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The new model of regional development: Polish experience and vectors for Ukraine

Process of structural transformation of the regional economy and conceptual bases of working out of regional policy of structural modernization of economy under conditions of European integration processes is researched. It is based on imperatives of smart specialization. Comparative analysis of the effectiveness of structural transformation of Polish and Ukrainian regions under conditions of European integration revealed that the structure of the regional economy of Ukraine is close to the structure of the Polish economy.

The matrix of market drivers and growth factors of selected groups of sectors of economic of Ukraine on the criteria of competitiveness and innovation (tech industry, services, mass production, manufacturing and production of goods and services that do not participate in global trade, but are important for the formation of regional and local markets) is proposed. Formation of the matrix can determine optimal mechanisms for regional policy structural modernization of the economy to improve competitiveness of certain sectors of the economy of Ukraine in conditions of intensifying of integration processes.

One of the main areas of structural modernization of the regional economy of Ukraine should be new industrialization that includes revitalization of industries based on innovation, new technologies and management models. Effectiveness of transformation of the domestic industrial capacity and integration into global production chains with greater value added can be provided a combination of export-oriented industrialization and innovation models.

Keywords: region, structural transformation, regional policy of structural modernization, structure of the regional economy, smart specialization, new industrialization.

Problem statement. The need to improve the regional policy in Ukraine is due to the change in global trends of economic development and the exhaustion of the potential of traditional factors of increasing the competitiveness of the regions on a national and world scale. Under these conditions, the existing mechanisms for regional development regulating proved to be unable to solve the problems of socio-economic development of certain territories, as well as to overcome the structural imbalances of the regional economy.

The above proves the necessity to create a new model of regional development, aimed at improving the structure of the regional economy. Such a model should be based on the principles of smart specialization and neoindustrialization of the regions, the effective use of its own socio-economic and geopolitical potential, inclusiveness of regional development, and also take into account the best examples of world experience in ensuring the effectiveness of structural processes in the economy of the regions.

Taking into account the positive experience of the structural transformation of the economy demonstrated by the regions of Poland in terms of European integration, the comparative analysis of structural changes in the economy of the regions of Ukraine and Poland is becoming relevant.

The paper purpose is to compare structure changes in economies of Poland and Ukraine; and to determine the main areas of structural modernization of the regional economy of Ukraine.

Major research findings. The accession of Poland to the EU in 2004 became a decisive factor in the development of the country. The dynamics of the Polish economy (Fig. 1, 2) during the last two decades was impressive not only in comparison with other post-Soviet states, but also with all the countries of Europe. Even during the

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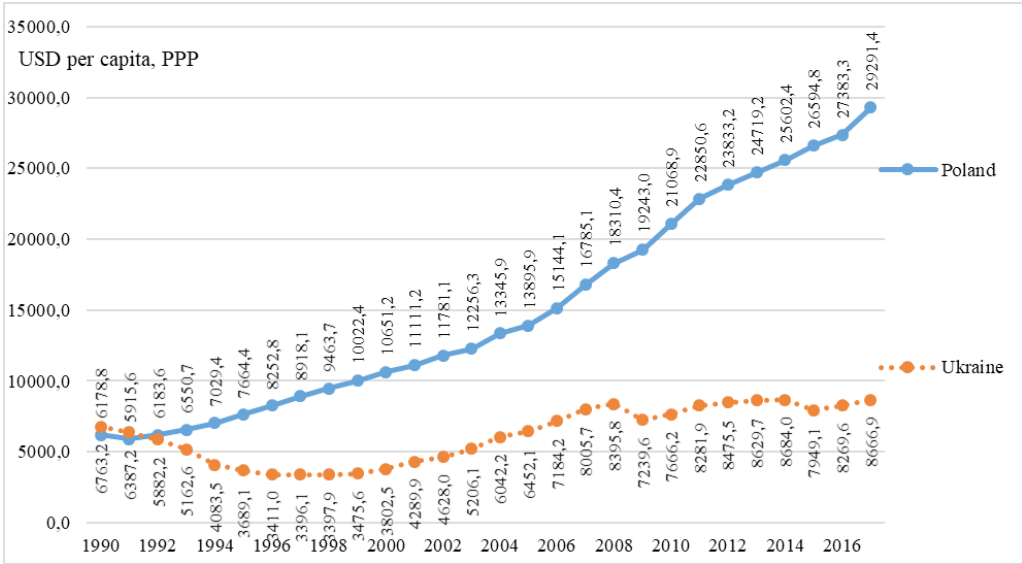


