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Exogenous and endogenous factors of structural transformations in national economy

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Abstract. The economies of developing countries, including Ukraine, are characterized by high volatility of macroeconomic indicators, which leads to high economic potential with low resistance to crisis shocks, both internal and external. Factors of structural changes in the national economy have not only endogenous and exogenous manifestations, but also multiplicative and accelerating effects. Moreover, these effects can be both positive and negative for the economy as a whole or for its individual components, especially in the environment of intense cyclical fluctuations. *The purpose of the research.* Identification and systematization of endogenous and exogenous factors influencing the intensity and nature of structural changes in the national economy. *Methods.* The study uses the systems approach that involves the use of methods of analysis, synthesis, classification, systematization, which allows to clarify and distinguish the structure and nature of exogenous and endogenous factors of transformation of the national economy, the formation of innovation-based development model and its impact on structural transformation in Ukraine. *Results.* Models of the analysis of factors' impact upon the structure of national economy, associated with multiplicative and accelerating effects, are investigated. The matrix of factors of the structural transformations in the national economy is identified and systematized that will allow to perform the complex analysis of influence of these factors. *Practical meaning.* Macroeconomic effects that occur as a result of influence of endogenous and exogenous factors on socio-economic development of the national economy are justified. *Prospects for further research.* Formation of development institutions, civil society, innovation infrastructure will not only intensify innovation processes, but also optimize the impact of economic and non-economic factors upon building of an effective model of sustainable development of the national economy, where the innovation-oriented structural policy should be the major regulatory tool.

Keywords: structural transformations, exogenous and endogenous factors, national economy, innovation-based development, reshoring, economic growth.

JEL Classification: L16, O1, P23.

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Екзогенні і ендогенні чинники структурних трансформацій у національній економіці

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Анотація. Економіки країн, що розвиваються, в тому числі України, відзначаються високою волатильністю макроекономічних показників, що обумовлює високий економічний потенціал при одночасно низькій стійкості до кризових шоків, як внутрішнього, так і зовнішнього характеру. Чинники структурних змін в національній економіці мають не лише ендогенний та екзогенний прояв, але також мультиплікативний (примножуючий) і акселеративний (прискорюючий) ефекти. Причому ці ефекти можуть мати як позитивний, так і негативний характер для економіки в цілому або ж для окремих її складових, особливо в умовах активних циклічних коливань. *Мета статті.* Визначення і систематизація ендогенних та екзогенних чинників, що впливають на інтенсивність і характер структурних перетворень в системі національної економіки. *Методи.* В дослідженні використано системний підхід, що передбачає застосування методів аналізу, синтезу, класифікації, систематизації, що дозволяє з'ясувати й виокремити структуру і характер екзогенних і ендогенних чинників трансформації національної економіки, на пряму формування інноваційної моделі розвитку та її вплив на структурні перетворення в економіці України. *Результати.* Досліджено моделі аналізу впливу факторів на структуру національної економіки, що супроводжуються мультиплікативним і акселеративним ефектами. Визначено та систематизовано матрицю чинників структурних перетворень в національній економіці, що дозволить зробити комплексний аналіз впливу цих факторів. *Практичне значення.* Обґрунтовано макроекономічні ефекти, що виникають внаслідок впливу ендогенних та екзогенних факторів на соціально-економічний розвиток національної економіки. *Перспективи подальших досліджень.* Формування інститутів розвитку, громадянського суспільства, інноваційної інфраструктури дозволить не лише активізувати інноваційні процеси, але й оптимізувати вплив економічних і позаекономічних чинників на побудову ефективної моделі сталого розвитку національної економіки, де головним інструментом регулювання має стати державна структурна політика інноваційного спрямування.

Ключові слова: структурні трансформації, екзогенні і ендогенні чинники, національна економіка, інноваційний розвиток, рещоринг, економічне зростання.

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1. Introduction.

