THE INSTITUTIONAL BARRIERS' IMPACT ON THE ECONOMIC GROWTH IN THE INTERNATIONAL ECONOMIC INTEGRATION

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Abstract. The purpose of the paper. In our study we try to assess the causality link between a number of the international economic integration politico-economic factors, institutions and basic production factors with the growth of the economy. We form a sample of 18 post-socialist countries, including Central and Eastern Europe (CEE) countries-members the European Union, and the rest of CEE non-members countries and CIS countries, who have not acquired the membership in the EU, including Ukraine. The time period of our study is 23 years, starting from 1991 – the year of independence of Ukraine till 2013 – the last year for which statistics are published for our group of a corresponding list of indicators that make up our interest. In the estimating equation we use econometric analysis panel data by least squares method with fixed effects transformation to eliminate countries' heterogeneity. In the study we use such determinant of the institutions quality as the Index of Economic Freedom (Heritage Foundation), and we investigate various components of the Index of Economic Freedom (freedom of ownership, freedom of trade, freedom from corruption, freedom of investment). We assume that institutions towards freedom of foreign trade and reducing corruption will have a greater effect on the economy of the investigated countries. It is advisable to attach to the international economic integration politico-economic factors the indicator of foreign trade taxation as a measure of tariff barriers, international aid programs of the foreign donors and the European institutions to assess their role for the economic growth of the countries surveyed, and we take into account the capital and the labor as the basic factors of production.

Methodology. The methods of synthesis, logic, abstraction and analysis are used in the study. On a sample of 18 post-socialist countries (CEE and CIS) for the period of 23 years (1991-2013) we had conducted the econometric panel analysis by the method of least squares with fixed effects transformation method, in order to avoid the heterogeneity across countries. The statistics of World Bank, IMF, OECD is used in the study.

Results of the survey showed that the specifications test results confirm the positive role of the international aid programs to support the growth of GDP, in addition, we can assume the existence of positive effects simultaneously improving institutions and the positive effect of the external trade determinants.

Practical implications. This study makes it possible to confirm that in terms of economic policies, countries that are in the integrating process should focus their efforts on improving the institutions in the trade area.

Value/originality. The results of both models provide a better understanding of the impact of political, economic and institutional factors on the economic integration process of Central Eastern Europe countries and Commonwealth of Independent States. Further research in this area will help to reveal the problem in more details.

Key words: economic growth, international economic integration, institutional barriers, politico-economic barriers, index of economic freedom, factors.

JEL Classification: F020, F150

1. Introduction

The term "integration" (from Latin. Integration) – replenishment, the association of some individual parts, states in interstate region, economic complex.

In the "New Economic Encyclopedia" integration is defined as "interconnectivity, system connection into entirety, generation of some relations, convergence, union organizations, industries, regions or countries".

International economic integration – the process of the state economic cooperation, leading to the convergence of economic mechanisms, in the intergovernmental agreements form and concerted intergovernmental regulatory authorities (Kireev, 1997).

P. Lutsyshyn and S. Fedonyuk determine international economic integration as the various forms of short- and long-term economic cooperation – from trade to the

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sovereignty transfer to the common institutions – between politically independent states on the international agreements basis (Lutsyshyn, Fedonyuk, 2004).

M. Arah determines integration as the process of creating the optimal structure of the international economy and free coordination and unification between different elements (Arah, 1998).

Another definition of international economic integration indicates it as an " interpenetration process of the different countries' economies of and the economic system formation of the highest order, characterized by the individual subsystems consistency"(Mokiy, 1999).

One can say, that the integration process development requires a number of objective and subjective conditions: socio-economic homogeneity, economic and geographic proximity of the countries, the availability of high and close levels of economic development of the states that are in the integration process.

Thus, the preconditions of international economic integration can be considered as the proximity of economic development of the states, their geographic proximity, the commonality of economic and other problems etc.

The international regional economic integration efficiency is achieved by:

1) eliminating of the discrimination and barriers between the member countries of integration associations in the movement of goods and services, capital, labor and entrepreneurship;

2) the standardization and the unification of the industrial and commercial areas;

3) the dynamic effect due to the expansion of the market and economies of scale;

4) providing a sufficient level of the competition.

