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Approach to Regionalization of Municipalities based on Panel Data Modeling (by example of Republic of Bashkortostan)

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***Abstract*— Social and economic development of sub-territories of the country or the region is heterogeneous. Because of that, the correct classification of territories into depressive, underdeveloped, developed and potentially growing is important. A relatively new approach that is used for regionalization of municipalities is the panel data analysis, the main benefit of which is the ability to analyze the development of municipalities taking into account spatio-temporal cross-sections. In this paper, the procedure of regionalization of municipalities of the Republic of Bashkortostan in terms of socio-economic development using panel data modeling is outlined. Firstly, the panel data model of economic growth for all municipalities of the Republic of Bashkortostan is evaluated. Then, clusters of municipalities are formed by grouping fixed individual effects obtained in the construction of the model at the first step. After that, all panel data models are restructured, according to the newly selected clusters of municipalities. Finally, partial coefficients of elasticity are analyzed for the factors influencing the economic growth for each selected cluster.**

Keywords*— *municipal formation; regionalization; panel data analysis; clusterization

I. INTRODUCTION

It is clear that socioeconomic development of sub-territories of the country or the region is heterogeneous. Heterogeneity of such development is the result of the objective factors of both endogenous and exogenous nature. But, for the effective realization of territorial development programs targeting is to be adhered. So, the correct classification of territories into depressive, underdeveloped, developed and potentially growing is important. Additionally, we need to find such factors, influencing economic growth of sub-territories and to select such clusters, that allow the effective application of future control actions.

A lot of researchers, both Russian and foreign, study the problems of the typification of municipal formations due to their levels of social and economic development. Many of them use the approach of simple analytical classification of the official statistics. It characterizes social and economic development of municipalities by making up qualimetric scales to evaluate the development rating on the basis of the available information to classify municipalities according to this rating. This approach is used for the regionalization (zoning) of Vologda Region [1], the Republic of Bashkortostan [2], and Kursk Region [3]. One of the most popular classification tools is the method of cluster analysis. For example, cluster analysis was used for the regionalization of municipal formations of Saratov Region on the basis of medicodemographic and ecological data [4]. A 2-step procedure and Ward's method to count the number of clusters and k-means clustering were used. k-means clustering was also used for the regionalization of municipal formations of St. Petersburg (the Russian Federation) by a number of livability indicators [5], and the regionalization of districts of Orenburg Region by the characteristic properties of rural population [6]. Ward's clustering method was used for the evaluation of competitiveness of economy of Kaliningrad Region [7], and social infrastructure of Orenburg Region [8]. Cluster analysis was used for the separation of classes of depressive municipalities of Serbia on the basis of demographic and socioeconomic factors of area development [9]. In [10]. The authors used cluster analysis to classify certain municipalities

into relatively homogeneous units – sub-urban development types. In addition to the methods of cluster analysis Dunckmann [11] applied methods of factor analysis, which allowed him to identify five different ways of development of municipalities in Germany. Multidimensional classification was used in [12] to aggregate medical, demographical, economic and ecological factors for regionalization of municipalities of Novosibirsk region. But, the most frequently used method of clusterisation and, as a result, regionalization of municipalities according to different properties (social, economic, geoecological, resource, etc.) in Russian literature is the method of simple analytical summary of available statistics [13, 14, 15, 16]. Relatively new approach, that was used for regionalization of municipalities, is the panel data analysis. The main benefit of such approach is the ability to analyze the development of municipalities by spatio-temporal cross-sections. For example, [17] determined the influence of industrial policy on the development of municipalities in China using panel data analysis to select territories that allow to create special economic zones in them. In [18] a similar approach was used, which also took into account tax balance and economic growth of China.

This paper shows the procedure of regionalization of municipalities of the Republic of Bashkortostan (Russian Federation) in accordance with their socio-economic development using econometric tools of panel data modeling of economic growth.

II. Description of the Initial Data and the Methotodological Basis of the Research

A proposed methodology of regionalization, i.e. dividing municipal formations into classes due to their socioeconomic development, is outlined as follows:

1. The panel data model of economic growth for all municipalities of the Republic of Bashkortostan is evaluated;

2. Clusters of municipalities are formed by grouping fixed individual effects on the basis of the model constructed at the first step;

3. All panel data models are restructured according to the newly selected clusters of municipalities;

4. Partial coefficients of elasticity concerning the factors influencing economic growth of each selected cluster are analyzed.

