

ECONOMIC FREEDOM – CLASSIFICATION OF ITS LEVEL AND IMPACT ON THE ECONOMIC SECURITY

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Abstract: The published material focuses on the correlation between the economic freedom and economic growth, including other factors as well. The characteristics, number and importance of these factors are different by various authors. Different findings are the result of the multi-factor structure of the economic freedom indicator, as well as the multicollinearity of economic freedom factors. Various methods of the economic freedom evaluation are analysed in this article, as well as the generalization of relationship between the Index of Economic Freedom and indicators of the economic independence and development. According to the results, there are differences between the tightness of the assessed economic variables and the Index of Economic Freedom. Relationship between the development of the EFW index and public debt, tax burden, export and unemployment has been detected.

Keywords: economic freedom, economic security, economic security factors, macroeconomic characteristics.

1 Introduction

An effort to define the economic freedom and to determine the variable that has a direct impact on the level of economic freedom is a part of this finding. We were trying to answer the question how to ensure conditions for the economic security.

The answer is reflecting the solution for the issue discussed: Which type of economic entity should be considered to be a reference object? Which risks are important from the perspective of the economic security? To solve a problem means to define the conditions of the security or define its threats?

The current approach to the issue considers the socio-economic system as a decisive reference object. Economic security determines the capacity of self-development, the presence of institutional conditions and guarantees and the autonomy of the country without endangering relations with the external environment. Economic freedom is considered to be the main factor of the economic security. Freedom of decision making, competitiveness and protection of personal rights and property are identified as the main components of the economic freedom. Freedom of decision making is related to sufficient sources.

This paper is based on the assumption that the level of the economic freedom in the country may have a significant influence on the economic security and the economic security of residents. The main objective of this paper is to confirm the existence and character of the relationship between the values of the Index of Economic Freedom and indicators characterising the source of the economic system, its stability and independence.

Historically, the security expresses to the ability of the state to secure its autonomy and stability. The issue has been a subject of interest in ancient times. Aristotle, Platon, Cicero and Xenophon have analysed the positive impact of peace to cumulate welfare as a source of socio-economic growth. Their philosophical reflections discuss the deterioration of the country's economic potential because of the use of resources for war purposes.

Solution for security on the level of socio-economic system came later. According to European mercantilists, security is closely connected with the establishment of conditions for economic growth. The ability of a country to accumulate financial wealth is referred to as a prerequisite for growth and development. Problem solution is essential to identify tools that

ensure economic efficiency, as well as tools providing financial wealth for the country.

Economic security is considered to be a basic condition of military, political and global security. Similarly, defining conditions appropriate for development and autonomy of the economic system is a subject of liberal interests.

According to Smith (2001) and Švec (2011), economic security is determined by stable markets and free decision making ability of the individuals on the markets.

Security relates to the interests of business entities. According to utopians, economic security of the market can be achieved by ensuring economic security of the individual. The possibility of developing the economic system is based on the ability to accumulate capital. Similarly, the differences between the economic interests of the individual and the state are identified by Freeman (2003), Dudáš and Dudášová (2016).

He refuses to accept the positive impact of prioritization of state interests in relation to economic security of both reference subjects. The impact of the interventionist policy on functioning of the economic system and its entities is also described by other authors (Friedman, 1992; Lawson 2006; Bilan et al., 2016).

The current approach to solution of this issue is represented by Buzan (2008). He based his assumptions on the fact that security risks are from different spheres (he distinguishes political, economic, social and environmental sectors). He relates the economic security of the country with an ability to develop the economic system of the country smoothly. He considers this ability as a result of internal development of the economic system, as well as its level of international dependence (Grancay, 2015). Moran (1990, 1991), Korauš et al. (2015), Kapstein (1991) and Ključnikov (2016) require to analyse the impact of trade, financial and monetary integration and define economic security on transnational level. Many authors (Buzan, 1991; Buzan et al 1998; Grizold, 2000; Prezelj, 2008; Špírková et al., 2015) are dealing with the definition of security risks on regional, national and transnational level (Bicekova et al., 2015). Their goal is to identify the risks threatening the autonomy of the economic system.