Fig. 1. Dynamic of GDP per capita, PPP (current international \$) of Poland and Ukraine, 1990-2017
 * <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>

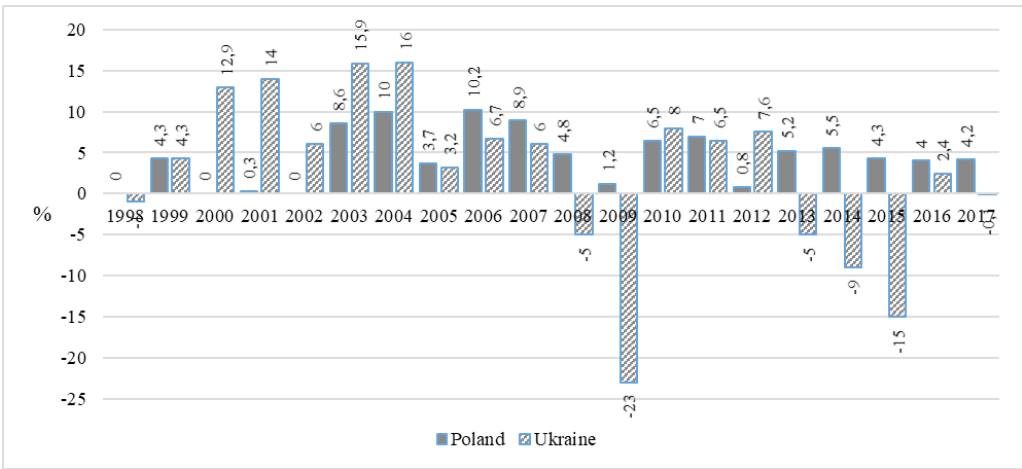


Fig. 2. Dynamic of industrial production growth rate of Poland and Ukraine, 1990-2017
 * <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2089rank.html>

financial crisis of 2008-2009, Poland was the only non-recessionary EU economy. As a result, in 2009, when the GDP of the EU declined by 4.5%, the Polish economy grew by 1.6% [6]. The success of the Polish economy can be explained by the effectiveness of institutional reforms and the active structural modernization of all Polish regions.

The comparison of sectoral structural transformations of the economies of Ukraine and Poland indicates similarity of structures of the Ukrainian and Polish economies for GVA, in particular, the industry of both countries accounts for about 23% of GDP, the service sector – about 60% of GVA, trade – more than 16% of GVA. The biggest differences the agricultural sector shows, which forms 11.7% of Ukraine's GVA and 2.6% of Poland's GVA (Fig. 3).

