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Economic Theory

Iryna MARKOVYCH

ECONOMIC FREEDOM AND ECONOMIC DEVELOPMENT: THEORETICAL-EMPIRICAL RESEARCH OF CONNECTION

Abstract

The article analyzes the existing theoretical and empirical approaches to the concept of economic freedom and its importance in the evolution of the country. The results of the identification of dependencies between indicators of economic freedom of the countries and individual indicators of their economic development were discovered. It was found the typical direct links between the expansion of economic freedom and the welfare of the population for the majority of the countries.

Key words:

Economic freedom, economic development, economic growth.

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Markovych Iryna, Cand. of Economic Sciences, Ternopil Ivan Puluj National Technical University, Ukraine.

The establishing of the problem in general and its' links to important scientific and practical tasks. Given the current dynamics of change of configurations of exogenous factors in the development of national economy, the ambiguity of their impact on certain areas of economic activity, contradiction of connection between them globally, the growing importance goes to the research of the indicators of individual performance of the condition of the country and the search for the connection between them and the dynamics of the results of operation of the national economy.

One of the features of modern institutionalism and priorities of the society's development is freedom in all its forms, including economic freedom. The high level of economic freedom as the immanent quality of a liberalized society is formed by the combination of factors of macro and geo-levels that are very unstable over time. Due to this feature, tracking fluctuations of values of qualitative and quantitative indicators of the global economy is a task for researchers at all levels who are pursuing the goal of forming the efficiently functioning economic systems.

Due to the ambiguity of the findings from studies of effects of expanding economic liberties, the debates in this area of economic research are going on with all the greater enthusiasm, as finding the most suitable method for each country and vector management of national economy should be based on clear theoretical and empirical foundations.

The analysis of publications on these problems. Today there are many scientific researches, where the authors have directly linked the growth and prosperity of the country with a certain level of economic freedom or with strong influence of the state. For example, studies by J. Scully (Scully, 1988, Scully, 1992), R. Barro (Barro, Sala-I-Martin, 1991), K. Sala-i-Martin (Barro, Sala-I-Martin, 1991) show that well-defined property rights, state policy, which contributes to the protection of these rights and the rule of law, and economic freedom is the core of the state.

According to some Australian authors (Doucouliagos, Ulubasoglu, 2006), regardless of the sample countries, the level of economic freedom and the level of aggregation, it has founded persistent positive association between economic freedom and economic growth. Also, they have shown that economic freedom has a much greater impact on economic growth than political freedom, which accentuates scientific attention to trends and opportunities to expand economic freedom at all levels.

Important plane, which addresses the consequences of achieving a certain level of economic freedom of the state, is the enrichment of the population. N. Berggren (Berggren, 2003) showed that with high levels of economic freedom

in a society enriched by all groups equally. If the low level of economic freedom – it would benefit only a few layers and can be amplified uneven development. Also Grubel H. discovered links between the degree of economic freedom (calculated by the method of Fraser Institute) and the level of income, their growth, reduction of unemployment and human development (Grubel, 2008). The same result was reached by Henke, H., Walters S. (Hanke and Walters, 1997) and Leschke M. (Leschke, 2000).

A study of the nature of the impact of economic freedom on economic growth is also interesting, especially the justification that economic freedom (or changes in its values) directly and indirectly may affect the final outcome of the correlations. In particular, researchers validate that economic freedom can exert both direct impact on growth and, also, indirect – in countries where economic freedom is greater (or where its change is more noticeable) rates on investment are higher (Gwartney et.al., 2004, Dawson, 1998). Furthermore, economic freedom produces an indirect positive effect on economic growth through physical capital.

Some researchers (Bhagwati, 1998) believe that «... economic freedom has a favourable impact on economic development, as international experience of the past fifty years confirms the fact that the countries which have more developed market institutions formed more open policy on foreign trade and investments tend to thrive. Conversely, those that are focused solely on domestic markets, coupled with significant state regulation of the economic processes, exhibit poor growth rates».

However, for objectivity, it should mention those studies that showed no statistically significant relationship between indicators of economic freedom and growth. For example, J. Gwartney, R. Lawson and R. Holcombe (Gwartney et al., 1998) concluded that economic growth can not be precisely predicted from the available extensions of economic freedom. A similar opinion is shared by some other researchers (Wu and Otto, 1998, Heckelman, 2000).

