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EFFICIENCY OF INSITUTIONAL TRANSFORMATIONS IN POST-COMMUNIST COUNTRIES

Urgency of the research. Complexity, inconsistency and divergence of the ways the former socialist countries are developing bring into the foreground issues about efficiency of their institutional change.

Target setting. Institutional transformations in most of post-communist economies have not produced the expected results and this fact aroused a strong need for a comparative analysis of the reforming undertaken in these countries.

Actual scientific researches and issues analysis. The latest books by V. Bazylevych, L. Balcerowicz, T. Gaidai, S. Gomulka, A. Gritsenko, G. Kolodka, J. Kornai, R. Nuryeyev and A. Aslund, V. Tarasevych and other authors explore efficiency of the institutional transformations in countries of the former socialist camp.

Uninvestigated parts of general matters defining. The institutional factors that contribute to differentiation of the market transformations in the command economies received insufficient attention and must be explored.

The research objective. Generalization of relevant experience and identification of the problems for market transformation in post-communist countries by conducting a comparative analysis of the efficiency of institutional change in these

The statement of basic materials. The article focuses on a comparative analysis of the efficiency of institutional transformations in fifteen countries of the former socialist camp. The study highlights a group of countries that differ in quality of the institutional environment. The findings provide recommendations for improving efficiency of the institutional system of the national economy.

Conclusions. Institutional factors are responsible for a decisive influence on the efficiency of changes in postcommunist economies. The most successful countries of the former socialist camp stand out for the greatest perfection of the established institutional environment. The actions of primary importance in the post-crisis modernization of the Ukrainian economy should be aimed at ensuring efficiency of the institutional changes intended to de-shadow the national economy and get it out of bureaucratization and corruption.

Keywords: economic system; institutional changes; socio-economic transformations; efficiency of institutional transformations.

ЕФЕКТИВНІСТЬ ІНСТИТУЦІЙНИХ ТРАНСФОРМАЦІЙ В ПОСТКОМУНІСТИЧНИХ КРАЇНАХ

Актуальність теми дослідження. Складність, суперечливість та дивергенція шляхів розвитку країн колишнього соціалістичного табору актуалізують проблематику ефективності їхніх інституційних змін.

Постановка проблеми. Оскільки реформування багатьох посткомуністичних економік не дало очікуваних загострилась проблема порівняльного результатів. аналізу здійснених у цих країнах інституційних перетво-

Аналіз останніх досліджень і публікацій. Вивченню ефективності інституційних трансформацій країн колишнього соціалістичного табору присвячені праці В. Базилевича, Л. Бальцеровича, Т. Гайдай, С. Гомулки, А. Гриценка, Г. Колодки, Я. Корнаї, Р. Нурєєва, А. Ослунда, В.Тарасевича та інших.

Виділення недосліджених частин загальної проблеми, подальших наукових розробок. Недостатньо дослідженими є інституційні чинники диференціації ринкових перетворень командно-адміністративних економік.

Постановка завдання. Узагальнення позитивного досвіду та виявлення проблем ринкових трансформацій посткомуністичних країн на основі компаративного аналізу ефективності їхніх інституційних змін.

Викладення основного матеріалу. порівняльний аналіз ефективності інституційних перетворень 15 країн колишнього соціалістичного табору та виокремлено групи країн, що відрізняються за якістю інституційного середовища. Обґрунтовано рекомендації щодо підвищення ефективності інституційної системи національної економіки.

Висновки. Інституційні чинники справляють визначальний вплив на результативність трансформацій в посткомуністичних економіках. Найбільш успішні країни колишнього соціалістичного табору відрізняються високою якістю сформованого інституційного середовища. Пріоритетні заходи посткризової модернізації економіки України мають бути спрямовані на забезпечення ефективності інституційних змін у частині детінізації, дебюрократизації та декорупціалізації національної економіки.

Ключові слова: економічна система; інституційні зміни; соціально-економічні трансформації; ефективність інституційних трансформацій.

Topicality of the research. Efficiency as a key concept of economic theory is taking on a new implication, which is related to the awareness that non-economic factors in life of the human community exert a significant impact on the transformation of modern economies. An effective strategy of social and economic reforms cannot be implemented without taking into consideration the role and significance of these factors. Experience of post-communist countries seems to be indicative in this context.

Inattention to the role of institutions and institutional modifications in ensuring market transformations of the economic systems negatively effects economic growth and global competitiveness of the national economies.

It is should be noted that a certain underestimation of the role and place of the institutions in enhancing effective performance of modern economies was typical of various post-communist countries in the initial phase of their intersystem transformations. Meanwhile, the majority of European countries rather quickly changed the vector of their social and economic development to providing conditions for comprehensive reforms of the institutional sphere, which contributed to improving efficiency of their institutional transformation and harmonious integration into the European Union. At the same time, many countries of the former Soviet Union, including Ukraine, failed to overcome the transformational crisis and keep looking for an effective strategy of innovative modernization of their economies. Complexity and inconsistency of the market reforms in the former socialist camp actualize a comparative analysis of the efficiency of institutional changes.