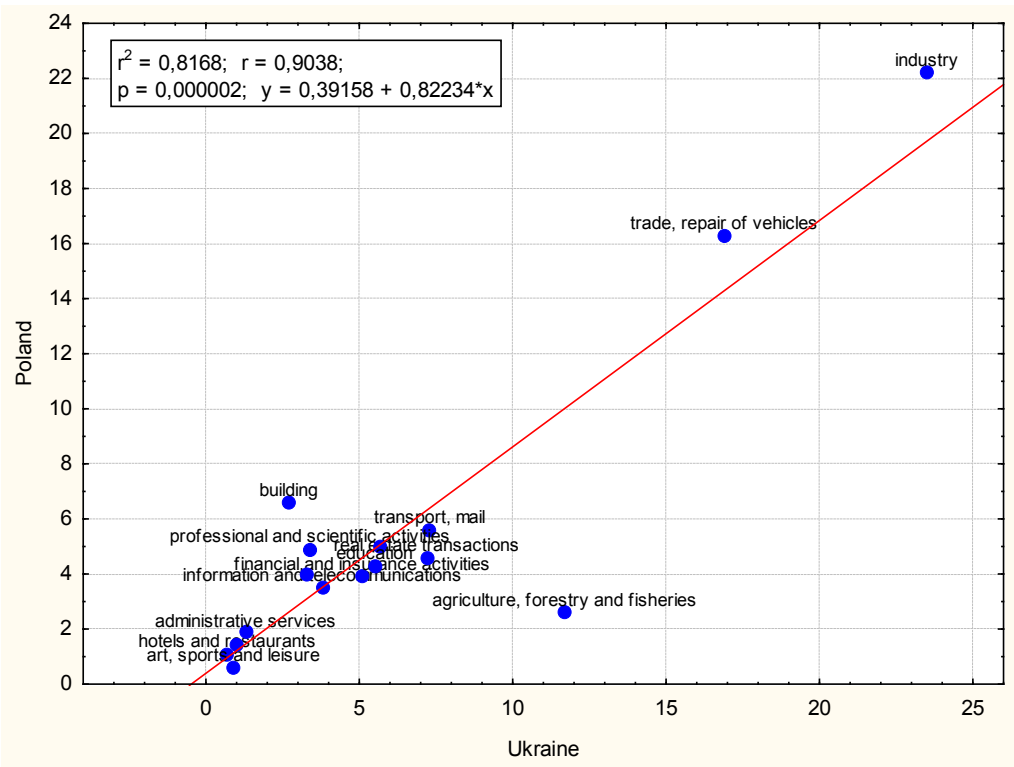


Fig. 3. Comparative structure of gross value added (GVA) by types of economic activity of Ukraine and Poland in 2016, % *

* <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2089rank.html>

There are several economically powerful regions that produce more than half of the country's GRP in Poland, as well as in Ukraine. In Poland four voivodeships are leaders: Mazowieckie, Silesia, Wielkopolska and Lower Silesia (52.6% of GDP in 2016). However, the level of inter-regional asymmetry in Poland is significantly lower than in Ukraine. If in Ukraine the gap between the most developed (Kiyiv and Kyiv region) and the least socio-economic developed (Chernivtsi region) was 23.6 times in 2016, then in Poland this gap (between Mazowieckie and Opole Voivodeships) is only 10.4 times. The role of the capital (Kyiv) in the country's GDP is considerably more important in Ukraine (18.2% in 2014), while in Poland (Warsaw) it is 12.9%. In fact, the Polish economy is at the stage of completing the transformational changes, that tends to deconcentrate economic development. The consequences of that in the near future should be manifested in the gradual reduction of the inequality of social and economic development of regions.

The economic structure of Polish regions has also undergone changes since the country's accession to the EU: firstly, the share of agriculture has decreased in most voivodships; secondly, the services sector has shown the largest increase; thirdly, since 2009 the financial and insurance activities have lost the role in the creation of GDP in all Polish regions.

The development of industrial production in Ukraine and Poland in recent years has taken place in various economic and geopolitical conditions. Poland is characterized by the highest intensity of structural transformations in the sphere of metallurgical production, the production of finished metal products, furniture and wood products,

repair and installation of machinery and equipment, paper production and printing, production of coke and products of oil refining, textile manufacturing, clothing, leather, leather goods and other materials. At the same time, in Ukraine the most intense were structural changes in such spheres as production of basic pharmaceutical products and pharmaceuticals, the manufacture of wood products, paper production and printing, electricity, gas, steam and air conditioning, food products, beverages and tobacco products.

The gradual modernization of industrial enterprises takes place in all Polish regions. The result of such a modernization was the growth of labor productivity in all sectors of industry during the last decade [1]. The trend towards neoindustrialization – the growth of the share of industry in GDP while reducing the share of employed – is typical for most EU member states, whose domination in industry is not provided at the expense of traditional labor-intensive industries, but through the development of modern industries that accumulate less labor resources, but marked by high added value. Among other things, a prominent role is played by the active innovative policy and elimination of live labor in the industry, as well as the transfer of labor-intensive industries to the new EU member states (Eastern Europe) or non-EU countries, with lower labor costs.

Thus, at the present stage of development Poland has substantially increased its industrial potential, but not always at the expense of high-tech sectors. After joining the EU, its border regions also suffered from industrial expansion of other EU member states for labor-intensive sectors (for example, assembly cars). So, in Poland there is a number of assemblies of German automobile manufacturers. Poland gets German investments and markets for its products, while Germany gains profits from the possibility of using Poland as a lower-priced, high-quality production platform for competition with East Asia.

