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ECONOMIC DYNAMICS OF TERRITORIAL DEVELOPMENT: CONTRIBUTION TO THE REGION'S GROWTH POTENTIAL

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Abstract

This work explores the influence of factors - the resources of territories on the growth of their gross value added, which is considered as the cumulative result of the productive activities of all economic entities of industries and sectors of the economy. It is proposed to use, along with traditional factors - resources, those without which processes of qualitative changes in the economy are impossible, including the transition to its digitalization and intellectualization as a whole: the potential of human resources, a comfortable business environment that is susceptible to innovation and investment activity that ensures their implementation. In this work, we used the approach of determining gross value added, which is the basis for the implementation of the National Project "Labor Productivity and Employment Support", which made it possible to come up with specific solutions to the problems of strategic development of individual territories and assess their contribution to the formation of the overall productive result. Resource factors are described meaningfully. The regional statistical base for the studied territories for 2010 - 2018 was used. Predictive calculations of gross value added have been performed within each factor - resource. The main contribution of the study is the possibility of interconnected planning of GVA at the territorial level, not only "top-down", but also "bottom-up" based on the current state and prospects for qualitative changes in the main factors - resources that create the basis for economic growth.

Keywords: Labor productivity, gross value added, factors, quality resources of economic growth

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Corresponding Author: Anna Moskvina
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1. Introduction

The development and diffusion of new technologies, their penetration into all spheres of human activity, leads to a change in the architecture of markets, the business environment and the situation of economic entities operating on them. The conditions are created for the growth of labor productivity and new qualities of development, providing from 60 to 80% of economic growth (Moskowitz, 2009).

For the regions of the region facing a complex of specific challenges, the inclusion of structural changes in the economy and social system in such processes is fundamental. Based on the imperative of increasing the growth rate of labor productivity, they become decisive, opening up the possibility of achieving high-quality results.

The labor productivity indicator determines not only the quantitative growth potential of any object, but the quality of this growth, incorporating all its innovative aspects of technical and technological improvement, expanding the capabilities of infrastructure, and the formation of human capital. The main measure of labor productivity is the gross value added calculated per capita or number of employees (The methodology for calculating labor productivity…, 2008). It is she who sets this quality of growth by the structural composition of her elements.

The advantage of this cost approach is the availability of statistical data, and from here the ability to analyze the entire chain of formation of gross value added from the enterprise to the subject, followed by the adoption of a whole range of management decisions on its qualitative filling and quantitative growth (McKinsey Consulting Company…, 2009; Sharpe et al., 2008).

In the proposed study, gross value added characterizes the productivity of the region, but is not statistically represented in the regional and municipal context.

The concentration of statistics at the regional level does not contribute to the proper organization of planning at the municipal level, there is no specificity in decision making, it is difficult to diagnose and evaluate the contribution of each territory to the overall result, to form reserves for its growth.

For quite a long time, discussions have been held on measuring gross value added at the level of individual regions of the region. The same applies to gross municipal product, as part of the gross regional product. Basically, they are focused on the search for some criterion that will allow to distribute the product created at the regional level, in separate territories.

So, there are known approaches to the distribution of gross regional product by territory through the ratio of labor and capital at the municipal and regional levels (Lopatin et al., 2005). A simplified method for calculating VMP based on gross value added has been developed (Chekavinsky & Gutnikova, 2012) and conditionally estimated VMP (Tatarkin et al., 2012).

A comparative analysis of them indicates the limited availability of statistical information and the different reliability of the obtained indicator.

We used the methodology of national accounts when the gross value added is calculated by sources of income and consists of the wages of employees, gross profit of industries and institutional sectors and net taxes on production and import (Methodological notes. System of National Accounts, 2020).

The statistics available at the territorial level allow us to propose the option of calculating the indicator by grouping such elements as the wage fund, consumption of fixed assets and intangible assets

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(depreciation), and profit. Using the approach in previous studies has shown its viability and high evidentiary power (Moskvina, 2014).

The table presents gross value added calculations by macro districts in 2018 with details on the southern territories of the region (table 1, 2).

Table 1. Gross value added in 2018 by macro regions of the region, thousand rubles

	Northern	Angara	Oriental	West	Central
	500454891.6	96228216.1	29828597.6	52509326.4	444135442.3
Share in the GVA of the region, %	43.85	8.43	2.61	4.60	38.92
Note: GVA KK in 2018 - 1141252.0 million rubles					

Table 2. Dynamics of gross value added of the territories of the Southern macro district, rub

Territory	Index value, thousand rubles				Share in MD, 2018, %	Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018		2016	2017	2018	
Minusinsk	5268100.7	4832207.8	5246722.4	6016646.0	33.2	-8.3	8.6	14.7	104.5
Ermakovsky district	976035.2	1032530.2	973095.2	1188665.2	6.6	5.8	-5.8	22.2	106.8
Idrinsky district	788898.9	829969.9	909138.9	992244.6	5.5	5.2	9.5	9.1	107.9
Karatuzsky district	1058295.1	1055465.9	1080029	1185976.5	6.6	-0.3	2.3	9.8	103.9
Krasnoturansky district	870810.5	804480.2	1041500.6	1026635.2	5.7	-7.6	29.5	-1.4	105.6
Kuraginsky district	2150185.4	3171775.6	2517579.9	3075725.9	17.0	47.5	-20.6	22.2	112.7
Minusinsky district	1407266.9	1364773.36	1599849.5	1457538.4	8.1	-3.0	17.2	-8.9	101.2
Shushensky district	1987289.9	2273049.8	2563872.2	3152102.0	17.4	14.4	12.8	22.9	116.6
Total	14506882.6	15364252.7	15931787.7	18095533.8	-	-	-	-	-

