UDC 338.45:005.591.4 JEL Classification: M11, E27, 032 DOI: 10.15587/2312-8372.2018.146778

Plakhotnik O.

FORMATION OF THE MECHANISM OF THE EFFECT OF ECONOMIC TRANSFORMATIONS ON THE DEVELOPMENT OF INDUSTRIAL ENTERPRISES

Об'єктом дослідження є механізм структурної перебудови промисловості України. Одним з найбільш проблемних місць його формування виступає недостатнє методологічне та методичне забезпечення методів та інструментів впливу економічних трансформацій на розвиток промислових підприємств. Одним з таких методів є вибір стратегії розвитку, орієнтованої на подолання технологічних розривів. В ході дослідження використовувалися теоретико-методологічні дослідження, спрямовані на обґрунтування умов стійкого зростання підприємств на інноваційних засадах.

Показано, що економічні трансформації, що відбулися в Україні, обумовлені еволюційними процесами становлення економіки ринкового типу і посиленням глобалізаційних процесів у світовій економіці. Це зумовило необхідність формування нових механізмів управління розвитком промислових підприємств. Для цього необхідно на макрорівні:

- забезпечити ефективне поєднання державної організації економіки та ринкової самоорганізації;
- подолати розрив між реальним сектором економіки і фінансовими ринками й досягти економічно виправданий рівень їх віртуалізації;
 - усунути регіональну диференціацію;
 - створити умови для усунення значної нерівності в доходах населення;
- забезпечити узгодженість між новостворюваними інститутами, що функціонують, і змінами, що відбуваються в економічній системі;
 - посилити соціалізацію та моральний зміст економічних відносин.

В умовах, коли держава буде відігравати активну регулюючу роль в економічних процесах, можливо забезпечення переходу промислових підприємств на інноваційний і стратегічний рівень розвитку на підставі запропонованих підходів. Це пов'язано з тим, що запропонований механізм впливу економічних трансформацій на розвиток промислових підприємств має ряд особливостей застосування, зокрема впливає на інноваційну активність підприємств. Завдяки цьому забезпечується можливість отримання підвищення ринкової вартості, ділової активності підприємств. У порівнянні з аналогічними методами управління економічними трансформаціями, цей метод забезпечує такі переваги, як стратегічна спрямованість, гнучкість та адаптивність управлінських рішень на підприємствах.

Ключові слова: економічні трансформації, механізм інтеграції методів стратегічного менеджменту, технологічні переходи, інноваційне зростання.

1. Introduction

The tendencies of modern times are that Ukraine's economy is facing new systemic changes that are characteristic of world political and socio-economic processes, as well as transformations within the state. In such conditions, Ukrainian enterprises need to develop and implement new mechanisms of internal management, taking into account the impact of economic transformations that have occurred and the tendency to increase global competition in various markets, in order to ensure sustainable economic growth.

Therefore, it is relevant to study the methodological and methodical foundations of the formation of the influence mechanism of economic transformations on the development of industrial enterprises.

2. The object of research and its technological audit

The object of research is the mechanism of industrial restructuring of Ukraine. This mechanism is represented

by methods and tools for choosing a strategy for the development of industrial enterprises, focused on overcoming technological gaps, as well as integrating methods of strategic management into the subsystem of managing their innovative activities. One of the most problematic places for the formation of the mechanism is the insufficient methodological and methodical support of methods and tools for the effect of economic transformations on the development of industrial enterprises.

3. The aim and objectives of research

The aim of research is development a mechanism for the influence of economic transformations on the development of an industrial enterprise in the face of increasing global competition on the basis of a systematic approach.

To achieve the aim, the following objectives are set:

1. To investigate approaches to the structuring of the countries of the world on the basis of modern technological development, which took place as a result of the impact of economic transformations.

- 2. To determine the conditions for the restructuring of the Ukrainian industry under the influence of economic transformations.
- 3. To prove that the choice of a development strategy becomes the main management problem for domestic enterprises that are highly sensitive to innovation.
- 4. To determine the importance of taking into account the stages of the life cycle of an enterprise, strategic positions in the occupied market segments, when building a mechanism for managing its development under the influence of economic transformation processes.

