Montenegrin Journal of Economics

Vol. 15, No. 3 (2019), 113-124

Formation of a Regional Development Strategy According to the Level of Investment Activity of Enterprises

IVAN P. BULEEV[1], NATALYA YE. BRYUKHOVETSKAYA[2], TETYANA YU. KORYTKO[3], SAMIRA T. PILETSKA[4] and OLENA N. KRUK[5]

[1] Professor, Institute of Industrial Economics of National academy of sciences of Ukraine, Kyiv, Ukraine, e-mail: Bryukhovetskaya@nas.gov.ua
[2] Professor, Institute of Industrial Economics of National academy of sciences of Ukraine, Kyiv, Ukraine, email: Bryukhovetskaya@nas.gov.ua
[3] Associate Professor, Institute of Industrial Economics of National Academy of Sciences of Ukraine, Kyiv, Ukraine, e-mail: Korytko@nas.gov.ua
[4] Associate Professor, National Aviation University. Kyiv, Ukraine, e-mail: 0508486185@ukr.net
[5] Associate Professor, Donbass State Engineering Academy, Kramatorsk, Ukraine, e-mail: Ik2601@mail.ru

ARTICLE INFO

Received January 22, 2018
Revised from February 26, 2019
Accepted April 30, 2019
Available online September 15, 2019

JEL classification:

C 54, E 52, 032, R12.

DOI: 10.14254/1800-5845/2019.15-3.8

Keywords:

Regional economy,
econometric modeling,
investment activities,
capital investments,
correlation-regressive model.

ABSTRACT

An economic-mathematical model of an integrated assessment of the investment activity of enterprises in the region has been developed. The novelty of the results is determined by the fact that integral indicator is built on the basis of a common base, formed using the characteristics of regional differentiation, derived from theoretically sound models. Of investments on key economic indicators such as gross regional products, financial results of profitable companies, volume of sales of industrial products, volume of sales of services and volume of sales of innovative products during 2010-2017 is assessed in the article. In order to study the influence of investments on economic development of regions is used a statistical tool of correlation analysis which displays links between factors and results. According to research, the university regression models are built. Results of the studies indicate that capital investments are not a major factor in providing the profitability of enterprises in almost all regions of Ukraine. The typology of the regions of Ukraine according to the level of investment activity of enterprises by cluster analysis methods is carried out/ The advantage of the developed economic-mathematical model of the integrated assessment of investment activity of enterprises in the region is the possibility of its use in order to form a differentiated investment policy.

INTRODUCTION

In today's conditions, economic inequalities in the development of economic agents become an independent factor hindering regional socio-economic development. The main focus of the transformation of the economy is the structural optimization of technical and technological as well

as organizational and economic complexes, which is carried out by new methods of managing of investment resources. In this case, the laws of economic development are characterized by uneven economic conditions, periodically arising structural crises and technological changes, non-equilibrium of processes of technical and economic development, uncertainty of technological trajectories.

The structural reorganization of the region's economy is associated with the redistribution of material, labor and financial resources from strategic sectors that are not perspective in the industry, marked as promising and, therefore, priority. The key feature of sustainable development of the region is the investment activity of enterprises, which lies in the area of technology and organization of funds management through the regulatory role of regional authorities in the investment process in the sectors of the economy, and the effectiveness of the state regulation regarding the specific conditions of the reproduction process. The issues of investment development of the region, analysis of its investment environment, allowing to ensure the development of the real sector of the economy are presented in the works of E. Animitsa (2015), G. Kvon et al. (2017), T. Gössling (2007), K. Koschatzky (2003), K. Zum-busch (2013), J. Pires Manso et al. (2015), N. Bryukhovetskaya (2016), O. Arefieva (2018), and R. Ginevicius et al. (2018). Problems of the development of the region are devoted to the work of such scientists as I. Buleev (2015), S. Aivazian (2018), O. M. Kruk (2013).

The purpose of this article is to consider three key issues: (i) Section 1 outlines the methodological foundations of this study; a brief description of the variables is presented; (ii) the second section presents the evaluation of the parameters and results of the statistical tests for the determination of errors, autocorrelation and multi-collinearity between the explanatory variables, (iii) in the third section, the synthesis of the main conclusions of the study is presented.

1. FORMATION OF THE BASIS

Proceeding from strategic macroeconomic positions, the problem of regulating the role of the state not only exists, but is also key, and the effectiveness of structural and investment transformations and the sustainability of economic growth depend on how well it will be solved.

In order to determine the relationship between sustainable development of the region and investment activity of enterprises, it is necessary to develop an economic-mathematical model of the integrated assessment of investment activity of enterprises in the region.

The complexity and multidimensionality of the process of developing the economic-mathematical model of the integrated assessment of the investment activity of enterprises in the region necessitates the allocation of constituent elements each of which corresponds to their own goals and objectives.

For establishing the relationship between sustainable development of the region and investment activity of these enterprises, it is necessary to develop an economic and mathematical model of the integrated assessment of investment activity of enterprises in the region (Figure 1).

