

## Economic Diagnostics of Territorial Development: National Dimension and Experience of EU Countries

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*Abstract.* The study is devoted to the theoretical and applied organizational bases for substantiation of indicators and indicators for assessing the competitiveness of transformation processes in the regions. The main purpose of the article is the process of conducting a competitive analysis of the effectiveness of transformation processes in the regions of Ukraine. The article tests the authors' hypothesis on certain indicators for assessing the competitiveness of transformation processes in the region, as well as using them to study the main trends in the regional operating system in dynamics, which is an important step for strategic decisions in the context of competitiveness. The dependence of the calculations on the multicriteria analysis of the competitiveness of the regions on the principle of the process approach showed that each region of Ukraine has its competitive advantages and disadvantages, which must be taken into account when formulating regional development strategies. The results of the study can be used as an information basis for further prospective research to develop recommendations for optimizing business processes in the regions to increase their competitiveness, and the proposed methodological approaches can be used to assess the competitiveness of local operating systems, including at the local level to determine their investment attractiveness and optimize individual business processes or their components.

*Keywords:* Competitive analysis, transformation processes, efficiency, the competitiveness of transformation processes, regions

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### 1 Introduction

In the context of our study, the region is considered an open socio-economic system in which there is a set of transformational processes that turn inputs into outputs, thereby ensuring the viability of the system in the long run. Such an approach involves transferring certain features of the process at the micro-level (enterprise, institution, organization) to the meso level, in some way abstracting from the scale, key differences in management and complexity of the regional economy, which should be taken into account in more detailed, targeted analysis.

Thus, when assessing the competitiveness of transformation processes at the regional level, it is proposed to generalize all processes carried out within the system and evaluate them from the

standpoint of the process approach, highlighting two components, namely: the effectiveness of the processes and the effectiveness of the results. This division will allow in some way to structure business processes, make them more coherent, eliminate "bottlenecks" and "heal" the most poorly organized processes. From the investor's point of view, such an analysis will assess the level of business activity in the region, which can serve as an information base for forecasting the development of a particular business, identifying advantages, disadvantages, and positioning of their own business in certain regional conditions.

## 2 Literature Review

Gudz P.V. and Finagina O.V. believe that the "Social and economic development of Ukraine is based on radical transformations that take place in regional economic complexes. Regional development priorities set vectors for change and form unique principles of regulation through a set of management measures: mechanisms of state, sectoral and regional policy; management technologies of forecasting and planning; the latest standards of socialization and culture" [3].

The authors also note that "Analysis of the effectiveness of investment potential plays a key role in public administration, as tactical and strategic decisions that affect the growth rate of the economy as a whole depend on how objectively and comprehensively the assessment is carried out." [1]. Therefore, it is important to conduct a competitive analysis of the effectiveness of transformation processes in the regions of Ukraine.

Butusov O.D. offers its method of integrated assessment of the competitiveness of the regions of Ukraine, which is "based on the generalization and further standardization of indicators (stimulators and disincentives) of the component structure of competitiveness. As a result, partial indices are calculated for each of the identified components of regional competitiveness. Also, there was the calculation of sub-indices actually for the basic and variable components of regional competitiveness" [4].

Chernyuk L.G. considers that "To determine structural changes, a comprehensive methodology is proposed, based on a retrospective assessment of the dynamics of changes in the territorial structure of components and characteristics of productive forces on a multicomponent (10 indicators) set of socio-economic parameters that characterize social production." [5]. The team of authors conducted a competitive analysis of national territories and determined development strategies [2;7;10].

*The purpose of the article* is the process of economic diagnosis of the development of

Ukrainian territories, taking into account the experience of EU countries.

## 3 Materials and Methods

To assess the competitiveness of transformation processes in the region, the following indicators are proposed:

1) Productivity of the regional operating system, measured by the number of resources involved in the production of products and services in terms of the main components: capital (investment), labor, land, and energy resources. The economic determinant in assessing productivity will be the volume of products and services sold in the region for a certain period.

2) Business activity, which affects the speed of resource turnover in the operating system, determines the dynamics and vector of transformational changes. It is proposed to consider in terms of the following components: growth indices of industrial production, growth indices of construction; indices of growth of agricultural production, indices of growth of production of services in the region, indices of growth of turnover of retail trade.

