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STRUCTURAL TRANSFORMATION OF UKRAINIAN NATIONAL ECONOMY AS A FACTOR FOR INSTITUTIONAL BASIS MODERNIZATION OF ITS DEVELOPMENT

Abstract

Theoretical background of structural transformation of the economy as a basis for a new quality of economic growth is studied, the structural transformations of national economy are diagnosed, and the lines are charted of the institutional environment improvement for functioning of national economy.

Key words:

Economic structure, structural transformation of economy, models of economic structural transformations, structural disparities, structural policy, and institutional mechanism of structural transformations.

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Challenges and threats of modern world set before national economies the guidelines for transition to new progressive resource saving, high technologic, ecologic functional models, which specifically actualizes the structural transformations of those economies. In Ukraine the issue of structural transformation has been defined by the Strategy of National Security [1] as a starting precondition for providing of accepted level of economic security.

The practice of economically developed world countries indicates that the most important reserve of economic growth is laid down into the structure of the economy. Economic growth in the countries of Western Europe and in the majority of the South-Eastern countries in Asia is conditioned by deep structural transformations oriented at introduction of scientific and technical progress, optimal use of resource potential, speeded up development on the basis of advanced technologies of electronics and engineering. Structural transformation of the economy is a basis for a new quality of economic growth on the principles of innovative model of development related to intense development of information and communicative environment, scientific knowledge, and introduction of advanced technologies.

In addition to this aspect, the structural transformation has another one, which is related to social manifestation that is mirrored in relationship between the economic structure and growth of people's welfare, increase of the level and quality of their life. In this connection, the orientation of structural transformation of the economy at the achievement of socio-economic effectiveness and optimality is of enormous significance. There are certain contradictions between the effectiveness and optimality of the economic structure. These contradictions imply that not any economic structure from the view of harmony, proportion and social intention is the most effective in certain concrete conditions. The noted phenomenon *actualizes* the problem of diagnosing the tendencies of structural transformation of national economy, its accordance to the objectives of the development and problems revealing with respect to the institutional support of these processes.

Certain aspects of the development of theoretical and methodological bases of structural economic transformations and studies of the factors of economic development had been reflected in the research papers of the following national scientists: O. Amosha, V. Besiedin, A. Halchynskii, Z. Varnalii, V. Heiets, N. Hlavatska, A. Holub, T. Yefymenko, M. Zveriakov, V. Kantorovytch, B. Kvasniuk, L. Fedulova, and foreign scientists: L. Abalkin, L. Lopatnikov, V. Mau, L. Myzes, V. Muntiyan, S. Synelnykov, U. Uliukayev, F. Hayek, J. Kornai and others.

The scientific basis for study the structural transformations of the economy was laid in the researches by F. Hayek, J. Kornai, J. M. Keynes, G. Myrdal, R. Harrod, E. Hansen, M. Friedman, J. Schumpeter, S. Kuznets, W. Rostow,

E. Phelps, J. Forrester, R. Lucas, J. Stiglitz, R. Solow, J. Sachs, K. Freeman, C. Granger, G. Grossman, who had formulated the fundamental principles with reference to the factors of economic development. At the end of the last century their researches were devoted to the criteria which characterize economic environment, including institutional component of the development, as well as structural preconditions and outcomes of the economic development, and also the substantiation of theoretical principles of building up the macro-structural policy.

In addition to a series of acquisitions in the named problems, the empiric research of the structural transformations of the Ukrainian economy in the context of two objectives (i.e. economic growth and social welfare), in the light of the effectiveness and optimality criteria had not found a proper reflection in economic literature.

The objective of this paper is through empiric data to detect the main directions of structural transformation of Ukrainian economy, to explain theoretically these processes, to assess their adequacy to the set aims and criteria, and on this basis to determine the vector of modernization of institutional base.

Towards Theoretical Underpinning of Research

The most complete and comprehensive analysis of the structural components of the development was made by S. Kuznets, who determined the dependence of economic dynamics upon the macro-structures in different world countries, and stated that the economic growth has in its foundation the sustained structural developments that depend upon many factors, and on various stages of the cycles the inequality is observed in profit distributions.

On the basis of the researches of various scientific schools certain macroeconomic models have been designed for structural transformations, like the following:

1) E. Domar Dynamic Model that is based on the concept of the effect produced by the repatriation of investment revenues on the economy of a donor country. That effect is determined not so much through absolute value of revenue growth of exported capital, as through the ratio of revenue growth rate and the national GDP growth rate, and that ratio significantly effects the export growth rate. The necessity of capital import and, thus, the liberalization of the terms for its attraction is conditioned by the peculiarities of capital formation in the countries with underdeveloped economies, implying lack of financial savings because of low propensity to save; lack of real savings because of people's lack of propensity to utilize capital share employed in the manufacturing of consumer goods for the efficient investments; lack of foreign currency for purchasing im-

port resources because of continuously (constant) negative balance of payments [3].