At stage 1, a study of factors that affect the investment activity of enterprises in the region is carried out.

For the objective assessment of the efficiency of investment activity at the regional level, a correlation-regression analysis of the availability, density and significance of the link between investments and a number of indicators characterizing the level of economic development of the region (GRP, financial result of profitable enterprises, volume of industrial products sold, volume of the realized services and costs of enterprises for innovation).

The general indicator reflecting the state of development of the region's economy is the gross regional product (GRP) (Figure 2-3).

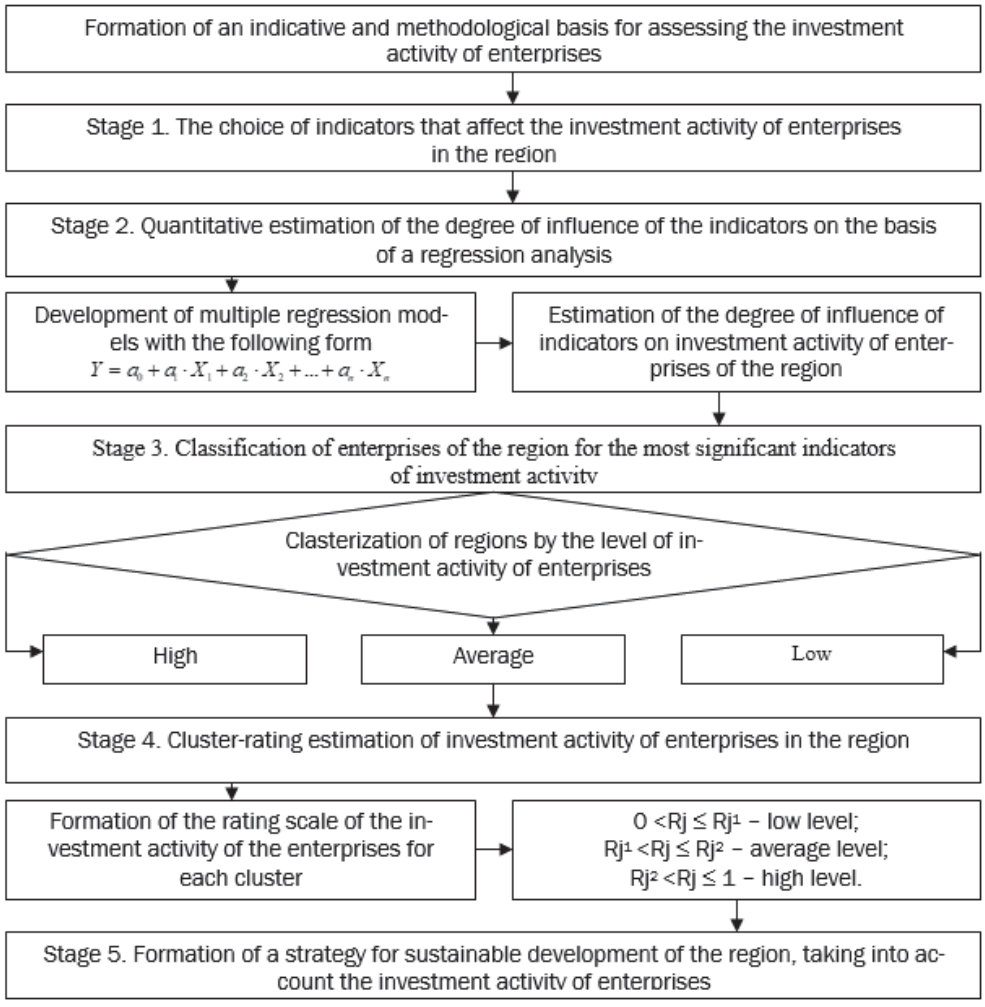

Figure 1. Block diagram of the economic-and-mathematical model of the integrated assessment of investment activity of enterprises in the region

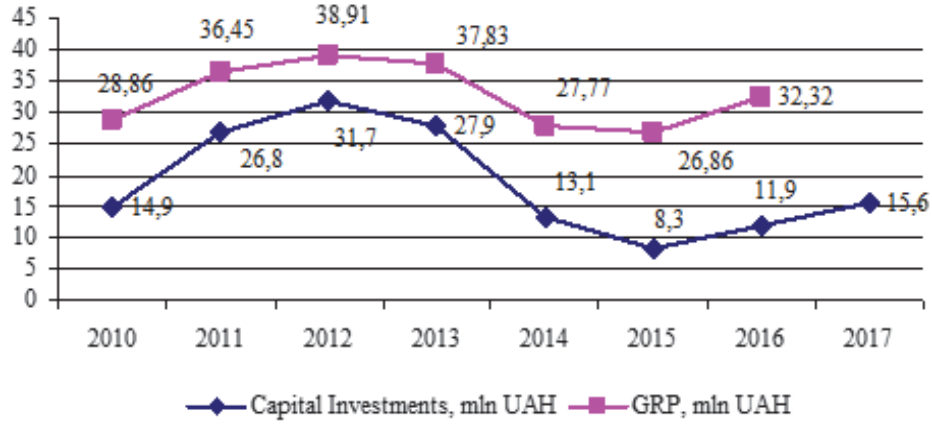

Figure 2. Dynamics of volume of capital investments and GRP of Donetsk region in 2010-2017

