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ASSESSMENT OF THE STABILITY OF THE NATIONAL ECONOMY DEVELOPMENT IN THE POSTINDUSTRIAL SOCIETY

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Abstract. The article presents the results of the national economy development stability assessment in the postindustrial society. The method of assessment based on the efficient state management under optimal economic, innovation and investment, and social conditions is proposed.

Keywords: development, economic sphere, sphere of innovations and investments, social sphere, national economy, stability of development, method of assessment, postindustrial society, Ukraine.

Problem statement. The development of the world national economies takes place in the unstable environment resulting in the necessity of the systems transformations of the economic development state control mechanisms that are to create prerequisites for the economies successful adaptation to the changing environmental conditions.

Scientific economists have studied the role of the state in the national economy development for a long time during which the state has been transformed from “the night watchman” (A. Smith) to an active economic agent. The Nobel Prize laureate American economist P. Samuelson questioned M. Friedman’s idea of a self-regulating market system [4, p. 16], and noted that without government regulation maintaining economic stability was rather difficult.

Analysis of recent research and publications. The fundamental principles of the state role in a country’s economy are dealt with in the works of A. Smith, J. Schumpeter, W. Baumol, P. Drucker, F. Liszt, P. Samuelson, M. Tugan-Baranovsky. The features of the state management

of the national economic development are studied by the following Ukrainian scientists: A.I. Amosha [5, 6], B.M. Andrushkiv [5], S.J. Vovkanych [7], A.P. Gaydutskiy, A.S. Galchynskiy, V.M. Geyets [8], B.M. Danylyshyn, M.P. Denyisenko, E.V. Myhasyyuk, Y.M. Libanov and others.

Research objective is to propose the method for assessing the stability of the national economy that considers the instability and chaos of the national economy development as well as its structural and technological transformation.

Research material. Under modern conditions of economic development, the state becomes the main economic agent in the national economy acting via state governance mechanisms and state economic policies. By its essence, “management is the process of planning, including forecasting and programming, organizing, motivating (stimulating) and controlling (regulating) that is necessary for formulating and achieving the objectives of the economic agent” [1, c. 892].

In the theory of public administration, there are distinguished three levels of the economic systems management (Fig. 1) and the following methodological approaches to the national economy management: functional, process, systematic, situational and others. According to the functional approach, there are five general management functions of the national economy development: planning (including forecasting), organizing, motivating, monitoring (including analyzing) and regulating that are embodied in actual management practice.