Despite differences between the opinions about the status, conditions and factors of the economic security, a common feature can be identified - a demand for economic freedom. Its main components are defined as personal choice, voluntary exchange, competition of the markets, protection of individuals and property, existence of institutions and policies that enable voluntary exchange and protection of individuals and property.

Index of Economic Freedom by the Heritage Foundation and Economic Freedom of the World by Fraser Institute are presented as a reaction to differences in presented opinion. Their goal is to gain information that enables to compare the level of economic freedom in countries and to compare annual changes and trends. Various authors are dealing with this issue. De Haan a Sturm (2000), Easton a Walker (1997), Korauš (1999), Dawson (1998), Kotulič et al. (2015), Heckelman (2000) conducted a research to identify the existence and strength of the relationship between the economic freedom and some of the economic characteristics, most often the growth rate of the economy. They confirmed a relationship between the economic growth and economic freedom. This result can not be generalized. Weed a Kämpf (2002) did not confirm this result. They confirmed the influence the economic freedom has on the economic growth.

2 Methodology

Practical usefulness of the indicators of economic freedom in economic policy is verified by verification of the correlation of

data set about the economic freedom and data set of selected indicators that limit economic freedom of various economic entities in a significant way.

The selection of the economic freedom indicator is based on the results of previous analysis of their comparability. As there are not statistically relevant differences, we do not expect significantly different results when evaluating the correlation between the economic freedom and the selected macroeconomic indicators using any indicator of the economic freedom.

Respecting the opinion that economic security of the socio-economic system is determined by the situation of the economy, government institutions assure the protection of national interests, social orientation of the policy and sufficient defensive potential provided by internal and external development conditions and its level depends on economic freedom, we have chosen the index of Economic Freedom of the World by Canadian Fraser Institute to conduct our research.

The selected macroeconomic indicators should describe the fulfillment of the criteria of economic independence, the ability of independent development of the economic system and the level of its relations with the external environment: EFW assessed the relationship with the rate of economic growth, tax burden, net exports, government debt, inflation and unemployment. Verification of the character and strength of correlation is based on the correlation and regression analysis; i.e. on the quantification of their degree of dependence. Classification by Cohen (1998) was applied in quantification of linear correlation. Regression model is based on the least squares method.

Our findings are based on data published by Fraser Institute and The Heritage Foundation, Eurostat and World Bank. The data has been processed by MS Excel, Statistica 13 and Statgraphics.

2.1 Criteria of Economic Security and Economic Freedom

The situation in which neither the autonomy of the reference object nor the autonomy of its economic decision-making is compromised is an objective on the level of economic security. Black and Baldwin (2010), Buzan (2008), Šimák (2005), Kingsford (2011), Casey (2016) connect the security in any system mainly with utility, resistance and stability. Criteria of economic security are summarized in four points: 1. Economic independence, 2. Ability to develop independently, 3. Presence of institutional conditions and guarantees, 4. Level of integration, dependence and relation with the external environment.

Fulfilling the criteria can be objectively rated by indicators that describe the structure of the system and its subsystems, as well as their relationship, status, quality, functions, their place and role in this system. They enable the analysis of the real situation and level of the system security, recognise potential and real danger and its influence, recognise the causes of danger, recognise critical situations and occurrence of further risks and threats. There are two insights into the economic security – what is the assumption and what threatens the economic security.

These factors are important to define the socio-economic system:

- Sufficient sources for economic activities and for implementation of effective social policy,
- Efficiency of the financial and capital markets,
- The degree of economic openness non-threatening its autonomy.

This set of factors considers primary those factors that limit economic independence and the ability to develop independently from the state. Secondly, it also includes factors affecting the economic security of low-level economic entities. If the main criterion of the evaluation is the severity of impact of the risk factor on the reference subject then the internal economic, legal and social factors are the most important. The impact of external factors may be significant due to the opening-up processes,

globalization and internationalization. The most important ones are political and economic.