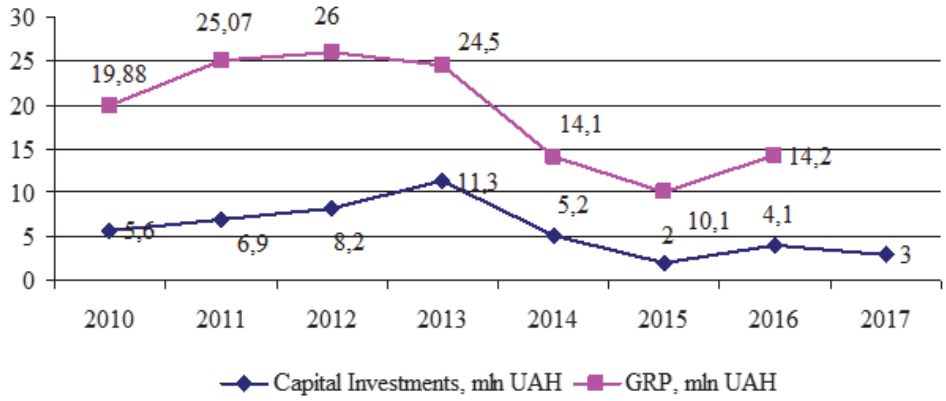

Figure 3. Dynamics of volume of capital investments and GRP of Lugansk region in 2010-2017

2. ESTIMATES OF PARAMETERS AND OTHER STATISTICAL RESULTS

At stage 2, an estimation is made of the degree of influence of factors on the investment activity of enterprises in the region.

In order to assess the efficiency of investment activity at the level of Donetsk and Luhansk regions, a correlation-and-regression analysis of the connection between investments and GRP has been carried out. The data used for simulation is shown in Figures 2-3.

Analyzing the data, the econometric model of GRP dependence on the volume of capital investments in the economy of Donetsk region is characterized by the following equation:

$$Y = 22.91 + 0.51X_1, \quad (1)$$

where X_1 - volume of capital investments, mln UAH.

The calculated parameters show that with an increase in the volume of investments by 1 million UAH the gross regional product of the Donetsk region increases by an average of 510 thousand UAH.

The investigated model (1) is significant in general, since, according to the Fischer-Snedecour distribution, $F = 37,76 \geq F_{tabl.} = 3,5$ The coefficients of the correlation matrix are close to one, which shows that there is a close direct link between investments and the GRP. At the same time, the determination coefficient ($R^2 = 0,8831$) is also quite high, which characterizes the strength of correlations of the GRP (Y) with investments (X_1).

Analyzing the data, the econometric model of GRP dependence on the volume of capital investments in the economy of the Luhansk region is characterized by the following equation:

$$Y = 7,86 + 1,82X_1, \quad (2)$$

where X_1 - volume of capital investments, mln UAH.

The calculated parameters show that with an increase in the volume of investments by 1 million UAH the gross regionalproduct increases by an average of 182 thousand UAH. The explored model (2) is significant in general, since, according to the Fisher-Snedekor distribution, $F = 13,88 \geq F_{tabl.} = 3,5$ The correlation coefficients $R = 0,8574$, which show that there is a close direct link between investments and GRP. At the same time, the determination coefficient ($R^2 = 0,7362$) is also quite high, which characterizes the strength of correlation of GRP (Y) with investments (X_1). One of the main indicators of the efficiency of investment in an enterprise is profit. In 2017, the share of profitable enterprises in the Donetsk region amounted to 76,8%, and in Lugansk region – 72,1%. When constructing a correlation-and-regression model for assessing the impact of capital

investments on the profitability of enterprises, the financial result was selected before the taxation of profit-making enterprises (Fig. 4).

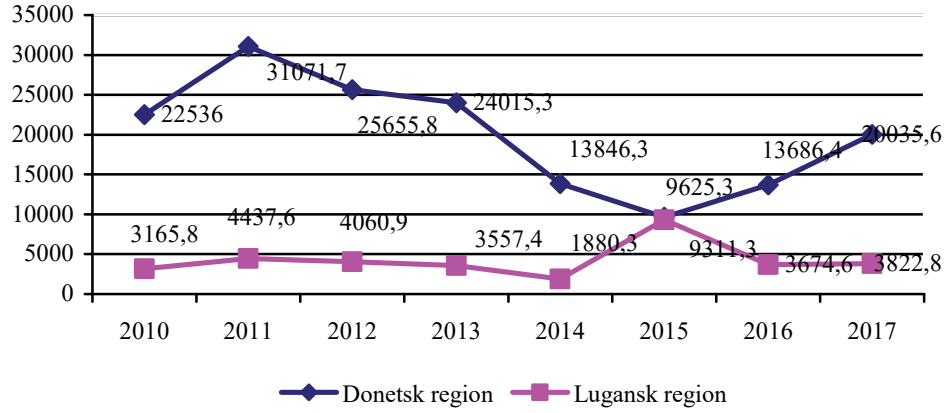

Figure 4. Dynamics of financial result before taxation of enterprises of Donetsk and Luhansk regions, which received profit in 2010-2017, mln UAH

