

**THE EVALUATION OF THE ASYMMETRIC DEVELOPMENT OF THE REGIONS  
IN THE CONTEXT OF ENHANCING THE GROWTH POINTS  
IN THE REGIONAL ECONOMIC SYSTEM IN THE REPUBLIC OF BELARUS**

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*The article reveals the type of the regional development, prevailing in Belarus in 2010–2014 years. It identifies the most problematic areas and regions in terms of development of asymmetry. The basic form of the creation of points of the economic growth and the mechanisms of their activation are studied.*

**Introduction.** In modern conditions the states of the region show the unevenness of economic development indicators, which leads to an increase in the imbalance and disruption of economic equilibrium. The emergence of depression on this basis and prosperous regions is a major problem in the development of the economy, not only our country, but all countries, regardless of their administrative and territorial structure and the level of socio-economic development. The uneven development of the regions due to both objective and subjective reasons. Taken together, these reasons in particular should indicate the imperfection of regional policy, the limited use of modern models of regional development, incomplete use of the potential and competitive regional development mechanisms.

**Task information.** Identifying the problems, the assessment and alignment over the socio-economic asymmetries at the regional and subregional levels are becoming increasingly important in modern economics. It must be mentioned, that while the focus is on the analysis of the asymmetry of the levels of economic and social development of the regions, and not always this analysis includes an assessment of the potential asymmetry of socio-economic development. Meanwhile, the differences in potential are objective factors which largely determine the regional and sub-regional asymmetry of economic development, which in turn determines the asymmetry of social development [1]. Thus, the estimate of the asymmetry in the distribution of regions in the manifestation of the factors of economic development and the potential socio-economic development of regions and territories is of great practical importance.

**Result, their discussion and perspectives.** The type of the regional development from the point of view of the development of asymmetry can be asymmetrical, smoothing and neutral, and is set based on the evaluation of dynamics of coefficient of variation. The type of regional system is determined for each of the analyzed only economic performance and dynamics in [2]. Table 1 shows the coefficient of variation of indices that assess its change in Belarus in 2014 compared with 2010, and represented the identification of the type of regional development for each of the analyzed economic indicators.

Table 1 – Types of regional development on the basis of asymmetry in Belarus

Name analytical index	The coefficient of variation, %		The index of the coefficient of variation	Type regional development
	2010	2014		
1	2	3	4	5
<i>1. The result of economic activities in the region</i>				
A	1	2	3	4
1.1. GRP percapita	23,95	27,98	1,17	Asymmetric
1.2. GDP per person employed in the economy	14,25	18,23	1,28	Asymmetric
<i>2. Performance indicators of economic activity</i>				
2.1. Productivity for GVA (per employee)	14,46	16,61	1,15	Asymmetric
2.2. Capitalproductivity (GRP)	17,57	22,95	1,31	Asymmetric
2.3. Returnonsales	28,42	25,04	0,88	Smoothing (with a sufficiently high level of heterogeneity)
<i>3. Development of small business</i>				
A	1	2	3	4
3.1. The number of micro and small companies per 1000 population	45,98	50,64	1,10	Asymmetric
3.2. Labour productivity per worker employed in micro and small companies region	28,5	22,93	0,81	Smoothing (with a sufficiently high level of heterogeneity)

End of the table 1

1	2	3	4	5
<i>4. Research and Innovation</i>				
4.1. The number of employees engaged in research and development (by 1000 the region's employment in the economy)	87,33	87,36	1,00	Neutral type (high level of heterogeneity)
4.2. The share of shipped innovative products in the total volume of industrial production	43,61	56,14	1,29	Asymmetric
4.3. The share of exports in the total volume of innovative products and industrial organizations	45,58	22,2	0,49	Smoothing
4.4. The share of innovation-active organizations implementing costs on technological innovation, the total number of surveyed industry organizations	11,92	33,41	2,80	Asymmetric

Source: compiled by the author on the basis of previously made calculations the coefficient of variation and skew-factor.