3 Results

Many methods have been developed and used to monitor and evaluate the economic freedom. In 1990 Block, Gwartney and Lawson introduced the first version of the Index of Economic Freedom. Then, in 1992 Fraser Institute presented results of the research of economic freedom in the publication Rating Global Economic Freedom. Even nowadays, Fraser Institute cooperating with other institutions evaluates economic freedom and the results are published in publication: "Economic Freedom of the World". The scientific work of Fraser Institute inspired Heritage Foundation analysts to elaborate similar methods to measure economic freedom on global scale. The first index of the economic freedom by the Heritage Foundation was published in 1995. Both indexes have become respected.

The Index of Economic Freedom by The Heritage Foundation covers 10 freedoms in four main fields – rule of law, limited government intervention, regulatory efficiency and open markets. Categorization of a country into any category of economic freedom represents an average value made up of partial freedoms. Each of them represents the same importance. Five levels of the economic freedom are differentiated due to total score: free – mostly free – average free – mostly non-free – non-free.

The Index of Economic Freedom of the World by Fraser Institute has been elaborated as an alternative to the method of The Heritage Foundation. According to this method the economic freedom should express how much the economy is directed by market principles. Key features are the right of personal choice, competition of markets, existence and availability of the competitive markets and protection of the rights and property of individuals. The five main index categories are: the size of government expenditure, legal system and property rights, sound money, freedom to trade internationally, regulation. 24 components including totally 42 variables are directly or approximately reviewed in these five categories annually. Rating within the sub-indices is realized in interval mode. Achieved score depends on the level of fulfilling the considered criterion.

The overall score of the economic freedom indicator is different and depends on the methodology applied. The observed differences between evaluations do not show the same results in different countries: in the group of the best evaluated countries (evaluation of the economic freedom in numeric terms is approaching the maximum, is in the range 85-100¹) regardless of the methodology applied, the total score is similar, even identical. Statistically significant difference between the values of the total score was not identified in this group of countries evaluated by Fraser Institute and Heritage Foundation, neither by comparing annual changes. Difference between the values in countries evaluated by total score as mostly free, average free or mostly non-free is statistically significant (Table 1).

Based on the analysis performed on a set of EU countries, we can find the same homogeneity of indices in most countries. We can see index difference by comparing their median and distribution function only in Czech Republic, Ireland and Luxembourg.

Table 1

Country	Index	Me	min	max	δ^2	$\Gamma_{IEF, EFW}$
EU 28	IEF	68,750	48,700	82,600	42,118	0,505
	EFW	73,739	52,400	85,000	21,250	
	T_{IEF}	0,268	-8,126	11,708	4,537	0,098
	T_{EFW}	0,127	-8,924	12,977	6,639	
Czech Republic	IEF	69,400	64,600	73,200	5,950	0,798
	EFW	71,800	65,400	75,300	7,025	

¹ EFW scale has been modified to 100 for analysis needs

	T _{IEF}	1,002	-3,582	2,786	2,260	0,196
	T _{EFW}	-0,407	-5,703	3,444	3,645	
Hungary	IEF	66,100	62,700	67,600	2,476	0,523
	EFW	72,000	65,600	73,600	3,765	
	T _{IEF}	-0,303	-2,326	4,321	2,615	0,067
	T _{EFW}	0,486	-1,250	5,183	2,419	
Poland	IEF	63,200	58,100	69,300	12,433	0,571
	EFW	69,600	61,400	74,200	12,736	
	T _{IEF}	1,222	-5,016	4,809	7,789	0,005
	T _{EFW}	1,140	-3,155	7,980	7,445	
Slovak Republic	IEF	67,200	59,000	70,000	11,196	0,829
	EFW	74,200	62,000	76,300	17,648	
	T _{IEF}	0,073	-3,597	9,492	10,600	0,001
	T _{EFW}	0,396	-2,252	9,209	8,620	

Source: own calculation based on The Heritage Foundation and Fraser Institute data

Both indices are linearly correlated in 13 countries (e.g. Bulgaria, Romania, Slovak Republic), while this correlation can be defined as great or even perfect.