During 2010-2017, the dynamics of financial results of profitable enterprises in the direction of movement corresponded to the dynamics of capital investments volume. In 2014, relative to the previous year, there was a decrease of capital investments in Donetsk region by 53,05%, in Lugansk region by 53,98%, financial results of the enterprises that received profit declined in Donetsk region by 42,34%, Lugansk region by 47,14%. In 2015-2017, in Donetsk region, there is an increase in the volume of capital investments and the financial result of profitable enterprises. In Lugansk region in 2017 there was a decrease in the volume of capital investments compared with 2015, and also the volume of financial result decreased. Analyzing the data, the econometric model of the dependence of the financial result before taxation of enterprises that have gained profit from the volume of capital investments invested in the economy of the Donetsk region is characterized by the following equation:

$Y = 6726,89 + 710,10X_1$, (3) where X_1 - volume of capital investments, mln UAH.

The investigated model (3) is significant in general, since, according to the Fischer-Snedecour distribution, $F = 16,72 \geq F_{tabl.} = 3,5$ The correlation coefficients $R = 0,8579$, which show that there is a close direct link between investment and financial results of profitable enterprises, the determination coefficient ($R^2 = 0,7359$) indicates that the variation of profitable enterprises income is determined by 73,59% volumes of capital investments. Analyzing the data, the econometric model of the dependence of the financial result before taxation of enterprises that have gained profit from the volume of capital investments in the economy of the Luhansk region is characterized by the following equation:

$Y = 6033,35 - 310,13X_1$, (4) where X_1 - volume of capital investments, mln UAH.

The investigated model (4) is significant in general, since, according to the Fischer-Snedecour distribution, $F = 11,32 \leq F_{tabl.} = 3,5$ The correlation coefficients $R = 0,4247$, which show that there is a low direct relation between investments and financial results of profitable enterprises, the determination coefficient ($R^2 = 0,1804$) indicates that the income variation of profitable enterprises is determined by 18,04% volumes of capital investments. The unprofitableness of a large number of enterprises can be explained by the deceleration in the growth of production volumes and sales. The correlation analysis of the interrelation between the capital investment inflow and the volume of industrial products sold in Donetsk and Luhansk regions revealed some trends in the dynamics of these indicators (Fig. 5).

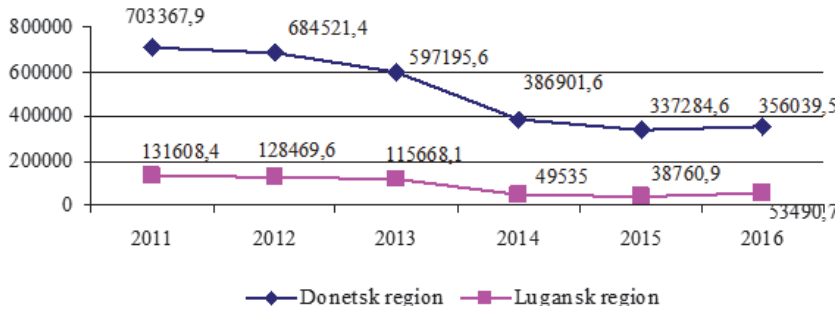

Figure 5. Dynamics of sales volumes of enterprises in Donetsk and Lugansk regions in 2011-2016, mln UAH

Thus, starting from 2013, there is a rapid decline in the volume of industrial products sold in Donetsk and Luhansk regions, and in 2016 there was an increase in sales volumes. Analyzing the data, the econometric model of the dependence of the volume of sales of products on the volume of capital investments in the economy of Donetsk region is characterized by the following equation:

$Y = 182307,2 + 16470,07X_1$, (5) where X_1 - volume of capital investments, mln UAH.

The investigated model (5) is significant in general, since, according to the Fisher-Snedekor distribution, $F = 55,51 \geq Ft_{abl.} = 3,5$ The correlation coefficients $R = 0,9658$, which show that there is a close direct link between the investments and the volume of sales, the determination coefficient ($R^2 = 0,9328$) is also quite high, which characterizes the correlation of the volume of product sales (Y) with investments (X_1). Analyzing the data, the econometric model of the dependence of the volume of the products sales of on the volume of capital investments in the economy of the Luhansk region is characterized by the following equation:

$Y = 19182,99 + 10674,66X_1$, (6) where X_1 - volume of capital investments, mln UAH.