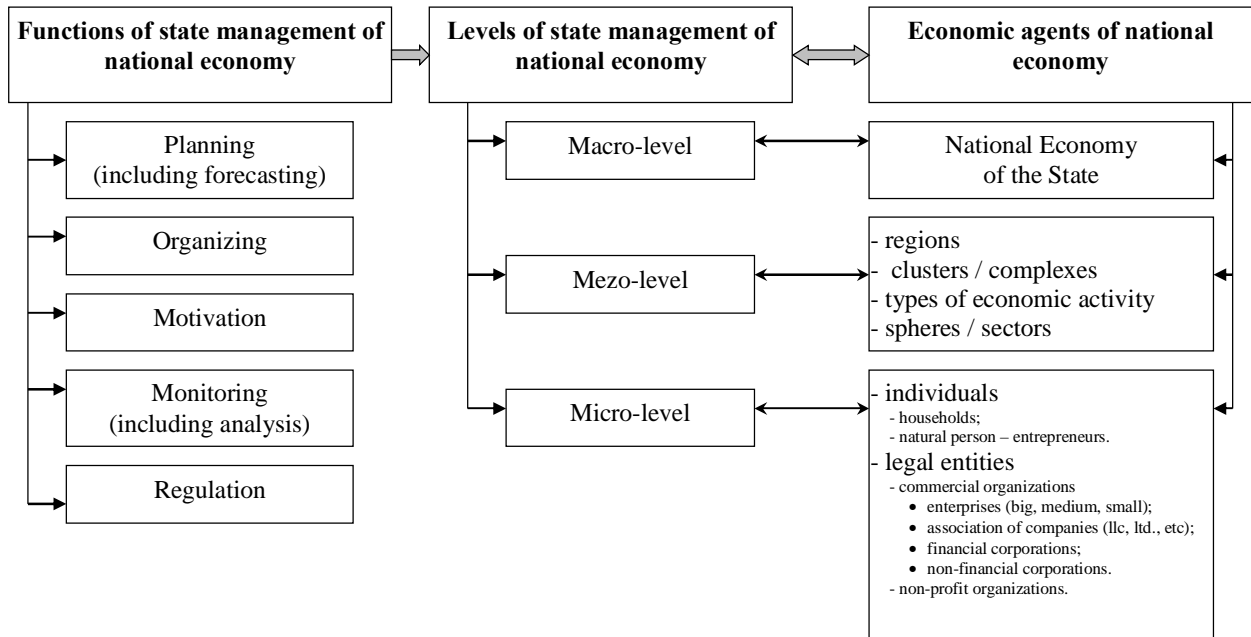


Fig. 1. Interrelations of the national economy management functions and levels with the economic agents

Note: compiled by the authors

The national economy development management should be regarded as a set of functions of state governance comprising planning and forecasting of the development indicators, organizing of the state mechanism to ensure the stability of the national economy operation and development, stimulating the development of the national economy, controlling the conditions and level of the national economy development against the established (planned/predicted) indicators and its regulating.

Stable functioning and development of the national economy, as any dynamic system, can be achieved through the process of governance. Decisions concerning execution of the management functions and the degree of the government interference into the national economy are made by every country independently in accordance with its economic strategy and the economic policy objectives. However, it is possible to isolate a set of factors affecting the decision-making :

1) awareness of the complexity of both theoretical justification and practical implementation of the state presence in the economy, the adequate complexity of the national economy itself;

2) ability of the state as an authority institution to exercise its functions in order to

promote the stable development of the national economy through management of all agents of the economic system;

3) state management of the national economy development is considered optimal when not only controlling functions but also regulatory and coordinating functions are realized, though sometimes the state does not pay due attention to them;

4) the system of the national economy development may be considered flexible, if the state authorities are constantly improving models, methods and tools of the state governance adjusting them to the country's strategic goals and objectives as well as the global challenges [2];

5) economic processes in the modern world (such as globalization) make interrelations between countries closer; nowadays, a crisis occurring in one national economy can spread globally [3, c. 82].

So, management of the national economy development should be systematically viewed through the prism of functions: planning, organizing, motivating (stimulating), analyzing, monitoring and controlling of the activities of all the agents of the national economy; this is necessary for public officials to make adequate decisions on the further development of the national economy.

Assessment of the stability of the national economy development in the postindustrial society

Considering our national economy openness and growth of negative external tendencies, it is necessary to improve the existing assessment methods of the Ukrainian economy development, the methods having been developed with the account of the main principles of the macro-level state governance: the absence of the stable trends in the national economy development, i.e. unstable, or chaotic development, negatively affects the present conditions and the further development of the national economy.

Analyzing the economic development stability level following the proposed approach allows to determine the national economy present condition and the further development tendencies as well as to identify the “jumps” and asymmetry in its development. Analysis of the national economy development stability is also the basis for determining development priorities and decision-making at macro – and mezolevel, this allowing to determine compliance or non-compliance of the national economy development with the nationwide criteria, to identify strengths and weaknesses in the state governance of the national economy and to discover specific mezolevel features.

The general sequence of analyzing the research object’s stability consists of four mutually agreed and logically constructed stages (Fig. 2).