2) «Three-stage development» model of anaemic economies (Cheneri, A. Straut) [4], according to which the universal factors making the basis for economic structural transformations are the following: common technological knowledge, similarity of human aspirations, access to foreign markets; capital build up under conditions of income increase, development of education level. The period when the developing country needs foreign capital is divided into three stages limiting further development with specific factors. The limiting factor within the frames of the first stage is a scarce qualification labor for providing the increase of investment efficiency. Within this stage the propensity to save becomes marginal until the average propensity to savings and the investment norms are equalized. The frames of the second stage are limited with the underinvestment factor, which does not allow the economy to develop without the foreign capital inflow. In the third stage such a hampering factor of economic development as the export inability to compensate the import growth is surmounted. The growth can be sustained under condition of surmounting the discrepancy between the structural composition of the economy and export expansion, and import substitution. That conditions the necessity of structural reformation of the economy through redistribution of investment flows enabling to surmount the «trade limit», i.e. to lower the marginal propensity to import and to ensure higher rates of export growth against the rates of GNP growth;

3) the system dynamics of the world development (J. Forrester, D. Meadows) model, that determines the following major components the structure of the world economy is based on: population, capital investments, natural resources, share of capital funds invested into agriculture, pollution (pollution level) [5]. The scientific literature [6] accentuates that it is just these elements that facilitate the adaptation of the noted models to the specifications of the real economic processes. Moreover, the necessity becomes more obvious to take into account the system preconditions of the structural reforms, like the role of state and institutions, quality of human capital (though partially it is reflected in a »qualification limit» of the second stage of the economic development in the model of «three stage development») and external effects of the system of supranational regulation as a reflection of globalization of world national relations;

4) D. North institutional model of structural transformations that connects the structural changes in economic development with gradual transformation of the economic institutional environment, and with the establishing of relationships between formal and informal constantly developing rules. The model also refers the structural changes to the adaptation level of the advanced world practices of that institutional transformation to the peculiarities of certain countries, as well as to the effects the state policy produces on the creation and development of the institutions promoting the improvement of the economic structures [7];

5) the supranational model of structural transformations, that the World Bank determines for transformation economies. In particular, that model to be

implemented in Ukrainian economy is described in the World Bank Memorandum providing for macroeconomic stabilization; microeconomic stabilization and structural transformation of the economy; provoking the market competition on the basis of price and distribution liberalization; pursuing reasonable and competitive social policy.

While viewing the structural transformations as derivative or concurrent results of transformation reforms the economists accentuate the necessity of structural reformation of the manufacturing systems of «physical infrastructures» and «humanitarian infrastructures», as well as the importance and termination of the «stage of structural correction».

With the noted models the researches ascertained the relations among the elements of economic structure, and determined the factors for the structural transformations of the economy on different levels. Being a good background for analysis, those theoretical investigations are not sufficient to evaluate the accordance of the trends of structural changes with the criteria of optimality and effectiveness.

The economic scientists [2] find the correlation of the distribution of certain areas of public labor application with the quantitatively distinguished demands of the society as the optimality criterion of the economic structure.

We agree with E. Horbunov's standpoint and think that the monitoring of the structural developments meeting the noted criterion should be proceeded alongside with the assessment of their effectiveness.

In the context of the researched problem we will note that the economic scientists distinguish the notion of the effectiveness of economic structural changes from that of the effectiveness of the economic structure as such. The structure of the economy could be regarded effective under condition when it meets various production and individual needs in the products and provides high rates of economic growth. The effectiveness of structural developments in economy implies their capability to reach the aims respective matching the economic structure to the structure of demands of social development. Since the structural changes serve the instrument of the formation of the economic structure, it is very important to ensure certain optimality of these changes, specifically the optimality of the economic growth rates, on the one hand, and the directions and priorities of social development and socio-economic progress, on the other. Consequently, theoretical and methodological substantiation of the directions of structural transformation of national economy, which in addition to explaining the factors of changes, allows to correct them from the point of effectiveness and optimality of economic structural changes on the basis of internal and external determinants, should become the key option for the strategy of its development, and for the formation of economic and social policy.

In the context of this problem, the issue of structural coordination of the factors of development and their hierarchy (from the view of significant effect

produced on economic dynamics), a specific attention deserves, since it had not been properly theoretically underpinned so far.

Proceeding from the institutional model of structural transformations (D. North), we can state, that the critical condition for making the structural economic transformations effective is the elaboration and legal adjustment of mechanisms for these transformations accomplishments on the basis of the principles of theoretical concepts and peculiarities of economic development in any individual country. The latter requires a very detailed empiric analysis.

Empiric Analysis of Structural Transformations of Ukrainian Economy

The structure of the economy as a complicated system can be viewed in the light of various approaches. The major types of structures which are put into the basis of macro-economic analysis are the following: branch-wise, technological, reproductive, sectoral, social, regional, and foreign economical. The key structural transformations in national economy which show themselves like changes of the state of elements, ratios and quantitative characteristics of economic system, encompass all the noted sections.

Progressive technical and technological development enhanced by the challenges of globalization, enables the emerging of new kinds of economic activity, crash of certain traditional activities, and also changes of ratios of the Gross Added Value (GAV) within the structure of Gross Domestic Product (GDP) in a long-term period.