3) Investment and innovation activity is an important qualitative characteristic of business development processes, and the competitive profile of the region on this basis largely characterizes the strategic advantages of the region.

4) Foreign economic activity of the region characterizes the level of openness of the operating system and its competitiveness in foreign markets, which is an important advantage for the investor and forms internal advantages for the economic development of territories based on attracting additional resources, including foreign exchange earnings.

The main indicators and indicators for assessing the competitiveness of transformation processes in the regions are shown in Table 1.

Table 1. Indicators for assessing the competitiveness of transformation processes in the regions

Indexes	Indicators	Formulas for calculation
1. Operating system performance (UI)	1.1. Productivity of capital investments (in 1.1.), Thousand UAH	$\Pi_{KI} = \frac{O_B}{O_{KI}}$ where, $O_B$ - volumes of sold products (goods, services) in the region, thousand UAH; $O_{KI}$ - volumes of capital investments in the region, thousand UAH.
	1.2. Labor productivity (in 1.2.),	$\Pi_{\Pi} = \frac{O_B}{\Psi_3}$ where, $\Psi_3$ - number of employed persons in the

Indexes	Indicators	Formulas for calculation
	Thousand UAH	region, pers.
	1.3. Productivity of land use, (in 1.3.) Thousand UAH / 100 ha.	$\Pi_{3P} = \frac{O_{CF}}{S_3}$ where, $O_{CF}$ a volume of agricultural production, thousand UAH; $S_3$ - the area of agricultural land, thousand ha.
	1.4. Productivity of electricity use (in 1.3.) Thousand UAH / million kWh	$\Pi_e = \frac{O_e}{O_e}$ where, $O_e$ - volumes of electricity used in the region
2. Business activity (U2)	2.1. Industrial production growth index (in 2.1.)	$I_B = \frac{O_B^t}{O_B^{t-1}}$ where, $O_B$ - volumes of sold industrial products in the region, thousand UAH in the base (t) and comparative (t-1) period
	2.2. Growth index of construction works (in 2.2.)	$I_B = \frac{O_B^t}{O_B^{t-1}}$ where, $O_B$ - volumes of construction work in the region, thousand UAH in the base (t) and comparative (t-1) period
	2.3. Index of growth of agricultural production (in 2.3.)	$I_B = \frac{O_B^t}{O_B^{t-1}}$ where, $O_B$ - volumes of agricultural production in the region, thousand UAH in the base (t) and comparative (t-1) period
	2.4. Index of growth in sales of services (in 2.4.)	$I_B = \frac{O_{CF}^t}{O_{CF}^{t-1}}$ where, $O_{CF}$ - volumes of production of services in the region, thousand UAH in the base (t) and comparative (t-1) period
	2.5. Retail trade turnover index (in 2.5.)	$I_T = \frac{O_T^t}{O_T^{t-1}}$ where, $O_T$ -- volumes of retail trade turnover in the region, thousand UAH in the base (t) and comparative (t-1) period
3. Investment and innovation activity (U3)	3.1. Volumes of capital investments per one employee in the region, thousand UAH (in 3.1.)	$KI = \frac{O_{KI}}{q_3}$ where, $O_{KI}$ - volumes of capital investments, thousand UAH
	3.2. Volumes of foreign investment per employee in the region, thousand dollars USA. (in 3.2.)	$\Pi = \frac{O_{II}}{q_3}$ where, $O_{II}$ - volumes of foreign investments, thousand dollars USA
	3.3. Volumes of innovation costs per employee in the region, UAH (in 3.3.)	$IB = \frac{O_{IB}}{q_3}$ where, $O_{IB}$ - volumes of innovation costs, thousand UAH
	3.4. The share of innovative products in total sales (in 3.4.)	$IA = \frac{O_{II}}{O_B}$ where, $O_{II}$ – volumes of production of innovative products, thousand UAH.
4. Foreign economic activity (U4)	4.1. Import-export coverage ratio	$K_{e/i} = \frac{O_e}{O_i}$ where, $O_e$ - volumes of exports of goods and services in the region, thousand USD; $O_i$ - volumes of imports of goods and services in the region, thousand USD
	4.2. Exports of goods per employee in the region, thousand US dollars	$\Pi_E = \frac{O_e}{q_{II}}$ where, $O_e$ - volumes of exports of goods and services in the region, thousand USD

