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ANALYTICAL SUPPORT AND METHODOLOGICAL BASIS FOR ASSESSING THE ECONOMIC POTENTIAL OF REGIONAL DEVELOPMENT

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INTRODUCTION

Diversification of the pace of development of individual regions of Ukraine is a deep-rooted phenomenon, which is the result of a number of factors, including the attractiveness of the location, available resources, the level of human capital, as well as access to transport infrastructure and utilities. A special aspect is the problem of effective use of economic potential, which is considered as one of the main factors that determines the development of the regional socio-economic system. Since regions are formed as integral complexes, balanced by natural resource, demographic, production, social and environmental subsystems, and its potential-under the influence of endogenous and exogenous factors, it focuses the region on achieving certain strategic development goals in accordance with the available resources. Various components and aspects of the economic potential of the region were studied by foreign and domestic scientists, in particular V. Adrianov, O. Alimov, I. Dolzhansky, N. Krasnokutskaya, V. Nagornaya, V. Mikitenko, O. Oleksiuk, R. Simionov, V. Pila, S. Tulchinskaya and others. However, the issues of imperfection of opening tools and methods of assessing the economic potential of regions remain insufficiently studied, which leads to limited use of it, ignoring potential opportunities in solving institutional problems.

1. Methodological basis for assesing the economic potential of regional development

Today's trends in the socio-economic development of regions need more modern tools for regulating regional development. Tools that can provide regions and communities with incentives to find their own resources and stimulate them to activate internal development reserves come to the fore. The success of the initiated decentralization reforms in our country, the expansion of power and financial resources of the regions

and ensuring their economic security depends on the ability of the regions themselves to maintain stable economic dynamics even under the unprecedented pressure of negative macroeconomic phenomena[1]. It should be noted that given the urgent need to stabilize economic processes in the state, it should be indispensable to identify regions and types of economic activities that can become a pillar of economic growth, "growth points" of the economic system of the region. In addition, the ability of regional economic complexes to independently accumulate and effectively use the economic potential for their further development will indicate the possibility and expediency of expanding the economic independence of the regions. At the same time, the formation and use of the total regional potential depends not only on the availability of resources of different nature, but also on the action of internal and external factors on this process.

Thus, an urgent task of this study is: 1) determination of the nature and content of multicomponent system – economic potential of the region; 2) analysis of the components of the economic potential of the regions; 3) analysis and improvement of management of formation and use of the economic potential of the region because of its strategic directions of development of effective indicators and depending on the different spheres of regional control that will enable the adoption of optimization of management decisions with respect to certain development priorities in the region.

The economic potential of the region can defined as the aggregate ability of the economy of the region, its branches, enterprises, farms to carry out production and economic activities, to produce high-quality products, goods and services that meet social needs, ensuring the development of production and consumption[2]. In addition, it is a quantitative and qualitative characteristic of the availability and possibility of using all kinds of resources available to the state (region) for its economic and social progress and development.

There are many approaches to methods of classification of components of economic potential of the region. Thus, the economic potential of the region can represented in the form of a set of interrelated potentials as components of the economic structure of the regional socio-

1 Regional economy in 2015: new realities and opportunities initiated reforms. Kyiv : NISI, 2015. 92 p.
2 Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua

economic system, or types of economic resources, spheres of activity, and areas of use.

Most often for the analysis and evaluation, the authors identify the following determinants of the economic potential of the region: The *natural resource component* – is the basis of material production and characterizes the natural resources of the region's economy already involved in economic turnover, as well as available for development with these technologies and socio-economic relations.

The territory of Ukraine characterized by unique physical, geographical and geological conditions, which contributed to the formation of significant amounts of natural resources and their diversity. The most valuable natural resources are land and mineral resources. Thus, on the territory of Ukraine is concentrated a quarter of the world's reserves of unique chernozems, which in their physical, chemical, agrochemical and mineralogical composition among soil-forming rocks is considered the best. The total land Fund of the agricultural sector is about 1.9 million hectares of farmland, including about 1.4 million hectares of arable land. In particular, more than 63% of the territory consists of ordinary chernozems. Of these, 43% are medium-power chernozems on loess-like rocks, 18.4% are gravelly chernozems on dense bedrock and 11% are low-power chernozems on loess-like rocks. Characteristic features: insignificant (50-60 cm. depth of soil profile, humus content – 4-5%, increased (up to 80% of the area) soil erosion and increased content of easily soluble salts. Soils with a high content of humus are concentrated in the Kharkiv region – 4.9% of humus, Kirovograd and Dnepropetrovsk 4.5%[3].

Ukraine is one of the leading countries in the world in terms of the wealth of mineral resources. According to the total number of natural resources in Ukraine (mineral, land, water, recreational, flora and fauna, table 2), the first three places are occupied by Donetsk, Dnipropetrovsk and Luhansk regions. However, there are regions poor in mineral resources, it is-Volyn, Ternopil, Chernivtsi, Odessa, Vinnitsa and Mykolaiv and Transcarpathian regions. Availability of these resources forms and determines the structure of the regional economy. Thus, the main coal base of Ukraine is the Donbass coal basin, which is located on