Ambiguity of the nature and density of relations is partly explained by the presence of a huge number of interrelated variables that affect economic growth. This causes instability results – due to certain factors included in the model, the time frame and sample of the countries, weight rating of individual variables can vary significantly.

Among national researchers of the state of economic freedom we should name B. Heyets (Heyets, 2010), A. Chukhno (Chukhno, 2001), I. Bulyeyev (Bulyeyev, 2005) and others who indicate that limiting the economic freedom to only domestic level is illegitimate and emphasize the importance of its manifestation in all spheres of life of the individual – social, political, spiritual, etc.

Taking into account the growing tension of the global environment, the belief that economic methodology should take a central system characteristics of man as

the main subject of economic processes, is becoming more powerful. In this context, we should mention Erich Fromm (Fromm, 2003), who in his book «Escape from Freedom» pointed out that «...human history – is a history of increasing individualization and yet more and more individual freedom», the essence of individualism is to ensure that the development of individual freedom is the «…the ultimate goal, that can not be subordinated to other allegedly more worthy goals».

However, a large number of theoretical and practical studies are still not able to build unambiguous specification of factors influencing the growth of the country in a modern economic theory, so it requires further work in this field.

The wording of goals of this article. Given the controversy regarding the effectiveness of specific tools and instruments of macroeconomic policy, the existing theoretical and empirical researches should extend towards identifying patterns of change in the intensity and nature of the relationship between indicators of economic freedom and individual indicators of economic development.

The main material with full justification of obtained scientific results. In recent years the attention of scholars to the economic freedom of the individual, society and the country has increased significantly. The importance of economic freedom of the country as one of the determinants of modern progressive society comes from a number of theoretical and practical aspects of the implementation of public policy and also principles of functioning of the country in the system of the international economic relations.

Economic freedom is an indicator the economy's ability to market, which is a measure of availability of functioning on voluntary basis, at the same time it is a partial measure of the degree of efficiency of the legal system; it displays the results of the fiscal arm of government regulation, etc.

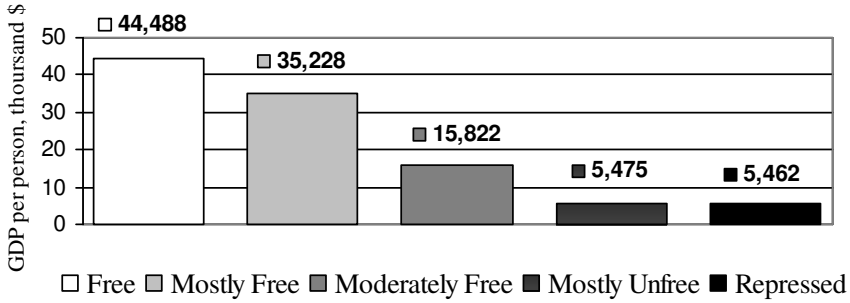
Today the question of determining the optimality of economic freedom acquires new aspects, given the strengthening of international relations and regionalization of world economy. Within the economic theory the researchers are developing concepts that take into account the ideological confrontation of approaches to public administration as the leading factor of economic growth and the free activity of the market participants, that is one of the research areas of the of economic freedom of the country.

The most commonly used gauges of economic freedom of the country, which are used in researches, are the two indexes – Index of Economic Freedom, which is calculated by the American Research Institute the Heritage Foundation, the other – the Index of Economic Freedom in the World, published by the Fraser Institute.

The Heritage Foundation shows patterns in the relation between the economic freedom and the well-being indicators, including GDP per capita (Figure 1), which are important in understanding of the relationships between the dynamics economic freedom and development of the country.

Figure 1

GDP per capita of the countries in terms of the size of the Index of Economic Freedom (according to the Heritage Foundation)



Source: author's calculations based on data of Heritage.org

Despite the differences in the calculation of the index of economic freedom between the Heritage Foundation and the Fraser Institute, the latter made similar findings: in countries with greater economic freedom GDP per capita is higher than in other states.

One of the problems identifying the link between the factorial and effective parameters is the correct choice of the parameters of the study model. As for the Index of Economic Freedom, from a certain point of view, they are quite strongly aggregated, which in some cases makes them not quite adequate for analysis and forecasting (De Haan and Sturm, 2007).