Target setting. The transformations of the last twenty five years in the post-communist economies provide valuable material for a new assessment of the theoretical and practical foundations of the market-oriented institutional reforms. A key objective of the transformation of these economies and their integration into the global world economic space was to increase the socio-economic efficiency of the performance of the economic setups. However, the undertaken market reforms of the post-communist economies in most cases were unsuccessful to yield the expected results. In particular, provision of economic freedom to enterprises and companies failed to make them more responsible for the results of their economic performance while the private owner, which had replaced the public entities, fell short to become more efficient. In this context, the comparative analysis of the efficiency of institutional changes in the economies of the post-socialist countries is essential for the development of practical recommendations as to the post-crisis modernization and improvement of people's welfare.

Review of recent research. The theory of institutional change occupies an important place in modern economics. A leading research area in this field is the study into efficiency of the economic systems in terms of the performance of their present institutional and organizational structures. Reputed Western representatives of the traditional and the new institutionalism B. Vaynhast, T. Veblen, R. Nelson, D. Nort, M. Olson, H. Tallok, S. Webb, R. Vogel, J. Hodgson and others made a notable contribution to this field of research. Distinguished scientists from the post-socialist countries V. Bazylevych, L. Balcerowicz, T. Hayday, S. Gomulka, A. Hrytsenko, G. Block, J. Kornai, V. Nosova, R. Nuryeyev, A. Olejnik, V. Polterovych, V. Tarasevych, A. Maslov, O. Yaremenko and others explored various aspects of the institutional efficiency of economic systems.

The books by Douglass C. North, Nobel Laureate in Economic Science: "Structure and change in economic history" (1981), "Institutions, Institutional Change and Economic Performance" (1990), "Understanding the Process of Economic Change" (2005) focused on the interdependence of complex transformations occurring in society, economy and politics; explored the significant influence of culture and ideology on the economic evolution of society; assessed the need to address the cognitive and psychological aspects of human behavior; analyzed the non-ergodic distinctiveness of the real economy, characterized by constant transformation and fundamental uncertainty[4-5, 10].

In 2005 a team of the Ukrainian and Russian researchers published their collective monograph: "The Post-Soviet Institutionalism". The book pays close attention to the analysis of the institutional changes in the post-communist countries, specifically to the study into the role of institutional determinants of the economic growth; coverage of a divergence of the structural and technological characteristics of the economies from the established institutional setup; identification of the problems and contradictions in building a competitive market environment; disclosure of specific economic mentality as an informal institution of these societies, etc. [6].

Unexplored aspects of the problem. Further research. The number of publications about transformation of modern economies is great; nevertheless various theoretical and practical issues within the theory of institutional changes require further research. The socio-economic background to the command economy and institutional factors of its market transformation should be assessed in greater

detail, the mechanism of implementation of the institutional changes in the former socialist countries requires theoretical justification, and the strategic priorities of effective state regulation of these processes should be clearly identified to secure progressive socio-economic changes.

Problem statement. The goal of the study is to make use of the comparative analysis for assessing efficiency of the institutional changes in post-communist countries so as to condense the available experience and identify challenges to market transformations in these economies.

Discussion. In line with the institutional approach, the formation of a polycentric type of economic relations in the post-communist economies has a multifactorial, continual character of regularities manifested in the socio-economic development. For this reason, an analysis of the impact of economic factors on socio-political and other relations in these countries must take into account the aggregate impact of the worldview and social standpoints of economic agents and the institutional rules formed on the economy and politics.

The matter is that the "ideas of the participants" play an important role in the transformation processes. These ideological attitudes manifest themselves in the subjectivity at building models of the socioeconomic development, and therefore they differ in their institutional versatility, which is caused by complex interactions between the formal and informal restrictions. Under competitive markets, which at least roughly correspond to the model with zero transaction costs and reasonable, consistent preferences, the development of post-communist economies do not diverge. However, in the conditions of imperfect market relations, fragmentary information feedback and significant transaction costs, the vectors of social and economic evolution are determined by the participants' subjective models that change under influence of imperfect feedback and ideology [2, p. 15-24].

The model of national socio-economic transformation is conditioned by basic institutions of the economic system, rather than random and external factors. A specific feature of the institutional systems in post-communist countries is a mix of the established market institutions with those inherited from the previous state system. The intertwined and interacting institutional structures give rise to a huge variety of trajectories, which an economic system can follow in its development after passing a bifurcation point.