4. Research of existing solutions of the problem

Among the main directions of solving the problem of managing the development of industry under the influence of economic transformations identified in the resources of the world scientific periodicals, can be highlighted [1, 2], but they do not consider the applied tools of enterprise management.

The work [3] is devoted to the analysis of globalization processes of the world economy; however, the question of the application of methods and tools for managing the innovation activity of enterprises remained unresolved.

Transaction costs are a significant factor in determining the development of a country's economy, as indicated in [4]. However, in this work, the ways of reducing these costs in order to increase the innovative activity of enterprises are not fully disclosed.

The authors of work [5] show, due to what factors, economic transformations were carried out in individual countries of the world, the factor of innovation processes is singled out separately. But the question remains of adapting these transformations to the conditions of the economy of Ukraine.

An alternative solution to the problem, outlined in [6], does not provide for the application of foreign experience of entering the country's industry at the stage of sustainable development.

According to the authors of the work [7, 8], the main problem of management for enterprises highly sensitive to innovation, which primarily include high-tech industrial enterprises, is the choice of a development strategy focused on overcoming technological gaps.

The study of the main methods of innovation management based on the formation of an innovation growth strategy is considered in [9, 10]. However, the methods described do not take into account the influence of the life cycle stage at which the industrial enterprise is located.

Thus, the results of the analysis allow to conclude that, despite the significant contribution of these researchers to the theory and practice of managing the development of enterprises, the mechanism of the impact of economic transformations on the development of industrial enterprises has not been studied enough.

5. Methods of research

The following scientific methods are used:

- method of comparison, grouping and classification –
 in the study of the structuring of countries of the world on the basis of technological development;
- method of synthesis, induction and deduction in determining the conditions for the restructuring of the

Ukrainian industry under the influence of economic transformations;

- analysis method when determining the main management problem for domestic enterprises that are highly sensitive to innovation;
- integrated system approach in the development of a mechanism for managing the development of an industrial enterprise under the influence of economic transformation processes.

6. Research results

The problems of globalization that have arisen in the industrial era and affect all aspects of the socio-economic development of both individual countries and the world community as a whole, have increased their influence on the functioning of business entities.

Globally, there was a clear structuring of countries, companies, which, according to most experts, can be represented in the form of a two or three-tier pyramid, at the base of which are technological backward countries [1]:

- technological discoverers 15 % of the world's population;
- technology users 50 % of the world's population;
- technologically backward countries 35 % of the world's population.

If proceed from the criteria of the level of income of the population, production of GDP, export potential, competitiveness, then the countries of the «Big Seven» will be in the upper part of the pyramid. In recent years, according to the World Bank, the seven are catching up with Israel, Singapore, Taiwan and South Korea. This group of countries will retain its leadership position based on the advantages of international specialization in high-tech products and commercial services.

Today, the members of the «club of seven» have 80.4 % of world computer technology, provide 90.5 % of high-tech production, control 87 % of patents registered in the world [2, 3]. At the International Economic Forum «XXI Century: Innovative Development for the Good of Man», it was noted that the future of the world market is determined by 50–55 macro-technologies, 46 of them are the property of the Big Seven, which control 80 % of this market. For high-tech products of the world market, the share of the United States is 46 %, Japan – 34 %, Germany – 19 %, all CIS countries – less than 1.5 % [3].

Level II — «satellite countries», producing industrial means of labor and other deeply processed goods, labor-intensive products. These are countries such as Sweden, Switzerland, Austria [3, 4]. They have found a successful place in the international division of labor, they are satisfied with life and flourish. At this level, China, Indonesia, Brazil can be established, which will have an annual economic growth rate of about 10 % [5]. Will Ukraine get here, it depends on the opportunities to mobilize for this the efforts of the political and scientific-economic elite, their ability to ensure sustainable economic growth of the real sector of the economy on an innovative basis.

Level III – according to this method, the most numerous «base of the pyramid». It consists of countries with an overwhelming specialization in the production and export of mineral, energy and agricultural raw materials. These are the countries of the «third world», «appendages» of monopolies and satellites. With a tough assessment of individual

specialists, these countries live as they are allowed by the metropolitan countries, developing industries that for whatever reason (economic, environmental, etc.) they do not consider it appropriate to develop a metropolis.