2. Barriers in international economic integration process

R. Baldwin in his study described four methods of the non-tariff barriers measuring. R. Baldwin considered the implementation of political factors of the trade protection by the state, while A. Hilman (1982), S. Madgee, V. Brock and L. Young investigated how political factors can affect on trade (Baldwin, 1989, Hilman, Madgee, Young, 1989). In the research "Declining industry and the political motives of protectionism" (1982) A. Hilman highlighted the trade protection benefits with regard to political influence on state regulation of the economy. Next work of A. Hilman was devoted to the political decision in the selection of the protectionist policy tools (Hilman, 1985).

Edward E. Leamer is one of the leading researchers of the trade barriers effects. In some studies that E. Leamer began in 1986 and submitted the study in more details in 1990, the theoretical foundations of empirical models are described and the application of econometric models to calculate the effects of trade barriers are covered (Leamer, 1986).

In 1990 E. Leamer determined the trade barriers effects based on the import barriers differences. Although the studies of E. Leamer were detailed but not without drawbacks, one of these was the inability to determine the volume and structure of mutual trade. That is, this model can be used to determine the net trade flows but empirically the trade barriers' impact on gross imports requires some additional investigation. Consequently, an empirical model of E. Leamer is confirmed only by free theoretical assumptions.

J. Lee and F. Swagel continued the investigation of trade barriers within the theory of monopolistic competition. They explored the impact of trade barriers in more countries than did Harrihan. However, they focused more on the political and economic determinants of non-tariff barriers than on the impact of protective measures (tariff and non-tariff) on the trade flows (Lee, Swagel, 1995).

Jong-Wha Lee and Phillip Swagel in his book "Trade barriers and trade flows between countries and sectors" noted that the effectiveness of free trade model and definition of trade barriers usually depend on political and economic reasons (Lee, Swagel, 1994).

The investigation of J. Lee and F. Swagel was based on a study of P. Krugman and E. Helpman, on the model of monopolistic competition, where the goods are not perfectly interchangeable and may differ by country of origin (Krugman, Helpman, 1985). The next assumption is similar tastes and preferences of consumers and the same consumption of each product in different countries. The model of monopolistic competition allows to predict the volume of trade in a situation where there are no trade barriers. The Helpman-Krugman model includes different measures of trade policy and points to the protectionism effects and welfare, production and trade flows of the country. However, using this model one can not determine whether the presence of trade barriers such as tariffs, non-tariff barriers will cause decrease in trading volumes.

In general, the international trade barriers are devided conditionally into two groups, the independent and the singled out by the way of the impact on trade flows. The first group – are different types of natural barriers, above all, the geographical distance between countries, the transportation infrastructure etc. However due to the enhancing globalization and technological progress and tehnological impact of these barriers on the value of trade flows will decrease. The second group consists of various tools of foreign policy created by governments and directly affect the import level and export of goods. This group includes of measures of tariff and non-tariff regulation of foreign trade.

3. Survey methodology

In our study we try to assess the causality link between a number of the international economic integration politico-economic factors, institutions and basic production factors with the growth of the economy. We form a sample of 18 post-socialist countries, including Central and Eastern Europe (CEE) countries-members the European Union, and the rest of CEE non-members countries and CIS

countries, who have not acquired membership in the EU, including Ukraine. The time period of our study is 23 years, starting from 1991 – the year of independence of Ukraine to 2013 – the last year for which statistics are published for our group of a corresponding list of indicators that make up our interest. In the estimating equation we use econometric analysis panel data by least squares method with fixed effects transformation to eliminate countries' heterogeneity.

In the study we use such determinant of the institutions quality as the Index of Economic Freedom (Heritage Foundation), and we investigate various components of the Index of Economic Freedom (freedom of ownership, freedom of trade, freedom from corruption, freedom of investment). We assume that institutions towards freedom of foreign trade and reducing corruption will have a greater effect on the economy of the investigated countries.

It is advisable to attach to the international economic integration politico-economic factors the indicator of foreign trade taxation as a measure of tariff barriers, international aid programs of foreign donors and the European institutions to assess their role for the economic growth of the countries surveyed, and we take into account the capital and the labor as the basic factors of production.

4. Findings

We use two log-linear specification of the model: basic and advanced.