Even the annual growth rate of indices is similar, considering the median and distribution function.

3.1 The Importance of EFW in Economic Policy

Index evaluation of economic freedom provides only a retrospective comprehensive status evaluation. If the evaluation is applicable by decision making and tools of national economic policy, the usefulness of information is low, the way of monitoring and evaluating the economic freedom may be considered deficient.

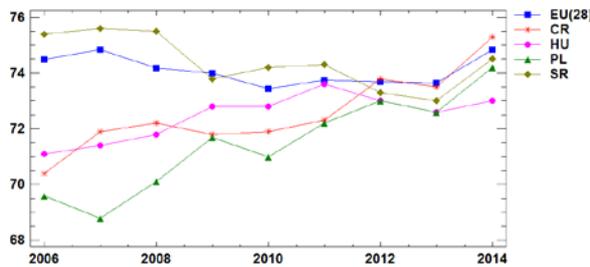


Figure 1 Time series of EFW in V4 countries

If the economic freedom is a consequence of the activity of economic entities of the system and the system itself, as well as of the conditions, then the analysis of the interrelationship between the values of the economic freedom indicator and the indicators that characterize the economic activity in a larger set of countries or the examination of the correlation between the historical values of the economic freedom indicator and the indicators that characterize the economic activity in a particular country are possible ways to monitor the economic freedom (Table 2).

Table 2 Economic Freedom of World in the context of macroeconomic characteristics

	EU (28)	Czech Republic	Hungary	Poland	Slovak Republic
EFW		7,53	7,30	7,42	7,45
GDP per inhabitant (€)	27 600,0	14 900,0	10 600,0	10 700,0	14 000,0
GDP growth rate (%)	1,6	2,7	4,0	3,3	2,6
Inflation (%)	0,8	2,5	3,4	0,5	-0,2
Export share to GDP (%)	42,7	82,5	88,7	47,6	91,8
Tax burden (% GDP)	40,0	35,3	35,7	31,7	28,8
Gross public debt (% GDP)	86,7	42,2	75,7	50,2	53,6
Unemployment (%)	11,6	6,1	7,7	9,0	13,2

Source: based on the data of the World Development Indicators 2016 and Fraser Institute: Economic Freedom of the World 2016

Looking for linear correlation between the EFW index and the single macroeconomic indicators (Table 3), we can assume that heterogeneous composition of the EU caused zero hypothesis confirmation. The EFW index linearly correlates with the public debt in all V4 countries. If the index is rising, the public debt is growing in the countries. The opposite happens in Slovakia. Tax burden and inflation do not linearly correlate with the EFW index.

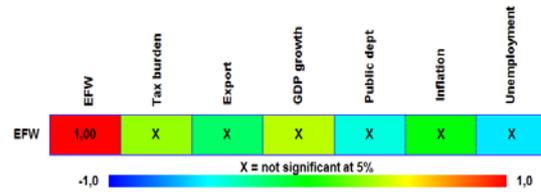


Figure 2 Correlation of the EFW index and the selected macroeconomic indicators in EU(28)

Table 1 Correlation of the EFW index and the selected macroeconomic indicators

per GDP	Coefficient	Tax Burden	Export	GDP growth	Public debt	Inflation	Unemployment
EU (28)	r _s	0,2941	-0,2000	0,3667	-0,4333	-0,0167	-0,5500
	p-value	0,4055	0,5716	0,2997	0,2203	0,9624	0,1198
Czech Republic	r _s	0,4202	0,8452	-0,2773	0,7866	0,0167	-0,2194
	p-value	0,2347	0,0168	0,4328	0,0261	0,9622	0,5349
Hungary	r _s	-0,1688	0,8152	-0,0672	0,8320	-0,4346	0,6456
	p-value	0,6331	0,0211	0,8492	0,0186	0,2190	0,0679
Poland	r _s	-0,4268	0,7615	-0,7667	0,7333	-0,2762	0,0669
	p-value	0,2274	0,0312	0,0301	0,0381	0,4348	0,8498
Slovakia	r _s	0,2500	-0,2667	0,8667	-0,7500	0,3000	-0,7167
	p-value	0,4795	0,4507	0,0142	0,0339	0,3961	0,0427

Source: author, processed according the World Bank data: World Development Indicators 2016

We can monitor the same trend in V4 countries, as well as in the EU by using linear correlation that does not depend on GDP or inflation. The development of the EFW index can be compared linearly with the V4 public debt.