Indexes	Indicators	Formulas for calculation
	4.3. Imports of goods per employee in the region, thousand dollars USA	$\Pi = \frac{O_i}{\varphi\Pi}$ where, $O_i$ - volumes of imports of goods and services in the region, thousand USD
	4.4. The share of the region in total exports of goods and services, %	$\varphi p = \frac{O_{ep}}{O_{ek}} * 100$ where, $O_{ep}$ - export volumes from the region, million USD $O_{ek}$ - the country's exports, million USD

Source: Research results

The indicators given in the table are formed based on the availability of statistical data for calculation according to their regional distribution in official statistical sources. Using the data presented in the table, you can assess the competitiveness of transformation processes in the region and explore the main trends in the regional operating system in dynamics, which is an important step for strategic decisions in the context of competitiveness. Consider each of the analyzed groups and indicators in terms of regions of Ukraine.

The results of the calculations at the level of partial indicators allowed as to determine the overall indicator of the competitiveness of the regions in terms of efficiency of the organization of transformation processes. According to the proposed methodological approaches, the indicator of competitiveness at this level is defined as the sum of partial indicators within the selected technological criteria by with the specifics of our study by the formula:

$$X = X_1 + X_2 + X_3 + X_4 \quad (1);$$

$$Y = Y_1 + Y_2 + Y_3 + Y_4 \quad (2)$$

According to the proposed methodological approaches, we calculate the competitiveness of the operating systems of the region at the "exit" by the formula:

$$Z = Z_1 + Z_2 + Z_3 \quad (3)$$

According to this formula, the maximum possible obtained value of the competitiveness of the regions is 30 points.

According to the results of the study, a comprehensive indicator of the competitiveness of the regions as a set of scores for the assessment of "inputs", "transformation processes" and "outputs" on a 100-point scale:

$$K = X + Y + Z \quad (4)$$

## 4 Results and Discussion

Using these tables and methodological approaches, the indices of competitiveness of regions by the level of productivity of operational processes are calculated. The results of the calculations are shown in table 2.

Table data show the level of productivity of the region for each indicator compared to the maximum value achieved in the regions. Thus, the highest level of investment and labor productivity is observed in industrial regions, where large industrial complexes are located. In particular, in Zaporizka, Dnipropetrovska, Odeska regions. High indicators of electricity productivity are typical for regions with mixed or agricultural specialization. The productivity of agricultural land use, as calculations have shown, also depends on the specialization of the regions. At the same time, rather large disparities in the productivity of the use of certain resources between regions are evidence of the presence of certain underutilized reserves, which may play a role in increasing the competitiveness of regions from a strategic perspective.

Luhanska region is in the lead in two positions, namely - the growth rate of construction work and increase in retail turnover. Negative growth rates of construction works led to low competitiveness in Odeska, Kyivska, Poltavska, and Mykolaivska regions. According to other indicators, such significant disparities were not detected.

These tables show significant interregional disparities in the development of investment and innovation processes between the regions of Ukraine. The highest level of capital investment per employee was achieved the Kyivska region (10 points). Khersonska (9 points), and Donetska (7.2 points) occupy similar positions in the rating according to this indicator. In other regions, the indicators were reached the level of 45-60% of the coupon value. It is interesting that the Luhanska region, occupying the last position in the ranking of the level of capital investment per employee, at the same time leads in terms of foreign investment.

Relatively large amounts of foreign investment are also directed to the development of the economy of Ivano-Frankivska (9.9 points), Dnipropetrovska (8.7), Poltavska (7.9) and Donetska regions. From the point of view of the balance of investment and innovation processes, it should be noted Donetska region, wherein 2019 the indicators of the investment and innovation component received high and approximately equivalent scores. In other regions, there is some dissonance in this context. In particular, the Sumska region is the leader in terms of innovation expenditures, and occupies the bottom of the ranking by other indicators. At the same time, a similar situation is typical for other regions, where low indicators of investment activity are observed against the background of high indicators of innovation activity and vice versa. In our opinion, this indicates a lack of balance between investment and innovation processes in the regions. Most capital investments are directed to the restoration or modernization of existing industries.