First of all, it refers to the branch-wise economic structure as the one which is the background for the creation of other types of a structure. The made analysis shows that the market transformations brought about the reduction of the agricultural ratio within the structure of Ukrainian GDP from 26% in 1990 to 9% in 2007, and the ratio of industry – from 37% to 31%. At the same time the share of services for that period grew from 30% to 55% [8]. Though the high rates of industrial growth, which for several last years exceeded the GDP growth rates, the role of industry for Ukraine's economic growth is less significant at the moment than the role of service sector. For the last years services were the key sector providing the increase of added value in economy. In general, the process of share redistribution of the sectors producing goods and services the latter meets the world criteria and is tended positively. Nevertheless, Ukraine, though its GDP agricultural share by 6 times, and its industrial share by 1.3 time exceeds the similar data of the countries with high income rates, is significantly lagging behind in the level of its development and quality of services.

The analysis of transformations in the branch structure of national economy goes to prove about a serious of positive trends, specifically the following: increase of Gross Added Value created in the area of education, trade, car maintenance, household and individual goods, in manufacturing industry; reduction consumption of materials in extractive sector and manufacturing industry; reduction in input of materials in the area of education, health care and social aid; reduction of labor intensity in all kinds of economic activity. At the same time the following tendencies are of negative characteristics: Gross Added Value share reduction in the GDP structure of agriculture, hunting and forestry, and primary industry; GAV share reduction of transport and communication services; reduction share of high-tech sectors production; increase in input of materials in building, transport and communication, agriculture, hunting and forestry.

The key element of the economic system in Ukraine is industry, which rates the national economy in the international labor distribution, and dynamics of its competitiveness. The growth rates of the industrial sector to a wide extent determine the quality and orientation of national economic growth. Due to industrial production the country has got a quarter of total GNP volume, almost half (44%) of goods and services, and 90% of export goods are manufactured in that sector. But it is worth noting that the development in late 20th – early 21st centuries of post-industrial society requires the correctives in material and technological structure of industrial production, and changes in structure ratios of the economy in general. In 1991 25.6% of the production in Ukraine accounted for the key branches, i.e. metallurgical, chemical, power and fuel industries [9]. As for the end of 2006 the ratios of the noted branches grew twice as much and made 51.5% [10]. Nevertheless, Ukraine is supplied with the own produced industrial goods only by 60–65%, with innovative products – by 25–30%, and the efficiency indices of industry are considerably lower those of the European developed countries, in particular, productive efficiency is 7–10 times lower, consuming of material and power resources – 2–3 times.

Comparatively high dynamics of industrial growth is being gradually based on renovated technologies and innovations, which in modern world ensure the competitiveness of the economy. But that dynamics in the country is not yet sufficient to significantly breakthrough in the competitive capacity of the industry. In 2007 the innovation costs volume increased almost by 1.7 times (about UH 10850.9 mln.) as against the previous year, and the realization of innovation products – by 30.0%. Nevertheless, though the ratio of the enterprises which introduced innovations in 2007 made 11.5%, yet it is too low [10].

However, the stable imbalances are preserved in Ukrainian industry, which are essentially limiting the perspectives of its long-term growth; create great risks and restrictions for improvement the competitiveness of Ukrainian economy. Among others, in particular, it is slow dynamics of technological structure improvement for industrial production. Also, the structure of industrial production still remains ineffective with exceeded low and middle technological rates. After the assessment of National Institute of Strategic Researches, the aggregate ratio of low and middle technological branches within the structure of

materials industries in 2007 made 76.5% (table1). It reduced only by 1.7% as against 2006, which shows that the industry is oriented at traditional factors of growth. Moreover, as against 2006 the ratio reduction of high-tech productions from 0.4% to 3.1% is observed in the structure of industrial production realization. But the significant positive description of industrial dynamics of 2007 is growth by 1.7% of aggregate ratio of high and middle high-tech production, which enabled to reach the highest for the latest seven years (2001–2007) level of 23.5%.

Table 1.

Technological structure of production in materials industries of Ukraine, % [11]

Groups of materials industries	Production					
	2002	2003	2004	2005	2006	2007
Total	100	100	100	100	100	100
High-tech	3,6	3,9	3,2	3,3	3,5	3,1
Middle hi-tech	17,3	18,4	19,1	18,4	18,3	20,5
Middle low-tech	44,4	45,3	49,1	48,9	49,0	51,8
Low-tech	34,7	32,4	28,6	29,4	29,2	24,7

One of the principal structural problems of national economy is technological multi-level set-up of production**.** The different-type technological sets-up exist and reproduce themselves individually, i. e. independently of one upon another, as a result of which great territories are degrading, and the crisis of socio-economic infrastructure is exacerbating. Having analyzed the official economic statistics and compared the data with classical canons of technological development, we will have a proximately following result. The third technological set-up, the peak of which comes for the post-year period, and the core of which makes the production of power, steel, coal, heavy engineering and inorganic chemistry, accounted for about the third of industrial production of Ukraine. The fourth set-up which dominated in the 80-s of the last century and the basis of which made non-ferrous metallurgy, oil refining, precision engineering industry, precision instrument-making industry, traditional Production and Industrial Complex (PIC), mechanical engineering, and electronic engineering industry accounts for twice as much against the third set up. And with respect to the fifth technological set-up which describes the post-industrial type of production, that is a sophisticated computing techniques, modern armaments, software, aviation industry, telecommunications, robotic industry and new materials, its share in the total structure of national economy makes 3–5%. It indicates that in the system

of international distribution Ukraine takes evident lossmaking and unpromising positions with rapidly progressing lagging.