Now Poland is the main part of the supply chain of Germany. As a result, Poland has become a major export economy – exports have now grown to 46% of GDP. M. Stanley in recent research found that 30-40% of Polish export to Germany was exported by Germany further abroad [2]. This interdependence explains why Germany is one of Poland's largest trading partners, which buys and sells on average 25% of Polish export and import, accounting for 12% of the total Polish economy.

In Ukraine, however, there has been a significant drop in industrial production since 2012, which points to systemic structural and institutional problems in the real economy and reduces the competitive preconditions and possibilities of adaptation of Ukrainian enterprises to rapid changes and challenges in the globalized markets. As a result, the real sector of Ukraine, in particular its industrial production, is characterized by an outdated technologies, low level of intellectualization of exports, and the import dependence of industry on knowledge-intensive goods due to the lack of a well-balanced structural policy with a focus on the selection, protection and development of modern technologies and new driver sectors. After all, in volume of sales of industrial products in Ukraine in 2016 the share of machine-building products remains insignificant – 6,8%, including the share of computer production, electronic and optical products – 0.6%, manufacture of electrical equipment – 1.4%.

In the structure of sales of industrial products and commodity exports of Ukraine prevailing production of low-order, and this leads to an increase in technological lag of its industrial complex from developed countries.

A prerequisite and consequence of this situation is the fact that in Ukraine, compared with Poland, the share of innovative active enterprises in industry is significantly lower (17.3% among all industrial enterprises with an average number of employees of 50 persons and more in Ukraine against 36.2% in Poland) (Fig. 4).

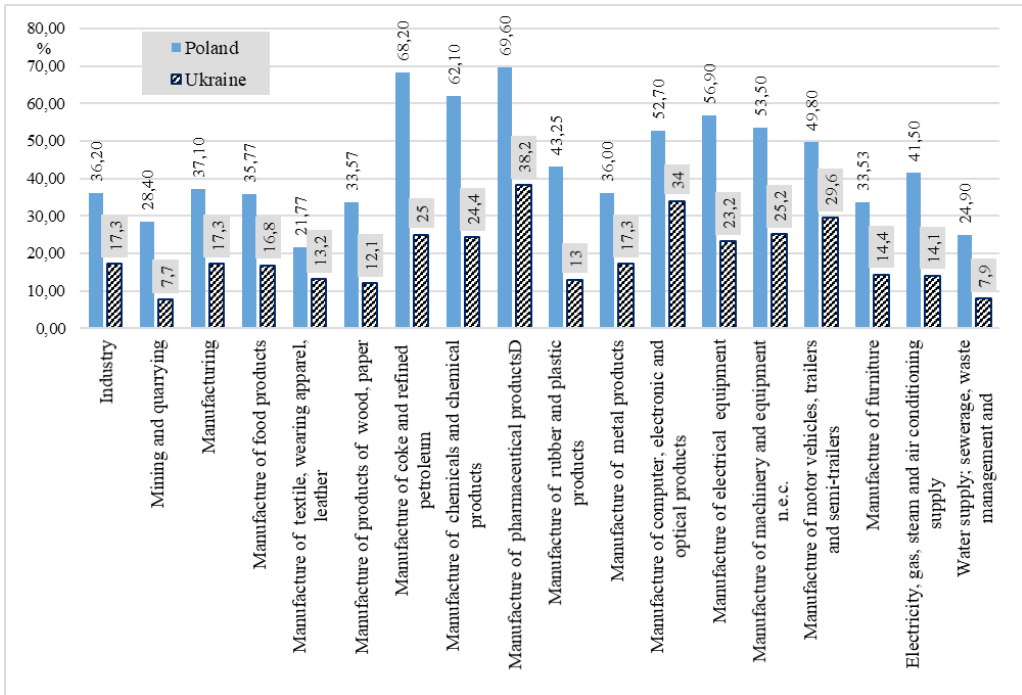


Fig. 4. The share of innovative industrial enterprises in Ukraine and Poland by types of economic activity in 2016, %

* <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2089rank.html>

This deepens the problem and the difference in the level of average wages in industry, which is more than three times lower in Ukraine than in Poland, which leads to a loss of human potential of the development of this sphere, brain drain abroad, the loss of engineers, designers, technologists, etc.