From Table 1 it follows that for the analyzed period, seven of the eleven economic indicators were characterized by increasing the coefficient of variation, which allowed to determine the type of regional development for these economic indicators like asymmetrical.

Reduction of the Regions of the Republic of Belarus irregularities in 2014 compared to 2010 took place on three indicators: return on sales; the productivity of labor employed in micro and small enterprises and the share of exports in the total volume of innovative products and industry organizations. Reducing regional differentiation clearly can be seen as a positive trend, provided the favorable dynamics of economic indicators themselves. If the decrease of differentiation takes place against the backdrop of deteriorating the dynamics of economic indicators, the economic result of convergence regions is low.

When evaluating the heterogeneity of regional development on one or another economic indicator, based on the coefficient of variation is a problem establishing variation coefficient values intervals to determine the quality of its performance. In our study, given that the majority of statisticians as an upper limit above which points to the heterogeneity of population, is the value of the V, more than 33%, adopted the following scale: for  $V < 15\%$  variation is recognized low; at  $15\% \leq V \leq 33\%$  have an average level of heterogeneity; at  $V > 33\%$  variation (heterogeneity) high.

Table 2 shows the results of the qualitative assessment of heterogeneity regions of the Republic of Belarus on economic indicators analyzed.

Table 2 – The level of heterogeneity and the behavior of the variations of economic indicators in the regions of the Republic of Belarus for 2010–2014 years

The name of indicators	Heterogeneity level and nature of changes in the variation for the years 2010–2014
A	1
<i>1. The result of economic activities in the region</i>	
1.1. GRP percapita	The average level of in homogeneities, increasing heterogeneity in 2014
1.2. GDP per person employed in the economy	The low level of in homogeneities, increasing variations in 2014
<i>2. Performance indicators of economic activity</i>	
2.1. Productivity for GVA (per person employed in the economy)	The low level of in homogeneities, increasing variations in 2014
2.2. Capital productivity (GRP)	The average level of in homogeneities, a significant increase in the in homogeneities 2014 (index variation coefficient of 1.31)
2.3. Return on sales	The average level of in homogeneities, a marked decrease in variation in 2014 (the coefficient of variation of the index of 0.88)
<i>3. Development of small business</i>	
3.1. The number of micro and small companies per 1000 population	The high level of heterogeneity. Increased in homogeneities in 2014

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End of the Table 2

A	1
3.2. Labour productivity per worker employed in micro and small companies	The average level of in homogeneities, a marked reduction of variation (coefficient of variation of the index of 0.81)
<i>4. Research and Innovation</i>	
4.1. The number of employees engaged in research and development (1,000 employed in the economy)	Consistently high levels in homogeneities
4.2. The share of shipped innovative products in the total volume of industrial production	The high level of in homogeneities, a marked increase in variation coefficient of variation of the index of 1.29
4.3. The share of exports in the total volume of innovative products and industrial organizations	The high level of in homogeneities the regions in 2010.
	The average level of heterogeneity. Reducing in homogeneities by more than 2-fold in 2014
4.4. The share of innovation-active organizations implementing technological innovation costs, the total number of surveyed industry organizations	The low level in homogeneities in 2010
	The high level of heterogeneity of the region in 2014. The growth of in homogeneities is almost 3 times.

Source: compiled by the author according to the data in Table 1.

Analysis of the data in Table 2 suggests the following conclusions:

First, seven of the eleven economic indicators, which assessed the heterogeneity of the regions of Belarus, celebrated its gain in 2014 compared to 2010. This indicates that the growth of regional differentiation processes in terms of economic development;

Second, in 2014 a variation of the four economic indicators analyzed in its level was defined as high. In addition, as shown in Table 2, it figures that are included in unit 3 "Development of small business" in block 4, "Research and Innovation". This indicates the need for increased attention to this direction of development of regions, especially because they are a form of development and enhancing economic growth points;

Third, the low level of variation observed for the two indicators of regional development: GRP thereof employed in the region and on the performance of GVA. Although the variation of these parameters remained within the range of the average, each of them in 2014 celebrated its strengthening, which also indicates the strengthening of the processes of differentiation of economic development of regions of Belarus.