According to V. Panchenko's estimates, at the moment, 79% of expenditures for research and technical developments in Ukraine accounts for the fourth, and only 23% -for the fifth technological set-up; 60% of innovation costs accounts for the third, and only 8.6% -for the fifth technological set-up [12]. With respect to investments (including foreign ones), 75% of them are channeled into the backward third set-up, while 20% – into the fourth, and 4.5% – into the fifth set-up. The fifth technological set-up has been developing in Ukraine very slowly, since it is almost uninvested. Investments provide the required condition for innovations, but the effect of their interaction and interrelations could be reached under condition when the investments and their structure not only agree with the technological structure of the economy, but also provide the priority development of higher technological levels.

Introduction of break-through technologies enabling the Ukrainian economy to transit to new technological sets-up considerably deter low rates of basic capital augment and gross capital investment. Practice of advanced countries shows that the transition of the economy to the V–VI technological sets-up requires the gross augment of basic capital over 30% or even 35% of GDP. In Ukraine that figure increased from 19.7% in 2001 to 27.2% in 2008 (table 2), but still it is not sufficient to provide the technological break-through.

Table 2.

Dynamics of Basic Capital Augment in Ukraine

Indices	2001	2002	2003	2004	2005	2006	2007	2008
1. Gross domestic product, mln. hrvn.	204190	225810	267344	345113	441452	544153	720731	949864
2. Gross augment of basic capital, mln. hrvn.	40211	43289	55075	77820	96965	133874	198348	258176
In % against GDP	19,7	19,2	20,6	22,5	22,0	24,6	27,5	27,2

Source: Statistical Yearbook of Ukraine, 2007. Ukrainian State Statistics Committee. – K., 2008.

According to the frames of the research and technical programs and strategic plans of the governments of economically developed countries, a new, the sixth energy set-up with the probable basis made till 2020 of the energy of hydrogen and thermonuclear synthesis. The outcomes of that change-over for the world and national economies are difficult to overestimate, since it will enable the transformation of the whole geo-technological system including the structure of international labor distribution. It conditions the necessity to substantiate the strategy of socially oriented national economy in the context of the concept of technological sets-up that was designed with the account for the principles of sustained progressive technical and economic development, and oriented at socio-economic environment.

A peculiar reflection of the structure of national economy is the foreign trade pattern. The industrially developed countries are characterized with high export ratio of industrial products, specifically of final, technology and science-intensive ones. The export pattern of the majority of the developing countries mainly consists of raw and materials, while the developed countries' import prevails with primary goods, energy bearers, and the products of ecologically harmful productions. Moreover, the developed countries intensely purchase equipment, machines, and transport vehicles, at that actively employing international labor distribution. Thus, in late 80-s the named products share in the USA import made over 40% [14], and in Great Britain – 32% [15]. High export rate of industrial products is peculiar to industrially developed countries.

As a powerful stimulating factor of economic growth, export uses to play the role of a locomotive of the development of industrial production, technologies, market of produced goods and services, increase of the production share of high rate of processing and added value in the GDP, which meets the international requirements and demand. The increase of industrial goods export is one of the principal conditions for economic growth and sustainability in Ukraine. However, the Ukrainian export structure is not perfect. Long ago Ukraine took a firm niche of exported products of low processing rate. In early 1990-s badly needed foreign currency, Ukrainian government in any ways promoted productions of export potential. It is natural, that out of the Ukrainian exporters metallurgy and chemical industry were the most competitive on foreign markets, and they offered the foreign consumers comparatively high quality and cheap products. The share of raw material in 2007 export made 55.6%. Within the volume of Ukrainian gross domestic product in 2008 export made 46.8% [17], which implies that the country was highly export oriented. The main export items are metal, coal, electric power, soda, cement, glass, grain, oil, sugar.

Transformation changes in foreign economic structure of national economy caused negative changes. In Ukraine the trend is observed of gradual ousting the national producers from certain markets of industrial products, since the dynamics of import growth of most groups of industrial products rather exceeds these of national production. In 2007 the import of industrial products into the country grew by 41.4%, while the industrial production in Ukraine grew only by 10.2%. In particular, the import dynamics excess over the growth rates of na-

tional production in food industry made 3.4 times, in chemical and petrochemical industry -5.8 times, in metallurgy and metal processing – 5.1 times, production of other non-metal mineral products (construction materials, glassware) – 2 times. As a result, during 2002-2007 the share of imported industrial products grew on a domestic market by 1.5 times, making up to 45.2% [11].

Consequently, a great imbalance is observed in Ukraine between the development of foreign trade and the development of its domestic market. That imbalance outcome is the excess dependence of the economy on foreign trade under low potential of investment attraction, and thus a problem (to preserve the existing structural proportions) of ensuring high rates of long-term economic development.