The EFW index development can relate to the evolution of tax burden, exports, public debt and unemployment, using regression models. The EFW regression models with tax burden, export, public debt, and unemployment can be considered as high-availability models (Table 4).

Table 2 Regression models of the relation between the EFW index and the chosen indicators

regression model	Model	CD
EU (28)	EFW = 1,8984*TAX BURDEN	0,9998
	EFW = 1,85685*EXPORT	0,9905
	EFW = 11,1443*GDP GROWTH	0,1261
	EFW = -0,977635*PUBLIC DEBT	0,9771
	EFW = 29,0017*INFLATION	0,8345
Czech Republic	EFW = 7,9314*UNEMPLOYMENT	0,9783
	EFW = 2,16663*TAX BURDEN	0,9994
	EFW = 1,03212*EXPORT	0,9924
	EFW = 9,14372*GDP GROWTH	0,2216
	EFW = 1,93148*PUBLIC DEBT	0,9724
Hungary	EFW = 20,2795*INFLATION	0,6377
	EFW = 11,1112*UNEMPLOYMENT	0,9795
	EFW = 1,89971*TAX BURDEN	0,9991
	EFW = 0,880642*EXPORT	0,9969
	EFW = 4,57347*GDP GROWTH	0,3811
Poland	EFW = 0,966551*PUBLIC DEBT	0,9957
	EFW = 13,4875*INFLATION	0,7818
	EFW = 7,57548*UNEMPLOYMENT	0,9745
	EFW = 2,14441*TAX BURDEN	0,9971
	EFW = 1,7154*EXPORT	0,9949
Slovakia	EFW = 14,963*GDP GROWTH	0,8095
	EFW = 1,41182*PUBLIC DEBT	0,9964
	EFW = 21,076*INFLATION	0,7572
	EFW = 7,11111*UNEMPLOYMENT	0,9661
	EFW = 2,55515*TAX BURDEN	0,9989
Slovakia	EFW = -0,884317*EXPORT	0,9903
	EFW = 8,46*GDP GROWTH	0,4225
	EFW = 1,70188*PUBLIC DEBT	0,9414
	EFW = 21,8377*INFLATION	0,6831
	EFW = 5,68731*UNEMPLOYMENT	0,9842

Source: authors, own calculation

4 Conclusion

The importance of economic security is confirmed by number of theoretical and empirical analyses conducted to determine criteria and factors of economic security. Their conclusions are influenced by the level of economic and social development and economic freedom in the selected countries.

Our main objective was to prove the existence of the Index of Economic Freedom and its importance regarding the economic policy. Generalization of the evaluation of the relationship between the Index of Economic Freedom and the macroeconomic indicators by group of countries meeting the criteria of economic freedom in a comparable manner has become a subject of interest in our analyses.

A comparison of EFW values in a set of EU countries confirms limited practical applicability of the EFW indicator. Variability of the values of subindices and the total score of the Index of Economic Freedom has an important impact on the identification of the mutual relationship between the Index of Economic Freedom and indicators characterizing source sufficiency, public sector, autonomy and the economic stability.

We did not find an indicator that can be generally used to predict the trend of the development of economic freedom. By linear regression, no relativity of EFW index on GDP or inflation was defined. In V4 countries EFW index linearly correlates with public debt. Tax burden and inflation are not linearly related. Therefore, we can state limited usefulness of the economic freedom indicator in practical economic policy. Comparing its value with the values of macroeconomic indicators is considered to be an autonomy criteria and describing the objectives of the socio-economic system seems to be a solution for this problem. In each case, prediction of future economic freedom requires identification of indicator that is the most closely related to the EFW characteristics.

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