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## CONCEPTUALIZATION OF THE MODEL FOR INNOVATIVE DEVELOPMENT OF THE ECONOMY OF UKRAINE IN THE CONTEXT OF DECENTRALIZATION

**Abstract.** The article proposes scientific and methodological provisions for formation of the management model for innovative development of the economy of Ukraine on the basis of the general concept of socio-economic systems, taking into consideration the prerequisites and principles of a single system for implementing the goals of the model. Such a model includes the concept of innovative development, innovation strategies, innovation policy, and the mechanisms for innovative development management. It has been established that the formation of an effective management model of innovative development of the economy of Ukraine on the basis of adaptability and ability to provide a synergistic effect is possible provided striking the balance between the components with different potentials with a focus on natural potential. It has been identified the criteria for assessing the effectiveness of the management model for innovative development of the economy of Ukraine, which characterize the achievement by the country of a certain level of equipment and technology, the level of economic growth, welfare, and health of the population, intellectualization of society, environmental and economic security, etc. Further stages of decentralization in Ukraine and its impact on the economic development have been identified as follows: 1) deconcentration of power and resources; 2) adherence to the principles of the devolution of power; 3) power and resources will be distributed between traditional public authorities (state and self-governing) and market and public structures; 4) introduction of the newest models of public management of the economy. The priority tasks and features of the management model for innovative development of the economy of Ukraine in the context of decentralization are: 1) need to conduct research that will promote the use of opportunities for the progressive development of genetic research, combining an effective management system and technologies that complement the relevant achievements of genetics; 2) reducing the time for funding research, adapting the positive experience of highly developed countries; 3) formation of organizational and institutional structure aimed at simplifying the process of formation and implementation of economic innovations in Ukraine.

**Keywords:** innovations, economy, management, innovation potential, development, model, competitiveness, decentralization.

**JEL Classification** O10

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## КОНЦЕПТУАЛІЗАЦІЯ МОДЕЛІ ІННОВАЦІЙНОГО РОЗВИТКУ ЕКОНОМІКИ УКРАЇНИ В УМОВАХ ДЕЦЕНТРАЛІЗАЦІЇ

**Анотація.** Запропоновано науково-методичні положення щодо формування моделі управління інноваційним розвитком економіки України на засадах загальної концепції розвитку соціально-економічних систем з урахуванням передумов, принципів, єдиної системи забезпечення реалізації цілей моделі, що включає концепцію інноваційного розвитку, інноваційні стратегії, інноваційну політику, механізми управління інноваційною діяльністю. Установлено, що формування ефективної моделі управління інноваційним розвитком економіки України на засадах адаптивності та здатності забезпечувати синергетичний ефект можливе за умови збалансування балансу в компонентах різних потенціалів з орієнтацією на природний потенціал. Ідентифіковані критерії оцінки ефективності моделі управління інноваційним розвитком економіки України, що характеризують досягнення економікою певного рівня техніки і технологій, рівень економічного зростання, добробут і здоров'я населення, інтелектуалізації суспільства, еколого-економічної безпеки тощо. Визначено перспективні етапи здійснення децентралізації в Україні та її впливу на розвиток економіки: 1) деконцентрація владних повноважень і ресурсів; 2) дотримання засад деволюції влади; 3) владні повноваження і ресурси розподілятимуться між традиційними органами публічної влади (державними й самоврядними) та ринковими і громадськими структурами; 4) запровадження новітніх моделей публічного управління економікою. Пріоритетними завданнями й особливостями реалізації моделі управління інноваційним розвитком економіки України в умовах децентралізації є: 1) необхідність проведення науково-дослідних робіт, що сприятиме використанню можливостей для прогресуючого розвитку генетичних досліджень, поєднуючи ефективну систему управління і технологій, які доповнюють відповідні досягнення генетики; 2) скороченням часу на фінансування наукових досліджень, адаптуючи позитивний досвід розвинутих країн; 3) формуванням організаційно-інституційної структури, орієнтованої на спрощення процесу формування і реалізації інновацій економіки в Україні.