The trends of structural modernization of the Ukrainian regions' economies testify to the ineffectiveness of the public administration system in this area, in particular with regard to the opportunities and risks connected with the Association Agreement between Ukraine and the EU. On the one hand, it broadens the access of Ukrainian producers to European markets of investments, innovations, technologies, etc., on the other hand, there are a number of risks that need to be taken into account when developing the mechanisms for implementing such policy:

- restrictions on the application of protectionist measures in domestic markets;
- the transformation of Ukraine into the location of branches of foreign companies and supplier of low or middle-level products for foreign brands;
- the low level of profitability of such enterprises and the loss of their own position in the «global economic chain» for countries with even cheaper labor force;
- conservation of low wages and, consequently, quality of life of the population.

However, one of the main directions of forming a new model of structural modernization of the regional economy is using of smart specialization. Taking into account current conditions and priorities of regional development in Ukraine [3], the concept of smart specialization in the regional structural policy can be implemented through the mechanisms:

- scaling and internal integration of the innovative potential of the region;
- creation of markets for smart technologies of the future, which involves the creation of a network model of economy [4].

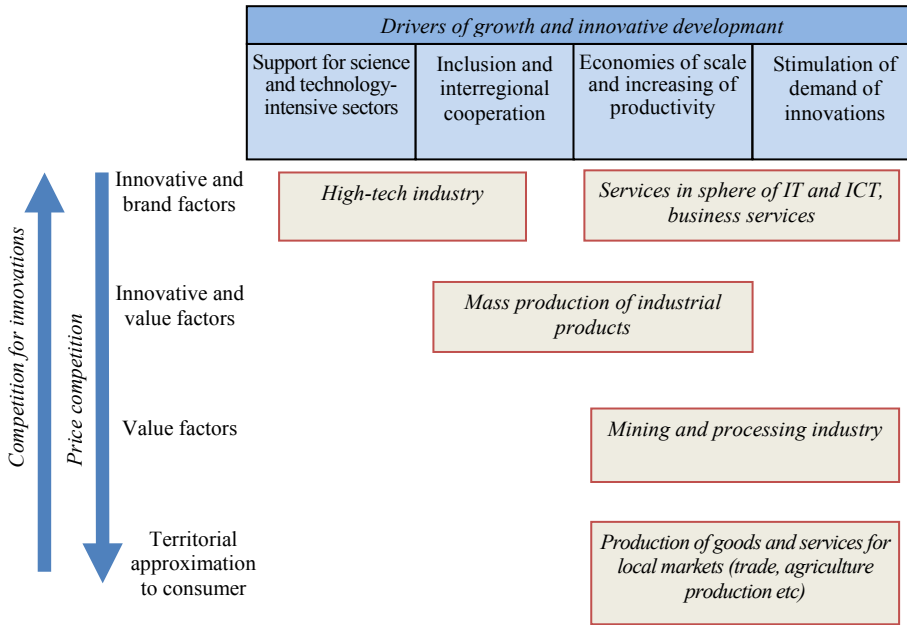


Fig. 5. Matrix of market drivers and factors of economic growth of Ukraine

In general, the economic recovery of Ukraine can be achieved through improvements of productivity in all significant sectors of the economy. The authors identify five sectors of the economy according to the criteria of their innovation and price competitiveness: high-tech industry; services in sphere of information technologies (IT) and information and communication technologies (ICT), business services; mass production of industrial products; mining and processing industry; production of goods and services for local markets. At the same time, growth potential and competitiveness drivers vary considerably for each sector of the economy. Taking this into account, the matrix of market drivers and growth factors for the distinct sectors of the economy in Ukraine was proposed (Fig. 5).

In the short and medium perspective, the science and technology industry (including the production of pharmaceuticals, medical and optical equipment, high-tech machine and instrument making, etc.) will not ensure significant growth of Ukraine's GDP, but its development is crucial in the long-term. The development of technologies and advanced innovation will result in the growth of other sectors (in particular, mass production of goods and services). Today, the share of such industry in Poland is about 2% of GDP, in the Czech Republic – 4%, in Germany – 5%, and in Ukraine – 1,6%.