The highest level of export coverage and at the same time the lowest level of import dependence is typical for the Kirovohradska region, where a significant part of export-oriented capacities is concentrated. The lowest level of export coverage of imports in 2019 was observed in Kyivska and Volynska regions. Analyzing the volume of exports per employee, it should be noted such areas as Donetska, Zakarpatska, and Mykolaivska, are a significant part of the workforce in which they are concentrated in export-oriented industries. The highest level of imports per employee in the Zakarpatska region, is due to the specifics of foreign economic activity, in particular, the orientation of most industries on the terms of toll raw materials. Traditionally, the highest share of exports in Ukraine's foreign trade turnover belongs to Dnipropetrovska regions, where a number of the largest export-oriented industries in the fields of heavy engineering and metallurgy are concentrated.

According to this formula 1, the maximum possible obtained value of the competitiveness of the regions is 40 points.

According to the calculations, the leading position in the ranking with a total of 26 points is occupied by the Donetska region, which despite the annexation of part of the territories maintains a fairly high level of business, investment, and foreign economic activity. Relatively high (over 20 points) positions are also occupied by Dnipropetrovska, Mykolaivska, Vinnytska, and Kyivska regions. The outsider of the rating in 2019 is Chernivetska region.

In general, insufficiently high scores of regions in the ranking of the competitiveness of operating systems indicate the presence in each region of its competitive advantages that need to be developed and shortcomings that need effective management decisions and the formation of the most optimal systems for using and developing available resources.

The last stage of assessing the competitiveness of regions is to compare their final results as of the analyzed data. Given the specifics of the study, we believe that the final indicators of competitive evaluation depend primarily on the purpose of the evaluation. In general, at the "output" of any system, we get the result of its operation in the form of economic, social and environmental efficiency. Therefore, abstracting from the specific objectives, and viewing the region as an open system, the important task of which is to enter the path of sustainable development, as the results of operation, and, accordingly, competitiveness indicators, we proposed the following areas of assessment, namely: economic efficiency, a generalized indicator which at the regional level has a gross regional product per capita; social efficiency, the universal measure of which is the income of the population and environmental efficiency, ie the impact of transformation processes on air quality.