The statistical data collections of "Regions of the Republic of Belarus: the socio-economic indicators" and "Statistical Yearbook of the Republic of Belarus" we received the data to identify regions and the leaders of the regions with the worst values are considered the economic indicators.

Our study showed that in seven of the eleven economic indicators, that is the majority of them had the lead and retained in the 2010–2014 Minsk. In the block of indicators characterizing the development of research and innovation in one position as a leader in the 2010-2014 occupied the Vitebsk region. It should be noted the positive dynamics in the positioning of the Vitebsk region of Belarus among other regions. In 2010, this area in three areas had the worst values, but in 2014, she lost the position of Brest, Gomel and Mogilev regions. The most problematic region of the Republic of Belarus on the level and dynamics of the considered economic indicators is the Brest region, which had in 2014, the worst position on the five indicators, of which three figures refer to the unit "Research and Innovation", which indicates a limited use in the region of this form activation points of economic growth as the development of innovative activities.

For the development of regional growth points, you need to know in what areas, and in what form you can create and activate potential growth points. A study on the problems of regional development in accordance with the concept of growth poles, these questions are reflected. There are the following forms of creation and activation of growth poles: free (special) economic zones; Clusters; clusters; parks; Zone Economic and Technological Development; small industrial education; development zone of high-tech production.

To offer advice on the development of various forms of creating growth poles are three forms chosen in areas where there are the greatest regional differences, such as small business development, innovation, the creation of free economic zones.

For small business development it is recommended to create of a three-level organizational structure (the first level is the Ministry of Economy, which defines the purpose of long-term policy for SMEs and its expected impact, both for the sector and for the economy as a whole. At this level, as determined by the budget. In the second level is an organization that acts on behalf of the Ministry, but has great operational powers. On the third level are the organizations that are responsible for developing and implementing measures to support small and medium-sized businesses).

The legislative framework in the field of the free economic zone provides the basis to support the following areas of development. 1. Creation of conditions for development of commercial infrastructure in the process of attracting FEZ. 2. Facilitating the process of attracting the territory of FEZ banks, insurance companies, financial companies to provide access to financial residents, including foreign, capital. 3. Development and

implementation of FEZ development programs, taking into account global trends. 4. Introduction of property on the territory of free economic zone on the ground, etc.

Based on the legal framework for investment projects of the Republic of Belarus are the following ways to overcome the Republic of Belarus of innovative development. 1. Establishment of small innovative enterprises and support their state. 2. The introduction of public private partnerships in innovation. 3. "Innovation without research." 4. Entrepreneurial activities carried out within the large enterprise. 5. The use of CALS-technologies. 6. Creation of strategic alliances for joint and introduction of R & D results. 7. The use of venture capital. 8. Establishment of a mechanism that regulates the production of obsolete products, which will allow timely response to changes in the external and internal environment (scientific and technological revolution, obsolescence of products and so forth.). 9. Innovative activity in the field of IT-technologies 10. Intellectual Property Events. 11. Improvement in the area of intellectual property law.

**Conclusion** According to the results of the analytical study of the problem of the asymmetry, the evaluation of the Republic of Belarus regions the following conclusions can be stated.

1. In the Republic of Belarus in 2010–2014 the asymmetrical type of the regional development was dominating.

2. The asymmetric sphere of small business and innovation regions is the most problematic in terms of the development.

3. The most problematic region of the Republic of Belarus on the level and the dynamics of the economic indicators discussed is Brest region. The leader is Minsk.

4. The recommendations for the development of various forms of creating growth poles are essential.

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