**Ключові слова:** інновації, економіка, управління, інноваційний потенціал, розвиток, модель, конкурентоспроможність, децентралізація.

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**Introduction.** Current trends in socio-economic transformations are not limited to relevant technical and technological processes but consist in their extremely complex symbiosis, which

requires the coordination of permanent social requirements and needs through effective reorientation of public administration mechanisms to innovative development. The economy of Ukraine as a complex open system is characterized by general patterns of development, which are influenced by exogenous (globalization and modernization processes) and endogenous (material goods, human resources, commodity relations, etc.) fluctuation parameters. Negative trends in the functioning of the economy of Ukraine in the context of decentralization are due to a combination of objective and subjective factors, namely: loss by the state of leadership in international markets, low level of economic freedom and efficiency of innovation activity, ineffective economic reforms and others. Given the above, there is an urgent issue on neutralization of the threats of degradation of the economy and taking potential opportunities to ensure its innovative development in the context of decentralization. The solution to the problem involves formation of a resonant management model of innovative development by changing the paradigm of thinking in the society and positioning Ukraine as a country with a sustainable developed economy.

**Analysis of research and problem statement.** The following scientists have made a significant contribution to the development of scientific and methodological provisions and practical aspects of management of the innovative development of the economy: V. Borshchevskyi [1], I. Hrynyk [2], V. Derhachov [3], V. Liashenko, O. Prokopenko, V. Omelianenko [4], T. Shestakovska [5] and others. In the methodological aspect, we share the position of V. V. Zianko [6, p. 176] on the non-identity of the concepts of «innovative model of development» and «model of innovative development». Wherein, the model of innovative development of the system is proposed to be considered as a structure, a scheme of work and the principles of system construction, strategic and tactical goals of its development, assessment of resources which such a system has, the mechanisms for attracting funds for processing of available resources, and management of units and system elements [6, p. 103].

V. A. Derhachov defines the model for innovative development as a model for economic development based on high technologies that contribute to the provision of competitive products in foreign markets [3, p. 116]. Despite the one-sidedness of this provision regarding the creation of competitive advantages only in the foreign market, it is indisputable the creation of a management model for innovation development [7, p. 104].

The theory and practice of the process of decentralization of the public administration system have been studied by V. Bakumenko, S. Popov [8], A. Melnychuk, P. Ostapenko [9], and others [10; 11].

**Unsolved aspect of the problem.** Ukrainian scientists in their works approached this problem comprehensively and reflected the main directions for ensuring the stability of innovative development of the national economy and key aspects of organizational and institutional support. However, insufficient attention has been paid to some theoretical and methodological principles of the formation and implementation of the model for innovative economic development of Ukraine in the context of decentralization.

**The purpose of the article.** Given the above, the purpose of the article is to study the scientific and conceptual foundations of the management model for innovative development of the economy of Ukraine in the context of decentralization.

**Research results.** The main institutions in an innovative society are integrated structures that combine the production of new knowledge and its commercialization. In general, the management model for innovative development is characterized by a complex structure, the main elements of which are: generation of scientific knowledge; level of education and advanced training; commercialization of research and innovation; technology and innovation transfer; protection of intellectual property; adjustment tools.

Among the main current issues of innovative economic development, it should be highlighted the following: 1) low level of transfer of innovative technologies; 2) inefficiency of mechanisms to support innovation and its financing by the state; 3) insufficiently developed infrastructure and monitoring of the innovation market in Ukraine [12, p. 68—70]; 4) high risks of innovation; 5) ineffective mechanism for protecting the results of scientific research. To assess the effectiveness of innovative economic development, the legislation provides a set of indicators that have threshold

values, in particular: 1) share of state expenditure on science in GDP, % (not less than 1.7—2.0); 2) share of economic entities implementing innovations (not less than 50%); 3) number of R&D personnel per 1,000 people (not less than 9); 4) ratio of the number of implemented intellectual property objects to registered ones (at least 90%) [13, p. 142]. The current level of innovative activity of economic entities in Ukraine also has threatening tendencies (*Table*).