Statistics characterizing phenomena and processes that happened in economic and social life of municipal formations and city districts of the Republic of Bashkortostan (RB) served as the source of information for regionalization. Data were generated on the basis of primary information on the life and activities of the population and business entities in the dynamics of 2005-2014, collected by the Territorial Body of the Federal State Statistics Service in the Republic of Bashkortostan (Bashkortostanstat, 2010, 2011, 2012, 2013, 2014). As an indicator characterizing the results of the social and economic development of municipalities, the gross municipal product (GMP) was calculated by method A, according to the methodology of the Global Urban Observatory operating under the United Nations Human Settlements Program [19]. This method allows to obtain the value of a city product on the basis of calculating the share of the gross regional product per 1 worker, as well as the total number of employees and the ratio of wage levels on the whole for the region and for a particular municipal formation.

All received information was subjected to the verification of the same information content of all the features considered. The possibility of limiting the number of factors was verified, with the selection of a subset of them, which most fully characterizes the studied properties of the socioeconomic development of the municipalities of the RB. Since it was difficult to give priority to one specific set of criteria, statistical methods of selecting diagnostic indicators were used to compress the volumes of information collected and processed without loss of its informativeness. The fundamental prerequisite for the transition from a large number of initial indicators to a significantly smaller number of the most informative variables is the duplication of information delivered by homogeneous (highly interrelated) indicators.

As a result, the gross municipal product was used as an effective indicator. As factors of influence were selected: the average annual number of employees of enterprises and organizations (without external part-time workers and employees of unlisted staff), investment in fixed assets at the expense of all sources of financing (in actual prices).

To increase the reliability of the presentation of economic indicators such as stock in the dynamics under inflationary conditions, the indicators calculated at current prices were translated into comparable constant prices for the base period of 2005 using deflating procedures. Next indicators were used as a deflator:

- the index of the physical volume of the gross regional product (in comparable prices, as a percentage of the previous year) to deflate the gross value added (at current basic prices), which in turn is used to calculate the gross municipal product;

- index of investments in fixed assets (in comparable prices, as a percentage of the previous year) for deflation of investments in fixed assets from all sources of financing (in actual prices);

- the actual average monthly wage of one employee (in comparable prices, as a percentage of the previous year) to deflate the average wage (at current basic prices), which in turn is used to calculate the gross municipal product;

For the possibility of comparing the indicators of municipalities that are heterogeneous in terms of level of development and the number of the resident population, certain volume indicators have been transformed into per capita indicators. For the possibility of econometric modeling based on multiplicative-power relations, using the power-up operation, which is correct for dimensionless quantities, the volume indices were calculated as the growth coefficients of the acceleration coefficients. As a result, a set of statistical indicators was compiled for 62 municipal entities of the Republic of Bashkortostan for the period 2005-2014, which forms panel data.

The advantage of using the panel-modeling tool is the ability to take into account:

- individual effects that do not change over time, but characterize the uneven development of municipalities, and have a significant impact on the indicator under study (e.g. geographical location, natural resources, quality of government management, etc.);

- temporary effects that take different values for each period of time, but are the same for all municipalities, and are influenced by unobservable factors over time.

To assess the model of the region's economic growth as a functional link that describes the influence of various indicators on the GMP, power law relationship was chosen, since it can account for the law of diminishing returns. A model of the Cobb–Douglas production function was set as a base model.

$$y_{it} = A \cdot \prod_k x_{k_{it}}^{\alpha_k} \cdot e^{\beta_i} \cdot e^{\gamma_t} \cdot e^{u_{it}}$$

where index i is the number of municipal formation, t is the index of the period under consideration; β_i and γ_t are individual and temporary effects respectively; u_{it} is residuals of the model, for which it is assumed that they are independent and have a normal distribution with zero mean and variances for different municipal formations. The GMP of a municipal formation was chosen as an endogenous variable y_{it}, and indicators x_{kit} that characterize socioeconomic development of a municipal formation were chosen as independent factors.