Some researchers propose to seek out dependencies not just between the absolute value of the index of economic freedom and individual indicators of the national economy, but also to conduct disaggregation of this indicator and to identify what impact makes each of the components of economic freedom separately.

In the investigation we have carried out the analysis of the direction and intensity of the effects of absolute and relative values of the Index of Economic Freedom of the country on the size of GDP, GDP per capita and changes in these standards. The main objective of the research was to identify the direct connection between the Index of economic freedom and individual indicators of the country's development. Versatile empirical analysis of the connection character makes it possible to justify a position that balances the theoretical discussion issues aspects.

For the calculation, the Index of economic freedom in the world was used (Economic freedom in the World) (EFW), published by the Fraser Institute in Canada. Integral index measures the degree of economic freedom in five major areas: the size of the state (EF1), legal system and security of property rights (EF2), sound money (EF3), freedom to trade internationally (EF4), regulation (EF5). These 5 areas are divided into 24 components, which in turn also consist of several indicators.

In general, to calculate the index data for 42 variables are used. Each variable is assigned a value from 0 to 10. Their average value determines the level of each component. Assessment area is calculated as the average of all components.

Gradation of the countries is carried out according to the scale:

- a high level of economic freedom (EFW ≥ 8);
- above average level of economic freedom (6 ≤ EFW <8);
- below average level of economic freedom (4 ≤ EFW <6);
- low level of economic freedom (EFW <4).

For this study we used panel data as cross-sectional, makes it impossible to draw conclusions about long-term trends and dependencies. In addition, using panel data, we can expand the sample of observations, allowing us to achieve a high level of adequacy of econometric models.

Evaluation of the relationships between the Index of Economic Freedom and GDP per capita was carried out according to the data of 112 countries over a 12-year period (2000–2011). Descriptive statistics of the input data is given in Table 1.

The equation between EFW and the level of GDP per capita is calculated (linear regression $y = 10144x - 55902$ (R^2=0,3313); exponential dependence $y=0,0083x^{6.9448}$ (R^2=0,4449) is an empirical confirmation of theoretical assumptions regarding large amounts of GDP per capita in countries with higher levels of economic freedom.

In order to detect differences in the type of relationships between economic freedom and the level of GDP per capita for countries with different levels of it, it's advisable to divide the entire set of data for the level of the index into 2 groups – the counties with an index of economic freedom in the range [2.5- 5, 5] and [5.5- 10.0] (according to gradation of Fraser Institute) and to construct the correlation field (Figure 2 and Figure 4).

For the countries with low and lower than average level of the Index of Economic Freedom, connection between this index and GDP per capita is nearly invisible, which can be explained, firstly, by the insufficient sample data to dem-

onstrate a clear trend dependency (285 surveys), secondly, by the insufficient correlation associated with the presence of provisional 3 zones, countries in which differ in the priorities of state policy (Fig. 2).

Zone I includes data for countries for which the low level of economic freedom is combined with an extremely low level of GDP per capita. This group includes Zimbabwe and Myanmar, which belong to the least developed countries in the world with serious economic, social and political problems.