Table

**Indicators of innovative development of the economy of Ukraine**

Indicators	Years								2019 to 2006 (+,-)
	2006	2013	2014	2015	2016	2017	2018	2019	
Share of state expenditure on innovative activities in the structure of GDP, %	0.8	0.34	0.29	0.33	0.33	0.27	0.19	0.15	-0.23
Share of expenditure on innovative activities in the structure of GDP, %	0.78	0.75	0.65	0.67	0.70	0.60	0.55	0.48	-0.3
Number of innovation active enterprises, thous. units	-	1.2	0.8	1.4	1.3	1.2	0.7	0.9	-
Share of innovation active enterprises, %	9.3	9.8	10.7	12.1	13.4	15.5	15.0	15.2	+5.9
Number of R&D personnel, per 1,000 ppl.	463	418	376	366	371	350	342	352	-111

*Source:* calculated according to the State Statistics Service of Ukraine.

According to statistics, the average level of innovative activity of economic entities in Ukraine remains quite low compared to the indicators of innovative development security — 15.2%. In turn, only about 5% of these economic entities are fully active, as recently a small number have carried out either partial innovations (product, marketing, process) or interrupted innovations.

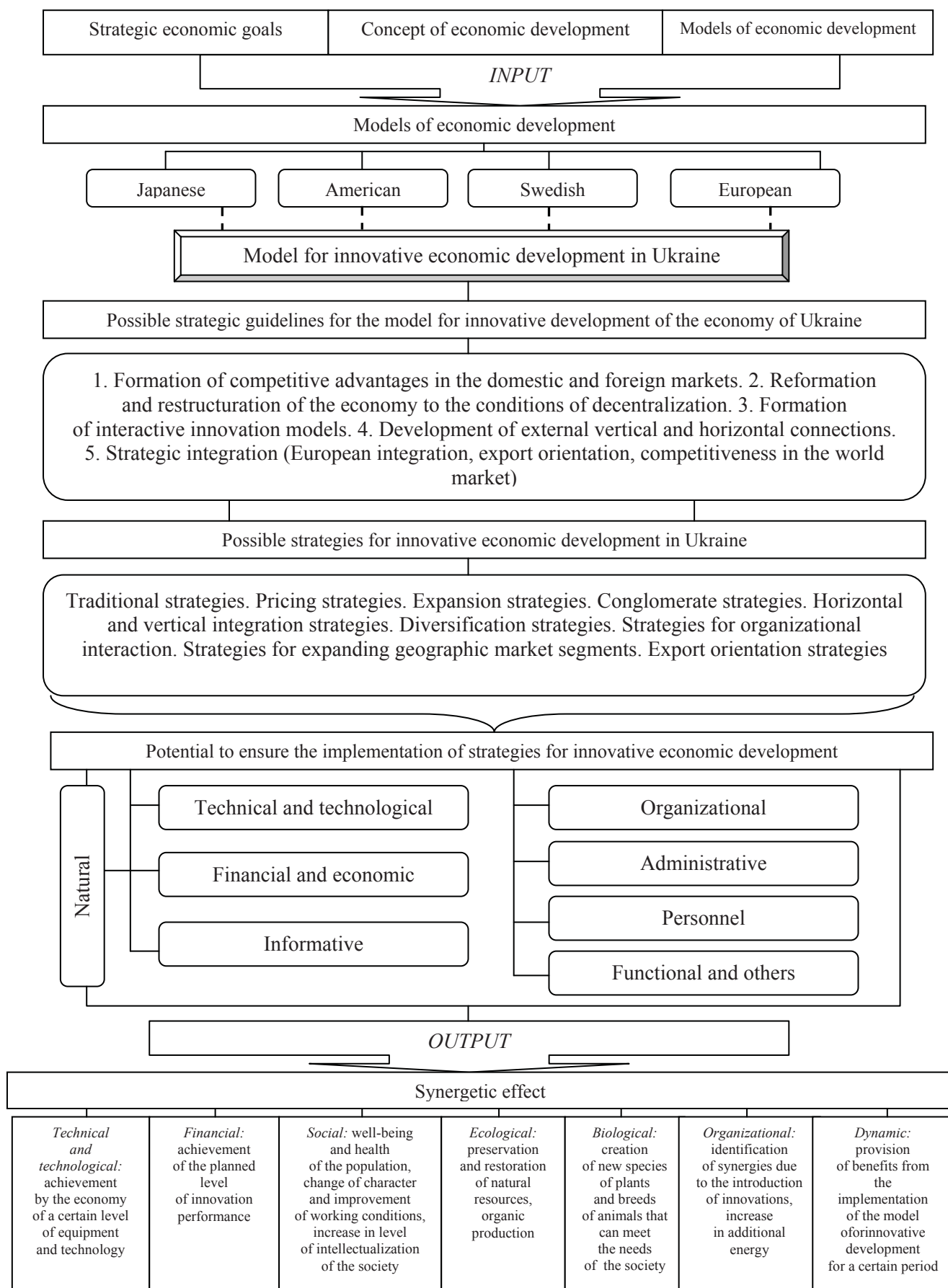
The number of scientific personnel per 1,000 people is rather high despite the decrease, its number reached 352 people in 2019 (with the normative value of this indicator of innovative development security not less than 9 people). This ratio is due primarily to sharp trends in population decline. According to the research, the main reasons for the low level of innovation activity of economic entities and the factors affecting the economy include: limited financial resources for active innovation; high cost of credit resources; limited government grants and programs to support the development of innovation capacity for most small and medium enterprises; riskiness of innovation, which, in some cases, does not provide opportunities to recoup additional costs.