The inability of structural transformations is observed in Ukraine to make the structure of national economy be able to ensure the economic growth and meet the needs of social development. The major reasons of the arisen problems are the following: low competitiveness of national producers; unfair competition in many segments of the domestic market resulted by monopolization and sophisticated regulatory system; poor system of state assistance and control over its utilization, that hinders the development of competition, and complicates the use of market pricing methods, and goods promotion in respond to change of market conjuncture; lack of efficient system of direct and non-direct mechanisms for encouraging the power-saving, resource-saving, and innovation activity, directed at the market saturation and meeting the needs of national economy in consuming goods with (of) high added value.

Those tasks can be described as the necessity to optimally balance the system of «production- exchange-consuming», that allows to combine the economic interests of marketers, and to provide the balanced and sustained economic development; to increase the solvent demand, that is the main indicator of market expansion and indicator of the people's welfare rate; to make the structural correction of the economy on national and regional levels; to decrease the level of territorial differentiation of markets, which flows from the uneven development of the regions because of difference in a resource provision, structure of production, income rates of population, saturation with goods of national production; to improve the system effectiveness of market regulation in the context of switching the center of market transformations and institutional changes into the regional level.

In the conditions of aggravation of general macroeconomic situation in Ukraine significant transformations have been made, and disparities showed themselves in the territorial structure of the economy.

One of the main manifestations of territorial structure disparity is significant regional differences in socio-economic developments that are reflected, primarily, in the indices of gross regional product (GRP) and the GRP per capita. Thus, in 2007 the ratio between maximal (the city of Kyiv – 321.3% to average in Ukraine), and minimal Chernivtsi region – 47/6%) of GRP per capita made 6.8 times. Only in five following oblasts (regions) in Ukraine: Dnipropetrovsk,

Donetsk, Zaporizhzhia, Poltava, Kharkiv, and the city of Kyiv, the GRP per capita was not less than the average index throughout the country. It is worth noting, that in 2000 that gap was rather less. Thus, the ratio between maximal (Kyiv – 214.0% to Ukrainian average) and minimal (Chernivtsi region- 50.6%) the GRP per capita made 4.2 times. While in 1996 the number of regions with the gross added value per capita exceeding the average index in the country was ten (Dnipropetrovsk, Donetsk, Zaporizhzhya, Kyiv, Odesa, Poltava, Sumy, Kharkiv, Cherkasy, and the city of Kyiv), in 2000 those regions were eight, and in 2007 – six (table 3).

Table 3

Gross regional product (GRP) and GRP per capita in Ukraine

Regions	Gross regional product** (gross added value*) mln. hrvn.			Share of the region in GRP (GAV) %			Gross regional product per capita, hrvn.**		
	1996*	2000	2007**	1996	2000	2007	1996	2000	2007
Ukraine	69287	137993	720731	100	100	100	1356	2788	15496
Central Region									
Vinnytsia	2140	3802	15381	3,1	2,8	2,1	1145	2104	9159
Zhytomyr	1768	2835	11127	2,6	2,1	1,5	1199	1987	8485
Kyiv	3015	5926	26221	4,4	4,3	3,6	1597	3255	15033
Khmelnytsk	1854	2949	12339	2,7	2,1	1,7	1233	2028	9100
Cherkasy	2033	3179	13656	2,9	2,3	1,9	1357	2203	10331
Chernihiv	1739	3073	11532	2,5	2,2	1,6	1296	2407	10081
Kyiv city	5103	15715	135900	7,4	11,4	18,9	1937	5965	49795
Western Region									
Volyn	1012	2195	10072	1,5	1,6	1,4	942	2077	9711
Zakarpattya	932	2151	10508	1,3	1,6	1,5	723	1677	8452
Ivano-Frankivsk	1483	3117	13916	2,1	2,3	1,9	1012	2142	10055
Lviv	3016	5850	27987	4,4	4,2	3,9	1095	2159	10915
Rivne	1397	2513	11180	2,0	1,8	1,6	1171	2118	9695
Ternopil	1091	1853	8276	1,6	1,3	1,1	930	1605	7510
Chernivtsi	841	1313	6672	1,2	1,0	0,9	893	1411	7369
Prychorno-morsk Region									
Mykolaiiv	1737	3314	14767	2,5	2,4	2,0	1299	2563	12227
Odesa	3533	7072	33116	5,1	5,1	4,6	1371	2828	13827
Kherson	1321	2348	9034	1,9	1,7	1,3	1048	1955	8122
Autonomous Republic of Crimea	2161	4085	20874	3,1	3,0	2,9	986	1937	10574
Sevastopol	341	654	4961	0,5	0,5	0,7	843	1682	12961

Regions	Gross regional product** (gross added value*) mln. hrvn.			Share of the region in GRP (GAV) %			Gross regional product per capita, hrvn.**		
	1996*	2000	2007**	1996	2000	2007	1996	2000	2007
Prydniprovsk Region									
Dnipropetrovsk	6536	13163	71173	9,4	9,5	9,9	1706	3562	20868
Zaporizhzhia	3767	7568	33158	5,4	5,5	4,6	1821	3795	18022
Kirovohradsk	1302	2159	9989	1,9	1,6	1,4	1069	1860	9546
Donetsk Region									
Donetsk	8499	17278	92093	12,3	12,5	12,8	1646	3509	20197
Luhansk	3464	6403	32280	5,0	4.6	4,5	1253	2439	13628
North-Eastern Region									
Poltava	2974	5712	28355	4,3	4,1	3,9	1718	3423	18500
Sumy	1897	3495	12341	2,7	2,5	1,7	1364	2631	10249
Kharkiv	4331	8271	43868	6,3	6,0	6,1	1410	2799	15645

Source: Statistical Yearbook of Ukraine, 2007. Ukrainian State Statistics Committee. – K., 2008.