Despite the fact, that the time series forming the data of the longitudinal nature are rather short, it was decided to investigate the data on which it was intended to build the model for the presence of panel cointegration. Carrying out such procedure directly before modeling is largely justified by the additional opportunity to obtain a qualitative model specification. At the first stage of panel cointegration testing, all panel variables were tested for the presence of generalized unit roots using Hadri tests [20]. Moreover, for the Hadri test, along with the usual Z1 statistics to test the null hypothesis about the absence of unit roots of the panel variable, Z2 statistics obtained by the New-West method were calculated in the assumption of heteroscedasticity of the residual regression of the test. The Hadri test allows you to test the null hypothesis about the absence of single roots for the residuals of regressions with the inclusion of individual constants, or with the inclusion of a linear trend as well. Therefore, when applying the Hadri test, a similar principle was used, as in the Dolado-Jenkinson-Sosvila Rivero procedure. It consists in the successive application of the Hadri test to panel variables under various assumptions about the test regressions constructed both at the baseline levels of the series and on the first and second differences with the inclusion of individual constants and a generalized trend. The results of the Hadri test showed, firstly, the nonstationarity of individual time series for each municipal entity; secondly, the subordination of the investigated variables to the first-order integration process I (1). Due to the first order of integration of I (1) variables, a transition was made from the initial levels of variables to the growth coefficients.

At the second step of panel cointegration analysis of the initial data the Pedroni panel cointegration test [21] was conducted to find cointegration ratio between panel variables. In the Pedroni test (panel analogue of the Engle-Granger test), the zero hypothesis is the absence of cointergration between the tested panel variables, that is, the presence of single roots in the residues after the cointegration relationship is constructed between them. Considering the panel structure of the data, the Pedroni test can be performed in three specifications:

1) in the presence of individual constants in the cointegration relation (in fact, the specification of the panel model with fixed or random effects is tested);

2) in the presence of individual constants and an individual trend for each observation (the model specification is being tested, which leads to ignoring the longitudinal data and recommends that regression equations for each cross section be disconnected separately);

3) in the absence of individual constants and an individual trend (which corresponds to the generalized model of the panel specification - regression from generalized data).

As critical values in favor of the zero or one of the alternative hypotheses, we consider the weighted and refined McKinn statistics of Student statistics (panel statistics of Dickey-Fuller (ADF)). The results of the Pedroni test for panel cointegration confirmed the presence of cointegration between the selected variables and, as a consequence, the possibility of constructing panel data models, taking into account the introduction of individual constants into the equations.

TABLE I. RESULTS OF THE GRANGER CAUSALITY TEST FOR PANEL DATA

Tested null hypothesis	F-statistics	Conclusion of causuality
logarithm of growth rates of investments in fixed capital per capita is not the «cause» for the logarithm of growth rates of gross municipal product per capita	7.39[a]	Null hypothesis is rejected; the presence of the Granger-causality
logarithm of growth rates of average annual number of enterprise workers per capita is not the «cause» for the logarithm of growth rates of gross municipal product per capita	8.21[a]	Null hypothesis is rejected; the presence of the Granger-causality

[a.] significant difference of statistic from zero at 10%, 5% and 1% levels.

The panel analogue of the Granger causality test [22] makes it possible to verify which of the panel variables is the "reason" for changing another panel variable. In the criteria based on the calculation of F-statistics, null hypotheses of the absence of mutual conditioning of one variable by another are tested. The results of the Granger causality test (Table 1) show that such variables as "logarithm of growth rates of

investments in fixed capital per capita" and "logarithm of growth rates of average annual number of enterprise workers" are the Granger causes for the variable "logarithm of growth rates of gross municipal product per capita".

To select the specification of the model of economic growth at the first stage, a selection was made between the generalized model and the model with fixed effects based on the likelihood ratio test. At the second stage of the specification procedure, a choice was made between the fixed model and the random effects model, both cross-sections and periods, using the Hausman test. At the third stage of the specification, the Breusch-Pogan test was used, which tests the zero hypothesis about the absence of effects in the model (panel generalized model) under the alternative hypothesis of the presence of random panel effects in the model.

It should be noted here that in the construction of all models a few assumptions were made. In particular, when estimating any model, initially no constraints on the coefficients of the model were superimposed. Then, depending on the value of the sum of all factors, the conclusion was made on the type of resource yield characteristic on the analyzed interval. The next stage tested the hypothesis of impact on the basis of the Wald test, and only in case the hypothesis of the consistency of resource yields is confirmed, the evaluation of regression with factor coefficient restrictions was made [23].