[3] Akhromkin E.M. Resources of Ukraine: regional aspect. *Effective economy.* 2010. No. 11. Access mode: http://www.economy.nayka.com.ua/?op=1&z=500

the territory of Donetsk and Lugansk regions. Its total area is 60 thousand square meters, and its coal reserves estimated at 109 billion tons. Oil and natural gas are concentrated in the Dnieper-Donetsk (80%), black SeaCrimean oil, and gas regions.Oil and gas fields on the continental shelf of the Black and Azov seas considered promising for development. Ukraine's own needs in oil are covered by 10-15%, in gas-by 25%, 3 billion tons of peat and oil shale have been explored. Iron ores are located in Krivoy Rog (18.7 bn), in the Nikopol basin, the Largest manganese ore deposits in the world are located in the Kremenchug (4.5 billion tons), Belozersk (2.5 billion tons) and Kerch (1.8 billion tons) iron ore basins. By deposits of non-metallic minerals, Ukraine occupies a leading place in Europe and the world. Deposits of mineral wax and native sulfur – the largest in the world, graphite – the largest on the European continent, quite significant-rock and potassium salt. Also discovered deposits of precious and semi-precious stones (beryl, amethyst, amber, Jasper, rhinestone, Morion, etc.), explored more than 15 gold deposits. Therefore, the mineral resource base of Ukraine has a significant economic potential necessary to ensure the further development of the national economy, in particular the metallurgical, chemical industry, ceramics and construction materials. However, insufficient implementation of energy-and resource-saving technologies, the use of alternative energy, fuel and secondary raw materials can increase the resource constraints of the state economy, lead to the depletion of mineral resources.

Production and technological component – is a set of production (buildings, structures, equipment) and technological resources, which characterizes the ability of the economic complex of the region to introduce innovative technologies, quickly reorient production capacity, to establish effective production of new (improved) products. This component reflects the production and technological state, the availability of reserves or opportunities to obtain them, the level of technological development, the susceptibility of regional economic systems to innovations and other strategic changes. Reproduction of production and technological potential is one of the factors of socio-economic development of regions. However, due to the imbalance and regional imbalances in the development and placement of industrial production in Ukraine, the role of the latter in the overall socio-economic development differs in different regions.

2. Analytical support for the assessment of the economic potential of regional development

The production and technological potential of the region can be estimated by the indicator of the volume of sold products (goods, services) of economic entities (table 1). For the period of 2016-2017, the largest volume of products (goods, services) sold will be Dnipropetrovsk, Kyiv, Donetsk, Kharkiv regions and the city of Kiev.

The received indicators of geography of distribution and dynamics of realization of industrial production in 2014-2016 testify to essential recession of realization of production in such industrial regions, as Donetsk, Lugansk, and in Ternopil and Chernivtsi regions.

Table 1

Volume of sold products (goods, services) of business entities by regions in 2014-2016 (mln.uah)

2014	**2015**	**2016**	
Ukraine1	**4459702,2**	**5716431,0**	**6877077,3**
1	2	3	4
Vinnyts'ka	79376,0	116940,0	139582,3
Volyns'ka	68564,7	93409,7	116585,4
Dnipropetrovs'ka	499870,1	628409,3	742248,7
Donets'ka	386901,9	337284,6	356039,5
Zhytomyrs'ka	46415,0	58451,3	87548,1
Zakarpats'ka	43947,8	52270,7	55240,4
Zaporiz'ka	150914,2	201420,5	237709,6
Ivano-Frankivs'ka	50516,4	64685,9	80542,1
Kyivs'ka	273566,0	351032,1	415406,3
Kirovohrads'ka	61831,9	73230,8	82197,5
Luhans'ka	49535,0	38760,9	53490,7
L'vivs'ka	166394,0	209437,0	237688,2
Mykolaivs'ka	70895,1	106192,6	131428,8
Odes'ka	173515,2	236653,7	308935,4
Poltavs'ka	142371,5	196439,2	227374,2
Rivnens'ka	44074,4	51056,6	59557,4
Sums'ka	47407,1	69635,0	81395,5
Ternopil's'ka	66896,2	83108,2	55943,8

Ending of Table 1

1	2	3	4
Kharkivs'ka	202379,5	278013,1	319754,8
Khersons'ka	38490,4	53781,8	65283,0
Khmel'nyts'ka	51693,3	69288,9	80919,0
Cherkas'ka	84346,4	119639,4	135796,1
Chernivets'ka	21712,5	26732,2	31143,6
Chernihivs'ka	47262,3	68944,3	87015,5
Kyiv	1590825,3	2131613,2	2688251,4

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees[4].

[1]Without taking into account the results of the activities of budgetary institutions, the temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and part of the zone of the anti-terrorist operation.

The *personnel component* – is the labor resources of the region, including the number of active working-age population in terms of its volume and quality, educational and professional qualification level, entrepreneurial ability. This is a special kind of resource, which is a carrier of knowledge and information; it is the availability and ability of qualified personnel to carry out the innovation process in the industry (the number of students, students of vocational schools; the number of students of higher educational institutions of I-IV levels of accreditation; the number of specialists who perform scientific and technical work; highly qualified specialists employed in the industrial complex of Ukraine). This component is formed, developed and implemented throughout the working life, determines the management system of industrial activity, its flexibility, adaptability, susceptibility to change.