Table 2. Indexes of competitiveness of transformation processes in the regions

Regions	1. Operating system performance (Y 1)				2. Business activity (Y <sub>2</sub> )					3. Investment and innovation activity (Y <sub>3</sub> )				4. Foreign economic activity (Y <sub>4</sub> )			
	Y1.1.	Y1.2.	Y1.3.	Y1.4.	Y2.1.	Y2.2.	Y2.3.	Y2.4.	Y2.5.	Y3.1.	Y3.2.	Y3.3.	Y3.4.	Y4.1.	Y4.2.	Y4.3.	Y4.4.
Vynnytska	6,0	6,6	4,4	<b>10,0</b>	8,7	5,2	8,1	9,2	8,3	5,8	2,0	6,7	1,0	8,1	4,9	2,2	1,8
Volynska	7,2	9,5	<b>10,0</b>	6,8	8,0	2,5	6,9	7,4	7,0	6,9	3,8	1,1	0,3	1,7	3,5	7,7	0,9
Dnipropetrovska	7,9	<b>10,0</b>	2,0	5,7	7,8	3,3	8,0	7,4	7,7	6,7	8,7	4,8	0,3	5,1	7,2	5,3	10,0
Donetska	6,8	9,4	2,0	3,1	7,0	3,5	7,6	10,0	8,6	7,2	7,6	7,2	10,0	7,3	10,0	5,1	5,9
Zhytomyrska	6,5	5,2	3,9	6,8	8,2	2,8	7,9	6,5	7,1	4,2	2,8	2,1	0,7	4,5	3,3	2,7	0,9
Zakarpatska	3,3	4,1	5,2	8,3	8,1	2,6	6,3	8,2	7,0	6,6	5,8	0,7	0,7	3,6	9,6	10,0	1,9
Zaporizka	<b>10,0</b>	6,8	1,5	3,1	7,0	2,4	8,1	8,0	6,8	3,6	5,1	3,6	2,7	7,1	6,8	3,6	3,9
Ivano-Frankivska	6,3	6,6	1,8	9,8	9,8	2,5	6,4	6,4	7,3	5,6	9,9	3,0	0,3	3,9	5,0	4,8	1,1
Kyivska	5,0	9,6	7,0	9,5	8,2	1,0	7,9	8,7	8,3	10,0	7,5	1,5	0,6	1,7	3,5	7,9	2,5
Kirovohradska	6,9	6,0	2,0	5,7	8,4	3,8	10,0	7,5	7,0	4,6	1,0	1,8	2,6	10,0	3,8	1,4	0,9
Luhanska	6,1	3,8	1,5	2,2	7,0	10,0	9,2	3,7	10,0	3,3	10,0	0,6	3,2	2,1	1,4	2,4	0,2
Lvivska	6,4	6,7	6,8	8,1	10,0	0,9	6,8	7,4	7,0	5,6	4,6	1,3	0,6	2,5	3,6	5,4	2,8
Mykolayivska	6,4	7,4	2,3	4,2	8,0	2,2	8,5	7,3	7,1	6,1	3,4	9,9	1,7	7,7	9,6	4,6	2,7
Odeska	9,0	8,0	6,4	4,3	7,7	0,5	6,9	7,7	7,1	4,7	6,5	1,0	0,5	2,6	2,8	4,0	1,8
Poltavska	6,3	8,1	3,2	7,7	7,4	1,0	8,8	5,1	7,3	6,8	7,9	4,9	0,3	5,5	5,7	3,9	2,7
Rivnenska	5,3	4,2	1,1	7,3	7,8	3,7	6,8	6,5	7,6	4,2	1,9	0,4	0,0	4,1	2,5	2,3	0,6
Sumska	6,7	5,2	3,6	6,3	8,0	4,6	8,5	9,4	7,1	4,0	2,4	10,0	2,0	4,8	4,2	3,3	1,1
Ternopil'ska	3,8	4,7	6,6	8,3	7,7	3,7	7,4	5,6	7,6	6,6	0,8	4,2	0,6	3,4	2,8	3,1	0,6
Kharkivska	8,4	5,9	4,1	5,5	7,7	0,6	7,9	7,2	6,9	3,7	2,8	2,4	2,7	2,9	2,1	2,7	1,8
Khersonska	2,9	5,0	2,8	5,0	7,4	5,8	7,4	5,8	6,7	9,0	4,1	1,3	1,8	2,3	1,8	2,9	0,3
Khmelnyska	5,1	5,2	2,9	8,0	7,9	2,5	7,4	7,5	6,5	5,4	2,4	0,2	0,6	4,0	3,0	2,8	0,8
Cherkaska	8,8	8,5	4,5	<b>10,0</b>	9,3	4,5	8,8	7,9	7,6	5,0	3,6	0,8	1,4	6,4	3,5	2,0	1,1
Chernivetska	4,1	3,6	0,9	8,6	8,2	4,6	6,5	7,5	6,1	4,6	1,4	0,4	0,2	3,6	2,2	2,3	0,3
Chernihivska	5,9	5,4	5,3	5,6	7,2	6,2	8,2	8,8	6,7	4,8	5,6	0,7	1,9	6,8	4,1	2,2	1,0

Source: Research results

These indicators in terms of regions are shown in Table 3.

Table 3. Indicators and indices of competitiveness of regions at the level of economic, social, and environmental effects in 2019

