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*O. V. Pyrog,
Doctor of Economic Science, Associate Professor,
Associate Professor of Department of Management and International Business, Lviv Polytechnic National University, Lviv*

STRUCTURAL CHANGES IN THE MODEL OF NATIONAL ECONOMY OF UKRAINE UNDER AN INFLUENCE OF INFORMATIZATION OF SOCIETY

*O. B. Пирог,
д. е. н., доц., доцент кафедри менеджменту і міжнародного підприємництва,
Національний університет «Львівська політехніка», м. Львів*

СТРУКТУРНІ ЗМІНИ В МОДЕЛІ РОЗВИТКУ НАЦІОНАЛЬНОГО ГОСПОДАРСТВА УКРАЇНИ ПІД ВПЛИВОМ ІНФОРМАТИЗАЦІЇ СУСПІЛЬСТВА

The article presented the result of empirical analysis of the development of the information society, which leads to the formation of a new paradigm of the national economy and structural changes in the model of the national economy of Ukraine under the influence of active development of the information society.

У статті представлені результати емпіричного аналізування розвитку інформаційного суспільства, що спричиняє формування нової парадигми розвитку національного господарства, та структурних змін в моделі розвитку національного господарства України під впливом активного розвитку інформаційного суспільства.

Keywords: *model of development, structural changes, sectoral model, informatization of society, national economy, Ukraine.*

Ключові слова: *модель розвитку, структурні зміни, секторна модель, інформатизація суспільства, національне господарство, Україна.*

Introduction. Creation and development of the information society, as well as emergence of modern production methods and expansion of new production factors transforms models of economical development of countries. In scientific literature, term "information society" was introduced in 1966 by the group of Japanese experts, which used this term while preparing economic planning recommendations for Japanese government. According to their recommendations, the term "information society" was defined as a society in which the process of computerization gives people access to reliable sources of information, frees them from their routine work and provides a high level of automation of production [1, p. 24].

Analysis of recent research and publications. Issues of national economy development under conditions of information society are explored by both Ukrainian (O.I. Amosha [2], V.M. Heyets [3], M.Z. Zgyrovskiy, M.O. Kizim, V.P. Seminoshenko [3], L.I. Fedulova, A.S. Filippenko [4], A.A. Chukhnoo [5]), and foreign scientists (D. Bell [6], M. Castels, G. Kolodko [7], M. Todoropo [8], J. Shumpeter). However, the continuous evolution of modern society and the rapid development of information technology modify the models of development of the national economies of the world community.

Purpose of the research. The aim of article is to identify structural changes in the model of economical development of Ukraine under the influence of active evolution of the information society in accordance with results of empirical research.

Main material of research. J. Stiglitz [9] defines the information society as a fundamental shift of paradigm, which prevails in the social sciences. V.M. Heyets and V.P. Seminoshenko support this view, arguing that current "goal of every civilized country is to build an information society" [3, p. 180].

A.I. Rakitov [10] treats the information society as a society where all means of information technology, such as: computers, integrated technologies, satellite and other communications, video, software, research, aimed at making the information publicly available and actively implemented in industry and everyday life.

L.V. Lebedeva and S.O. Pyrig share another opinion on the definition of "information society". L.V. Lebedeva [11, p. 166] considers it as one of the many evolutionary forms of post-industrial society that has information as a main resource of production. S.O. Pyrig [12] defines the information society as a specific sector that emerged due to the development of global informatization process and that got production, processing and distribution of information (including production of means of informatization, information products, services, and information market) as main features.

The basis of the information society is information while factors of its development are the general trends of contemporary globalization, integration into the global world, socialization of person in a global world and information as a type of global business [13, p. 93].

Main features of the information society are:

- advanced information and communication infrastructure;
- accelerated development of high-tech economic activities of the national economy;
- broad public access to information, education and cultural heritage;
- new dimension of human rights and freedoms;
- high rates of economic growth.