One of the most important indicators of the functioning of both national and regional labor markets is the indicator of economic activity of the population, which objectively reflects the socio-economic state of society in the current period and used to develop social programs and adjust the entire social policy of the state as a whole. To analyze the quantitative composition of the labor potential of the country, the dynamics of the number of economically active population aged 15-70 years, which is its main component, is of key importance. Over the past 10 years, the number of this

[4] Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua

category of population has decreased by almost 20%. The reason for this was both the objective processes of natural population decline observed over the past 25 years, as well as military actions and the loss of part of the territory, within which at this stage it is impossible to keep records. As for its share in the total population, it does not even reach 50%, and in 2014-2015, it decreased significantly (to 46.3 and 42.2%, respectively). In relation to the population of the same age group (15-70 years), the share is stable-mainly in the range of 62-64%. The economically active population of working age is 71-73% of the population of the corresponding age group.

It is quite clear that persons with higher education are the most competitive in the labor market, so among them the highest level of economic activity-76.9% of the total number of economically active persons. In second place in terms of economic activity are persons with vocational education, namely 70.4%. The lowest level of economic activity was recorded among persons with basic General secondary (19.9%), as well as primary General or among those without education (6.1%). According to the distribution of the level of economically active population among men and women, there was a certain gender imbalance. In particular, men (Fig. 1) prefer the level of economic activity among persons with any education.

To assess this component of the potential, we analyze the number of economically active working-age population in the regions listed in table 2. Therefore, during the analyzed period, the economy of Ukraine lost 1842.0 thousand people, able-bodied population. In General, according to the level of labor potential all regions of Ukraine can be divided into three groups: 1) regions with a significant share of the working population, but very low rates of natural movement, a significant mechanical outflow of people (Kharkiv, Lugansk, Dnipropetrovsk, Donetsk, Kiev region and the city of Kiev); 2) regions with a significant share of able-bodied people, high rates of population aging, negative or small positive indicators of natural population growth, a slight mechanical outflow of population (Odessa, Zaporozhye, Kherson, Mykolaiv, Lviv, Sumy, Ternopil, Rivne, Ivano-Frankivsk, Chernihiv, Zhytomyr); 3) regions with the lowest share of able-bodied population in Ukraine, very low (negative) natural population growth, a high proportion of persons of retirement age, with a significant outflow of population (Khmelnitsky, Vinnitsa, Cherkasy, Poltava, Kirovograd, Chernivtsi, Transcarpathian regions, Volyn region)[5].

[5] Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua

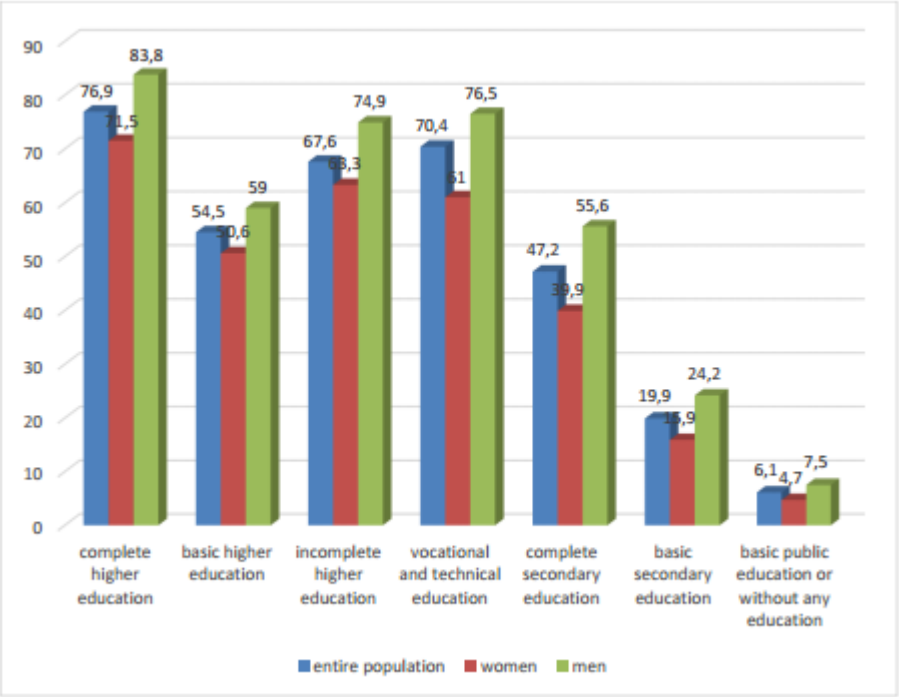

Fig. 1. The level of economic activity of the population of Ukraine aged 15-70 years, depending on gender and level of education in 2016 (in % of the population of the corresponding level of education)

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees[6].

Table 2

Economically active working age population by region in 2014-2017 (thousand people)

2014	**2015**	**2016**	**2017**	**2018**
1	2	3	4	5
Ukraine	**19035,2**	**17396,0**	**17303,6**	**17193,2**
Vinnyts'ka	700,3	710,4	702,2	694,3
Volyns'ka	435,8	432,9	426,3	413,5
Dnipropetrovs'ka	1554,6	1555,0	1508,6	1475,5
Donets'ka	1914,12	852,1	844,5	831,0