The basic log-linear data we present in equation (1), which relates economic growth, which we measure as GDP in constant US dollars in 2005 ($\ln gdp_{it}$) in logarithms, of each of the 18 postsotsialistic states from our group for the appropriate year t, such factors such as:

1. Capital ($\ln k_{it}$) in logarithms, which we define as the accumulated total (private and public) capital stock. To the capital stock of each of the current year we include the capital stock from previous years and generated gross fixed capital last year (in constant US $ 2005), taking into account amortization rate 5%.

2. Workforce ($\ln l_{it}$) in logarithms, which we define as the entire labor force that includes people aged 15 and older and are the economically active population.

3. Institutions ($\ln i_{it}$) in logarithms, which we measure as the Index of Economic Freedom – product development Heritage Foundation and Wall Street Journal, and alternatively since disaggregated components we use this index as: Freedom of ownership ($\ln i\_pr_{it}$), Freedom of trade ($\ln i\_tf_{it}$), Freedom from corruption ($\ln i\_cor_{it}$), Freedom of Investment ($\ln i\_if_{it}$)

$$\ln gdp_{it} = a_1 \ln k_{it} + a_2 \ln l_{it} + a_3 \ln i_{it} + c_i + u_{it}, \qquad (1)$$

where i and t indicate countries and time periods, respectively, c_i – is unobserved fixed (by country) effect and u_{it} – idiosyncratic errors.

Extended model covers a wider range of political and economic factors of the international economic integration, affecting economic growth, which we measure

as GDP ($\ln gdp_{it}$) in logarithms for 18 post-socialistic countries i with the corresponding year t. Indicators in addition to the base model (capital, labor and institutions) we include in the analysis the following indicators for the post-socialist countries:

- Imports of goods and services ($\ln imp_{it}$), which is calculated as imports of goods and services in value of all goods and services received from the rest of the world.

- Exports of goods and services ($\ln exp_{it}$), which is calculated as exports of goods and services in value of all goods and services provided by other countries. These include the cost of goods, freight, insurance, transport, travel, royalties, license other services such as communication, construction, financial, information, business, personal and government services.

- International exchange of intellectual property rights ($\ln ipr_{it}$), as the amount of payments from usage of foreign intellectual property rights abroad and the receipt of payments from abroad, the use of national intellectual property rights by foreigners.

- Foreign direct investments in relation to GDP ($\ln fdi_{it}$), a percentage that is a net inflow of investments with the right to influence the management of assets purchased (10 percent or more shares) in the company, which works in a country other than the investor's country. This is the sum of equity capital, reinvestment of income, the other long-term assets and short-term capital as shown in the balance of payments reporting period divided by country and GDP.

- Taxation of International Trade ($\ln ttax_{it}$), includes import and export duties and taxes, profits of export or import monopolies, exchange of charges in relation to the total taxes in the country in percentage. We include this figure in our equation as a measure of the tariff barriers in the foreign trade, which is one of the aspects of international economic integration of the countries surveyed.

- International assistance from external donors and European institutions in the US currency ($\ln aid_{it}$). We incorporate this indicator into our equation as a measure of the level of involvement of the country to international aid programs, which is one of the political and economic aspects of international integration of the countries surveyed.

We also believe that in many cases the factors studied international economic integration alone may not be sufficient to create a significant effect on economic growth, and there may be some significant interaction effects. We use the interaction rate between the respective trade indicators and institutional variables ($\ln i_{it} * \ln imp_{it}$, $\ln i_{it} * \ln exp_{it}$). In addition, we assume that the higher quality institutions can help to attract the foreign direct investment and the international assistance programs, including from the EU. To test this, we are introducing in the estimated equation parameters of interaction between institutions and foreign direct investment and international assistance programs ($\ln i_{it} * \ln fdi_{it}$, $\ln i_{it} * \ln aid_{it}$). If the coefficients interaction parameters valued in equation (2) is positive

$(a_1 > 0..., a_{13} > 0)$, then there are synergistic effects of the integrated policies improving institutions and improving trade, investment, credit and grant relations of the countries surveyed.