Using correlation and regression analysis, from the set of 32 indicators there were selected 23 indicators, they significantly affecting the stability of the national economy: Gross Domestic Product (GDP) (macrolevel) or Gross Regional Product (mezolevel) (X_1); industrial output (X_2); the volume of agricultural production (X_3); the amount of foreign direct investment (X_4); the amount of investments in fixed assets (X_5); the number of subjects of EDRPOU (X_8); the number of small enterprises per 10 thousand of population (X_{10}); the level of renewal of fixed assets (X_{14}); foreign trade balance (X_{16}); export/ import ratio (X_{17}); the proportion of firms that introduced innovations in the total number of enterprises (X_{18}); Consumer Price Index (X_{19}); incomes of the population (X_{20}); expenditures of the population (X_{21}); average real wages of workers (X_{22}); employment (X_{23}); registered unemployment rate (X_{24}); labor demand (X_{26}); productivity of employees (X_{28}); load per one workplace (X_{29}); proportion of businesses that created and used advanced technologies in the total number of enterprises (X_{30}); level of financing innovative activity (X_{31}); expenditures on scientific and technical works (X_{32}).

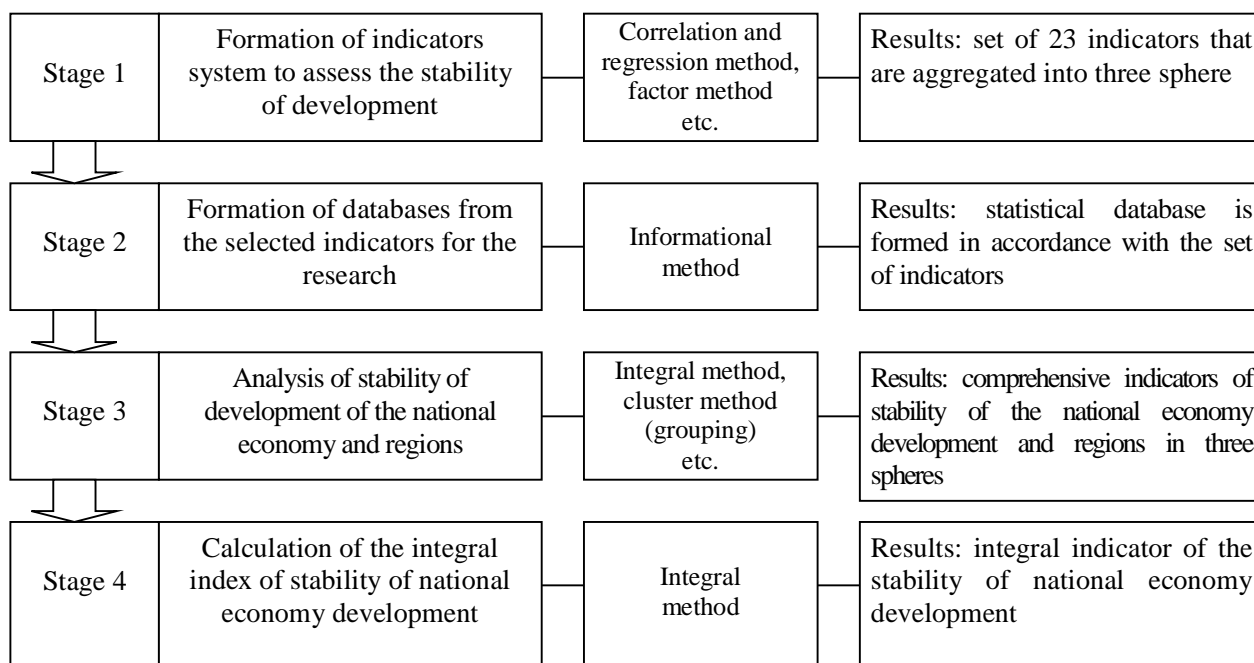


Fig. 2. Sequence of analyzing the stability of the national economy development

Note: compiled by the authors

The indicators selected have been aggregated by three directions using factor analysis: “economic sphere (I_{es})” (1), “sphere of innovations and investments (I_{is})” (2) and “social sphere (I_{ss})” (3):

$$I_{es} = F(X_1, X_2, X_3, X_8, X_{10}, X_{16}, X_{17}); \quad (1)$$

$$I_{is} = g(X_4, X_5, X_{14}, X_{18}, X_{30}, X_{31}, X_{32}); \quad (2)$$

$$I_{ss} = f(X_{19}, X_{20}, X_{21}, X_{22}, X_{23}, X_{24}, X_{26}, X_{28}, X_{29}). \quad (3)$$