Thus, the information society is characterized with high information dependency of society and national economy, widespread use of information technologies in business practice, growth of importance of IT-industry for the national economy, substantial increase of information component cost in products and services, conversion of information products into one of the main commodities.

Classical and modern models of national economy development were formed in the historical process of social evolution. Given the diversity of scientific interpretation of the category "model of national economy" we studied its semantics, and, as a result, offered to treat it as an economic and mathematical description of development of national economy, which determines the laws of functioning and allows to predict future development trajectory and outline ways to achieve it on the basis of certain tendencies.

Based on the results of our research, we established that, in the information society, sectoral and factorial models of development, unlike the others, reflect the process of regular, radical, progressive structural and technological changes in the national economy of the country, which will provide transition to a qualitatively new level of development of society.

Sectoral model of national economy allows to investigate structural changes in the national economy in accordance with social needs and technological approach, which is

based on the leading role of the productive forces of society in the economical development, and to establish links between structural elements and make forecast for future periods.

By the structure, sectoral model consists of five sectors that include certain economic activities depending on their level of technological intensity and social needs (Fig.

- 1):
- Primary Sector (S_1) includes agriculture, forestry and fisheries; mining industry and the development of mining;
 - Secondary Sector (S_2) includes manufacturing industry; supply of electricity, gas, steam and conditioned air; water supply, sewerage and waste management; construction;
 - Tertiary Sector (S_3) includes transport, warehousing, postal and courier services; wholesale and retail trade, repair of motor vehicles and motorbikes; arrangement of temporary housing and catering;
 - Quaternary Sector (S_4) includes financial and insurance services; real estate services; administrative and support services; public administration and defense, compulsory social insurance;
 - Quinary Sector (S_5) includes information and telecommunications; education; professional, scientific and technical activities; healthcare and social assistance; arts, sports, entertainment and recreation.

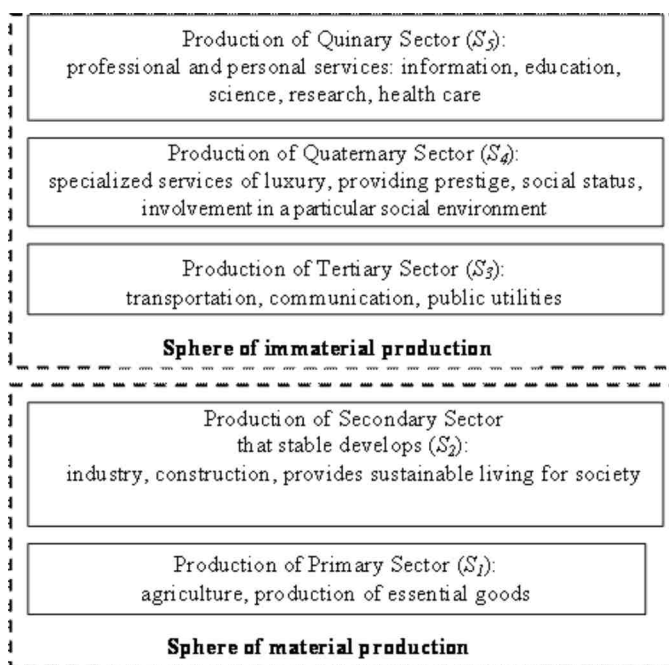


Fig. 1. Sectoral model of national economy

Note: improved by the author

According to the results of our research, it was found that countries with information society have quinary structure of the national economy, which has a high priority for Quinary (S_5) and Secondary (S_2) Sectors in the form of high-tech material and immaterial production, and in the same time has decrease in Primary (S_1) and Tertiary (S_3) Sectors and expansion of the Quaternary (S_4) Sector.