The current situation in Ukraine's economy poses a number of challenges. Formation of the structure of the national economy on the basis of the model of innovation-based development, which is one of the most important tasks in Ukraine's economy, requires qualitative and quantitative structural transformations that can increase the competitiveness of national production in domestic and foreign

markets, as well as economic security in general.

The economies of developing countries, including Ukraine, are characterized by high volatility of macroeconomic indicators, which leads to high economic potential with low resistance to crisis shocks, both internal and external. Weak development of stock market, low level of innovation activity, declining share of processing industry, sharp reduction

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of livestock, although these processes are observed in various areas, are in combination the signs of imbalance in Ukraine's economy, reflecting the nature of structural changes in production and trade.

Structural changes are the key processes that determine the level of socio-economic development and affect economic growth in the national economy. However, in the works of most scholars, insufficient attention is paid to the factors of structural transformations, which in turn makes it impossible to develop an efficient state structural policy and to build a model of sustainable development in the national economy.

2. Literature review.

Well-known economists such as I. Chervyakov (*Chervyakov, 2014*), A. Harberger (*Harberger, 1998*), V. Heyets (*Heyets, 2009*), D. Landes (*Landes, 2005*), A. Melnyk (*Melnyk, 2003*), M. Porter (*Porter, 1993*), D. Rodrik (*Rodrik, 2003*), and others paid great attention to this. These scientists have developed two opposite models of economic growth with the predominant influence of exogenous or endogenous factors.

3. Methodology.

The methodological basis of this study is constituted by premises of macroeconomics, theoretical positions and concepts of domestic and foreign scientists on the role of innovation policy in maintaining the necessary qualitative and quantitative structural changes in the national economy.

4. Research objectives.

The main task of economic change tectonics in the national economy is the research of the sectoral, spatial, reproductive and other forms of the national economic structure, as well as identification of conditions and interconnection patterns of their elements. Study of deformation processes in the system of the national economy, which cause changes in spatial relationships of its structural elements, is equally important today.

5. Results and discussions.

A notable new phenomenon of the economic regulatory activity in developing

countries is that structural policy and the analysis of change in sectoral economic structure are now seen as approaches that complement traditional approaches to analysis and maintenance of economic growth (based on Solow models and endogenous growth models in all their diversity). At the same time, since the 1990s, a distinction has been made, on the one hand, between economic policy factors that initiate growth and, on the other hand, the factors that support it, or between the factors of "primary and final causality" (*Harberger, 1998; Rodrik, 2003*).

Considering industrial competition, M. Porter has identified five key factors, simultaneously endogenous and exogenous in nature, that affect the characteristics and intensity of competition, namely: 1) the threat of new entrant competitors; 2) the threat of the emergence of substitute goods or services; 3) the bargaining power of suppliers and other economic agents; 4) rivalry between existing competitors; 5) the influence of buyers upon the price regulation and quality parameters of goods and services (they bring down prices, competing for the higher quality) (*Porter, 1993*).

In general, economists have identified various factors influencing economic growth and structural changes in the national economy, namely:

- activation of business and investment activity (*Butko, 2005*);
- development of formal and informal institutions (*Nort, 1981*);
- increasing productivity and intersectoral proportions (*Kruger, 2008*);
- reallocation of resources from the agricultural sector to the service sector and high-tech industries (*Vu, 2017*);
- development of infrastructure and fragmentation of production (*Jones, Kierzkowski and Leonard, 2002*).

S. Destefanis considers low skills in the workforce, which is a deterrent to employers and leads to a reduction in the supply of highly skilled jobs, as well as differences in the level of morbidity of the population of the regions. The predominance of small firms in relatively

low-tech industries and low costs of active labour market policies also have a negative impact on economic dynamics (*Destefanis, 2012*).

According to S. Schultz, the modern model of endogenous growth should take into account the spatial-positional (polarization, localization, urbanization, screen and field) and spatial-integration (agglomeration, diffusion, attractor, network, scale, mobility, domestic market) effects to the expansion or contraction of economic space (*Schultz, 2010*).