We suggest calculating the integral indicator of the national economy development stability (SD_{ne}) by the following formula:

$$SD_{ne} = \sqrt[3]{I_{es} \cdot I_{is} \cdot I_{ss}}. \quad (4)$$

The proposed system of indicators of the country’s economic development allows to objectively and fully assess its quality by parameters of economic, innovation and investment, and social spheres, and thus provides an environment for making informed decisions on forming the model of the country’s future development. The indicators that are reflecting the development of the national economy in the current situation are: Gross Domestic Product (GDP) (macrolevel) or Gross Regional Product (mezolevel) (X_1); amount of foreign direct investment (X_7); amount of investments in fixed assets (X_5); the number of small enterprises per 10 thousand of population (X_{10}); proportion of the firms that introduced innovations in the total number of enterprises (X_{18}); productivity of employees (X_{28}); proportion of businesses that created and used advanced technology in the total number of enterprises (X_{30}); the level of financing innovative activity (X_{31}); expenditures on scientific and technical works (X_{32}). As a result, the integral parameters of the national economy development stability were calculated, they being between 0 and 1. The levels of these parameters were classified into four groups which are formed by the criteria of mathematical statistics:

– Group 1 includes the development stability indicator within $0 \leq SD_{ne} < 0.25$ characterized by high development stability in economic,

innovation and investment as well as social spheres;

– Group 2 includes the development stability indicator within $0.25 \leq SD_{ne} < 0.5$ characterized by a medium level of stability in all the three areas;

– Group 3 includes an indicator of development stability within $0.5 \leq SD_{ne} < 0.75$ characterized by unstable development;

– Group 4 includes an indicator of development stability within $0.75 \leq SD_{ne} < 1$

where the studied object is characterized by chaotic development in economic, innovation and investment, and social spheres, indicating a rapid, disorganized and irregular development of the national economy.

According to the results of the research, it was found that during the 2000 – 2013 period the paradigm of the national economy development of Ukraine did not change that proves the average stable level of the national economy development ($SD_{ne} = 0.252$). However, the regional development dynamics is not homogeneous: in Cherkasy (0.356) and Kyiv (0.354) regions changes were going on and this is reflected in their unstable and even chaotic development, while Mykolayiv (0.249) and Chernihiv (0.255) regions were developing steadily that indicates the retention of the industrial type of the national economy.

The dynamics of the integral indicator components of the national economy development stability in economic (I_{es}), innovation and investment (I_{is}) and social (I_{ss}) spheres of Ukraine is presented in Fig. 3.

The results of the calculations make it possible to determine in what spheres of the national economy by specified directions there are or there are no tendencies to stability in the country in general and in particular regions. Thus, according to the integrated indicators, the development of the Ukraine’s national economy is characterized by the tendencies of asymmetry: instability of development in the innovation and investment sphere, the average stable level of development in the social sphere and the stable level in the economic sphere.