Changes in the model of Ukrainian national economy development under conditions of information society

Development of the national economy of Ukraine in the information society includes not only achievement of the most stable GDP growth rate, but also qualitative changes in the economic system of the country. During the 2001 – 2012 period there were some structural changes in the national economy of Ukraine:

- growth of share of economic activities that belong to immaterial production (by 11.92 percentage points) was triggered by reduction of share of economic activities of material production;
- reduction of material production almost in 1.3 times was mainly due to agriculture, share of which dropped by almost half (from 16.05% to 9.30%), also due to drop in industry by 4.4 percentage points (from 30.19% to 25.74%) and in construction - by 0.65 percentage points (from 3.98% to 3.33%);
- increase of the share of economic activity among immaterial production sphere was marked in financing activities – 1.8 times (from 2.87% to 5.12%) and trade – by 5.03 percentage points (from 12.23% to 17.26%), real estate – by 4.62 percentage points (from 7.44% to 12.06%) and public and personal services – by 0.45 percentage points (from 1.45% to 1.90%), while the share of transport and communication decreased by 4.88 percentage points (from 13.41% to 8.53%).

According to comparative analysis of structure of sectoral model of the national economy of Ukraine with models of national economies of the world (U.S., Germany, France, Poland, Romania), it was found that during the 2002 – 2012 period the share of processing industrial activities in the national economy was consistent with indicator of balanced structure (20%), but their quality characteristics did not correspond to the features of information society.

Results of our study of dynamics of the national economy of Ukraine in the framework of the sectoral model and investigation of impact of economic activities on the development of the country during the 2001 – 2012 period gave us reason to believe that:

- economic development of the national economy of Ukraine was ensured by the traditional for industrial society economic activities, such as: mining and processing industry, which belong to the primary (S_1) and secondary (S_2) sectors;
- indicator of the gradual formation of the information society is gradual growth of the value of sphere of immaterial production, such as: financial and insurance services, real estate services, administrative and support service; despite of the priority of the economic activities of industrial society in the national economy;
- share of economic activity in the structure of the national economy does not influence on its importance for the development of the national economy. For instance, an increase by 1% in the financial and insurance services, which occupies 5.12% in the structure of the national economy, stimulate the growth of only 0.2989% of the national economy, while an increase by 1% in the transport, warehousing, postal and courier services, which have 8.53% share will bring growth by 0.8330%;
- economic activities that determine the development of the information society, such as: telecommunications and information, education, professional, scientific and technical activities, healthcare and social assistance, are capable to stimulate the development of the national economy of Ukraine.

To ensure the development of the national economy of Ukraine at the level of the information society, structural and technological transformations of the national economy must be introduced in two stages:

- 1) stage 1 – Achievement of the economical development level of Poland. Ukraine national economy should grow steadily each year within 6.1 – 6.7% range due to the Secondary (3.15 – 3.87% with share of 31.7%), Quaternary (12.53 – 12.94% with share of 18.5 – 18.8%) and Quinary (3.89 – 4.32% with share of 19.2%) Sectors;
- 2) stage 2 – Achievement of the level of EU countries (Germany, France). Ukraine national economy should grow steadily each year within 5.2 – 5.4% range due to the Quaternary (10.76 – 11.00% with share of 29.0%) and Quinary (2.32 – 2.51% with share of 23.7%) sectors. Moreover, reduction of Primary (in 8 times – from 15.6% in 2010 to 1.7%) and Secondary (down to 24.8%) Sectors should be done. It is established that elimination of low-tech industries reduces the share of the Secondary Sector in the national economy.

Conclusions. Development of the information society leads to the formation of a new paradigm of the national economy that is reflected in: the expansion of production factors, which results in growth of the value of information and knowledge; changes of labor specialization (from labor to intellectual abilities) and stimulation of growth of

high-tech material and immaterial production share in the national economy. To ensure the projected development of Ukraine at the level of countries with information society, simulation of sectoral model of the national economy of Ukraine was done, which foresees structural transformations through the reduction of shares of Primary (S1) and Tertiary (S3) Sectors and increasing of shares of Secondary (S2) and Quinary (S5) Sectors, in which high-tech economic activities of material and non-material production are concentrated.

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