Thus, an important achievement of the representatives of the Keynesian school R. Harrod and E. Domar was the consideration of the dynamic structural components and the main factors of growth of economic systems based on two assumptions (*Heyets, 2009*):

- growth of national income is a function only of capital accumulation. All other factors influencing the increase in return on investment are not analyzed; it is assumed that the demand for capital depends only on the growth rate of national income;

- capital intensity does not depend on the ratio of prices of production factors, and is determined only by the technical conditions of production.

The representative of the neoclassical scientific field M. Richardson formalized in the model of generative growth the interdependence of economic growth rates of the country from the interaction of regions (*Richardson, 1973*).

Factors of structural changes in the national economy have not only endogenous and exogenous manifestations, but also multiplicative and accelerating effects. Moreover, these effects can be both positive and negative for the economy as a whole or for its individual components, especially in the environment of intense cyclical fluctuations.

And while fluctuations in the economic conjuncture occur due to exogenous momentum, namely changes in the autonomous quantity demanded or the money supply, in the multiplier-accelerator model, endogenous factors are the causes of cyclical economic development in the Kaldor model.

The Kaldor model is based on a nonlinear model with a set of equilibrium states (investments are equal to consumption). The difference between the desired amount of investment and the savings causes changes in income (both investment and savings are functions of income and capital). Changes in capital are determined by the difference between the planned investments (to be made) and the depreciation of existing capital. The author proposed a model of short-term economic cycle, a nonlinear model of the business cycle, which has later been expressed mathematically taking changes in demand into account. The Kaldor model can be considered a kind of confirmation of the cyclic oscillations' endogeneity in the context of the nonlinear oscillations theory, which can be extended by supplementing this model with the dynamics of employment and wages (*Proskurina, 2011*).

Romer's model of endogenous growth is based on a number of provisions, in particular (*Romer, 1987*):

- the most important factor in economic growth is technological change, which allows the use of various combinations of existing factors of production in society;

- technological changes occur due to the activities of people who respond to market incentives;

- production technologies differ from other economic goods. In this case, the creation of new technologies is equivalent to fixed production costs, and their further use does not require additional costs from the manufacturer.

The modern understanding of the factors driving economic growth in the national economy goes beyond the classical vision of labour and capital. After all, the presence of these factors, e.g. in Ukraine, does not provide high rates of economic growth, while the high level of openness and weak resilience of the economy to cyclical fluctuations cause a long-term decline. In addition, in Ukraine, as in many other transition economies, a large share of capital as a factor of economic growth is constituted by natural resources, which is typical for economies of the second to fourth technological

mode. In 2018, agricultural and metallurgical products accounted for more than 50% of Ukrainian exports.

The dependence of economic growth on natural resources, as historical experience shows, has a positive effect only in the short term and causes the state of the national economy called the "Dutch disease" or rent seeking.

"Dutch disease" is an acute dependence of the economy and budget on the export of one or two types of raw materials, which provides the lion's share of state revenues, while the needs of the population in goods and services are met through imports and own production is developing weakly (*Chervyakov, 2014*).

According to V. Golyan, excessive commodity orientation of the national economy determines the chronic instability of the domestic financial market, in particular its' monetary and currency segments, which, together with the monetarist clichés operated by the state, forms the basis for permanent inflationary expectations, which "bloodlet" the investment potential for socioeconomic growth (*Golyan, 2016*).

The cause of the Ukrainian "Dutch disease" phenomenon and the domestic recurrence of the "resource curse" was the long-term redistribution of natural resource rents in favour of the corporate sector, which stimulated the maximum involvement of mineral resources in the economic turnover and did not encourage mass introduction of innovative technologies and recycling of raw materials. Excessive dependence of the national economy upon the situation on world commodity markets has caused the domestic phenomenon of "commodity hryvnia", which tied the exchange rate stability of the national currency and the potential for inflation-depreciation spiral to the dynamics of grain, iron and steel prices, deepening the symptoms of "Dutch disease" and "resource curse" (*Golyan, 2016*).