If objective, then the economy of Ukraine should be attributed to level III. In 2014, the economy entered a state of stagnation crisis (there was a sharp drop in GDP by 6.6 %, combined with an increase in inflation to 24.9 % at the end of the year). In 2015, GDP fell to 91 billion USD. Slow GDP growth (by 2.4 % in 2016 and 2.5 % in 2017) is essentially the preservation of the recession at the bottom of the economic decline. However, it should be noted that Ukraine does not fit into the group of countries of level III only because of its rather high scientific potential, educational level of the population and labor resources. According to World Bank estimates, Ukraine is ranked twenty-seventh in the world in terms of the quality of mathematical and scientific education, the twenty-fifth place in terms of the availability of engineering and scientific personnel has a great potential for the development of the IT industry and innovations, that is, Ukraine has important prerequisites for the effective development of industrial enterprises.

Based on the conducted research, it has been proved that modern globalization processes, by themselves, but especially in interaction with each other, create a new complex and dynamically changing situation, under which enterprises operate. In the conditions of the structural reorganization of the Ukrainian industry, conducting a large-scale program for restructuring domestic enterprises can make a significant contribution to solving the tasks of stabilizing and developing the country's economy only if they are [4]:

- the results of the impact of economic transformations and global trends in the external environment of enterprises and the impact of these changes on their activities are taken into account;
- methods for achieving the most significant positive effects for the Ukrainian industry from the processes of globalization are studied and used;
- measures to neutralize the negative effects of globalization processes for Ukraine at the macro and microeconomic levels are identified and implemented.

Among the main macroeconomic prerequisites that act as «catalysts» for the restructuring of Ukrainian industrial enterprises under the influence of the economic transformations that have occurred are:

- privatization and the formation of the non-state sector of the economy;
- demonopolization of the economy (as a program related to the privatization and the formation of the non-state sector of the economy);
- increase in the number and diversity of enterprises operating in the domestic market of Ukraine (as a result of economic reforms);
- liberalization of foreign economic relations, which led to the expansion of the presence of foreign companies on the territory of Ukraine;
- abolition of direct price restrictions («price liberalization», which hooked about 80 % of wholesale and 90 % of retail prices);
- transition to a single market exchange rate and measures to ensure the convertibility of the national currency;
- financial destabilization and inflationary processes, etc.

Among the microeconomic prerequisites that act as «catalysts» for the restructuring of Ukrainian industrial enterprises under the influence of economic transformations, the following most significant ones are highlighted:

- change in the behavior of enterprises in the market (this factor manifests itself in different ways among large and small enterprises);
- transformation of consumer behavior of consumers, the consequence of which in the conditions of limited effective demand is the formation of requirements for improving product quality while lowering prices;
- «leveling» the qualifications of personnel in competing enterprises due to the appearance on the labor market of highly skilled labor force released from state enterprises, research institutions and other organizations in the course of economic reforms.

As a result, the macro and microeconomic prerequisites for increasing competition in the Ukrainian market form an entirely new competitive environment for many enterprises and even more increase the need for immediate reform of their activities.

At the same time, the most serious results of the influence of economic transformations on the level of development of industrial enterprises undoubtedly include the «innovative explosion», which is a direct consequence of the intensive development of science and technology in the second half of the 20th century. Its action is repeatedly enhanced by globalization socio-economic processes [1, 6].

The main problem of management for enterprises that are highly sensitive to innovation, which primarily include high-tech industrial enterprises, is the choice of a development strategy focused on overcoming technological gaps. This indicates the existence of deep internal feedback between the management of technological and organizational change processes as a result of economic transformations [7].

In turn, this thesis leads to the need to rethink the content and driving forces of technical progress, in which, along with the function of time, the cost function of the cost of new technology is also highlighted. This inevitably leads to the conclusion about the introduction of the main criteria determining the competitive advantage, which are:

- 1. The speed of business ensures the timely response of an enterprise to a change in the state of its external environment through the timely preparation and implementation of technological transitions.
- 2. The cost of a business provides economic gain in the future through investments, the attraction of which is based on the correct formation and positioning in the market of the investment attractiveness of an enterprise.