For Ukraine, pharmaceutical production and pharmaceuticals can play a significant role, since its growth is the most dynamic in recent years. The share of production of pharmaceutical products and preparations in the structure of industry of Ukraine during 2010-2016 increased from 0.7% to 1% (in Poland, the share of this sector is also 1%, Poland is the largest in Central Europe and the sixth in the size of the EU manufacturer of pharmaceuticals and drugs). In addition, pharmaceutical production is characterized by a high level of added value, which varies from 70% to 90% in pharmaceuticals, while in the manufacturing industry it is about 15%, in the retail and wholesale trade 3-5% [3].

European and world markets of pharmaceuticals and drugs are highly competitive. Ukraine could compete in these markets as producer of generics, as contractor of European companies in the manufacture of pharmaceutical products and pharmaceuticals. Also Ukraine can be considered as place for creating of Logistics Center for European and Asian Pharmaceutical Companies.

Another highly innovative sector, characterized by rapid growth in the world and in which Ukraine has rather high competitive positions – the sphere of IT, ICT and business services. In 2017, the share of IT in the GDP of Ukraine was 3.8%, while in 2012 this figure was 0.8%. In this sector, Ukraine has sufficient potential to compete for middle-class IT services markets with countries such as India and the Philippines, as well as for high-end outsourcing markets.

Centers for the development of such services in Ukraine may be cities with a traditionally high level of intellectual and innovative potential – Kyiv, Lviv, Kharkiv, as well as the Dnipro, which has received a significant boost in the development of the role of the scientific and technical center of the development of the Eastern Region.

Based on the analysis of European experience in the development of high-tech industry and high-tech services, a number of drivers for their growth, the main of which are clusterization and consolidation, intensification of international cooperation, support of research activities, acquisition of foreign technologies, promotion of high-tech domestic products to the external market are identified. The realization of the competitiveness potential of high-tech industries and services is largely based not on the use of direct mechanisms for supporting such types of economic activity, but by the increase of the effectiveness of mechanisms for stimulating the interaction of business structures, authorities, producers of innovations and knowledge, and other subjects of the economy at the local, regional and interregional levels.

Types of economic activity aimed at mass production (automotive, in particular assembly production, furniture, textile and chemical industry, production of computer and electrical equipment, metal products) in the coming years may become the main engine of the growth of the Ukrainian economy (including on the basis of development off-shoring). However, the necessary criterion for intensifying the development of mass production is increasing of its productivity. In the period of 2010-2016, the highest productivity growth rates in Ukraine showed the production of food products, beverages and tobacco products, manufacture of wood products, paper production and printing, textile manufacturing, clothing, leather, leather goods and other materials, production rubber and plastic products, other non-metallic mineral products.

The main drivers of mass production development in Ukraine can be: attraction of large foreign companies – market leaders, which will open access to new production technologies, growth of labor productivity and production; optimization of production chains in terms of procurement, production, stock formation and product development; achievement of the scale effect at the expense of the consolidation of manufacturers and subcontractors on the initiative of large companies, which will overcome significant fragmentation, in particular in the textile, furniture industry, production of finished metal products; the creation of Ukrainian brands and their expansion into foreign markets.

In modern conditions, it is strategically hopeless to support the development of sectors with limited dynamics and low share of value added (in particular, such as traditional energy and extractive industries, etc.). At the same time, the mining and processing industry is a significant component of Ukraine's GDP. It is precisely this sphere that is undergoing a significant transformation under the influence of forced circumstances connected with the loss of the gas deposits of the Black Sea shelf from Ukraine in 2013-2014 and a large part of the mining, metallurgical and chemical

industries of the Donbas. In 2016, the share of this sector in Ukraine was about 5% of GDP, while in the EU-15 it does not exceed 2%. In the strategic perspective, this sector should acquire an exclusively national significance (without directing to the external market) in terms of fuel and other types of raw materials supplies. Its competitiveness lies in the reduction of the cost of production, since this sector is intended to maintain the competitiveness of other sectors of the economy in foreign markets.