III. MODELING

With econometric modeling of the gross municipal product for the entire sample of municipal entities of the Republic of Bashkortostan, two alternative specifications have been obtained, differing as a specification for panel effects, and as a kind of independent factors (growth factor or growth acceleration coefficient). Let us give a step-by-step description of each specification.

Specification 1: a model of panel data for estimating the growth rates of the gross municipal product with fixed time effects and fixed individual effects:

After exponentiation, the model with fixed effects in cross-sections and time periods per capita looks as follows:

$$\frac{GMP_{i\,t}}{GMP_{i\,t-1}} = 1.129 \cdot \left(\frac{Inv_{i\,t}}{Inv_{i\,t-1}}\right)^{0.019} \cdot \left(\frac{Emp_{i\,t}}{Emp_{i\,t-1}}\right)^{0.746} \cdot e^{\alpha_i} \cdot e^{\gamma_t} \quad (1)$$

where, GMP_{it} is the gross municipal product per capita for municipal formation i in the time period t; Inv_{it} stands for investments in fixed capital per capita for municipal formation i in the time period t; Emp_{it} stands for the average annual number of enterprise workers of municipal formation i in the time period t; $e^{\gamma t}$ means the fixed period effect in the time period t; e^{ai} is the fixed individual effect for municipal formation i; $i \epsilon [1; 62]$, $t \epsilon [2006; 2013]$.

Despite the fact that one of required conditions was not met (model residuals were not normally distributed), it was decided to analyze the model's derived fixed effects. Since the model is presented in a multiplicative form, the exponentiated values of fixed individual effects e^{ai} could be viewed as individual multiplicators for each of municipalities. For the summary analysis of these multiplicators, a grouping method was applied. It consists in dividing the multiplicators into four parts and calculating respective boundaries of multiplicative effects. The distribution of the effects and their exponents (multiplicators) is presented in Table 2. It should be noted that a part of multiplicative effects is lower than 1, that is, the total effect on the growth rate of the GMP due to the increase in the rate of growth of investment and the number of employed, should be adjusted toward its decrease. As a rule, such an effect is inherent in the territories that have reached a certain saturation in economic development, that is, there is the influence of the "law of diminishing efficiency". Each additional unit of investment growth and the number of the employed will provide a smaller and smaller effect of the growth rates of the gross municipal product. And, on the contrary, multipliers exceeding 1 are characteristic for municipal entities that have not reached a certain level of saturation of their economic development and have the growth potential due to traditional factors of capital and labor. Thus, multiplicators that are higher than 1 are intrinsic for territories that did not achieve certain level of enrichment, and have the potential for growth from traditional factors of capital and labor. In the end, exponents of fixed factors for municipal formations technically represent marginal utility, divided into 4 ranked alternatives from "high" to "very low". In accordance with the proposed grouping of multipliers, clustering of municipalities into 4 clusters was carried out.

TABLE II. THE RESULTS OF GROUPING OF FIXED EFFECTS

Boundaries of fixed effects on a municipal formation	Boundaries of exponents of fixed effects on a municipal formation	Category of marginal utility
(-0.053; -0.028)	(0.949; 0.973)	Very low
(-0.028; -0.003)	(0.973; 0.997)	Low
(-0.003; 0.022)	(0.997; 1.023)	Average
(0.022; 0.047)	(1.023; 1.049)	High

Specification 2: An assumption was made that the abnormal distribution of specification 1 model residuals is the result of huge disparities in the development of municipalities that cannot be fully accounted for, even with the inclusion of the fixed effects in the model. As a result, the model was reconfigured for each of the clusters according to the individual cluster fixed effects.