Both criteria are derived from the fundamental lifesupporting properties of the enterprise – the ability to adapt to changes in the external environment. At the same time, they are directly related to the processes of the impact of economic transformations on the development of an industrial enterprise (Fig. 1).

The success of an industrial enterprise in the market depends largely on its development strategy. In Fig. 2 the d model of integration of strategic management methods into the subsystem of enterprise innovation management is considered. The application of the model allows to link the innovation process of economic entities with strategic development goals.

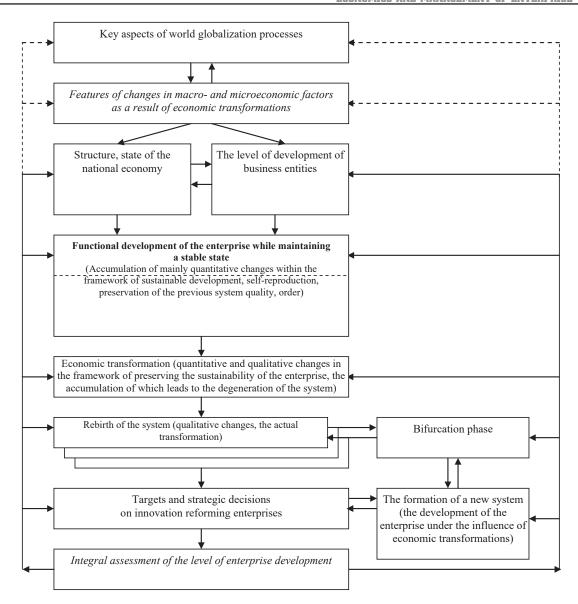


Fig. 1. A systematic approach to the stages of transformation of economic systems taking into account the objectives of sustainable development of enterprises

The basis of any strategy is economic provisions. In the system of management of innovative growth there are four types of target economic provisions [7]:

- production of new, more competitive products (innovation and technological growth);
- improvement of technology (modernization);
- development of new markets and technologies (market innovations);
- creation of a new organizational structure of the enterprise, a production management system (organizational and managerial innovations).

Important when building a mechanism for managing the development of an industrial enterprise under the influence of economic transformation processes is given to accounting for the stage of its life cycle. Certain economic indicators (Table 1) are responsible for each of the stages of development, which are different in importance in ensuring resistance to external factors.

Thus, depending on the identified stage of the life cycle, the differentiation of indicators of management decisions should be taken into account when developing an enterprise development strategy. After the identification of the stage of the life cycle of an enterprise has been carried out, it is necessary to state the main goals of its development. To do this, based on the analysis of the strategic positions of the enterprise in the occupied market segment, positioning of the advantages and identifying the main disadvantages (weaknesses) that impede the development of the enterprise and its value growth should be carried out. The basis of this analysis consists of special methods of strategic positioning, in particular: SWOT analysis, BCG matrix, McKinsey matrix, competitive analysis. Most of them involve the construction of a strategic matrix, the so-called spatial model, determines the position of the enterprise, depending on a combination of factors.

Quantitative characterization of these matrix parameters is carried out on the basis of aggregate indicators representing associations of the totality of indicators (q_i) and their evaluation, taking into account the significance of the impact (w_i) on the formation of the competitiveness level and the degree of market attractiveness.

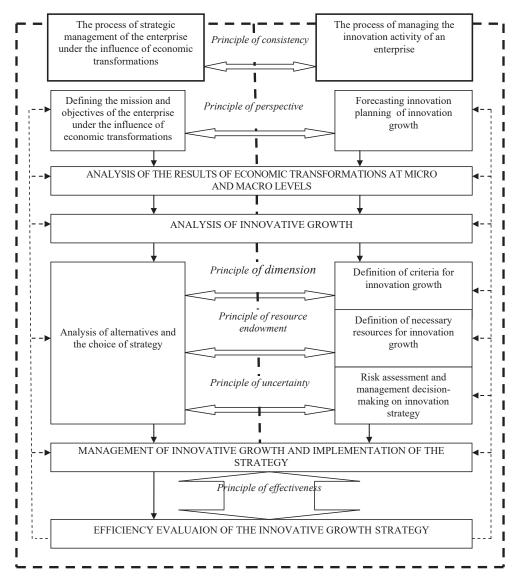


Fig. 2. The ratio of the stages of the processes of strategic management and innovation management of an industrial enterprise