Extended specification:

$$\ln gdp_{it} = a_1 \ln k_{it} + a_2 \ln l_{it} + a_3 \ln i_{it} + a_4 \ln imp_{it} + a_5 \ln exp_{it} +$$

$$a_6 \ln fdi_{it} + a_7 \ln ipr_{it} + a_8 \ln ttax_{it} + a_9 \ln aid_{it} + a_{10} \ln i_{it} \ln imp_{it} +, (2)$$

$$a_{11} \ln i_{it} \ln exp_{it} + a_{12} \ln i_{it} \ln fdi_{it} + a_{13} \ln i_{it} \ln aid_{it} + c_i + u_{it}$$

where i and t indicate countries and time periods, respectively, c_i – is unobserved fixed (by country) effect and u_{it} – idiosyncratic errors.

Our specification model 1 (Table 1) shows a statistically significant, positive and economically significant role in the improving aggregate index of economic freedom on GDP growth. The model specifications 2 and 3 (Table 1) shows that since disaggregated sub-indices freedom from corruption and freedom of trade are statistically significant and positive effects on the growth. This supports the idea of the need to accelerate efforts towards post-socialistic countries fighting corruption and further trade liberalization.

As revealed in the specifications models 2 and 3 (Table 1) link between the GDP growth and the improving freedoms of property rights and freedom of investment is the inversely. The interpretation of these results may be that their own freedom of ownership and investment is not

an incentive for the intensification of economic activity. Obviosly, these freedoms must to be improved, along with other aspects of improving institutions, or they can have a positive impact on growth through other factors.

As confirmed by testing three model specifications (Table 1) International aid programs prove their positive role to stimulate GDP growth. In our opinion, the intensification of inflow of donor programs is a sign of improvement of quality of institutions in aid recipient country.

As seen from sheets 1 and 2 (Table 2) the most economically important and statistically significant effect is to improve cooperation between institutions and foreign trade activity indicators. We can assume the existence of some synergetic effects simultaneously improving institutions and trade liberalization, which together can produce a greater effect on economic growth than would be developed each process separately. In terms of economic policy, we can justify the feasibility of introducing a comprehensive policy reforms to liberalize foreign trade and improving institution

5. Conclusion

The institutions, along with the basic factors of growth capital and labor are the key determinants of economic growth in post-socialistic countries. Not all of institutional improvements components have the same impact on economic growth of the post-socialistic

Table 1
The role of institutions in economic growth in the international economic integration (the method of least squares with fixed effects)

	ln *gdp*	ln *gdp*	ln *gdp*
ln *k*	0.416***	0.505***	0.532***
	(13.54)	(20.59)	(15.43)
ln *l*	0.397***	0.697***	0.823***
	(2.70)	(5.29)	(5.18)
ln *i*	0.954***		
	(8.00)		
lni_*pr*		-0.322***	-0.292***
		(6.23)	(4.79)
lni_*cor*		0.138***	0.176***
		(4.36)	(5.47)
lni_*tf*		0.266***	0.312***
		(4.70)	(5.24)
lni_*if*		-0.249***	-0.222***
		(6.68)	(5.50)
ln *aid*			0.081***
			(5.74)
Constant	3.892*	1.485	-3.283
	(1.79)	(0.74)	(1.43)
Observation	309	309	216
Country quantity	18	18	17
R-square	0.70	0.79	0.82

Note: Absolute value z statistic in brackets, * significance level 10%; ** significance level 5%; *** significance level 1%.
Source: calculated by author, using statistical program E-views

Table 2
The effects of the institutions interactions with other political and economic factors of economic growth in the international economic integration process (the method of least squares with fixed effects)

	ln *gdp*	ln *gdp*	ln *gdp*	ln *gdp*	ln *gdp*
ln *k*	0.212***	0.189***	0.567***	0.159***	0.512***
	(6.83)	(5.53)	(21.69)	(3.28)	(12.45)
ln *l*	0.557***	0.468***	0.381**	1.007***	0.445**
	(4.56)	(3.73)	(2.44)	(5.80)	(2.49)
ln *i* * ln *imp*	0.046***				
	(15.04)				
ln *i* * ln *exp*		0.048***			
		(13.92)			
ln *i* * ln *fdi*			0.019***		
			(5.67)		
ln *i* * ln *ipr*				0.018***	
				(6.53)	
ln *i* * ln *aid*					0.029***
					(8.33)
Constant	6.105***	7.804***	4.071*	3.755	2.390
	(3.39)	(4.17)	(1.75)	(1.34)	(0.98)
Observation	309	309	299	155	216
Country quantity	18	18	18	18	17
R-square	0.80	0.78	0.67	0.69	0.72