That condition brought about certain disparities and problems for the development of Ukraine and its regions; for functioning of the branches and sectors of regional economy; for the proceed of regional socio-economic, ecological, humanitarian and other processes and phenomena; for the opportunities of the regional authorities to introduce the innovative technologies of regional management meeting the modern challenges of globalization and regionalization. Among the problems of structural transformations the following are observed:

- availability of structural disproportions (in the structure of the gross added value agriculture dominates, in the branch structure of industry – food industry, that is, the branch with potentially low added value);
- high material consumption in production against the background of weak investment and innovation activity of enterprises, considerable depreciation of basic production funds and underutilization of production capacity;
- insensitivity to innovative potential of territories, absence of the economic protection system from diffusion of «outgoing» obsolete technologies, unable to promote the economic growth; absence of efficient institutional provision of governmental support of priority directions, stages, and processes for the diffusion of all kinds of innovations;

- limitation of funding sources for the development of infrastructure of production and socially intended purpose; local budgets stringency; poor taxation base and, subsequently, domination of transfers in the structure of local budget revenues;
- low investment activity, and in many cases wasteful production (specifically, in small towns and other depressive territories);
- uncompleted reforms of the agrarian sector, current production structure, high pay back terms of investment projects in the area of cattle husbandry, price disparity, poor financial governmental support for many years, cheap import of low quality agricultural products, and so on;
- demographic strains, irregularity and institutional negligence of migration processes;
- diminishing of domestic demands, decrease of the level and quality of people's life;
- excess dependence of Ukrainian and regional economy on foreign trade under the condition of low potential of investment attraction (primarily, in the area of energy and resource supply), etc.

Transformations in regional economic structure are significantly determined by the level of innovation and technological development of the regions. Ukraine has a powerful scientific and technological potential concentrated throughout all the regions, but the comparative assessment on the basis after the state of technological development shows that the core of the industrial development is tended to pertain to Kyiv, Donetsk, Kharkiv, Zaporizhzhia, Dnipropetrovsk regions.

The tendency to enhance the traditional innovation and technological centers in Ukraine is closely correlated with research, innovation and investment activities of certain regions, and once again it corroborates the availability of resource potential for implementation the break-through innovation strategy aimed at improvement of competitive capacity of Ukraine and ensure its economic system a proper place in the world.

In general, the greatest ratio of industrial enterprises introducing innovations in 2007 was observed in the city of Kyiv, Vinnytsya and Ivano-Frankivsk regions, that indicates the emerging of new leaders of the formation of innovation environment in the regions. Each Ukrainian region has its own peculiarities, which greatly influence its innovation and technological development. After the assessment the greatest innovation potential is rated in the city of Kyiv and Kyiv region taken together. The unfailing leaders for the last five years with some variations are Kharkiv, Donetsk and Dnipropetrovsk regions (table 4).

Table 4.

Grouping of Regions under the Level of Innovation Potential in 2007 [18]

Rating, *Rj*	Level of innovation potential	Regions
1,000 ≤ *Rj* < 3,000	Very high	Kyiv city, Kharkiv, Donetsk
0,500 ≤ *Rj* < 1,000	High	Zaporizhzhia
0,300 ≤ *Rj* < 0,500	Medium	Dnipropetrovsk, Lviv, Sumy, Mykolaiiv, Odesa
0,000 ≤ *Rj* < 0,300	Low	Autonomous Republic of the Crimea, Kyiv, Kirovohrad, Luhansk, Poltava, Chernihiv, Vinnytsia, Cherkasy, Zhytomyr, Ivano-Frankivsk, Zakarpattia, Volyn, Ternopil, Kherson, Chernivtsi, Rivne, Khmelnytsk, city of Sevastopol

Comparison of the level of the production economic development and dynamics of technological progress in the structure of regional industrial complexes shows that only these regions are the leaders where industry has been combined with research and technological area (the city of Kyiv, Kharkiv, Dnipropetrovsk, Lviv, Donetsk and Odesa regions), thus making them the most investment attractive and competitive.

Institutional Factor in the Transformation Structure of National Economy

The system transformation of national economy is accompanied by transformation of its institutional structure, change of ratio of different industrial structure groups in meeting economic and social challenges of social development. Business sector plays its leading role and provides the guarantee of economic stability and increase of life level for its citizens.

Dynamics of income increment total rates of economic agents testifies that starting from 1991 that economic sector grew in number almost by 12 times. Nevertheless, though the latter tended to steady growth, absolute indexes of increase rates depending on the time periods are ambiguous. Thus, the highest increment rates of total number of economic agents account for 1991–1996 and average are equal to 148–191% yearly. In the period from 1996 to 2003 the growth indexes are almost similar consisting 114–117%. From 2004 the uneven

changes proceed in the increase rates of economic agents, making from 4.7% to 8.4% (2004-2005), and from 3% in 2006 to 11% in 2007 [19].