The investigated model (6) is significant in general, since, according to the Fisher-Snedekor distribution, $F = 7,42 \geq F_{tabl.} = 3,5$ The correlation coefficients $R = 0,8062$, which show that there is a close direct link between investments and volume of products sales, the determination coefficient ($R^2 = 0,66499$), characterizing the correlation between the volume of the products sales o (Y) and investments (X_1). From 2013 onwards, the dynamics of growth of capital investments into industry in Ukraine tends to decline, which negatively affects the dynamics of the volume of expenses for innovation activity (Fig. 6).

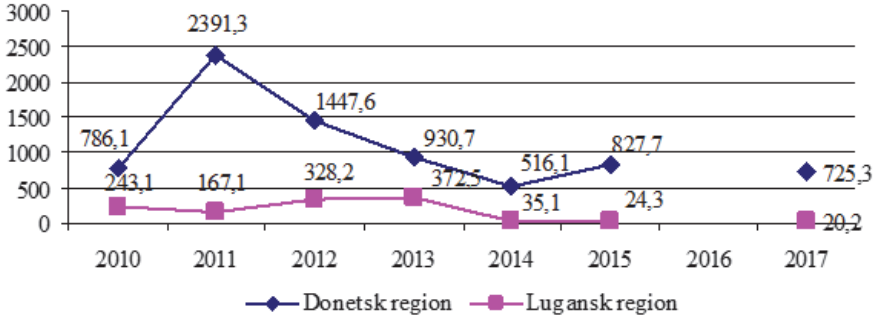

Figure 6. Dynamics of volume of expenses for innovative activity of enterprises of Donetsk and Luhansk regions in 2011-2017, mln UAH

So, starting from 2013, there is a reduction in the volume of enterprises' expenses on innovations in Donetsk and Luhansk regions. Analyzing the data, the econometric model of the dependence of enterprises' expenses on innovations on the volume of capital investments in the economy of the Donetsk region is characterized by the following equation:

$Y = 166,38 + 46,56X_1$, (7) where X_1 - volume of capital investments, mln UAH.

The investigated model (7) is significant in general, since, according to the Fisher-Snedecour distribution, $F = 4,27 \geq F_{tabl.} = 3,5$ The correlation coefficients R = 0,6638, which show that there is a direct link between investments and the volume of enterprise expenses for innovation, the determination coefficient ($R^2 = 0,4407$) indicates that the variation of expenses for innovation activity of enterprises by 44,07 % is determined by the volume of capital investments. Analyzing the data, the econometric model of the dependence of the enterprise's expenses on innovation from the volume of capital investments in the economy of the Luhansk region is characterized by the following equation:

$Y = -104,35 + 44,24X_1$, (8) where X_1 - volume of capital investments, mln UAH.

The investigated model (8) is significant in general, since, according to the Fischer-Snedecour distribution, $F = 25,17 \geq F_{tabl.} = 3,5$ The density of such a connection is confirmed by the results of correlation-and-regression analysis (R = 0,8986). In particular, 80,75% of the change in the volume of enterprise expenses on innovation can be explained by a change in the total volume of capital investment in industry. Among the main reasons for the unsatisfactory investment activity of enterprises in Donetsk and Luhansk regions - firstly, due to the military conflict in the Donetsk region, the investment activity of enterprises from all branches of industry and other spheres of economic activity has significantly decreased. Due to the complications of the technological and production process, the emergence of logistical problems, most enterprises have significantly or completely reduced their activities in the direction of investment activity. Secondly, it is a low ability of enterprises to self-finance. In the structure of capital investments there is a tendency to increase the share of own funds and decrease the share of loans to banks and other loans (increase of the NBU discount rate from 10,25% in 2010 to 14,5% in 2016, and from 02.03.2017 – 17,0%), increase in the value of loans in both national and foreign currencies (in USD in 2016, the average weighted interest rate on loans is 8.9% and 21.3% in UAH, and in 2010 - 8,9% in USD and 21,3% in UAH). The inability of a part of domestic enterprises due to unprofitableness (the share of unprofitable enterprises in 2017 amounted to 23,2% in the Donetsk region and 27,9% in the Luhansk region) to use the profit for reinvestment, on the one hand, and to reduce the share of bank lending to the real sector, taking into account. The high risk of non-repayment of loans, on the other hand, has led to a decline in investment income in recent years.

Thirdly, a small proportion of the volume of innovative costs in the structure of investments directed to industry. Thus, in Donetsk region, this share in 2016 is 6,7%, in the Lugansk region-0,76%. On the basis of the obtained results of the factors influencing the investment activity of the enterprises of the region, we will construct a linear model of a multiple regression. To ensure comparability, we conduct the normalization of indicators in the interval [0; 1].By means of multiregression modeling, the calculation of the integral indicator of the investment activity of enterprises in the n-th region in the t-th period is calculated; the equation has the form:

$R = 0,041 + 0,696\ X_1 + 0,295X_2 + 0,069X_3 - 0,045X_4$ (9) where X_1 is the gross regional product;

X_2 - financial result of profitable enterprises;
X_3 - the volume of the sold industrial products;
X_4 - the expenses of enterprises for innovation.