The sector of production of goods and services for local markets today is the most important in the structure of Ukraine's GDP and includes agriculture, energy, transport, retail and wholesale trade. These activities are less exposed to global trends and are much more dependent on the dynamics of regional market development. For Ukraine today, agriculture and transport provide the growth of the economy in general and form a significant positive contribution to the formation of the balance of payments of the state. The large size of the sector and its strong growth are due to the high level of domestic consumption. It is stressed that the competitiveness of the sector depends to a large extent on: the development of the domestic market of Ukraine in the coming years; further improvement of the regulatory framework for the functioning of agriculture, energy, transport; the competitiveness of Ukrainian products in European markets (on the one hand, there has been a significant increase in the productivity of Ukrainian agriculture during the last decade, on the other – its competitiveness is substantially offset by the implementation of programs of support for agricultural producers in the EU); the ability to resist the expansion of agricultural production in Poland and other EU member states in the domestic market.

Conclusions. The new model of regional development of Ukraine should be based on smart specialization and neoindustrialization. It can be provided by intensifying the development of industries based on innovations, new technologies and innovative management models. The effectiveness of the neo-industrial transformation of domestic industrial potential and integration into global production chains with a high share of added value can provide a combination of export- and innovation-oriented models of industrialization. At the same time, neo-industrialization should be accompanied by the achievement of sustainable economic growth, growth of employment and incomes, improvement of quality of life, observance of ecological requirements, preservation of the environment and resource efficiency.

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Сторонянська І. З., Прокопюк А. Формування нової моделі регіонального розвитку: досвід Польщі та вектори для України.

У статті розглянуто питання структурної трансформації економіки регіону та обґрунтовано концептуальні засади формування регіональної політики структурної модернізації економіки в контексті активізації євроінтеграційних процесів. В її основу закладено імперативи розумної спеціалізації. Здійснення порівняльного аналізу ефективності структурних трансформацій в регіонах Польщі та України в умовах євроінтеграції дозволило встановити, що структура економіки регіонів України є наближеною до структури економіки Польщі, водночас для України властиві значні дисбаланси у динаміці зростання науко – та технологічно-інноваційних секторів економіки, низький рівень продуктивності праці, а також неефективне використання ендегенного природного, геополітичного та соціально-економічного потенціалу регіонів. Встановлено, що тенденції структурної модернізації економіки регіонів України свідчать про неефективність системи державного управління в цій сфері, зокрема в частині врахування можливостей і ризиків, пов'язаних з Угодою про асоціацію між Україною та ЄС. З одного боку, вона розширює можливості доступу українських виробників до європейських ринків інвестицій, інновацій, технологій тощо, з іншого, виникає низка ризиків, врахування яких є обов'язковим при розробці механізмів реалізації такої політики, а саме: обмеження щодо застосування протекціоністських заходів на внутрішніх ринках; перетворення України у місце розташування філій іноземних компаній і постачальника продукції низького або середнього рівня переробки для іноземних брендів; низький рівень прибутковості таких підприємств і програш власних позицій у «глобальному економічному ланцюзі» країнам з ще більш дешевою робочою силою; консервація низького рівня оплати праці та, відповідно, якості життя населення. Запропоновано матрицю ринкових драйверів і чинників зростання в розрізі виділених груп секторів економіки України за критеріями їх конкурентоспроможності та інноваційності (високотехнологічна промисловість, послуги, масове виробництво, переробна промисловість, а також виробництво товарів і послуг, які не беруть участі у глобальній торгівлі, але мають важливе значення для формування регіональних і локальних ринків). Одним з магістральних напрямів структурної модернізації економіки регіонів України має стати неіндустріалізація, яка передбачає активізацію розвитку галузей промисловості на основі інновацій, нових технологій і моделей управління. Результативність неіндустріальної трансформації вітчизняного промислового потенціалу та інтеграції в глобальні виробничі ланцюжки з більшою часткою доданої вартості може забезпечити поєднання експорторієнтованої та інноваційноспрямованої моделей індустріалізації.

Ключові слова: регіон, структурна трансформація, модель регіонального розвитку, структура економіки регіону, розумна спеціалізація, неіндустріалізація.

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