Therefore, the factor of scientific and technological progress has a special place in the current circumstances of economic development. In developed countries, the average level of R&D funding is about 2.5% of GDP, while in Ukraine this figure does not exceed 1%.

At the same time, R&D itself, even with proper financial support, will not be carried out actively, as it requires a developed system of human capital and forms of its accumulation.

However, accumulation and development of human capital can only occur under condition of developed institutions. Namely, clear, stable and equal "rules of the game" (laws, traditions, property relations) and organizations that maintain the proper functioning of these rules in society.

Social inequality is another factor of economic growth. However, there is currently no golden rule as to what should be the optimal limits of such inequality. It is known that both excessive social inequality and its absence have a negative impact on economic growth in the national economy, because excessive social inequality reduces the vertical social mobility of the population, and low social inequality only has horizontal movement of people of working age, which causes a low level of employee motivation and productivity in both cases.

Democratic processes can optimize social inequality to some extent. However, the experience of many Asian countries, such as China, Singapore, Taiwan, Indonesia, Saudi Arabia, etc., shows that the role of institutions in the country's economic growth is greater than that of democracy.

An important factor in ensuring economic growth in the national economy is the presence of a developed institutional environment. In particular, D. Landes in his book "Wealth and suffering of nations" identified a list of political and social institutions that promote economic growth. The role of these institutions is to achieve the following principles (*Landes, 2008*):

- ensuring the protection of private property rights to encourage savings and investment;
- guaranteeing the rights of personal freedom, protecting against attempts at tyranny, corruption and other crimes;
- guaranteeing compliance with the rules of contractual relations;
- ensuring the stability of political

institutions, not necessarily democratic, but guided by the well-known principle of “the rule of law, not the personal power”;

- formation of a responsible state authority that accepts complaints and provides compensation for damage;

- the existence of a just government that ensures equality of rules for all participants of economic activities and prevents economic agents from seeking benefits and privileges outside of the market;

- formation of state power institutions that are moderate, efficient and undemanding. As a result, low taxes are in place, the government does not increase its social rights excessively

and avoids inappropriate benefits.

There are different approaches in the literature to classification and systematization of factors influencing the structural transformation of the national economy. However, these factors are considered mainly in the context of cyclical fluctuations analysis for the case of developed countries. For developing economies (i.e. transformational economies), the factors of development and structural change are insufficiently structured. Therefore, we consider necessary to offer our vision, on the basis of the systems approach, of classification and systematization of factors influencing structural changes in developing countries (see *Table 1*).

Table 1. Matrix of factors of structural transformation in the national economy

	Economic	Non-economic
Endogenous	<ul style="list-style-type: none"> - the economically active population number; - the level of material well-being of the population; - productivity; - condition of fixed assets; - level of investment in human and physical capital; - the general tax burden upon the economic subject; - economic independence; - the degree of openness of the national economy; - attraction of foreign direct investment; - volume of government consumption; - the level of consumer prices; - the state of the financial market; - technological innovation expenditures; - average per capita income; - the level of domestic market development. 	<ul style="list-style-type: none"> - protection of property rights and law; - the level of corruption and the shadow market; - state of infrastructure; - the state of and procedure for legal and regulatory compliance; - political stability; - favourable climate conditions; - access to the sea; - degree of bureaucratization; - geographical location; - the level of development of the institutional environment; - environmental sustainability of socio-economic processes; - cultural and religious traditions.
Exogenous	<ul style="list-style-type: none"> - world energy prices; - US dollar exchange rate; - financial and economic assistance of international organizations; - degree of integration into world economic networks; - balance of payments; - access to international markets; - competitiveness in foreign markets. 	<ul style="list-style-type: none"> - the impact of scientific and technological progress; - degree of integration into international organizations; - participation in military conflicts.

Source: authors' development.

Among these factors of structural changes in the national economy, we can identify a number of fundamental ones to ensure the long-term growth, namely the development of human capital, infrastructure, market and civil society institutions.

It should be noted that exogenous and endogenous factors have subjective-objective functional connections due to the complementary nature and nonlinear processes of influence on the structural transformations of the national economy.