Table 1
Priority of indicators of strategic management depending on the stage of the life cycle

	Indicators						
Life cycle stage	Li-	Sol-	Turn-	Volume	Profitability		
	quidity	vency	over	of sales	Capital	Sales	
Birth	+	+	-	-	-	-	
Growth acceleration	-	-	+	+	-	-	
Growth retardation	-	-	-	+	-	+	
Maturity	-	_	+	_	+	+	
Recession	+	_	_	_	+	+	

The method of analyzing hierarchies (MAH) allows constructing a matrix on the basis of pairwise comparisons of indicators and determining the weight (w_i) of the i-th indicator in the formation of an aggregate indicator for assessing a phenomenon, which is being investigated (Table 2).

Table 2Assessment of the significance of indicators

1 ***	.ssessment points (<i>a_{ij}</i>)	Quality characteristic	Significance of indicators		
	1	Equal significance	Equality of elements by significance		
	3	Weak significance	Insignificant advantage of one element in comparison with another		
	5	Essential (strong) significance	There are logical criteria confirming significant significance		
	7	Obvious significance	There is strong evidence of obvious value		
	9	Absolute significance	The advantage of one element over the other is confirmed		
2	2, 4, 6, 8	Intermediate values	With a fuzzy distinction between the respective levels of advantage		

The matrix of pairwise comparisons is based on the following provisions:

 10-point scale is a basis when comparing the weights of indicators:

- assessments obtained on the one hand from the main diagonal must be inverse estimates on the other side of the diagonal;
- assessment of significance is determined on the basis of the Table 2;
- according to the geometric mean method, the eigenvector (p_i) is calculated:

$$p_i = \sqrt[m]{\prod a_{ij}}, \ i, j = \overline{1, m},$$

where m – the number of indicators; the significance (weight) of the *i*-th indicator is estimated by the element (w_i) of the normalized vector.

The assessment of each indicator (q_i) is carried out by an expert, taking into account the established level (Table 3).

Pairwise comparison matrix

Indi- ca- tors	$q_1q_2q_{i\cdot}q_m$	Eigenvector $p_i = \sqrt[m]{\prod a_{ij}}$	Normalized vector ρ , % $w_i = \frac{\rho_i}{\sum\limits_{i=1}^{m} p_i} \cdot 100$
q_1	$1a_{12}a_{1i}a_{1m}$	<i>p</i> ₁	<i>w</i> ₁
4 2	$1/a_{12} \ 1 \dots a_{2i} \dots a_{2m}$	p 2	w_2
q_i	$1/a_{i1}$ $1/a_{i2}1a_{im}$	p_i	w_i
q_m	$1/a_{m1} \ 1/a_{m2}1/a_{mi}1$	p_m	w_m
Total	-	$\sum_{i=1}^{m} p_i$	100

After assessing the attractiveness of the market and its competitiveness, a multi-criteria matrix is constructed, reflecting the strategic position of the enterprise, which should be taken into account in managing its development under the influence of economic transformations. Based on its results, a new development strategy is being formed, which is designed to strengthen the competitive advantages of an industrial enterprise.

The organization of innovation management is carried out using methods that ensure the development and implementation of innovations in the enterprise. In connection with the presented target economic installations formed as a result of economic transformations that occurred as the main methods of managing innovation activities based on the formation of an innovation growth strategy should be considered [7, 8]:

- 1) a method based on the formation of an extensive innovation growth strategy (creation of a new, more competitive product):
 - research and development (R & D) work is underway;
 - corporate research institutes (CRI) and venture funds are created;
 - profile scientific groups are involved;
 - small innovative companies are bought up;
 - diversification is carried out in the direction of hightech fast-growing market segments;
 - an active patent and licensing policy is maintained;
 - there is a constant creation of new products;
- 2) a method based on the formation of a strategy of intensive innovation growth (improvement of technology):
 - updated equipment;
 - ready-made technological lines and technologies are purchased;