Table 1

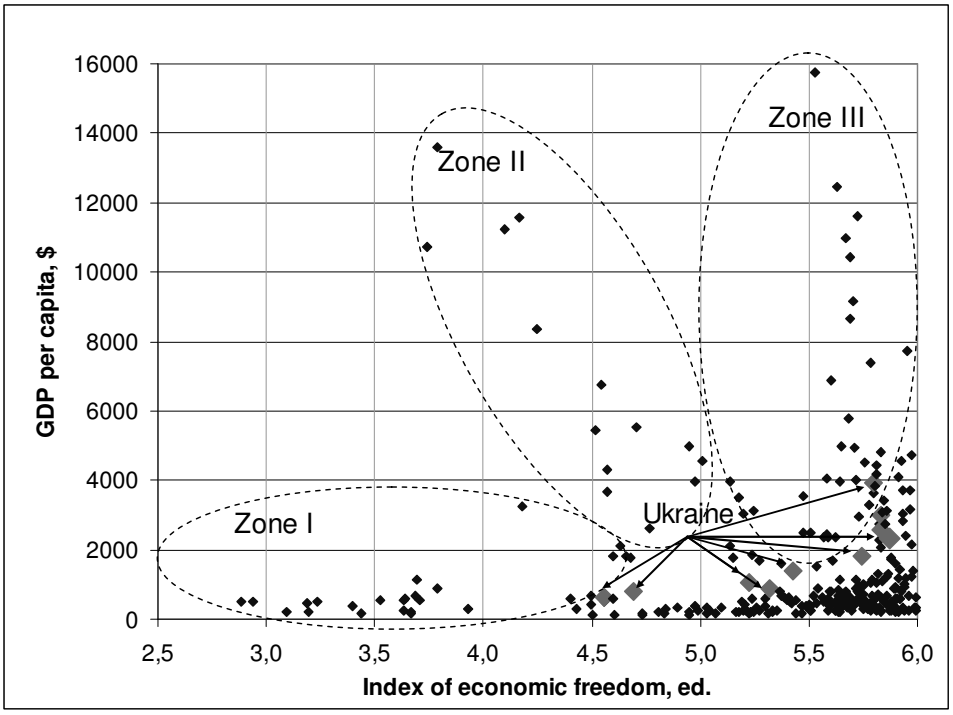
Descriptive statistics of the input data

Index	Maximum	Minimum	Average	The standard deviation	Number of studies
The Index of Economic Freedom, ed.	8.74	2.88	6.74	0.96	1344
Change in the index of economic freedom compared to the previous year,%	41.23	–20.87	0.37	3.42	1232
The Size of the State (component 1), ed.	9.93	2.36	6.31	1.44	1344
Legal System and Security of Property Rights (component 2), ed.	9.62	1.45	5.87	1.95	1344
Sound Money (component 3), ed.	9.89	0	7.96	1.61	1344
Freedom to Trade Internationally (component 4), ed.	9.57	0	6.98	1.50	1344
Regulation (component 5), ed.	9.36	3.31	6.59	0.94	1344
GDP per capita, $	118550.5	122.18	12518	16980.44	1344
Change in the GDP per capita, %	29.14	–17.37	2.33	4	1344

Source: author's calculations based on data of Fraser Institute.

Figure 2

Relationship between Index of economic freedom and the level of GDP per capita for countries with low and below average level of the Index of Economic Freedom



Source: author's calculations based on data of Fraser Institute.

In zone are the countries, for which the size of GDP per capita is high, but the level of economic freedom is low (Venezuela, Algeria). These countries show high rates of economic development solely through commodity exports (90% of exports of oil goes to Venezuela, Algeria ranks 4th in the world in proven gas volumes, besides country has large deposits of phosphates, lead and iron ore), considering all these, changes in the expansion of economic freedom are invisible.

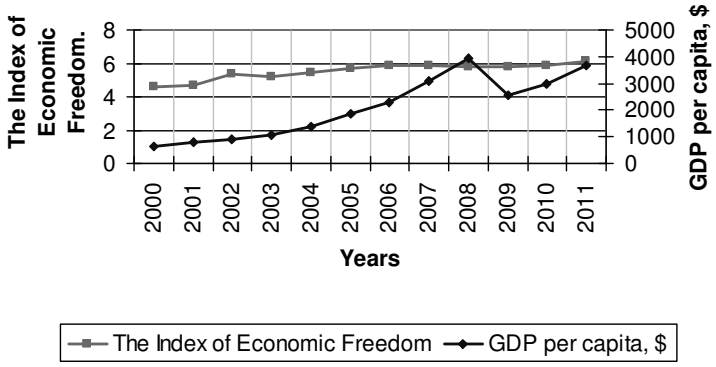
In zone III are the countries that have large volumes and a large proportion of state revenue is generated by exports of natural resources, however, measures of expanding of economic freedom limits are observed. (e. g. Argentina,

Gabon, Ecuador which is a major exporter of oil and wood). This approach to the state management is more favourable from the point of view of long-term growth in comparison to zone II, as the socio-economic climate of the country largely determines the possibility of expanding investment flows, more dynamic accumulation of financial resources, etc., which may eventually stimulate economic growth in general.