For example, the American economist R. Barro in his scientific work "Democracy and Growth" (1996) explored the relationship between democracy and economic growth, finding a nonlinear relationship, according to which the growth of the democracy index contributes to economic growth in countries with low political freedom, but has stifled growth since the country reached a moderate level of political freedom (Barro, 1996). This is due to the fact that further development of

democracies in order to ensure high social standards, infrastructure development, etc., are forced to increase tax pressures and introduce tighter regulatory actions, which ultimately affects economic growth.

This thesis can be confirmed by paying attention to the analysis and forecasts of the World Bank, which states that the GDP growth rate in highly developed countries, both today and in the near future is lower than the world average (see Table 2).

Table 2. Real GDP growth (percent change from previous year, constant 2010 USD)*

Countries	2017	2018	2019	2020**	2021**	2022**
World	3.2	3.0	2.4	2.5	2.6	2.7
Advanced economies	2.4	2.2	1.6	1.4	1.5	1.5
Euro Area	2.5	1.9	1.1	1.0	1.3	1.3
Ukraine	2.5	3.3	3.6	3.7	4.2	4.2

*Aggregate growth rates calculated using GDP weights at 2010 prices and market exchange rates.

**forecast

Source: formed on the basis of data (World Bank, 2019).

The opposite view is the study of D. Rodrick, who assigns a special role to non-economic factors. In particular, in the matter of stabilization, thanks to democracy, of socio-economic processes in the conditions of crisis shocks. It refers all growth factors either to a group of proximate factors or to a group of fundamental or deep factors. The group of direct factors includes factors that directly affect growth - the accumulation of physical and human capital, productivity growth. Among the deep determinants, Rodrick refers to foreign trade and institutions, which are partly endogenous factors, and geography, which, in his opinion, is a completely exogenous factor (Rodrik, Subramanian and Trebbi, 2004). From these studies it follows that it is the deep factors, especially institutions (property rights and the rule of law), have a decisive influence on the pace and direction of economic growth and underlie the differentiation of the level of socio-economic development of countries (Magdich, 2016).

Nobel Laureate S. Kuznets argued that a key factor in the systemic transformation of the national economy is the development of institutions. Because it is institutional change that

stimulates income redistribution and reduces social inequality (Acemoglu and Robinson, 2002).

Stability of growth in the national economy largely depends on unity of structural policy elements, constituting an instrument of transformation processes initiation, with non-economic factors that, while playing a passive role in structural shifts, can act as amplifiers of or barriers to development of these processes.

The macroeconomic (national) level of structural adjustment connects the latter to introduction of changes into the market structure and creation of appropriate conditions for progressive development of the economy and its industries. At this level, the structural transformation of industrial production is aimed at comprehensive transformation of all types of structures in accordance with the requirements of market economy and the governmental industrial policy (Melnyk, 2003, p. 66).

Deindustrialization has become the major reflection of structural transformation in the economy of Ukraine. It has manifestations of both exogenous and endogenous character. The exogenous character is manifested in the displacement of domestic products by cheap

imports, in particular from China. Meanwhile, the endogenous character is conditioned upon intra-sector substitution, primarily the influence of high-tech industries of the service sector (IT industry, finance), which are notable for higher productivity and wages.

The imbalance of the Ukrainian economy is that despite the course towards building innovative and sustainable development models for the national economy, declared at the highest level, Ukraine still preserves the commodity-based growth model.

The following can be considered the major negative factors of this condition:

- institutional inefficiency;
- high level of corruption and the shadow sector;
- insufficiently developed domestic market;
- weak support from the public sector for a favourable business innovation environment;
- high investment risks;
- low GDP share (about 10%) of sectors that ensure the development of human capital (education, science, healthcare);
- significant impact of political cycle upon the economy;
- low organizational readiness of Ukrainian enterprises for integration into the system of global value networks;
- low level of state support for small and medium business development;
- outflow of a significant share of promising innovators and start-ups;
- weak level of export diversification and quality;
- high share and impact on the economy of Ukraine of internal conventional and external platform monopolies.