- third-party technologies are localized or introduced;
- research divisions are created which task is development of original products based on borrowed technologies;
- searches for new or unoccupied market niches;
- computer-aided design systems are being introduced;
- 3) a method based on the formation of a strategy for diversification of innovative growth (the development of new markets and technologies):
 - create new distribution and distribution networks, logistics chains;
 - develops a marketing policy;
 - there are changes in the structure, including the creation of vertically integrated branches and representative offices;
 - change the packaging and design of products;
 - updated and expanded product range;
- 4) a method based on the formation of a strategy of radical innovation growth (creation of a new organizational structure of an enterprise, production management system):
 - structured relationships between departments;
 - role of planning and budgeting is strengthened;
 - updated frames;
 - management information processing is computerized.

In this case, the methods are developed ways of influencing innovation activity in order to obtain an innovative effect. The expediency of applying a particular method depends on the task that has been set at this stage of the organization of the innovation process. The selection and justification of the best innovation growth strategy for each enterprise begins with the compilation of a register of possible basic and alternative strategies. Such a choice is made on the basis of the formation of strategic goals, analysis of the state of the enterprise and the external environment, analysis of the innovation potential and innovation activity.

The introduction of innovative technologies is a complex and lengthy process, requiring from the enterprise not only the availability of investment resources, but also the innovative activity of the production system. It is necessary to assess and form the centers of innovation activity in the enterprise to increase its innovative growth.

The purpose of the formation of centers of innovation activity is the creation of objective conditions for production, economic and innovation growth, allowing to provide an effective solution to the problems of enterprises and increase their innovative potential. The result of the formation of innovation activity centers of enterprises is the stability and efficiency of their functioning, increase in profits, innovative growth of the enterprise. The function of innovation activity centers is ensuring the ability of an enterprise to maintain equilibrium and sustainability of innovation growth in the long run.

7. SWOT analysis of research results

Strengths. The organizational-economic model of the stages of the processes of strategic management and management of the innovative activity of an industrial enterprise allows optimizing the management process in the enterprise. And the approach to determining the stages of the life cycle and position in the market allows you to increase the speed of computing information.

Weaknesses. The weaknesses of the study include:

- limited development indicators of the enterprise, taken into account in the formation of its development strategy;

 lack of practical recommendations on the application of the influence mechanism of economic transformations on the development of industrial enterprises of Ukraine.

Opportunities. The use of the influence mechanism of economic transformations on the development of industrial enterprises of Ukraine will allow them to reduce the cost of developing a strategic management system and increase business activity. Taking into account the stage of the enterprise life cycle and its position in the market in the formation of an innovation strategy can be applied to enterprises of any country in the world.

Threats. The threats to the introduction of research results include:

- changing laws on the economic sphere of Ukrainian industrial production;
- low innovative activity of enterprises;
- lack of funds to reform the management system.

8. Conclusions

- 1. It is revealed that on a global scale there is a clear structuring of countries, companies, which, according to most experts, can be represented in the form of a two or three-level pyramid, at the base of which are technological backward countries. It should be noted that Ukraine does not fit into the group of III level countries only because of its rather high scientific potential, level of education of the population and labor resources. Thus, Ukraine has important prerequisites for the effective development of industrial enterprises.
- 2. Among the main macroeconomic prerequisites that act as «catalysts» for the restructuring of Ukrainian industrial enterprises under the influence of the economic transformations that have occurred are highlighted:
 - privatization and formation of the non-state sector of the economy;
 - demonopolization of the economy;
 - increase in the number and diversity of enterprises operating in the domestic market of Ukraine;
 - liberalization of foreign economic relations;
 - abolition of direct price restrictions;
 - transition to a single market exchange rate and measures to ensure the convertibility of the national currency, etc.