Using data on the value of the Index of Economic Freedom for Ukraine during the 11 year period, it should be noted that it has increased by 34% from 2000 to 2011. In 2000 Ukraine belonged to the countries with below average economic freedom, over the following years there was a positive trend and according to the most recent data for Ukraine the typical level of economic freedom was above average (Fig. 3).

Figure 3

Dynamics of Economic Freedom Index and GDP per capita in Ukraine, 2000–2011



Source: author's calculations based on data of Fraser Institute.

As for GDP per capita, this figure rose steadily until 2008, reaching its maximum at the point of U.S. $ 3914, then there was a sharp decline from the gradual recovery in the coming years.

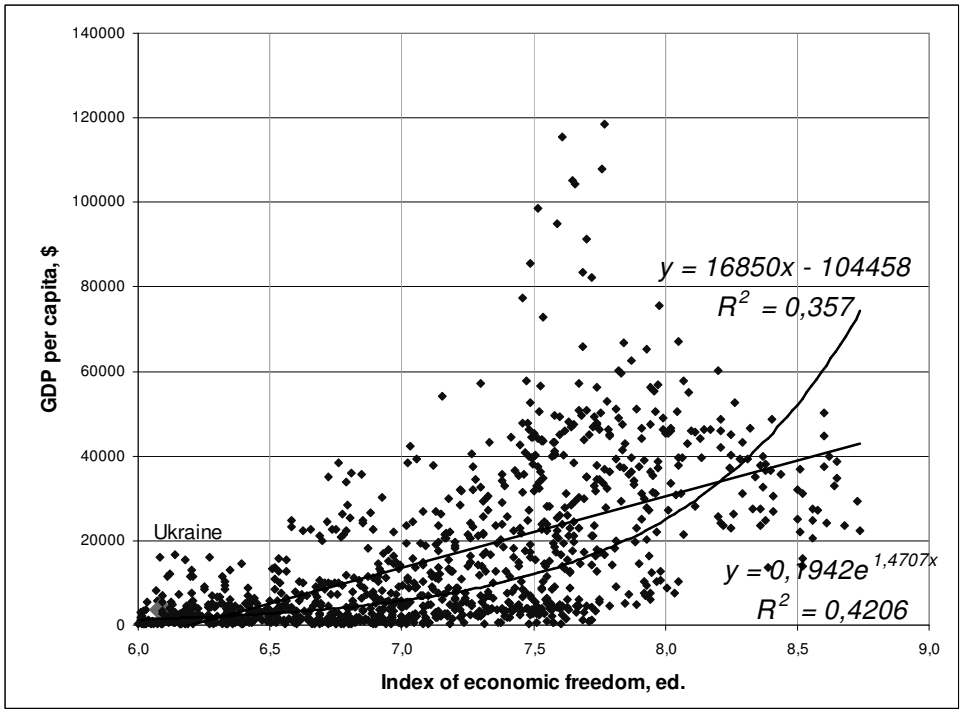
General dynamics Ukraine to the data is clear reflection of the empirical relation between the correlation index of economic freedom and GDP per capita.

When eliminating from the studies the countries, the success of which is due to the use of raw factor in international trade (among countries with low and lower than average level of economic freedom – Venezuela, Algeria, Argentina, Gabon, Ecuador), a linear relationship between the Index of Economic Freedom and GDP per capita is described by the following regression equation: $y = 327{,}2x - 922{,}04$ ($R^2 = 0{,}0624$), i. e. with increasing value of the Index of Economic Freedom, GDP per capita is also increasing.

Countries with the level of the Index of Economic Freedom high and above average show a closer relationship between the size of the index and GDP per capita for both linear relation and exponential (Figure 4).

Figure 4

Relationship between the Index of Economic Freedom and the level of GDP per capita for countries with high and above the average level of the Index of Economic Freedom



Source: author's calculations based on data of Fraser Institute.

Thus, we can conclude that the expansion of economic freedom is directly correlated with GDP per capita, and in countries which are characterized by large values of the Index, this dependence is more prominent.