Regions	Disposable income per capita, UAH, Z1	Competitiveness index, points	GRP per capita, UAH Z2	Competitiveness index, points	Volumes of emissions of harmful substances into the atmosphere per capita, kg Z3	Competitiveness index, points
Vinnyska	55734,0	<b>7,5</b>	71104,0	<b>5,7</b>	61,7	<b>0,5</b>
Volynska	46120,0	<b>6,2</b>	58297,0	<b>4,7</b>	4,9	<b>6,1</b>
Dnipropetrovska	74755,0	<b>10,0</b>	114784,0	<b>9,3</b>	190,1	<b>0,2</b>
Donetska	33840,0	<b>4,5</b>	45959,0	<b>3,7</b>	188,1	<b>0,2</b>
Zhytomyrska	52715,0	<b>7,1</b>	62911,0	<b>5,1</b>	10,6	<b>2,8</b>
Zakarpatska	41418,0	<b>5,5</b>	41706,0	<b>3,4</b>	3,2	<b>9,4</b>
Zaporizka	65065,0	<b>8,7</b>	85784,0	<b>6,9</b>	101,4	<b>0,3</b>
Ivano-Frankivska	48724,0	<b>6,5</b>	57033,0	<b>4,6</b>	160,7	<b>0,2</b>
Kyivska	65623,0	<b>8,8</b>	112521,0	<b>9,1</b>	46,3	<b>0,6</b>
Kirovohradska	50373,0	<b>6,7</b>	67763,0	<b>5,5</b>	12,8	<b>2,3</b>
Luhanska	21252,0	<b>2,8</b>	16301,0	<b>1,3</b>	21,5	<b>1,4</b>
Lvivska	56592,0	<b>7,6</b>	70173,0	<b>5,7</b>	42,2	<b>0,7</b>
Mykolayivska	55469,0	<b>7,4</b>	70336,0	<b>5,7</b>	11,5	<b>2,6</b>
Odeska	63153,0	<b>8,4</b>	72738,0	<b>5,9</b>	15,7	<b>1,9</b>
Poltavska	61649,0	<b>8,2</b>	123763,0	<b>10,0</b>	36,9	<b>0,8</b>
Rivnenska	48184,0	<b>6,4</b>	49044,0	<b>4,0</b>	7,8	<b>3,8</b>
Sumska	55829,0	<b>7,5</b>	62955,0	<b>5,1</b>	19,0	<b>1,6</b>
Ternopil'ska	43577,0	<b>5,8</b>	46833,0	<b>3,8</b>	9,7	<b>3,1</b>
Kharkivska	56421,0	<b>7,5</b>	86904,0	<b>7,0</b>	16,6	<b>1,8</b>
Khersonska	50195,0	<b>6,7</b>	52922,0	<b>4,3</b>	11,8	<b>2,5</b>
Khmelnyska	50640,0	<b>6,8</b>	59583,0	<b>4,8</b>	17,3	<b>1,7</b>
Cherkaska	50600,0	<b>6,8</b>	76904,0	<b>6,2</b>	47,4	<b>0,6</b>
Chernivetska	42762,0	<b>5,7</b>	37441,0	<b>3,0</b>	3,0	<b>10,0</b>
Chernihivska	51213,0	<b>6,9</b>	69725,0	<b>5,6</b>	29,1	<b>1,0</b>

Source: Research results

The results of the analysis showed that the most unbalanced between the regions is the indicator of the environmental component, ie the volume of emissions of harmful substances into the atmosphere per capita in the region. According to this indicator, the best positions are occupied by the Chernivetska region (10 points) and the worst - Dnipropetrovska and Donetska (0.2 points). This distribution is natural due to the peculiarities of the division of labor and the concentration of production. In general, the best indicators of social, and economic development are observed in regions with a relatively high level of man-made load on the

environment. Therefore, an important component of ensuring the competitiveness of territories is a gradual transition to models of sustainable, balanced development.

This rating reflects the set of points with three indices: economic, social, and environmental, and in general shows the level of balance of these components, the impact of operational processes implemented within the region to ensure appropriate results. The most balanced, in particular in terms of social and economic components, are the Dnipropetrovska, Poltav'ska, Chernivetska, and Kyiv'ska regions, which received 19 out of 30 points.

The multicriteria analysis of the competitiveness of the regions according to the principle of the process approach showed that each region of Ukraine has its competitive advantages and disadvantages, which must be taken into account when formulating strategies for regional development. This is evidenced by the final estimates obtained, the value of which does not differ significantly in the regions, but the structure differs. The obtained data on both individual and complex criteria are useful in the formation of the investment strategy of the region, as the assessment of competitiveness was carried out mainly from the standpoint of potential investors and businesses. At the same time, the work has a high level of abstraction, ie it does not take into account the specific features of resource provision, the location of productive forces, the location of the region relative to markets, and so on. In this aspect, more information would be the competitive analysis focused on the assessment of competitiveness from the standpoint of the development of certain types of economic activity, or in the context of the spatial development of territories.