As for early 2008 the total number of economic agents in Ukraine made over 2.6 mln. entities. Within the general structure the enterprises constituted 15%, while physical entities-entrepreneurs – 84.2%. In the structure of enterprises the greatest share accounts for small businesses – 85.1% (324 thousand entities); 14.7% (56 thousand entities) accounts for medium – sized, and only 0.2% (770 enterprises) – for big ones [10].

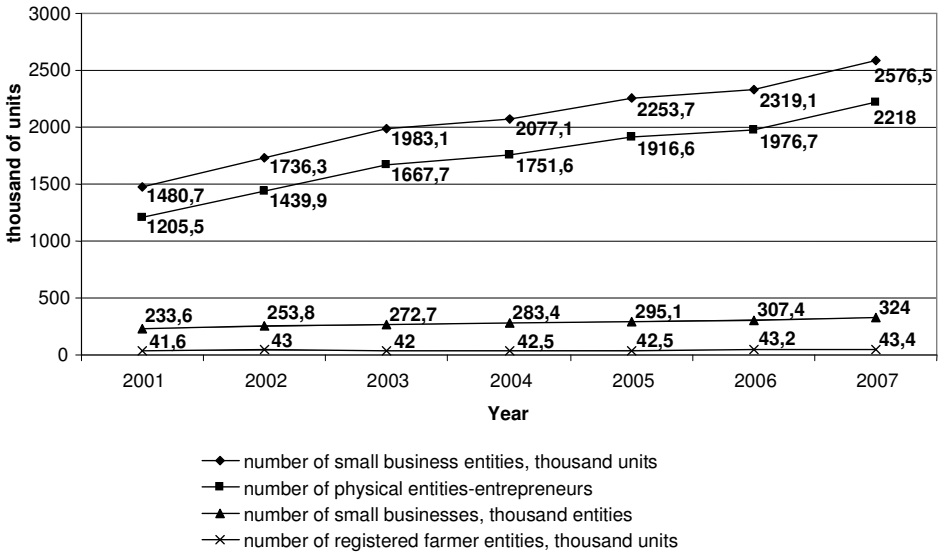
A small entrepreneurship is a locomotive of a business sector. The total number of the small businesses as for the beginning of 2008 made 2576.5 thousand entities, that was by 74% more as against the similar index in 2001 (fig. 1).

The figure of average number of small businesses throughout Ukraine per 10 thousand people of available population made 70 in 2007. In contradiction to the first half of the 1990-s, small businesses have been established as absolutely new production entity against those emerging as the result of splitting or restructuring the functioning ones.

The ratio of small and medium-sized business within the total economic volume is gradually increasing, and at the moment that sector provides 74.2% of realized products volume.

Figure 1

Flow Chart of Small Businesses in Ukraine in 2001–2007 [19, 54]



After quantitative assessments the development of small and medium-sized business in Ukraine practically conforms to the European indices. Thus, the number of small and medium-sized entities per thousand people in 2007 made 56.6, (while in Great Britain – 59, in Germany – 43, France- 42, Portugal-66, and Italy – 72). However, after the qualitative indications the national entrepreneurship is rather lagging behind the European standard both, in the quality of products, and in its contribution into economy, also in the labor efficiency level, and in availability of economically feasible created jobs and social guarantees, etc.

The initial role of business structures in dynamic economic development under conditions of its system reformation enables the necessity to form (create) the stimulating mechanisms for entrepreneurship. Nevertheless, in reality the business sector while implementing its social mission faces a series of obstacles related to poor development of institutional environment, instability of economic and political situation, and inconsistency of reformation. Under those conditions, for 2000–2007 annual number of newly set enterprises consisted within 25 to 35 entities, but the dynamics of their actual growth was under ever increasing pressure of a number of liquidated businesses in Ukrainian economy (table 5).

Table 5.

Number of new enterprises established in Ukraine for 2000–2007 (entities) [19: 59]

Indices	2000	2001	2002	2003	2004	2005	2006	2007
Number of new enterprises –business entities	31673	24696	27004	28092	25115	25362	28871	34822
Actual growth of new enterprises – business entities	29034	16209	21059	18025	12763	13392	15783	20492
– share in total number of new enterprises –business entities	91,7	65,6	78,0	64,2	50,8	52,8	54,7	58,8
Number of liquidated business entities	2639	8487	5945	10067	12352	11970	13088	14330
– share in total number of business entities, %	8,3	34,4	22,0	35,8	49,2	47,2	45,3	41,2

Decrease of the growth rates of new business entities effects the process of steady decrease of employment in businesses, including small ones. For the period from 2000 to 2007 Ukraine lost over 2.2 mln. jobs in business entities.

The social policy decisions produce a great effect on the behavior of post-industrial market transformations. The researches made in many world countries demonstrate direct dependence of national economic success in overcoming poverty, equalizing incomes, improvement of educational system, and advancing of other social factors.