Another cause of deepening structural distortions in Ukraine's economy was that capital investments were mostly made in production capacity increase, rather than systematic replacement and modernization of fixed assets on innovative basis, which is more in line with conditions of extensive growth in the national economy. This approach, along with the general inability to adapt quickly to new market conditions, was another cause of imports

increase in aggregate demand, even in those market segments where Ukraine had the appropriate level of its own economic potential.

Recently, the negative effect upon the characteristics of structural changes in the economy of Ukraine is due to such exogenous factors as: the global slowdown in economic growth; more strict protectionist policies of the developed countries; high imports pressure upon the domestic producers due to excessive openness of the economy; high volatility in commodity markets, which has a significant impact on the domestic economy.

At the same time, despite some negative manifestations of structural transformation in the system of the national economy, positive effects of structural changes are also observed in Ukraine. In particular, the positive factors of structural transformation of Ukraine's economy are the following:

- increasing participation of domestic enterprises in the global value chains;
- development of creative industries and start-ups, particularly due to the effects of "urbanization" and "internationalization" resulting in interaction of diverse economic agents and intensification of creative activity as a consequence;
- gradual increase in the number of projects within the framework of public-private partnership;
- quality improvement of domestic products;
- the increased share of customized products in the exports structure, mainly due to the IT industry and mechanical engineering;
- formation of development institutions and civil society;
- gradual renovation of infrastructure.

The role of exogenous factors in influencing the structure and development of the national economy is still growing due to intensity of globalization and internationalization of economic relations. An important role in these processes is played by multinational companies (MNCs), which have long gone beyond individual national economies and become global conglomerates that can not only

determine the structure of the economy, the system of economic relations and market situation, but also influence economic policy of states themselves.

International organizations such as the United Nations, the World Bank, the IMF, and others play not the less important role in structural changes in the national economy. Unlike MNCs, the impact of which is more veiled in market processes, the influence of international organizations is more formalized and is mainly associated with institutional transformations, as well as the use of macro-financial instruments.

Stock exchanges are another institution of growing influence on the system of the international economy in general and individual national economies, in particular through the prism of structural shifts. The New York, Tokyo, London, Frankfurt, Chicago and Hong Kong stock exchanges should be particularly mentioned, which cover a wide range of participants and a wide variety of derivative instruments for trading. The rapid growth of trade agreements, transactions capitalization, and financial instruments complicates to some extent the processes of market relations regulation and control. It thus becomes a heavy burden for the governments of many countries to predict the situation in global markets in the long run, upon which economic growth in most countries depends. The collapse of stock indices was only a signal of the global economic crisis in 2008, but the governments of national economies have already been forced to implement precautionary measures.

Thus, the system of capital accumulation and investment, as well as regulation of the related processes, increasingly goes beyond national economies by integrating into the global economic structural network of financial, production-related, trade-related, political and other interrelated components.

This growing role of exogenous factors influencing national economies suggests that there is a need to pay more attention to endogenous factors in order not to end up in complete dependency upon external conditions,

and thus the impossibility of full settlement of adverse economic situations.

Moreover, the last four economic crises in Ukraine (1998, 2008, 2014) are caused by exogenous destructive processes, which in combination with active structural transformations often deepen the negative effects in the national economy, because in itself the transformation of the economy causes, often temporarily, weakening of the "immunity" of the national economy, i.e. a reduction in resilience to crisis shocks. In general, this indicates the permanently high scale of transformation processes and the immaturity of the internal institutional and market environment. Distortions in these parameters make the Ukrainian economy more vulnerable to exogenous crisis shocks.

Although today the factor structure in the economy of Ukraine has not yet received the optimal ratio to provide the most favourable environment for a significant increase in investment, especially to industry, but a number of conditions are already achieved that allow reshoring of the domestic capital from other countries.