Ending of Table 2

1	2	3	4	5
Zhytomyrs'ka	539,9	537,5	543,1	547,2
Zakarpats'ka	554,0	550,5	545,6	539,3
Zaporiz'ka	807,4	789,9	789,4	780,5
Ivano-Frankivs'ka	560,5	578,1	578,9	578,3
Kyivs'ka	771,3	777,6	776,1	780,1
Kirovohrads'ka	420,8	419,7	416,5	416,4
Luhans'ka	953,32	339,5	338,1	330,7
L'vivs'ka	1101,6	1116,5	1116,9	1119,7
Mykolaivs'ka	532,1	540,9	535,9	529,0
Odes'ka	1038,2	1048,7	1043,9	1038,2
Poltavs'ka	660,7	649,1	638,4	640,3
Rivnens'ka	486,5	489,9	481,9	476,8
Sums'ka	496,8	500,4	497,3	498,0
Ternopil's'ka	443,2	449,1	450,1	441,6
Kharkivs'ka	1285,6	1285,8	1282,2	1285,1
Khersons'ka	484,0	487,2	488,0	488,1
Khmel'nyts'ka	545,9	544,3	545,3	545,8
Cherkas'ka	567,3	566,3	566,9	566,6
Chernivets'ka	361,0	360,5	366,8	366,6
Chernihivs'ka	457,6	459,7	457,0	458,0
Kyiv	1362,7	1354,4	1363,7	1352,6

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees[7].

1 Data are given without taking into account temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and temporarily occupied territories in Donetsk and Lugansk regions

2 Data can be refined.

Thus, it can be noted that the characteristic features of a state of use of labor potential in Ukraine are: reducing over the last 10 years of employment by 20.68%, and the level of employment by 2.07%; the growth in the number of unemployed by 9.22% and the unemployment rate is 33.82%; discrepancy between the qualification structure of the labor potential needs of the labor market; a significant wage gap between our

[7]Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua

country and other countries of the world, its level is too low, not only demotivates employees, but also deepens the crisis phenomena in the economy, exacerbates the problems of poverty, and among the economically active population, migration, demographic crisis.

The *investment and financial component* – is the volume of financial and investment resources in the region attracted for the implementation of economic activities (funds of local budgets, economic entities, extrabudgetary funds, credit resources, foreign investments, borrowing from the population). It is expressed in terms of the index of investments in fixed capital; internal current costs of scientific and scientific-technical works performed by the own forces of industrial enterprises; total investment costs and the like. The financial component, in our opinion, characterized by financial independence, stability and creditworthiness, the presence of an effective system of financial resources management capable of accumulating and directing their necessary share to the implementation of economic activities.

The indicator characterizing the investment and financial component of the economic potential is the mastered volumes of capital investments, since they are the basic parameter of the reproduction process, which determines the possibility of updating the fixed capital, structural reforms, and sustainable long-term economic and social development of the regions (table 3).

Table 3

Capital investments by regions for 2014-2017 years (million uah)

2014	**2015**	**2016**	**2017**	
1	2	3	4	5
Ukraine	**219419,9**	**273116,4**	**359216,1**	**448461,5**
Vinnyts'ka	5674,6	7373,0	8301,9	11744,1
Volyns'ka	3389,7	6166,8	6384,2	7041,9
Dnipropetrovs'ka	20356,5	25919,9	33169,0	42908,5
Donets'ka	13155,3	8304,3	11902,2	17268,9
Zhytomyrs'ka	2904,9	4044,4	5573,5	7722,0
Zakarpats'ka	2638,7	3778,4	4663,0	5623,7
Zaporiz'ka	7034,5	7794,3	11039,7	15879,7
Ivano-Frankivs'ka	6837,5	9609,3	7947,6	9707,8
Kyivs'ka	19653,5	24359,1	33411,4	34494,5

Ending of Table 3

1	2	3	4	5
Kirovohrads'ka	3122,4	4057,1	6355,3	7320,9
Luhans'ka	5222,6	2060,1	4122,2	3329,8
L'vivs'ka	9555,0	13386,5	18605,2	24105,9
Mykolaivs'ka	3771,4	5989,9	9730,2	11178,0
Odes'ka	9361,3	9983,5	16728,7	22299,7
Poltavs'ka	8827,8	8337,9	15265,1	15855,6
Rivnens'ka	2804,6	4334,2	4324,1	6126,8
Sums'ka	2798,1	3663,0	5762,6	6947,1
Ternopil's'ka	2590,0	3827,5	4888,2	7150,6
Kharkivs'ka	8032,3	11246,7	16545,9	19361,7
Khersons'ka	2208,1	3107,4	4591,3	7362,2
Khmel'nyts'ka	4078,3	6809,3	9123,3	10499,9
Cherkas'ka	3262,1	4485,8	6498,7	8144,2
Chernivets'ka	1686,9	2789,2	2668,8	2992,1
Chernihivs'ka	2621,2	3550,2	5318,5	7351,1
Kyiv	67832,6	88138,6	106295,5	136044,8

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees[8].

Note. 1 Data are given without taking into account temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and for 2014-2017 without part of temporarily occupied territories in Donetsk and Lugansk regions.

The largest investment activity was demonstrated by Dnipropetrovsk, Kyiv, Lviv, Odessa regions and the city of Kiev, and the least – Chernivtsi, Luhansk, Transcarpathian, Rivne regions. According to official statistics, the volume of capital investments in the national economy in 2017 amounted to 448461.5 million UAH. At the same time, it is positive that almost 50% of the total volume was invested in the acquisition, creation or construction of new non-current assets, the purchase of machinery, equipment, inventory and vehicles – 47.6% of all investments. A significant part of capital investments in 2017 was directed to capital repairs of assets and 38.8 billion UAH of capital investments (9.4% of the total). The leading areas of economic activity in terms of attracting capital investments in January-December 2017 remain:

8 Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua

industry – 33.1%, construction – 12.1%, agriculture, forestry and fisheries-14.0%, information and telecommunications – 4.1%, wholesale and retail trade, repair of motor vehicles and motorcycles – 7.0%, transport, warehousing, postal and courier activities – 8.7%, public administration and defense and compulsory social insurance – 7.4%. Thus, the reproduction structure of capital investments in Ukraine can be considered quite progressive, because the dominant forms of reproduction are the acquisition of new facilities and modernization of existing ones. A very small share of them is invested in the overhaul of existing non-current assets, which is quite justified in modern conditions.