In this aspect the factor of human capital is of a specific importance. As the World Bank's special research showed, social investments into comprehensive and professional education are effective, and they provide an important factor for the growth of market economy with postindustrial structure. Under these conditions we can not ignore one more significant thing conditioned by the specification of market reformation in our country. In fact, the national business failed to create the environment for full-fledged reproduction of human capital, primarily through constant upgrading and personnel training. Proceeding from the production and financial destabilization, the interests of the majority of businessmen have been limited by short or medium-term time frames. In those conditions the need in direct state intervention into the process of human capital formation principally grows. In other words, while stating certain efficiency of structural transformation, we can not imply its optimality.

During transition to market system the principle of probability was disturbed respective implementation of progressive structural transformations through full-scale employment of social capital, that succeeded with unprecedented growth of poverty and levels of social differentiation. The key peculiarity of «Ukrainian poverty» is the fact, that the poverty encompasses the employed. According to the survey of households in 2005, the differentiation of people after the major social groups shows that the group with the lest expenditures the ratio of employed made 37.5%, while the ratio of not employed pensioners – 14.0%, children under 18 – 31.9%, students – 2.1%, other – 14.5% [20]. In 2007 the aggregate incomes per capita of 23.7% of employed population were lower the subsistence level [21. The situation did not change by the end of 2009. Low income rates is the poverty reason for both, employed and unemployed people. The above indicates that the solvent demand is rather limited, and it undermines the perspectives for sustained development and further market-oriented structural reforms.

Proceeding from that, it is a critical need to direct the Ukrainian economic policy primarily at the establishment of state and market-oriented institutions, which promote the generation and diffusion of innovations, as well as formation of the determinant factor of modern competitiveness, that is, the human capital. That policy should ensure the creation of equal conditions to increase international competitiveness of Ukrainian firms and companies in the open competitive environment.

In current Ukrainian environment for functioning economy and development of social sphere, the effectiveness of structural transformations could be reached under condition of having been provided with efficient state structural policy.

Starting from the 90-s of the 20th century the national economic science and practice considered the economic restructuring, commercialization and liberalization the top-priority. But the declared necessity and instrumentality of structural transformations were not supported with practical actions. For the entire period of Ukrainian independence the structural changes were proceeding spontaneously under the effect of economic power of oligarchy-insider groups, and under the absence of the unique strategy of structural reformation. At that, certain branch-wise targeted state programs were implemented, though they were poorly financially supported, improperly mutually agreed and coordinated in the process of implementation. A great number of poorly grounded and interrelated structural priorities were directed at meeting minor current problems. The market reformation faults brought about serious structural disproportions and strains, the negative effect of which is specifically manifested in the conditions of economic crisis, making peril to economic security.

At the moment, it is an urgent necessity for the government to pursue an active structural policy attracting business and public structures, that make the basis of economic competitiveness, and are able to meet economic and social problems. While developing the approaches to improvement of Ukrainian economic structures, it is good to take into account the practice of industrially advanced countries, where after many years of institutional changes the institutional mechanisms had been created to solve the structural problems. How important the creation of institutional environment is for the development of transformation processes in the economy has been corroborated by foreign experts' findings, also by significant attention paid by the World Economic Forum and Lausanne Institute of management to the rates of institutional development, and which publish their yearly reports reflecting the integral indices of the countries' competitive capacities.

The creation of the institutional mechanism of national economic structural transformation should be oriented at the effective combination of the effects produced by the market, state, private and public institutes in the direction of harmonization of macroeconomic system structure, introduction of progressive approaches to modernization of managing the economic processes in the context of implementation of Ukrainian strategic line on building a socially-oriented innovation economy as a compound of a single European economic environment.

From the viewpoint of the available structural economic imbalances, the following actions are needed to be taken in Ukraine:

- formation of institutional environment for structural transformations of national economy on the basis of system approach;

- switch from branch-wise development priorities to support of certain lines, stages, and processes of extension of new productions and diffusion of technologies;
- the state concepts and the programs of socio-economic development, proceeding from the priority of domestic market development, should allow for certain decrease of the dependence index of GDP upon foreign trade;
- the priority formation should allow for attraction of foreign investments, necessity to switch the channeling of foreign investments from export-oriented branches to the utilization of greater potential of domestic market;
- introduction of the supporting system for high-tech export through promotion of Ukrainian products to foreign market, simplifying and speeding up of export control procedure;
- buildup of a new regional policy principles in Ukraine, determining the mechanisms of effective use of territorial potential and make the basis for reaching the national economic integrity;
- improvement of organizational and economic mechanisms of business development state regulation;
- buildup of effective antimonopoly policy.

Conclusions proceeding from this paper and perspectives for further researches in this direction

The structural transformation of the economy provides a starting mechanism of its adaptation to the environment of functioning, aiming at meeting the public needs and ensure of economic growth. The diagnostics of structural transformations of Ukrainian economy in its major types testifies about the availability of significant imbalances, which makes the threat for its reaching the aims of parity integration into the world economy, and implementation of the strategic national interests. With the aim of optimization and increase the effectiveness of national economic structure it is necessary for the government to pursue the active structural policy with the potential of all public institutions attracted. The structural policy should be based on a detailed analysis of the effects of basic market and social institutes produced on the structure of national economy, and that is one of the directions of further researches.

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