Among the microeconomic prerequisites, the following are the most significant:

- change in the behavior of enterprises in the market;
- transformation of consumer behavior of consumers;
- «leveling» the personnel qualifications in competing enterprises due to the appearance on the labor market of highly skilled labor force released from state enterprises, research institutions and other organizations in the course of economic reforms.
- 3. It is theoretically proved that the choice of a development strategy oriented toward overcoming technological gaps becomes the main management problem for enterprises highly sensitive to innovation. This indicates the existence of deep internal feedback between the management of technological and organizational change processes as a result of economic transformations.
- 4. It is shown that when constructing a mechanism for managing the development of an industrial enterprise under the influence of economic transformation processes, importance is given to accounting for the stage of its life

cycle. Since at each stage of development there is different significance in ensuring sustainability to the influence of external factors, certain economic indicators: liquidity, solvency, turnover, sales, profitability. Depending on the identified stage of the life cycle, differentiation of indicators of management decisions should be taken into account when developing an enterprise development strategy.

Thus, the economic transformations that took place in Ukraine are due to the evolutionary processes of the development of a market-type economy and the intensification of globalization processes in the global economy, necessitating the formation of new mechanisms for managing the development of industrial enterprises. For this it is necessary at the macro level:

- to ensure an effective combination of the state organization of the economy and market self-organization;
- to overcome the gap between the real sector of the economy and financial markets and achieve an economically viable level of virtualization;
- to eliminate regional differentiation;
- to create conditions for eliminating significant income inequality;
- to ensure consistency between the newly created institutions that operate and the changes taking place in the economic system;
- to strengthen the socialization and moral content of economic relations.

In conditions when the state will play an active regulatory role in economic processes, it is possible to ensure the transition of industrial enterprises to an innovative and strategic level of development on the basis of the proposed approaches.

References

- 1. Sachs J. A New Map of the World // The Economist. 2011. P. 95.
- Inozemtsev V. Globalizatsiya natsional'nykh khozyaystv i sovremennyy ekonomicheskiy krizis // Problemy teorii i praktiki upravleniya. 2016. Issue 6. P. 18–23.
- Doing Business in 2016: Creating Jobs. Washington: World Bank & Oxford University Press, 2016. 188 p.
- Polonska L. A., Shepelenko O. V. Transaktsiinyi pidkhid do otsinky efektyvnosti upravlinnia pidpryiemstvom // Torhivlia i rynok Ukrainy. 2014. Vol. 2, Issue 16. P. 445–453.
- Silaev I. O kontseptsii preobrazovaniy v sovremennom obshhestve // Problemy teorii i praktiki upravleniya. 2016. Issue 3. P. 12-14.
- 6. Innovatsiina ekonomika: teoretychni ta praktychni aspekty. Vol. 1: monograph / Maslennikov Ye. I. et. al.; ed. by Maslennikov Ye. I. Kherson: Hrin D.S., 2016. 854 p.
- Buleev I. P. Institutsional'nye aspekty razvitiya ekonomiki i kapitalizatsiya predpriyatiya: monograph / ed. by Buleev I. P. Donetsk: NAN Ukrainy, In-t ekonomiki prom-ti, 2014. 897 p.
- 8. Velychko O. V., Dubovykov M. M., Liashchenko O. V. Mekhanizm formuvannia natsionalnoi investytsiino-innovatsiinoi systemy Ukrainy: monograph. Kyiv: Elton-2, 2015. 186 p.
- 9. Krush N. P. Analysis of strategy of innovative activity of corporate engineering enterprises depending on the direction of impact factors on their activities // Technology Audit and Production Reserves. 2016. Vol. 2, Issue 5 (28). P. 62–68. doi: http://doi.org/10.15587/2312-8372.2016.66088
- Donchak L. H., Tsikhanovska O. M. Sutnist ta udoskonalennia stratehichnoho upravlinnia pidpryiemstvom // Ekonomika. Upravlinnia, Innovatsii. 2016. Issue 2 (17).

Plakhotnik Olena, Doctor of Economic Sciences, Professor, Head of the Department of Economy and Organization of Production, Dniprovsk State Technical University, Kamyanske, Dnipropetrovsk region, Ukraine, e-mail: plahotnik_elena@ua.fm, ORCID: http://orcid.org/0000-0001-9717-2877