Reshoring can be considered a process of returning the production previously relocated abroad, in the context of reindustrialization process in the development or construction of a post-industrial or information economy in the headquarter country of the owner (*Pidchosa, 2017*).

Today in Ukraine the reshoring process is facilitated by the following factors:

- low level of environmental restrictions and intellectual property protection;
- relatively lower cost of labour and other resources, even compared to China and some other "productive" Asian countries;
- convenient geographical location relative to the EU markets.

To some extent, this process has been going on for more than a few years, especially given that Cyprus remains the main foreign "investor" in Ukraine's economy for a long time. However, the reverse movement of capital from Cyprus and a number of other countries is rather speculative and low-tech. These

are mainly investments to industries with a high share of manual labour and short-term financial effects, namely: real estate, finance, trade, agriculture etc. At the same time the developed countries are reshoring capital to high-tech industries, which allows them to maintain competitive advantage in domestic and foreign markets, and generally improve the structure of the national economy in the long run.

In general, the changes in the macroeconomic structure of Ukraine's economy that occur during the period of independence can be considered the transformational dynamics of socio-economic development, including formation of property institutions, entrepre-

neurship, civil society. Therefore, the influence of internal and external factors upon the national economy has often been accompanied by stochastic processes, which led to indeterminate consequences, primarily due to the immaturity of the economic system and its excessive openness to external externalities. In addition, the lack of a proper regulatory mechanism, as well as over-regulation, of the endogenous and exogenous impact upon structural changes in the national economy can have unpredictable consequences. This can result in two cardinal scenarios of the country's development - the "era of poverty" or the "period of prosperity" (see Fig. 1).

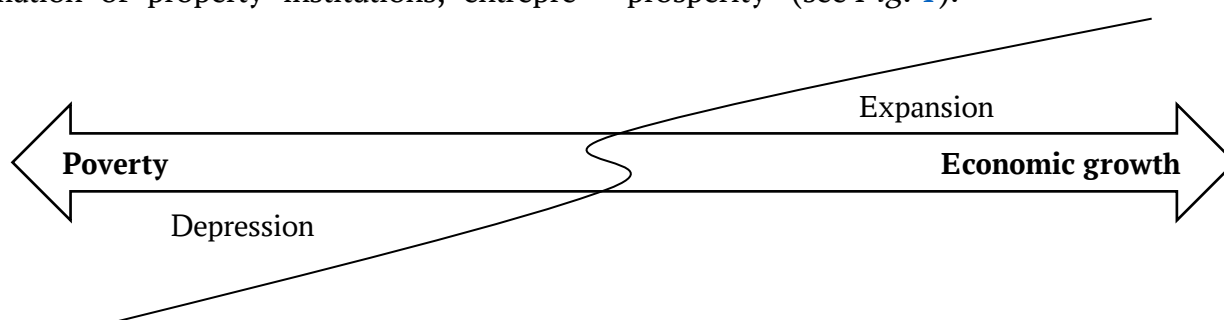


Fig. 1. Basic effects due to the influence of endogenous and exogenous factors on the socio-economic development of the national economy

Source: authors' development.

Therefore, it is critical to develop a set of measures to coordinate the impact of factors on the structural transformation of Ukraine's economy according to innovation-based development model. Accordingly, the innovation policy of "selective concentration" and balanced technological development can be the key instrument for ensuring a stable economic growth rate while maintaining resilience to recession shocks.

6. Conclusions.

Formation of development institutions, civil society, innovation infrastructure will not only intensify innovation processes, but also optimize the impact of economic and non-

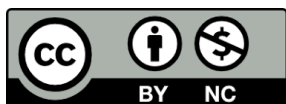
economic factors upon building of an effective model of sustainable development of the national economy, where the innovation-oriented structural policy should be the major regulatory tool.

Thus, when forming its national economic structure, the country must proceed in its strategy from the position it will hold in the structure of the global economy. At the same time, the regulation of endogenous and exogenous influence upon the development of the national economy should be carried out in order to reform its structure not only to increase production but also to increase the overall level of material well-being.

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