The investigated model (9) is significant in general, since, according to the Fisher-Snedecour distribution, $F = 8,75 \geq F_{tabl.} = 3,5$ The density of such a connection is confirmed by the results of the correlation-regression analysis ($R = 0,9597$), which shows that there is a close direct link between investments and investigated factors, the determination coefficient ($R^2 = 0,9211$) is also quite high, characterizing the tightness of the correlation connection. At stage 3. Classification of the regions of Ukraine by the level of investment activity of enterprises by cluster analysis methods in order to identify regional "growth points". At this stage, the formation of a multi-parameter cluster model of the typology of regions according to the level of investment activity of enterprises is carried out. In the first step, it is recommended to use one of the hierarchical methods - the Ward method, using the Euclidean distance as a measure of the degree of similarity. This method leads to the formation of clusters approximately equal to the minimum interstitial cluster dispersion, which are in the form of a hyperspace (Fig. 7).

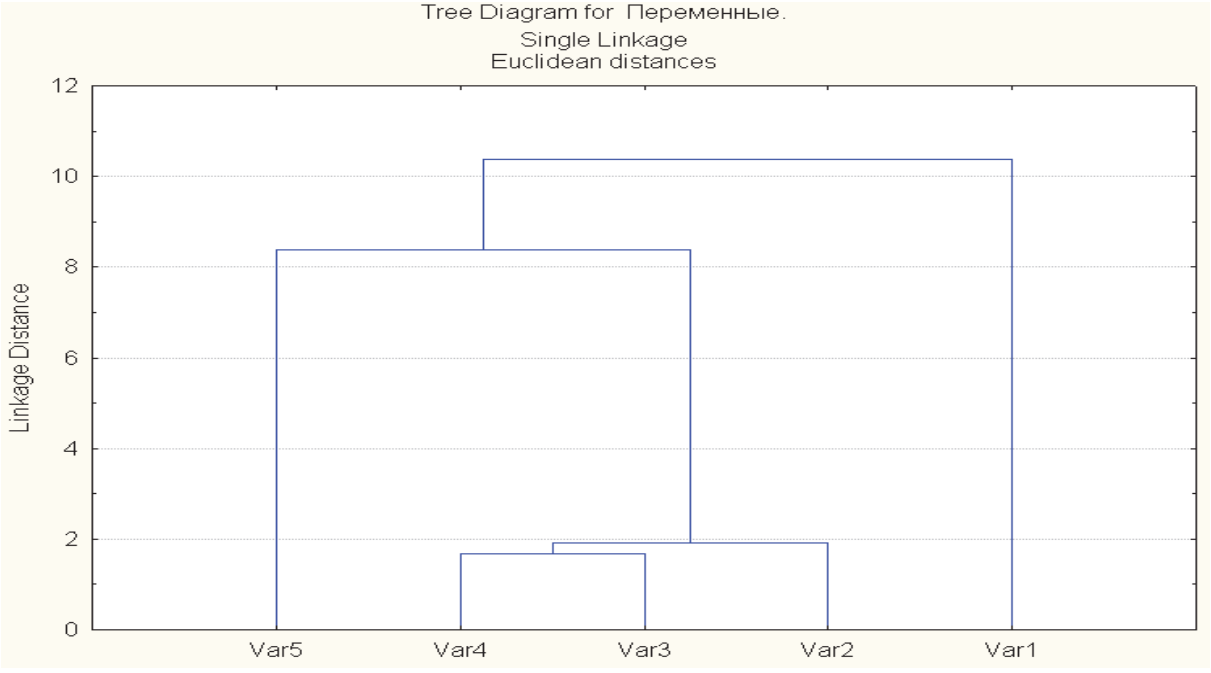

Figure 7. Hierarchical clustering using the Ward method

By comparing the actual values of F-statistics (to test the hypothesis of inequality of dispersions) and analyzing the level of significance of p-level, we can conclude that the greatest contribution to the intercluster variability is made by the variables Y, X_1, X_2, X_3, X_4. (Table 1).

Table 1. Dispersion analysis

	Between		Within			signif.
	SS	df	SS	df	F	p
Y	61,62577	2	12,37423	72	179,2861	0,000000
X_1	55,88326	2	18,11674	72	111,0463	0,000000
X_2	69,96092	2	4,03908	72	623,5565	0,000000
X_3	64,56757	2	9,43243	72	246,4300	0,000000
X_4	66,46034	2	7,53966	72	317,3317	0,000000

The smallest Euclidian distance is observed between the first and third clusters, and the second cluster is removed as far as possible from other clusters (Table 2). This statement corresponds to reality, since the second cluster represents the regions that are characterized by the highest investment activity.

Table 2. Euclidean distances between clusters

	№1	№2	№3
№1	0,0000	-	-
№2	4,212723	0,0000	-
№3	3,640593	4,21444	0,0000

In the second step, as a result of the visual analysis, which shows the number of clusters that are fairly evenly monitored in the voter, it is necessary to cluster the source set of objects by the k-average method. Its essence lies in the fact that the process of classification begins with the task of some initial conditions - k-randomly chosen by objective, which will serve as standards, that is, the centers of clusters. The idea of the algorithm of the k-average method is to sequentially refine the reference points with the corresponding recalculation of the weights attributed to them.