However, when constructing models, the clusters were rearranged (minor changes were made) in accordance with the possibilities of constructing statistically significant panel models on their basis. After regrouping the objects of observation, the model type, where the gross municipal product is the resultant factor, has not changed, only the specification of the model and the estimation method have changed. The sequential application of the specification tests (the Hausman test, the Breusch-Pogan test and the LR likelihood ratio test) confirmed the presence of fixed time

effects in the model for the selected observation objects at a significance level of 0.05. As a method of estimating model parameters for the first group, generalized least squares with model weighting was calculated by the method of Period weights. The use of the panel method of least squares gave ineffective parameter estimates due to the presence of autocorrelation in the residues (confirmed by the Darbin-Watson test). For the remaining formed groups of selected municipalities, the generalized least squares Period SUR was chosen as a method of estimating the model parameters. As a result of rates evaluation and model verification procedures, the models for each of four groups of municipal formations are presented in (2)-(5) respectively:

$$\frac{GMP_{i\,t}}{GMP_{i\,t-1}} = 2.924 \cdot \left(\frac{Inv_{i\,t}}{Inv_{i\,t-1}}\right)^{0.050} \cdot \left(\frac{Emp_{i\,t} \cdot Emp_{i\,t-2}}{\left(Emp_{i\,t-1}\right)^2}\right)^{0.563} \cdot e^{\gamma t} \quad (2)$$

$$\frac{GMP_{i\,t}}{GMP_{i\,t-1}} = 2.878 \cdot \left(\frac{Inv_{i\,t}}{Inv_{i\,t-1}}\right)^{0.079} \cdot \left(\frac{Emp_{i\,t} \cdot Emp_{i\,t-2}}{\left(Emp_{i\,t-1}\right)^2}\right)^{0.788} \cdot e^{\gamma t} \quad (3)$$

$$\frac{GMP_{i\,t}}{GMP_{i\,t-1}} = 2.924 \cdot \left(\frac{Inv_{i\,t}}{Inv_{i\,t-1}}\right)^{0.021} \cdot \left(\frac{Emp_{i\,t} \cdot Emp_{i\,t-2}}{\left(Emp_{i\,t-1}\right)^2}\right)^{0.302} \cdot e^{\gamma t} \quad (4)$$

$$\frac{GMP_{i\,t}}{GMP_{i\,t-1}} = 2.941 \cdot \left(\frac{Inv_{i\,t}}{Inv_{i\,t-1}}\right)^{0.009} \cdot \left(\frac{Emp_{i\,t} \cdot Emp_{i\,t-2}}{\left(Emp_{i\,t-1}\right)^2}\right)^{0.252} \cdot e^{\gamma t} \quad (5)$$

where GMP_{it} stands for the gross municipal product per capita of municipal formation *i* for each of four clusters; Inv_{it} means investments in fixed capital per capita of municipal formation *i* for each of four clusters; Emp_{it} stands for the average annual number of enterprise workers of municipal formation *i* for each of four clusters; $e^{\gamma t}$ is the fixed period effect.

It should be noted here that parameter estimations in (2)-(5) are unbiased, effective (the Durbin–Watson test confirms no residual autocorrelation at a significance level of 0.05) and consistent (the Jarque–Bera test confirms normal distribution of residuals). Small values of the average approximation error (less than 5%) and the Teil coefficient (<0.1) indicate good predictive qualities of the constructed models.

IV. THE DISCUSSION

A detailed analysis of the four clusters obtained as a result of mathematical modeling was carried out on the basis of the analytical summary method. Table 3 shows both the absolute figures of the number of the employed, investments in fixed assets, the population according to 2014 and the total GMP (according to 2013 data) for each cluster, and the percentage in relation to the overall republican indicators.

TABLE III. THE RESULTS OF THE STATISTICAL ANALYSIS OF CLUSTERS OF THE REPUBLIC OF BASHKORTOSTAN

Index	Clusters			
	4	*3*	*2*	*1*
number of objects in the cluster	35	16	7	4
average enterprise workers population	150774 17.29%	142433 16.33%	166348 19.08%	412500 47.30%
investments in fixed capital (in thousands of rubles)	36292640 15.43%	26274030 11.7%	28265060 12.02%	144314430 61,37%
Population	1056097 26.05%	777853 19.19%	763897 18.84%	1456547 35.93%
pressure on working population per 100 workers	600	446	359	253
gross municipal product (in thousands of rubles)	58010646 12.31%	64727607 13.74%	80624635 17.11%	267775610 56.84%
investments in fixed capital per worker (in thousands of rubles)	240.71	184.47	169.92	349.85
gross municipal product per worker (in thousands of rubles)	384.75	454.44	484.67	649.15
ratio of GMP to investments per worker	1.60	2.46	2.85	1.86