The results of the study can be used as an information basis for further prospective research to develop recommendations for optimizing business processes in the regions to increase their competitiveness, and the proposed methodological approaches can be used to assess the competitiveness of local operating systems, including at the local level (for example, United Territorial Communities or Municipalities) to determine their investment attractiveness and optimize individual business processes or their components.

The effectiveness of the implementation of the principles and provisions specified in the strategy depends primarily on the political will and the developed tools for its implementation at the level of regions and individual territorial communities. In this aspect, it is advisable to study foreign, in particular European, experience in the development of territories and ensure their competitiveness. The relevance of the study of European experience in the field of competitive development of territories is also due to the declared desire of Ukraine to gradually integrate into the EU.

Certain issues related to the competitive development of territories are also addressed in the Association Agreement between Ukraine and the European Union, in particular in Article 466 "The Parties promote mutual understanding and bilateral

cooperation in regional policy on methods of formulating and implementing regional policies, including multilevel governance and partnership, with special emphasis on the development of backward territories and territorial cooperation, while creating communication channels and intensifying the exchange of information between national, regional and local authorities, socio-economic entities and representatives of civil society."

Modern EU regional policy is aimed at achieving three interrelated goals, namely: promoting economic rapprochement of countries and regions characterized by lower levels of economic development compared to leaders, developing the competitiveness of regions not only compared to regions in the EU but also on the world market and ensuring employment. An important place in the implementation of these goals is played by the financial component. In particular, as stated in the report: "European regional policy: inspiration for non-EU countries", there are three main sources of funding that have been created at different times during the development of the EU.

The European Regional Development Fund (ERDF) focuses mainly on initiatives related to economic growth, employment, and competitiveness, including infrastructure investment. The Convergence Fund focuses on transport and environmental infrastructure, including renewable energy sources. Thirdly, funding from the European Social Fund goes to investing in human capital in education and training.

## 5 Conclusion

Indicators and indexes of competitive assessment of the effectiveness of transformation processes in the regions in such areas as productivity, business activity, investment and innovation activity, and foreign economic activity of business processes in the regions are systematized. For each of the identified areas, a comparative assessment was made and the rating of the regions of Ukraine in 2019 was derived. Calculations have shown that currently there are significant interregional disparities in the development of regions, both in terms of individual indicators and complex indicators of the competitiveness of operational processes. All this indicates an insufficient level of balance of investment, innovation processes, and foreign economic activity in the regions. According to the calculations, the leading position in the ranking with



the total amount (26 points out of 40 possible) is occupied by the Donetsk region, which despite the annexation of some territories maintains a fairly high level of business, investment, and foreign economic activity. Relatively high (over 20 points) positions are also occupied by Dnipropetrovska, Mykolaiivska, Vinnytska, and Kyivska regions. The outsider of the rating in 2019 is the Chernivetska region.

The competitiveness of regions at the "exit" of operating systems was assessed according to three indicators (GRP, disposable income, and the number of harmful emissions per capita), which together reflect the balance of regional systems on the path of sustainable development. The results of the analysis showed that the most unbalanced between the regions is the indicator of the environmental component, ie the volume of emissions of harmful substances into the atmosphere per capita in the region. According to this indicator, the best positions are occupied by Chernivetska region (10 points) and the worst - Dnipropetrovska and Donetsk (0.2 points). This distribution is natural due to the peculiarities of the division of labor and the concentration of production. In general, the best indicators of social and economic development are observed in regions with a relatively high level of man-made load on the environment. Therefore, an important component of ensuring the competitiveness of territories is a gradual transition to models of sustainable, balanced development.

The general rating of competitiveness of the regions of Ukraine in the context of the process approach is determined, based on the addition of the components of the competitive assessment of "inputs", "transformation processes" and "outputs". The rating is headed by Dnipropetrovska region (60 points out of 100). Poltavska, Volynska, and Mykolaiivska regions also received more than 55 points. Closes the rating with an overall score below 50 points in Luhanska. Rivnenska and Khersonska regions. In general, the analysis of competitiveness showed that each region of Ukraine has its competitive advantages and disadvantages, which must be taken into account in the formation of regional strategies, including investment.

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