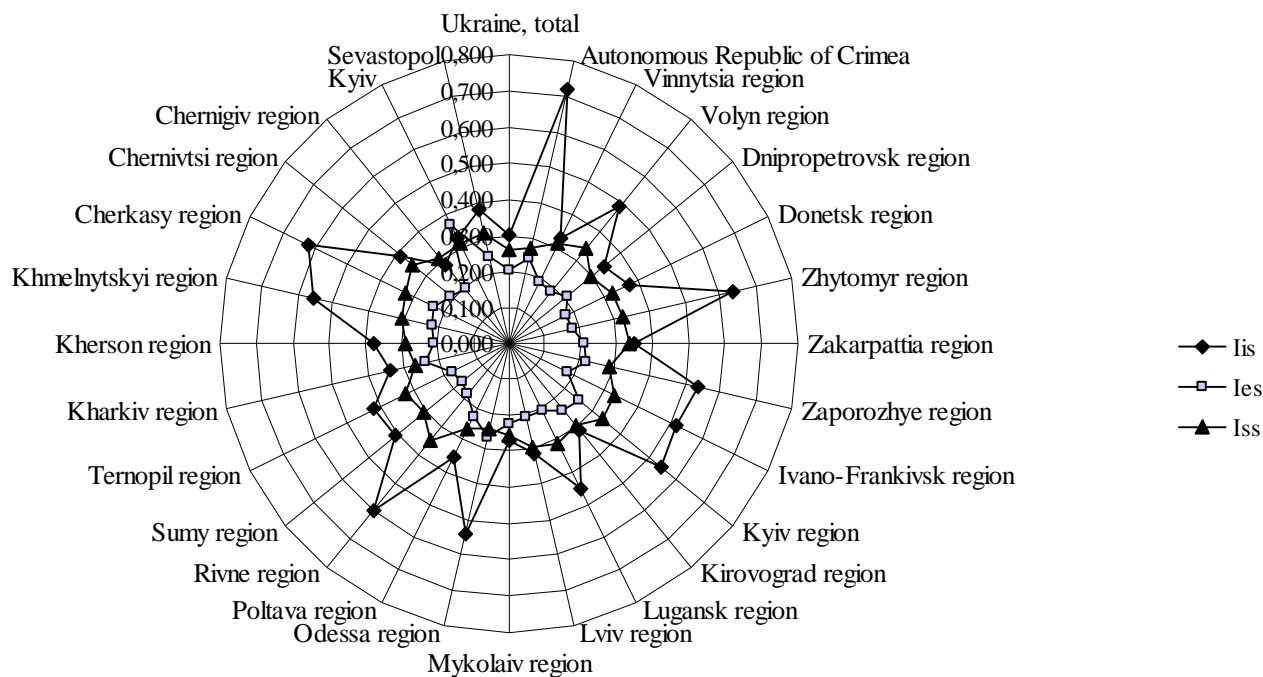


Fig. 3. Dynamics of the integral indicator components of the national economy development stability in economic (I_{es}), innovation and investment (I_{is}) and social (I_{ss}) spheres of Ukraine during 2000 – 2013

Note: compiled by the authors based on the results of their own research

In the economic sphere of Ukraine as a whole country and in all its regions, there are observed the trends of stability by such indicators as the development of business activities, industrial and agricultural production. However, the chaotic tendencies of the national economy development are characteristic for innovation and investment sphere (innovation activities of enterprises, investment in fixed capital and foreign direct investments) and foreign economic affairs (foreign trade balance). We believe that the existence of the stability trends in certain areas and spheres of the national economy (in the country in general and in its particular regions) is explained by the level of the state governance and the state policy commitment, namely by the government priorities in the national economy development, implementation of the government programs and national projects.

In the social sphere of the national economy during the studied period there are also indicators that signal either presence or absence of the development stability tendencies. Thus, indicators that are characterized by stability are the labor market (employment and unemployment rates, wages) and the consumer market; while the

indicators with no trends of stability include productivity, incomes and expenditures of the population. Similar to the economic sphere, existence of stability trends in certain spheres of management of the national economy development (in the country in general and in particular regions) is explained by the level of state governance and state priorities in social development, implementation of the government programs and national projects.

Conclusions. The proposed methodical approach to assessment of the national economy development stability is achieved on the basis of the efficient state management under optimal economic, innovation and investment, and social conditions. It has been discovered that instability and chaos of the national economy development is observed during the economic paradigm change accompanied by both structural and technological transformations. The developed methodical approach to the national economy development assessment is multivectoral because it allows carrying out assessment and analysis of all areas of the national economy.

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