Note: Absolute value z statistic in brackets, * significance level 10%; ** significance level 5%; *** significance level 1%
Source: calculated by author, using statistical program E-views

Central Eastern Europe Countries (CEE) and countries of the Commonwealth of Independent States (CIS). Consequently, we found out that freedom of trade and freedom from corruption are among the key institutions that significantly affect on the economic growth, especially for subgroups CEE and CIS countries that are not EU members. Obviously, this subgroup of countries has a relatively weaker institutions. Therefore, it is advisable to focus on the economic policies to improve the quality of the component institutions, which can be a significant incentive for their economic growth. The study confirms that weak institutions are the main barriers to growth in terms of integration into the international economy.

Excepting such factors as institutions, trade and other political and economic factors of international economic integration that affect on the economic growth of post-socialistic countries, one can single out: foreign direct investment, international exchange of intellectual property rights, international donor assistance programs and the European institutions, and foreign income tax trade. These factors are mainly positive, but less frequently, have the economic effect on economic growth and in some specifications of the model coefficients of these indicators lose statistical significance.

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Ирина ПРИХОДЬКО

ВЛИЯНИЕ ИНСТИТУЦИОНАЛЬНЫХ БАРЬЕРОВ НА ЭКОНОМИЧЕСКИЙ РОСТ В УСЛОВИЯХ МЕЖДУНАРОДНОЙ ЭКОНОМИЧЕСКОЙ ИНТЕГРАЦИИ

Аннотация. Целью работы является выявить влияние политико-экономических и институциональных барьеров на процесс международной экономической интеграции. Важно также глубже проанализировать роль институтов как основного фактора получения экономических выгод страны от международной экономической интеграции. В нашем исследовании мы пытаемся оценить причинность связи между рядом политико-экономических факторов международной экономической интеграции, институтов и базовых факторов производства с ростом экономики. Мы используем также такие измерители качества институтов как индекс экономической свободы, причем исследуем различные компоненты этого индекса, такие как свобода прав собственности, свобода торговли, свобода от коррупции, свобода инвестиций. Мы предполагаем, что институты в направлении свободы внешней торговли и снижение коррупции будут иметь больший эффект на экономику исследуемых стран. Мы формируем выборку с 18-ти постсоциалистических, из них десять стран Центрально-Восточной Европы (ЦВЕ), которые уже вступили в ЕС, и восемь стран ЦВЕ и СНГ, которые не приобрели членства в ЕС, в том числе Украины. Временной период нашего исследования составляет 23 года, начинаются с 1991 года – года обретения независимости Украины, к 2013 году – последний год, за который опубликован статистические данные для нашей группы стран по соответствующим перечнем показателей, составляющих наш интерес. Для преодоления различных проблем в оцениваемом уравнении мы используем эконометрический анализ панельных данных методом наименьших квадратов с трансформацией методом фиксированных эффектов, чтобы ликвидировать гетерогенность по странам. **Методика.** На основе выборки из 18 постсоциалистических стран (страны ЦВЕ и СНГ), за период 23 лет (1991-2013) мы провели эконометрический анализ панельных данных методом наименьших квадратов с трансформации методом фиксирован-

ных эффектов, чтобы ликвидировать гетерогенность по странам. В исследовании использовались статистические данные Всемирного банка, Организации экономического сообщества, и Международного валютного фонда. Результаты тестирования спецификаций моделей подтверждают положительную роль международных программ помощи для стимулирования роста внутреннего валового продукта, кроме того мы можем предположить о существовании положительных эффектов одновременном улучшении институтов и положительного эффекта показателей внешней торговли. **Практическое значение.** Проведенное исследование позволяет утверждать, что с точки зрения экономической политики странам интегрируются целесообразно сконцентрировать усилия для совершенствования институтов в торговой сфере. **Значение/оригинальность.** Полученные данные обеих моделей обеспечивают лучшее понимание влияния политико-экономических и институциональных факторов на процесс международной экономической интеграции на страны ЦВЕ и СНГ. Дальнейшие исследования в этой сфере помогут раскрыть эту проблему более подробно.