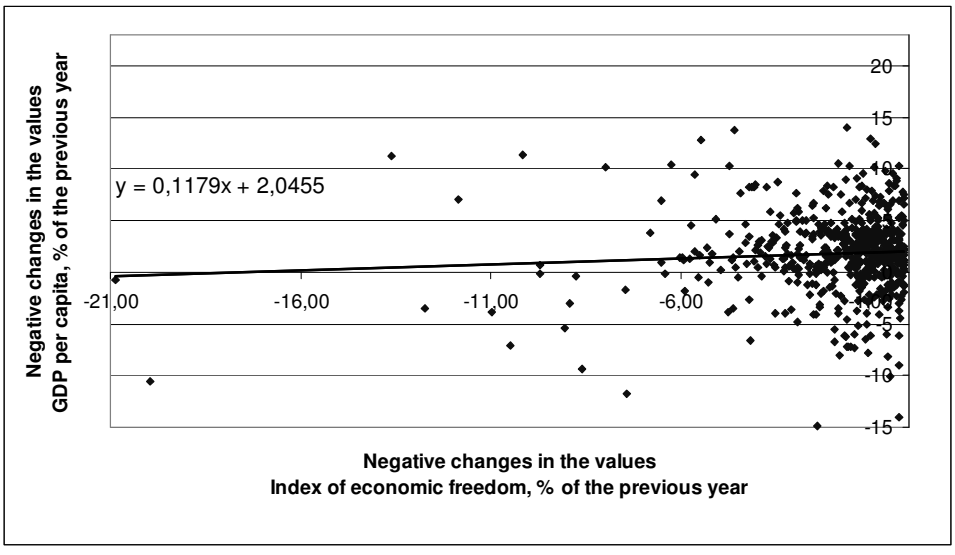
The analysis of a wide range of research on this subject, we can distinguish a difference in methodological approaches to identify the link between economic freedom index and some of the resulting performance development. The most significant point of dispute among scholars is ambiguous statements about the priority of application in models of dependence as a factor of variable absolute or relative Index of Economic Freedom.

Having conducted a study of the link between the change in the Index of Economic Freedom and the change in GDP per capita, it was found that in terms of the correlation fields are closely grouped around the range [–5, 5] and the change in the index [–10, 10] changes in GDP, which makes it harder to highlight any patterns in dependences.

In order to demonstrate the visual differences and empirical relations between the studied qualities, the range of change in the index of economic freedom was divided into two intervals: negative changes [–21, 0] and improvements [0, 42] and Corresponding Correlation field (Fig. 5 and Fig. 6).

Figure 5

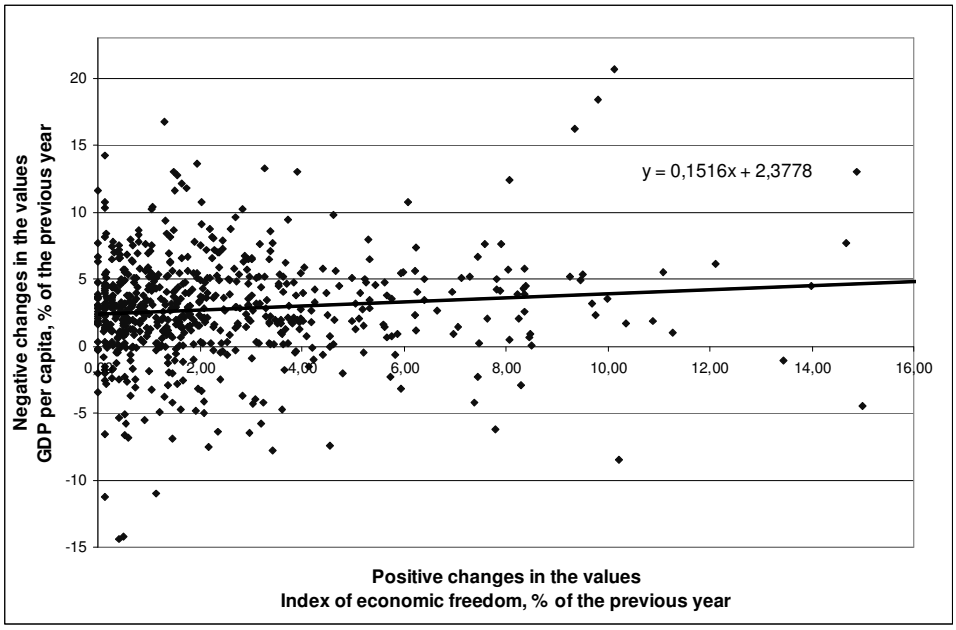
Relationship between negative changes in the values Index of economic freedom and the change in GDP per capita



Source: author's calculations based on data of Fraser Institute.