The main source of financing of capital investments, as before, remains the own funds of enterprises and organizations, at the expense of which 69.9% of capital investments were mastered in January-December 2017. So, the volume of capital investment depends largely on the sustainability of the financial condition of national enterprises. Meanwhile, the volume of profits of Ukrainian enterprises against the background of prolonged stagnation may be insufficient to ensure a sufficient level of modernization of the economy in the coming years. The share of Bank loans and other loans in total investment amounted to only 5.3%. At the expense of the state and local budgets, 3.5% and 9.2% of capital investments were disbursed. The share of funds of foreign investors decreased in 2017 to 1.4% against 3.7% – in 2016, which indicates an unfavorable investment climate, the main causes of which are military operations, structural degradation of the economy, lack of reforms, total corruption at various levels of government, imperfect legislative framework, burdensome taxation system, instability of the national currency, loss of confidence in the banking sector, the inability to attract credit resources due to their high cost and low level of transformation of savings and business profits. The share of the population's funds for housing construction is 7.8%. Other sources of financing account for 2.9%[9].

Export component – a certain amount of goods and services, the regional economy is able to produce, attracting its own and imported factors of production, and sell them on foreign markets with maximum efficiency. This component is determined by the formation of foreign and

[9] Report "On the socio-economic situation of Ukraine in 2017" / State statistics service of Ukraine, 2018. Access mode: http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh_dop2017.html

domestic markets, clear export specialization; the development of transnational elements: joint ventures, vertically and horizontally integrated structures, industrial and financial groups, cross-border economic associations.

As before, in 2016-2017, the basis of the commodity structure of Ukrainian exports were base metals and products made of them, products of vegetable origin, fats and oils of animal or vegetable origin, mineral products, mechanical and electrical machines, finished food products, products of chemical and related industries and wood and wood products. The share of ores, slag and ash, seeds and fruits of oilseeds increased in the total volume of exports of goods in 2017 compared to 2016. But there was a slight decrease in the share of ferrous metals, grain crops, electrical and mechanical machines[10].

The basis of the commodity structure of Ukrainian imports in 2016-2017 was high-tech products, namely: mineral products, mechanical and electrical machines, products of chemical and related industries, means of land transport, aircraft, floating vehicles, polymeric materials, plastics and products thereof, base metals and products thereof, ready-made food products, textile materials and textile products of vegetable origin. The share of mineral fuels, oil and products of its distillation, means of land transport (except for rail) has significantly increased in the total volume of imports of goods. The share of mechanical machines, plastics, polymeric materials, pharmaceutical products decreased. In the regional context, the greatest export potential have Dnipropetrovsk, Donetsk, Zaporozhye, Poltava, Odessa regions and the city of Kiev, whose enterprises were most active in foreign trade in goods in JanuaryNovember 2017 are shown in table 4.

Innovation component – a set of scientific knowledge, innovation, human resources are at different stages of the scientific and reproductive cycle, and are aimed at innovation. According to the Law of Ukraine "on priority directions of innovation activity in Ukraine", "innovation potential is a set of scientific, technological, financial, economic, industrial, social and educational opportunities of the country (industry, region, enterprise, etc.) necessary to ensure the innovative development of the economy"[11].

[10] Report "On the socio-economic situation of Ukraine in 2017" / State statistics service of Ukraine, 2018. Access mode: http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh_dop2017.html

[11] Law of Ukraine "On priority directions of innovative activity in Ukraine" dated 16.01.2003 No. 433'IV. Access mode: http://zakon.rada.gov.ua/cgi'bin/laws/main.cgi?nreg=433'15

Table 4

Volumes of foreign trade in goods in January-November 2017

	Export			Import		
	millions USA dollars	in % to January–November's 2016.	In % of total volume	millions USA dollars	in % to January–November's 2016.	In % of total volume
Total	**39486,1**	**120,6**	**100,0**	**44697,6**	**127,5**	**100,0**
including						
Dnipropetrovs'ka	6376,3	120,4	16,1	4165,5	135,5	9,3
Donets'ka	4020,0	128,1	10,2	1794,4	183,5	4,0
Zakarpats'ka	1324,9	118,6	3,4	1232,4	118,3	2,8
Zaporiz'ka	2835,9	136,5	7,2	1179,2	131,2	2,6
Kyivs'ka	1605,4	105,3	4,1	3109,3	116,1	7,0
L'vivs'ka	1451,4	126,1	3,7	1984,5	129,7	4,4
Mykolaivs'ka	1701,8	117,8	4,3	700,0	112,4	1,6
Odes'ka	1660,4	122,5	4,2	1293,4	118,4	2,9
Poltavs'ka	1691,0	132,1	4,3	1040,6	139,3	2,3
Kharkivs'ka	1082,5	117,0	2,7	1472,3	109,4	3,3
Kyiv	8927,6	115,6	22,6	17696,2	122,9	39,6

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees[12,13]