In order to give an economic interpretation of the resulting clusters, it is necessary from the standardized data to go to the output. Comparison of mean values and mean square deviations for each cluster will allow characterization of each cluster (Table 3).

Table 3. Characteristics of clusters

Indexes		Cluster 1	Cluster 2	Cluster 3
Y – volume of capital investments, mln UAH	average value	69732,3	19583,4	5248,9
	mean square deviation	36563,3	8251,9	2028,5
X_1 – is the gross regional product, mln UAH	average value	401809	140090,5	34414,4
	mean square deviation	157331	42054,9	13849,4
X_2 – financial result of profitable enterprises, mln UAH	average value	149912,1	20020,71	4964,9
	mean square deviation	21466,1	13602,9	3571,1
X_3 – the volume of the sold industrial products, mln UAH	average value	1586012,8	323360,5	64623,2
	mean square deviation	913826	145231,9	29867,7
X_4 – the expenses of enterprises for innovation, mln UAH.	average value	1494,3	619,4	134,9
	mean square deviation	366,9	456,9	

Cluster 1 includes the enterprises of the Dnipropetrovsk region and the city of Kyiv. The average volume of capital investments is 106295.5 million UAH. Cluster 2 includes enterprises of the following areas: Donetsk, Zaporizhya, Kyiv, Lviv, Odessa, Poltava, Kharkiv.

The high investment activity of enterprises included in this cluster is confirmed by the volume of capital investments, which amounted to an average of 19583.4 million UAH. This cluster is characterized by a rather high level of supply of the gross regional product - 140090.5 billion UAH , which exceeds the average value in Ukraine - 63586.0 billion UAH .

The enterprises of this cluster have a significant amount of financial results of profitable enterprises, which exceeds the average value in Ukraine and amounts to 20020,71 million UAH.

Cluster 3 includes enterprises of the following regions: Vinnytsia, Volyn, Zhytomyr, Transcarpathia, Ivano-Frankivsk, Kirovograd, Lugansk, Mykolaiv, Rivne, Sumy, Ternopil, Kherson, Khmelnytsky, Cherkasy, Chernivtsi, and Chernihiv.

At stage 4, the cluster-rating estimations of the regions are calculated based on the level of investment activity of enterprises Rj. On the basis of the integral indicator, a quantitative estimate of the investment activity of enterprises in the region can be obtained. For this reason, the rating of the given indicator is carried out. Next, the region with the highest rating value is assigned the highest rank 1, followed by rank 2, and so on. The ratio of the received investment activity clusters and the corresponding rating estimations Rj allows us to determine the "marginal" values (formulas (10 - 11):

$$R_j^1 = \max\left\{R_j^H\right\} \quad (10)$$

$$R_j^2 = \max\left\{R_j^c\right\} \quad (11)$$

where R_j^H, R_j^c is the value of the integral indicator R_j for the regions included in clusters with low and average investment activity of the enterprises.

The intervals of integral R_j values for each cluster:

1. $0 < R_j \le R_j^1$ - interval of values of integral indicator Rj for regions having enterprises with low investment activity;
2. $Rj^1 < Rj \le Rj^2$ - interval of values of integral indicator Rj for regions having enterprises with average investment attractiveness;
3. $Rj^2 < Rj \le 1$ - interval of values of integral indicator Rj for regions having enterprises with high investment activity.

The results of the rating estimation of the investment activity of Ukrainian enterprises in 2017 are shown in Table 4, indicating that the enterprises of Dnipropetrovsk, Donetsk, Kyiv, Kharkiv regions and the Kyiv city have the highest level of investment attractiveness.

Table 4. Rating assessment of investment activity of enterprises of regions of Ukraine

Region	*Rating*	*Rank*
1	2	3
Vinnitsa	0,14	10
Volyn	0,08	17
Dnipropetrovsk	0,39	2
Donetsk	0,21	5
Zhytomyr	0,10	13
Transcarpathian	0,07	22
Zaporozhye	0,16	9
Ivano-Frankivsk	0,10	14
Kievskaya	0,22	4
Kirovograd	0,09	16
Lugansk	0,07	23
Lviv	0,18	7
Nikolaev	0,11	12
Odessa	0,21	6
Poltava	0,18	8
Rivne	0,08	18
Sumy	0,08	19
Ternopil	0,07	24
Kharkiv	0,23	3
Kherson	0,08	20
Khmelnitsky	0,10	15
Cherkassy	0,12	11
Chernivtsi	0,06	25
Chernihiv	0,08	21
m. Kyiv	0,85	1

The comparison of cluster and rating indicators of Ukrainian enterprises allowed to determine the "marginal" values for each cluster: enterprises with rating ratings Rj more than 0.75 have a high level of investment activity; 0,30 – 0,75 - average level and less than 0,30 - low level of investment activity. At stage 5, a strategy for the sustainable development of the region is being developed taking into account the investment activity of enterprises. The advantage of the developed economic-mathematical model of the integrated assessment of investment activity of enterprises in the region is the possibility of its use in order to form a differentiated investment policy (Table 5).

