of four components are negatively correlated with economic performance. In further research we will apply the EFI and its components in similar analysis. Comparing the results we will have a better insight in policies which are important for economic performance.

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