Objectively assessing this component of the economic potential, the following data can be cited: during 2014-2017, the share of innovatively active enterprises was 17.3%. Of the total number of enterprises surveyed, only 5.0% were engaged in technological innovations (product or process), 6.6% – non-technological (organizational and/or marketing), 6.8% – technological and non-technological innovations. As in previous years, the highest level of innovation activity in 2017 was observed among enterprises in the field of information and telecommunications (22.1%) and the processing industry (22.0%). Based on the analysis of statistical data, it can

12 Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua
13 Report "On the socio-economic situation of Ukraine in 20117" / State statistics service of Ukraine, 2018. Access mode: http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh_dop2017.html

be seen (table 5) that the number of innovatively active enterprises has decreased by almost 3 times. Above the average level of innovation activity in Ukraine in 2014-2017 was-in Kharkiv, Mykolaiv, Kirovograd, IvanoFrankivsk regions (28.1-21.7 %). The largest increase in innovation-active enterprises in 2016-2017 showed Ternopil and Cherkasy regions, but the largest reduction in the number of innovation-active enterprises occurred in Rivne, Khmelnytsky, Chernihiv regions.

The share of innovatively activeenterprises in the regions that had the status of industrial leaders (Luhansk, Donetsk, Dnipropetrovsk regions of Ukraine) in 2014-2017 was only 10.0 – 11.0 % and did not reach the average level in the regions.

The largest number of innovative products in recent years has been manufactured at the enterprises of Transcarpathian, Kharkiv, Ternopil, Kirovograd and Zaporozhye regions. But in such industrial regions as Dnipropetrovsk, Sumy region and Kiev production and sales of innovative products fell to a record low. As follows from the data presented in table 3, the regions differ significantly in the magnitude of this indicator – from 0.3% in the Dnipropetrovsk region to a maximum of 4.2% in the Transcarpathian region.

By types of economic activity, innovative product renewal occurred at enterprises producing machinery and equipment, and those that do not belong to other groups – food products, metallurgical production. In General, the negative dynamics of innovation activity of domestic industrial enterprises and the low rate of implementation of innovative goods and services, indicate the lack of innovation potential of most regions. This situation leads to the need for a forced increase in imports of new technologies, finished products and to a reduction in export operations for domestic innovative products.

Analysis of the current state of use of the components of the economic potential allows to draw the following conclusions: the insufficient level of introduction of energy – saving technologies, use of alternative energy, fuels and secondary raw materials can increase resource limits on the development of the state economy, lead to depletion of mineral resources; drop-tech key sectors of the economy of regions; there is a lack of efficiency of regional industrial production and management mechanisms of its technological development; deterioration of the main production facilities of the industry of the regions; reduction of labor potential, shortage of educated workers and insufficient levels of training of highly

qualified scientific personnel; insufficient innovation potential of most regions and as a consequence-a decrease in the number of innovationactive enterprises and a catastrophically small share of innovative products sold in the total volume of sales.

Table 5

Retrospective data on innovative development regional economy of Ukraine in 2014-2017 years

Regions of Ukraine	Objects of retrospective assessment of innovation activity											
	Number of innovatively active enterprises, units			Share of innovatively active enterprises in the total number of ind. enterprises', %			Volume of innovative products sold, mln.uah			The share of sales of innovations. products in full sales.ind. products,%		
	2014	2015	2017	2014	2015	2017	2014	2015	2017	2014	2015	2017
Ukraine	**1609**	**824**	**579**	**16,1**	**17,3**	**16,2**	**25669,0**	**23050,1**	**17714,2**	**2,5**	**1,4**	**1,0**
Crimea	-	-		-	-	-	-	-		-	-	
Vinnyts'ka	46	25	24	14,2	14,7	15,4	664,1	192,4	454,7	2,3	0,6	0,5
Volyns'ka	30	12	17	10,8	11,5	16,0	316,6	383,6	66,8	2,5	2,2	2,0
Dnipropetrovs'ka	109	63	51	13,4	13,1	11,0	1563,1	1145,5	297,8	0,7	0,4	0,3
Donets'ka	45	28	22	14,6	11,7	11,5	1018,0	4591,8	3301,9	1,7	2,6	2,1
Zhytomyrs'ka	48	28	23	12,5	15,4	13,9	255,2	372,3	155,9	1,4	1,8	1,6
Zakarpats'ka	16	14	12	6,0	10,1	9,0	837,6	583,2	358,1	8,4	4,6	4,2
Zaporiz'ka	108	49	42	22,9	20,9	19,1	1530,0	3162,3	4041,2	1,7	2,7	2,2
Ivano-Frankivs'ka	99	27	28	22,8	21,6	21,7	883,2	242,0	105,4	3,8	1,3	1,8
Kyivs'ka	66	44	37	11,6	13,3	11,0	897,4	618,8	770,6	2,2	0,8	0,9
Kirovohrads'ka	49	25	24	17,3	24,7	22,6	504,4	354,7	405,6	2,9	2,3	2,3
Luhans'ka	16	9	7	12,2	11,2	10,0	38,0	373,2	13,1	0,2	1,8	1,2
L'vivs'ka	129	64	28	16,4	19,3	15,2	731,9	1193,9	763,1	2,1	1,9	1,9
Mykolaivs'ka	67	29	25	19,9	31,1	26,9	363,8	71,2	417,3	1,5	0,3	0,9
Odes'ka	67	36	36	16,8	19,3	15,7	698,7	544,4	157,6	2,4	1,2	1,1
Poltavs'ka	33	30	27	8,0	16,3	10,4	6519,5	1938,5	243,2	8,9	1,9	2,0
Rivnens'ka	45	13	8	14,9	10,6	5,9	134,6	67,3	9,3	0,8	0,4	0,4
Sums'ka	46	23	24	17,6	19,8	20,5	2610,7	1751,9	601,9	10,4	7,1	0,5
Ternopil's'ka	36	16	25	14,9	17,4	27,5	133,4	249,3	126,9	1,7	2,8	2,9
Kharkivs'ka	191	117	111	22,4	28,6	28,1	2609,8	2742,4	2515,9	3,8	3,4	3,6
Khersons'ka	54	19	15	24,2	20,6	15,5	657,8	175,4	287,6	5,4	1,4	1,8
Khmel'nyts'ka	38	18	8	11,0	12,3	5,7	162,8	127,1	27,8	0,9	0,7	0,8
Cherkas'ka	37	25	32	10,6	17,2	24,4	556,3	289,7	583,1	1,6	0,7	1,0
Chernivets'ka	34	9	8	15,6	16,9	14,5	81,7	100,0	46,3	2,0	2,4	2,1
Chernihivs'ka	32	15	10	13,1	13,2	9,6	151,7	95,9	345,4	1,0	0,5	0,8
Kyiv	168	86	95	21,7	17,3	20,7	1748,6	1683,3	1617,7	2,0	0,4	0,5
Sevastopol	-	-		-	-		-	-		-	-	