Table 5. Formation of differentiated policy of increasing investment activity of enterprises of the region

№ cluster	The level of investment activity of the enterprise	Strategy of the differentiated policy
1	Low	Anti-crisis strategy - a strategy for withdrawal of enterprises from the crisis
2	Average	Strategy for a sustainable development is the development of a strategy for supporting the positive dynamics of all indicators of investment activity of enterprises
3	High	Adaptation strategy - developing a strategy for identifying "weak links", achieving an optimal level of performance

For the enterprises of the first cluster, it is recommended to use an anti-crisis strategy that includes such elements of policy as effective creation of integrated structures (a set of service and processing enterprises of the agricultural complex, insurance companies, commercial banks, transport enterprises, etc.) with the participation of enterprises that allows to reduce the risks associated with the instability of production, and provides a regular income of the processing and service enterprises of the region, efficient use of available resources.

For the enterprises of the second cluster, it is recommended to use an innovation strategy that includes such elements of policy as the development of resource and raw material potential: supporting the positive dynamics of development by ensuring high competitiveness of enterprises both in the domestic regional market and beyond, for the improvement of the pricing policy, the improvement of the quality of services rendered and other measures, have an impact on competitiveness.

For the enterprises of the third cluster, it is recommended to apply an adaptation strategy that includes such policy elements as: deepening of the integration processes in all production-economic formations as a means of attracting investments; it is necessary to change substantially the attitude towards the use of the already established powerful production potential, to concentrate forces and means in the areas that provide the greatest return, to pay special attention to the development of intensive technologies, to reduce product losses at all stages of production; to implement all the proposed measures aimed at achieving a more sustainable development of the region's market, it is necessary to increase the awareness to scientific and technical development.

CONCLUSIONS

Increasing the investment activity of the enterprises in the region is a complex and integrated process. The integrated assessment of the investment activity of enterprises in the region, conducted on the basis of the suggested methodology, showed the effect of capital investments on the indicators characterizing a regional development, and the scale of their changes suggests the

presence of relatively close direct interconnections.

Increasing the efficiency of investment activity of regional enterprises requires the development of scientifically sound economic, investment, monetary, fiscal and other policies in the medium and long term. Therefore, further research requires investigation of the reasons for the lack or insignificant impact of investments on the key indicators of economic development and the search for effective tools for improving investment provision in each individual region and in the domestic economy as a whole.

REFERENCES

Animitsa, E. G. (2015), *Theories of regional and local development*, The publishing house of Ural State Economic University, Yekaterinburg.

Kvon, G. M. et. al. (2017), "Regional investment policy: analysis and assessment of the investment environment state", *Eurasian Journal of Analytical Chemistry*, Vol. 12, pp. 835-853.

Gössling, T., Rutten, R. (2007), "Innovation in regions", *European Planning Studies,* Vol. 15, pp. 253-270.

Koschatzky, K. (2003), *Innovative Impulse für die Region – Aktuelle Tendenzen und Entwicklungsstrategien*, Fraunhofer-Institut für Systemtechnik und Innovationsforschung, Karlsruhe.

Zumbusch, K., Scherer, R. (2013), "Mobilizing Enterprises for Regional Innovation Policies. How to assure an active involvement of located enterprises in regional development, *Economics & Sociology*, Vol. 6, No 1, , pp. 13-27.

Pires Manso, J. R., Fernandes de Matos, A. J., Carvalho, C. C. M. (2015), „Determinants of Regional Growth in Portugal: An Empirical Analysis", *Economics and Sociology*, Vol. 8, No 4, pp. 11-31. DOI: 10.14254/2071-789X.2015/8-4/1

Ginevicius, R., Gedvilaitė, D., Stasiukynas, A., Cepel, M. (2018), "Integrated Assessment of the Socioeconomic Systems' Development", *Economics and Sociology*, Vol.11, No. 1, pp. 11-21. doi:10.14254/2071-789X.2018/11-1/1

Bryukhovetskaya, N. Ye, Korytko, T. Yu., Brul I.V. (2016) Otsinyuvannya investment activities activists for the criteria for criteria. *Strategy and Mechanism of Industrial Regulation,* pp. 28-40.

Arefieva O., Piletska S., Arefiev S. (2018), "The innovative activity of enterprises as a prerequisite for sustainable economic development", *Baltic Journal of Economic Studies*, Vol. 4, No.1. pp. 1-8.

Buleev, I.P., Bryukhovetska N. Ye. (2015), "Shlyakhy vidnovlennya ekonomiky Ukrayiny ta Donbasu", *Economic Bulletin Donbass*, No. 1(39), pp. 4-11.

Aivazian, S. F., Afabasiev M. Yu., Kudrov A. V. (2018), "Indicators of Regional Development Using Differentiation Characteristics", *Montenegrin Journal of Economics*, Vol. 14, No. 3, pp. 7-22