It has been established that the management model for innovative economic development will be effective if the following conditions are observed: readiness of the society and its institutions to carry out activity on the principles of innovative development; proper investment and innovation climate to ensure the innovative economic development at the macro, meso and micro levels; formation of a management system and implementation of the model for innovative economic development, which provides for the development of the concept of innovative development, state innovation policy based on decentralization, innovation development strategies, mechanisms for managing innovation, focused on meeting and unity of socio-economic interests in decentralization.

The globalization of socio-economic processes in Ukraine requires the formation of new methodological approaches to the formation of the management model for innovative economic development in the context of decentralization. Successful implementation of decentralization contributes to the innovative development of the economy through:

- increasing accountability and responsibility of government structures by forming their new structure, closer to the people and open to innovation;
- reducing abuse of power through the transfer of certain functions of the central government to lower levels;
- improving political stability by giving organized territorial groups the opportunity to control the process of economic development;
- strengthening economic competition through the creation of new small communication platforms for competition of regional markets.

According to the authors, the development of a general management model for innovative economic development in the context of decentralization and the choice of appropriate strategies should be based on the use of positive international experience and take into account the natural features of the regions of Ukraine and the general socio-economic situation (*Fig. 1*).



**Fig. 1. Scheme of formation of management model of innovative development of the economy of Ukraine**

Source: developed by the authors.



In the process of choosing a model of innovative economic development, there is a need to develop management mechanisms in accordance with the requirements and evaluation criteria of modern global systems. In turn, we note that in the context of globalization, the pressure on all participants in the global process increases significantly, so more dynamic and flexible are the competitive advantages, which must have system-integrated features with an active focus on sustainable innovation. It is the fulfillment of such a requirement that is possible in the context of the implementation of the management model for innovative development of the economy and directly of economic entities.

The management model for innovative development of the economy of Ukraine should be based on an integrated system that will take into account different types of innovations: product, management, process, organizational and informational, technical and technological, and biological. Types of innovations in the economy are determined by the peculiarities of its functioning and outcomes.

The overall effectiveness of the management model for innovative development of the economy of Ukraine is primarily determined by the level of balance of all its components as capabilities of economic entities. Only the systemic balance of the management model for innovative economic development contributes to the principles of adaptability and ability to ensure a synergistic effect of its implementation. Natural potential is the basic one, which influences the formation of other types of potentials in order to maximize the usefulness of the relevant potential of the breed, plant varieties, etc.