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees[14].

[14] Electronic site of the State statistics service of Ukraine. Access mode: http://www.ukrstat.gov.ua

Thus, we recognize that economic potential is a dynamic category that changes, on the one hand, depending on the needs of society, and on the other, on the level of resource, technological and institutional support for its development. Sustainable economic development increases the ability of the regional economy to create wealth for the local population. This depends on the state of the components of the driving spheres of development of the region-labor, financial capital, funds and equipment, know-how, land, other physical resources, public and private infrastructure[15]. The development of the scientific and technical sphere has led to the emergence of such new categories as scientific, technological, intellectual, innovative potential, which can be considered as systemic components of the economic potential of the region. Through the complexity and impossibility of knowing all the parameters and properties of the potential as a system, there is a need to study its individual aspects, which are characterized by the multiplicity of the description of the system.

Therefore, there are many methods of assessing the economic potential of the region, which based on various mathematical, graphanalytical models, matrix, logical and linguistic methods, and the like. The analysis of literature sources showed that depending on the basic evaluation criterion among the existing concepts can be distinguished: a) resource, which determines the economic potential of the region based on the amount of costs for its formation and use; b) comparative, which is based on the definition of the economic potential of the region on the basis of comparison with analogues; c) the original, which determines the economic potential of the region by the size of the net flow of economic results from its use[16]. During the evaluation, combinations of these approaches can be used, since the economic potential, as an object of evaluation, consists of several interrelated objects (elements) that can be evaluated separately.

So, under the assessment of the potential we will understand the determination of the degree of possibility of quantitative and qualitative composition of both the total value of the potential and the value of its components. Thus among scientific methods of an assessment it is

15 Kane, M. 2004. Public-Sector Economic Development: Concepts and Approaches. Washington DC: Northeast-Midwest Institute. Access mode:http://econ2.econ.iastate.edu/classes/crp274/swenson/CRP523/Readings/econdevelopmentmattkane.pdf

16 Lapin E. V. Economic potential of industrial enterprises: formation, evaluation, management, abstract.dis. Kharkiv : NTU “Kharkiv Polytechnic Institute”, 2006. 37 p.

necessary to allocate qualitatively two main groups of methods by criterion of formation of knowledge base-the formalized rational methods and expert or intuitive (table 6).

Table 6

Scientific methods of assessing the economic potential of the region

№	Method group name	Characteristic
1.	Formalized rational (economic mathematical, simulation, factor analysis, extrapolation trends, normative forecasting)	This is a set of methods and techniques for the development of models and integral indicators that allow on the basis of factor analysis of data, as well as their quantitative changes and relationships to determine the generalizing indicator, as well as to make fairly accurate predictions about the future state of economic potential. Advantages of methods: adequacy, accuracy, possibility of use for management and decision-making. Disadvantages: limited ability to obtain sufficient retrospective information on the development of individual components of the potential; limited use of formal methods of forecasting for the long term with a given quality.
2.	Expert (expert evaluation, hierarchy analysis, ranking, score, rating analysis)	Indicators of methods are formed on the basis of expert assessments, which introduce an element of uncertainty and stochasticity in the definition of integral indicators of potential. The quality of methods depends on the selection and qualification of experts. Advantages of methods: use in the conditions of the informal description of States of economic system of the region; use of experience of experts in the corresponding branches; coordination of estimates of experts in the conditions of incomplete uncertainty of information base. Disadvantages: it is quite difficult to obtain the necessary information base; the inability to ensure high accuracy of analysis and forecasting; subjectivity.

The methods of assessing the economic potential of the region presented in the table have their positive and negative sides, which accordingly affect the quality of the final result. Of course, any form of assessment deserves attention, because in the system of analysis, diagnosis or monitoring, it gives not only an analytical definition, but also serves as a basis for making appropriate management decisions. However, an important condition in the development of a capacity assessment system is to minimize the fact of subjectivity, which can be achieved by clearly defining the evaluation criteria for the baseline indicators. The application of formalized methods is more resource-intensive from an organizational point of view. At the same time, the use of expert methods, which are determined by simple technology, can be applied in conditions of scarcity and even lack of information on the basic elements of regional economic potential.