Figure 6

Connection between positive changes in the values of Index of economic freedom and the change in GDP per capita



Source: author's calculations based on data of Fraser Institute.

For a range of adverse changes in the index, one can identify certain patterns. In the leading countries in terms of commodity exports (Myanmar, Ecuador, Algeria, Nepal, Argentina, Mali, etc.) even the decrease of economic freedom does not stop the growth of GDP per capita. For the majority of countries, reducing the Index of Economic Freedom by 5–6% is combined with a lack of increase of GDP per capita by more than 5–7%

Positive changes in the value of the Index of Economic Freedom correlate more noticeably with the change in GDP per capita (Figure 6), which is an empirical confirmation of the conclusion of some researchers obtained from the analysis of the sensitivity models of dependences, economic growth has a greater impact than an absolute value of economic freedom, especially, the positive changes in these values (Gwartney et al,, 1998, Adkins and Andreas, 2002).

Calculations show that the relationship between the Index of Economic Freedom and the change in GDP per capita with a certain time lag (1 year, 2 years and 3 years) changes (Table 2).

Table 2

Relationship between the Index of Economic Freedom and the change in GDP per capita

Relationship	The regression equation	R^2
EFW and change in GDP per capita	$y = 0{,}1389x + 3{,}6909$	0,0137
EFW and change in GDP per capita (with a time lag 1 year)	$y = 0{,}2267x + 2{,}2762$	0,0388
EFW and change in GDP per capita (with a time lag 1 year)	$y = 0{,}1403x + 2{,}3828$	0,0163
EFW and change in GDP per capita (with a time lag 1 year)	$y = 0{,}1019x + 2{,}3695$	0,0092

Source: author's calculations based on data of Fraser Institute.

Arguably, the Index has a closer connection with the growth of GDP per capita with a time lag of 1 year than less than one year or a larger time gap . That means that the economic effect of the expansion of economic freedom in many cases can be observed not immediately, but at least after a year.

An important element of the research undertaken in the field of investigation and study of a causal relationship between economic freedom and economic growth indicators, are the conveyance of appropriate tests of sensitivity and causality. The most common calculation methodology is to conduct Granger tests, the result of which not only the direction of dependency, but also the presence of the reverse effect is detected.

Some researchers point to the exogenous index of economic freedom with respect to the parameters of growth (Adkins et al., 2002), although in contrast, there are other results of similar studies (Farr et al., 1998), indicating the existence of a causal relationship between economic freedom and development.

The main issues that arise in the analysis are the following: the correlation between economic freedom and economic growth due to the influence of freedom on the development of the state or the country's development, promotes the expansion of economic freedoms, or perhaps another third factor affects these

values. Obtained by the economist John Dawson (Dawson, 1998) results indicate that the increase in the overall level of economic freedom leads to growth, while changes in freedom go together with growth. Amongst the main elements of economic freedom that are capable of accelerating growth is a free implementation of market mechanisms and instruments of protection of property rights.

These results emphasize the importance of economic freedom in general and the role of free markets and property rights, particularly in the long-term economic prosperity.

Findings from this study and recommendations for further research in this area. Balancing the degree of state intervention in the development of the national economy with the effect of market regulators is a crucial problem in most countries. Tracing patterns in the relationships between trends in value of the index of economic freedom and individual indicators of countries' development allows us to identify possible sources of intensification of economic growth.

At present, a variety of studies formed the link between economic freedom and economic growth, but the results are far from conclusive. In spite of the existence of numerous gauges of vectors that measure the impact on economic growth, economic theory has not yet formed a comprehensive list of factor traits that conclusively affect the level of development.

With this in mind, the importance of theoretically grounded and empirically proven relationship of economic freedom of the country with its other characteristics was developing in recent decades, which led to carrying out numerous econometric calculations. As an extension, studies have been conducted to determine the links between the Index of Economic Freedom (its' variation) and GDP per capita (its' variation), which resulted in the findings that there is a direct link in the relationship between the absolute and the relative value of the index of economic freedom and absolute and relative GDP per capita. This should be considered as the basis of approaches to Ukraine's development.

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