To identify the divergence of institutional transformations of post-communist economies, we analyzed the outcomes of market transformations in fifteen countries, six of which are the post-Soviet ones (Latvia, Lithuania, Estonia, Ukraine, Russia, Moldova), five are the Central European countries (Hungary, Slovakia, Slovenia, Czech Republic, Poland), and four are Balkan countries (Serbia, Croatia, Romania, Bulgaria.) These countries have many common features related to the geographical location, economic structure and the course of their socio-economic transformations. However, experts and researchers agree that the countries are characterized by quite differentiated models of market transformations of the last two decades [3]. An important criterion for differentiation of these countries is the effective implementation of institutional changes in them, which stimulated dynamics of their economic development and integration into the global economy.

The use of cluster method facilitated identification of differences in the efficiency of these transformations. The selected requirements of optimality turned out to be the best for the countries divided into four clusters bearing in mind that the optimal number of clusters equals the difference between the number of observations (15 in our case), and the number of steps (10 in this case), after which the unification distance increases skippingly.

The countries of the 2004-2015 time frame were clustered on the base of the 1-st Pillar indices (Institutions) listed in the Global Competitiveness Report published by the World Economic Forum: property rights, intellectual property protection, diversion of public funds, public trust in politicians, irregular payments and bribes, judicial independence, favoritism in decisions of government officials, wastefulness of government spending, burden of government regulation, efficiency of legal framework in settling disputes and others, efficiency of legal framework in challenging regulations and others, which are expressed as scores from the lowest (1) to the highest (7) [11].

The agglomerative hierarchical clustering algorithm was used to build clusters. The ordinary Euclidean distance was used as a distance between the objects. The matrix of the distances between the indicators of the countries under study was found according to the following formula:

$$\begin{split} p(x_ix_j) &= \sqrt{\sum (x_{il} - x_{ji})^2}, (1.1.) \\ \text{where } x_{il}, \, x_{ji} \text{is the value of the l-st feature of the i-th object (j-th) of the } (I=1,\,2,\,...,\,k,\,i,\,j=1,\,2,\,....\,n) \end{split}$$

To form clusters from the analyzed countries we used the furthest neighbor principle that is, the distance between clusters was said to be equal to the distance between the pair of items in those clusters that are farthest apart. In this way the final cluster structure of the four elements (Fig. 1) was formed by making use of the furthest neighbor method accompanied with the gradual selection of the pairs of countries with the nearest distance between them.

To form four clusters from the analyzed countries we used the furthest neighbor principle that is, the distance between clusters was said to be equal to the distance between the pair of items in those clusters that are farthest apart. In this way the final cluster structure of the four elements (Fig. 1) was formed by making use of the furthest neighbor method followed by a gradual selection of the pairs of countries with the nearest distance between them.

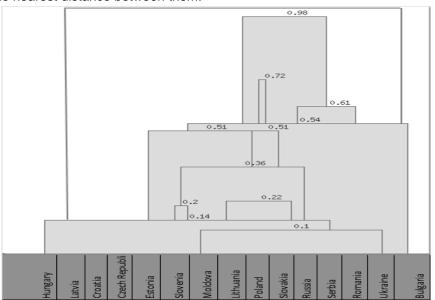


Fig. 1. Hierarchical clustering of the countries studied by the efficiency of their institutional reforms over the period 2004-2015

Source: Authors' calculations based on [11]

Fig. 1 shows that the first cluster is formed by the countries that exemplify effective institutional changes: Czech Republic, Estonia, Latvia, Lithuania, Poland and Slovenia. These countries have the highest indices of the institutional quality in various categories in comparison with the scores achieved by other post-communist countries under study. Thus, the scores in the *property rights* category vary from 4.2 (Latvia) to 5.3 (Estonia), the indices in the *organized crime* category range from 4.7 (Slovenia) to 6.5 (Estonia). The average scores of these countries are the highest in nearly all categories. The average scores achieved in each of the institutions basic requirements are higher than those achieved by the countries of other clusters.

The second cluster comprises Bulgaria, Croatia, Romania, Russia and Slovakia. The group shows relatively high scores in the *business costs of terrorism* (from 6.4 in Croatia to 5.5 in Russia) and low scores of the *protection of minority shareholders' interests* (from 3.8 in Slovakia to 3.1 in Russian).

The third cluster countries are characterized by moderate values of the scores achieved in the business costs of crime and violence category (5.1 by Hungary and 5.4 by Serbia), as well as in the strength of investor protection (5.3 by Hungary and 5.6 by Serbia) with lower scores of the efficiency of legal framework in settling disputes (2.7 by Hungary and 2.6 by Serbia.)

Distinguishing features of the fourth cluster of countries are the lowest scores in each of the institutions requirements. Thus, the scores achieved by Moldova and Ukraine are 3.2 and 2.9, respectively, in the *property rights* category; 1.9 and 2.3 in the *public trust in politicians*; 2.3 and 2.4 in the *efficiency of legal framework in settling disputes*; and 3.2 and 3.3 in the *reliability of police services*.