The first cluster contains only four subjects (three cities and one municipal formation), but this cluster is characterized by the most concentration of indicators of the Republic of Bashkortostan. More than 60% of all investments and about half of the working population are found in this cluster, despite the fact that only about a third of the total population lives here. This indicates that the first cluster has low levels of demographic pressure, compared to the other clusters of municipal formations. Indeed, there are only 253 unemployed citizens per 100 workers in the first cluster. It could be said, that the main economic growth of the Republic is ensured by the municipal formations of the first cluster, since 57% of the region's gross municipal product come from this cluster. Thus, it can be concluded that the main drivers of the development of the republican economy are the four territorial subjects that fall into the first cluster. Indeed, for the cluster, the indicator of "working" investment in the fixed capital accounts for an average of 350 thousand rubles per year for each employee who creates a regional product. The index of the GMP for each employee per year is 649 thousand rubles. However, the potential for further economic growth in the cluster has been

exhausted. The cluster has reached a certain level of saturation, as evidenced by the ratio of the GMP to investments per worker, which is equal to 1.86.

The second cluster is slightly bigger compared to the first one, it contains seven municipal formations. That cluster has the smallest population, only 18.8% out of the total population of the Republic of Bashkortostan. But, as working population is concerned, it is in the second place. There are 359 unemployed citizens per 100 workers. Investments in fixed capital constitute 12% of the region's investments, which is roughly equal to the third type cluster level. But, the gross municipal product constitutes 17% of the region's GMP, which puts it in the second place. The average ratio of investments in fixed capital per worker in the cluster equals 170 thousand rubles (the third place), while the average ratio of the gross municipal product per worker is equal to 484 thousand rubles. A conclusion can be made that the second cluster has the biggest potential for growth among all the clusters in the RB. This could be also proved by the ratio of the GMP to investments per worker, which equals 2.85.

The third cluster has a bigger number of municipal formations, including 16 municipal formations. 19% of the total population of the RB belong to this cluster. Working population amounts to 16% of the region's working population (the fourth place). There are 446 unemployed citizens per 100 workers. The gross municipal product constitutes 14%, in spite of having a significantly higher percentage of the total population. Th average ratio of investments in fixed capital per worker in the cluster is equal to 184 thousand rubles (the third place), while the average ratio of the gross municipal product per worker is equal to 454 thousand rubles. The ratio of the GMP to investments per worker is equal to 2.46, which is lower than in the second cluster, but significantly higher than in the first and fourth clusters. The analysis of the third cluster shows that the economic situation here is good enough and has a significant potential for economic development. The biggest problem of the cluster is huge demographic pressure on the working population.

The fourth cluster has the biggest number of municipal formations (35) and the biggest land area. About a quarter of the total population lives in the cluster. The working population constitutes 17% of the region's working population. Investments in fixed capital amount to 15% of the region's investments and the average ratio of investments in fixed capital per worker in the cluster is equal to 240 thousand rubles, which is quite high. Mostly, this volume is obtained via the realization of targeted development programs for Trans-Ural and North-East territories of the Republic of Bashkortostan. Most of these territories are in the fourth cluster. Despite a relatively high number of investments, the productivity of the cluster leaves much to be desired. For example, the ratio of the GMP to investments per worker is equal to 1.6. The analysis of the cluster's territories showed that the economic situation is unfavorable and investments do not work effectively. In many respects, this situation is connected to the lack of growth of labor resources: for every hundred of the working citizens of the cluster there are 600 unemployed ones. This indicator does not allow to give optimistic forecasts on the economic growth of the territories forming the cluster under the current conditions.

V. Conclusion

The analysis made it possible to distinguish four classes of municipal formations of the Republic of Bashkortostan in accordance with the level of their socio-economic development. The results of the panel data model in the second specification allow a comparative analysis of elasticity for each resource in the clusters' sections. The highest elasticity index for working population is observed in the second cluster (78%), the first cluster's index is 56%, in the third cluster it is 30%, and the lowest index of labor elasticity is registered for municipalities forming the fourth cluster, only 25%. If we consider the elasticity of capital (investments in fixed capital) for each cluster, the highest indicator is also observed in the second cluster reaching 8%, in the first cluster it makes 5%, in the third cluster, it equals 2.1%, and the lowest investment elasticity index is registered in the fourth cluster, only 0.9%. It is planned to use the results obtained in the development of strategies for the socio-economic development of the Republic, including the development of targeted programs of state support for specific territories.

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