Applying formalized methods of assessing the economic potential of the region, it is necessary to take into account the following main aspects of the analysis in the framework of a systematic approach[17]:

1) elemental aspect-identification of the composition of the potential; types of potentials; differentiated characteristics of potentials; generality and power of potentials;

2) structural aspect-establishment of structural characteristics of potential system: types of connections, quantitative and qualitative interdependencies;

3) functional aspect – establishment and interaction between potentials, identification of functions of potentials in the system of territorial development; comparison of functions in order to determine similarities and differences; identification of the functional structure of territorial potential;

4) factor aspect – establishing the relationship between the use of economic potential (a separate element of potential) and the costs of maintaining its required value in the economy of the region;

5) integration aspect – clarification of contradictions in the system of potentials, ways and means of resolving the found contradictions; determination of the hierarchy of potentials depending on the importance for sustainable development of coordination links of the system of

[17] Gliznutsa N. Y. Definition of components and assessment of innovative potential of the region. *Technological audit and reserves of production*. 2016. No. 3/5(29), pp. 11-14.

potentials with the environment external to the territory; determination of the closeness of these links;

6) historical aspect – consideration of the territory's potentials through the prism of their historical development; identification of stages in the formation and development of potentials; comparison of the identified trends with General economic features of development.

A detailed analysis of the various methods of assessing the economic potential of the region provided an opportunity to form a typology of evaluation principles. They are basic for assessing both the availability and implementation of economic potential, but their list is not limited to the above, and depends on the requirements of the assessment, namely:

– system. The assessment process should be carried out taking into account the fact that the economic potential of the region is a complex stochastic system;

– consistency. It means the need for interconnection of the individual stages of the assessment process, harmonization of indicators used in the assessment process, as well as the results of the assessment of the elements of the economic potential of the region;

– variance. It involves obtaining several variants of the values of the economic potential of the region. This requirement is due to the fact that the basis is limited resources, and the same type of resource often provides several mutually exclusive opportunities;

– optimality. Based on the fact that the existence of several alternative evaluation options requires the selection of the most optimal option, it is assumed to minimize the factor of subjectivity, which can be achieved by clearly defining the evaluation criteria for the basic indicators;

– complexity. Implementation of a comprehensive assessment of the magnitude of all sets (packages) of opportunities to identify the maximum of them;

– adequacy. All components of the economic potential of the enterprise should be considered in their relationship and interdependence with other processes and phenomena. The assessment should, firstly, correspond to the essence of the economic potential of the region, and secondly, reflect the real state of the environment;

– effectiveness of the evaluation process. Means the need to exceed the economic effect of determining the value of the economic potential of the region and the use of the data obtained over the costs of the assessment.

Assessing the overall situation in which the economy of Ukraine and its regions, it should be noted that the crisis not only exacerbate socioeconomic problems, but also give a chance to solve them with new methods. Such a chance for Ukraine is, in our opinion, the solution of problematic issues aimed at ensuring effective management of the national wealth of the country, its resources and assets at all hierarchical levels of the national economy on the basis of assessing the level of economic potential of each region. This could be a real direction to ensure the development of the economy of Ukraine.

The key positions in solving the problems of economic potential formation at the regional level are:

– determination of the market and real cost of capital of economic entities located in the regions;

– accounting of all forms of ownership of regional capitals from the standpoint of their influence on the formation of the gross regional product and the creation of added value;

– introduction of indicators characterizing the level of capitalization of economic entities into the system of statistical reporting of regions;

– development of mechanisms of management of social and economic development of regions taking into account property, real and market value of their assets.

The scientific and applied solution of the above issues requires the formation not only of a new methodological basis for managing the economic potential of regions, based on their uniqueness, property, value and ability to create added value, but also awareness of the need for such a transition on the part of legislative and executive authorities. The transition from formal methods of management of development of regions (from achieved in the previous period, from policy tasks of the higher authorities) to assess the real possibilities of socio-economic development of regions, based on assessment of economic potential, focus and interests of th regional authorities on the issues related to finding effective ways of realization of the resource potential of specific areas.

SUMMARY

This study provides an overview of the problems and approaches to assess the impact of the economic potential of the regions on the sustainable development of the state. As a result of the analysis, it was

found that certain regions of Ukraine have certain features of development and specialization, and therefore-different economic potential both in structure and in degree of formation.

After analyzing the existing methods of assessing the economic potential of the region, the authors propose a comprehensive use of both groups of methods depending on the characteristics and other components of the object of study. Availability of technical means (information technologies, specialized software, modern algorithmic approaches to economic and mathematical modeling) for formalized assessment of the economic potential of the region allows to obtain better results. Along with this, the use of expert methods that take into account the accumulated experience, intuition and professionally-oriented knowledge of experts makes it possible to increase the quality of the integral indicator of the economic potential of the region and a differentiated approach to its formation.

To assess the economic potential of the region, it is necessary to apply and develop appropriate methods and methodologies adapted to the available official statistics and will determine not only the size of the potential and the qualitative state of its elements, but also the effectiveness of its use and reproduction. Sometimes the regional economy to achieve higher performance is not necessarily to increase its economic potential, but rather to increase the efficiency of its use.

Assessment of economic potential and identification of ways and means to enhance its use is one of the most important tasks in solving regional socio-economic problems of development, serves as the basis for choosing the directions of strategic development of the region.

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