Thus, the economy has some features regarding the implementation of the management model of innovation development, because its system-forming factors are biological assets and target orientation in the context of ensuring the economic security of the state. Such features determine the methodological basis of research and evaluation of the results of innovative development of the economy of Ukraine.

Based on the fact that the management model for innovative economic development should ensure movement of the whole country to a more humanized society, its effectiveness is influenced by the factors that indicate progress towards a progressive form of its functioning. It is logical that such factors are in all social spheres, namely socio-economic, political, cultural, as it is in their harmonious symbiosis is the humanization of civilization. Subject to introduction of such provisions in the economy of Ukraine, the effectiveness of the management model for innovation development is measured primarily by the improvement of all its subsystems, and contribution to the overall development of the country.

A feature of the management model for innovative development is its pronounced synergetic nature, as a result of which the efficiency of innovation is constantly growing. In addition, the multiplier effect of the commercialization of innovations is integral, as the economic effect in production is accompanied by positive changes in the development of education, culture, and the entire socio-economic system. It is due to such changes that the management model of innovative development and scientific and technological progress become the main factors that contribute to the most rational use of labor, material, and financial resources, and the most effective use of socio-economic and other management mechanisms [6, p. 179].

We support the position of scientists [1—6] that the effectiveness of the functioning and development of any socio-economic system largely depends on the choice of its effective model. In turn, the evaluation of the effectiveness of both the system and its model should be objective, comprehensive, and, if possible, quantitative. Therefore, it is important to identify objective and unambiguous criteria for evaluating effectiveness, which would make it possible to compare models that differ in their principles, objectives, resources, and management mechanisms.

Methodologically based on the postulate that the key goal of innovation is the cumulative synergetic effect, to assess the effectiveness of the management model for innovative development of the agricultural sector in Ukraine, we have identified effects and their indicators at the state level (*Fig. 2*).