The analysis required a comparison of the clustering by quality of countries' institutions environment and the clustering by such important performance parameters of socio-economic systems as GDP per capita and the Human Development Index (HDI.) As the statistical basis for the analysis, we used the World Bank's data on Gross Domestic Product at Purchasing Power Parity (GDP at PPP), which is considered to be the most methodologically sound instrument for international comparisons [8]. The values of GDP and its main components like household final consumption, consumption of the general (public) administration agencies, gross fixed capital formation, exports and imports are converted in a single currency to allow a direct comparison. The comparative statistics on poverty, literacy, education, life expectancy, health care, social security, longevity, the environment, crime, observance of human rights were taken from the UN reports on human development [9].

Clustering of the analyzed countries by GDP per capita at PPP and the Human Development Index (HDI) is made with the method for classifying countries by efficiency of their institutional transformations (Tab. 1.)

Table 1
Clustering of the countries by efficiency of their institutional transformations,
GDP per capita in PPP terms and HDI (2004-2015)

	Clustering		
	By average value of the insti-	By average value of GDP	By average value of Hu-
	tutional environment devel-	per capita in PPP terms	man Development Index
	opment	(US\$)	
Czech Republic	1	1	2
Estonia	1	2	1
Lithuania	1	2	3
Poland	1	2	1
Latvia	1	2	1
Slovenia	1	1	2
Russian Federation	2	2	3
Bulgaria	2	3	3
Romania	2	2	3
Slovakia	2	1	1
Croatia	2	2	3
Hungary	3	2	1
Serbia	3	3	3
Ukraine	4	4	4
Moldova	4	4	4

Source: Author's calculations based on: [8; 9; 11]

The table shows that the growth of GDP per capita and improvement of human development are in dependence with the accomplishments in institutional transformations. The countries of the first cluster had carried out effective institutional reforms. In line with average values of GDP per capita in PPP terms and HDI, these countries formed clusters 1 and 2. The exception is Lithuania, which, according to its HDI, appeared in the third group of countries. This is because Lithuania trails other first cluster countries on such parameters of the institutional environment quality as efficiency of legal framework in settling disputes (3.6, the last of all countries under study) and efficiency of legal framework in challenging regulations (3.3, one of the last scores in this cluster).

Countries of the second cluster are less effective in implementing their institutional reforms. These countries are characterized by low indices of GDP per capita and HDI. The institutional inefficiency of their economies is apparently because of low scores achieved in the *public trust in politicians* (from 2.1 by Croatia and Slovakia to 2.9 by Russia) though with sufficiently high scores in the *strength of inves-*

tor protection (from 5.2 by Russia and Slovakia to 6.9 by Bulgaria) Slovakia deserves special attention since it is somewhat out of the general trend as its scores gained in HDI and GDP place it in the first cluster and at the same time achievements in the quality of institutional reform rank it among countries of the second cluster.

Among the third cluster countries with low efficiency of the institutional changes Hungary stands out since its score in HDI (0.821) is also present among countries of the first cluster and at the same time Hungary is in the second cluster by its GDP per capita (US\$22,989 in PPP terms). The analysis shows that this country achieved low scores in such institutional categories as the diversion of public funds (2.6) and the ethical behavior of firms (2.8).

The fourth group of countries is characterized by the lowest quality of their institutional environment (Ukraine and Moldova) and low scores of HDI and GDP per capita in PPP terms. Thus, Ukraine is the worst of all the studied countries in the irregular payments and bribes (2.8), wastefulness of government spending (2.0), business costs of terrorism (3.9), business costs of crime and violence (3.7), and strength of auditing and reporting standards (3.6). The quality of institutional development and efficiency of the institutional reforms in these countries are the major areas that require acceleration of market reforms and improving global competitiveness of these economies.

Conclusions. The post-communist economies that at the close of the 20th century took the path of market transformations are characterized by a variable quality of the institutional environment, which theycreated in course of the transition period.

The undertaken comparative analysis has shown high efficiency of the institutional transformations in the Baltic and Central European countries. The efficient institutional transformations in these countriesundoubtedly contributed to achieving by them high scores in GDP per capita and HDI.

The clustering of Serbia, the Eastern European and former Soviet countries has revealed low efficiency of the institutional reforms undertaken. Ukraine and Moldova were included in the fourth cluster as these countries achieved the worst scores in the quality of their institutional environment and in terms of GDP per capita and HDI.

In this context, the strategic priority for post-crisis modernization of the Ukrainian economy is to conduct effective institutional changes, namely: de-shadow the economic activities and get them out of bureaucratization and corruption, bring the institutional environment in accordance with the European standards, which provide civilized conditions for the market economy, enhance global competitiveness of the country, improve welfare and foster human development.

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