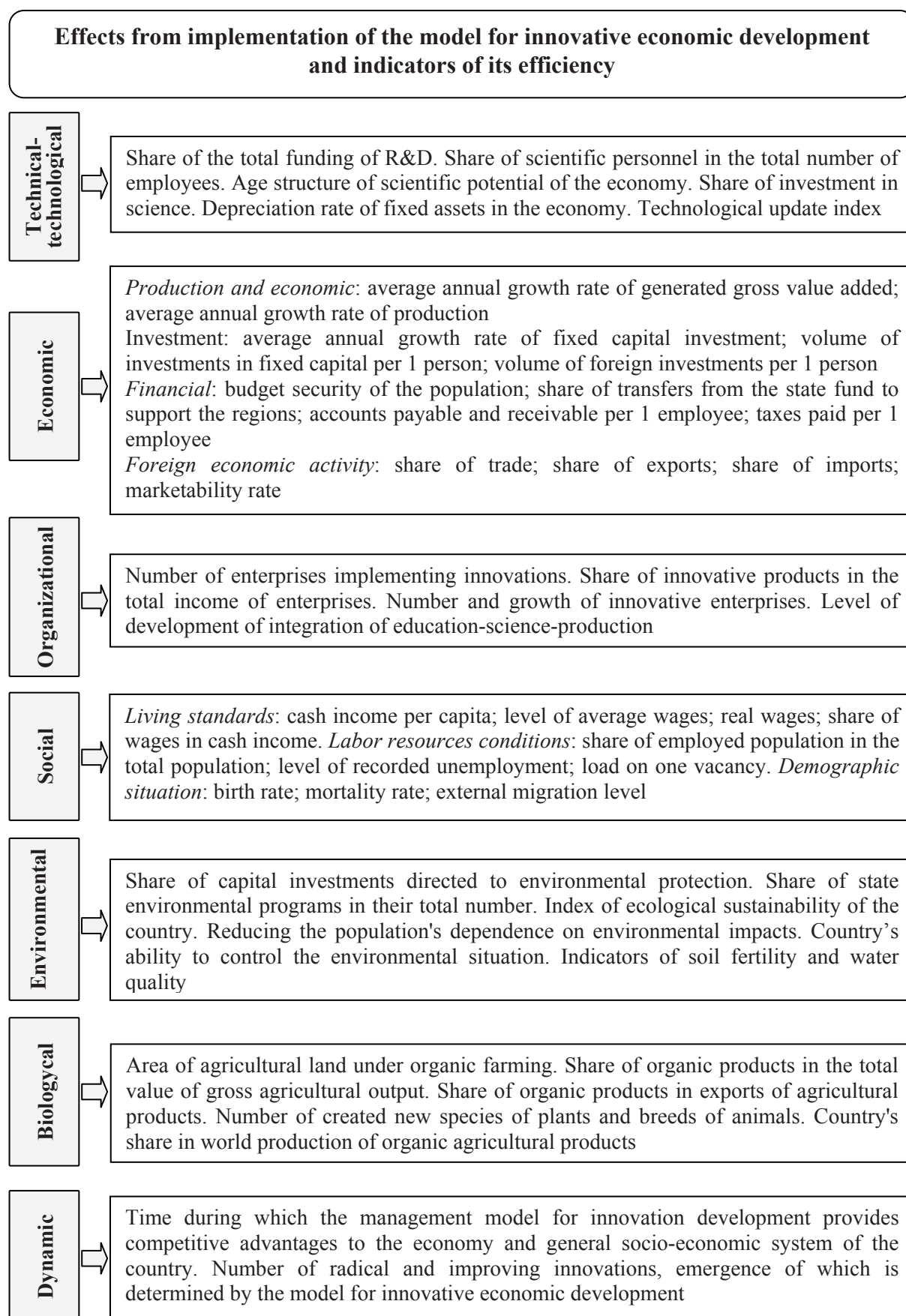


Fig. 2. Effects and indicators of the model for innovative development of the economy of Ukraine in the context of decentralization

Source: developed by the authors.

Research conducted on modern theories and empirical research in the field of competition allowed to identify signs of change in the nature of competition, including the growth of demand for innovation and intensification of their reuse, which leads to increased competitive behavior of market participants [11, p. 12].

Given that at the present stage the competition for the relevant resources has given way to competition for the consumer, we note that innovation is the basis for competition and a condition for the competitiveness of the economy. Having established the relationship between competitiveness, competitive stability of the economy, and its innovative development, we consider it reasonable to assess the effectiveness of the use of the potential of innovative economic development through these categories.

Note that the potential of innovative economic development is variable and depends on a combination of the following factors: dynamics of socio-economic development of Ukraine and economic entities; pace of change in the global space; level of civilization of highly developed countries; pace of human capital development; Ukraine's dependence on the requirements of globalization; level of saturation and development of the domestic market of goods and services; selected internal and external strategies; priorities in the export direction of the economy, etc. Furthermore, evaluation of the effectiveness of the use of the potential of innovative economic development through the level of its competitiveness and competitive stability should be carried out from the standpoint of system integrity with a focus on the final product, strategy, or tasks.

**Conclusions.** The management model of innovative development of the economy has a significant impact on social development. Such a model is a more complex structure as it considers involvement of natural resources in functional and production processes. It has been established that such complexity presupposes compliance with the set of requirements for the effective implementation of the management model for innovative development of the economy of Ukraine, namely: 1) readiness of the society for innovative development; 2) proper innovation and investment climate at all levels of government; 3) system of public administration is formed; 4) consistency of the development concepts of economy, society, institutions, social and labor, power, land, and other relations. Given the targets of innovative development of the economy of Ukraine to improve quality and living conditions, it has been found that the effectiveness of the management model for innovative economic development is determined by a set of interrelated effects (technical-technological, socio-economic, environmental, organizational, biological, and dynamic), which has a clear structure depending on the tasks and objectives of the economy.

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