2. Materials and methods

As already noted, gross value added as an indicator of productivity is systemically transformed under the influence of various factors, is the main factor in the differences in the level of economic and social well-being of the population and the driver of economic growth of territories. Assessing their impact on creating opportunities for the growth of value added of territories is the subject of this study. The shift of the research emphasis from the regional level to the municipal level and the task of identifying factors - resources that determine the quality of economic growth, allows us to characterize the dominant motives for their choice and areas of territorial development.

In modern conditions, various motives appear. The dominant within the framework of innovative development and the transition to a digital economy should be considered the growth of territorial productivity and the quality of life of the population due to the development of human potential, innovative business environment and investment attractiveness. Accordingly, the hypothesis of the dependence of

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gross value added and resource factors was determined, the proof of which is the production function of the power form:

$$GVA = HDI^{a1} * BEII^{a2} * IAI^{a3} \quad (1)$$

HDI - human development index;

BEII- business environment innovation index;

IIA - investment activity index;

a 1, a 2, a 3- corresponding sensitivity coefficients for indicators of factors - resources.

Resource factors of territories have multifunctionality of use, uneven distribution, complete absence or low mobility, which affects their involvement in the processes of change. Their combined use creates a systemic effect that forms an attractive environment for business development and investment attraction, human development and, as a result, economic growth of territories.

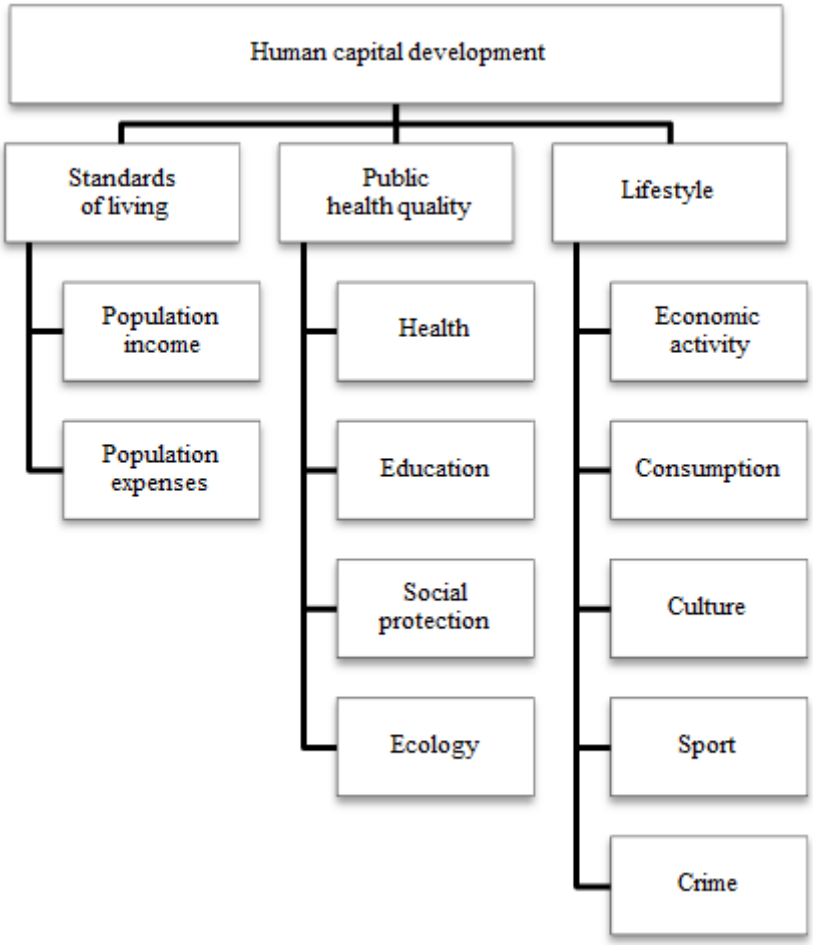

Figure 1. A substantial model of the development of the human potential of territories and its structural elements

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Corresponding Author: Anna Moskvina
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Table 3. A multi-level structure of indicators of the development of human potential of the territories

1st level indicators	2nd level indicators	3rd level Indicators
1 Standards of living	1.1Population income	1.1.1 Population with income below the subsistence level
		1.1.2 Average monthly salary of an employee (by type of enterprise)
		Total 7 items
	1.2Population expenses	1.2.1 For the purchase of food products per 10,000 inhabitants
		1.2.2 For the purchase of non-food items per 10,000 inhabitants
		Total 8 items
2 Public health quality	2.1 Health	2.1.1 Birth rate
		2.1.2 mortality rate
		2.1.3 Life Expectancy at Birth
		Total 6 items
	2.2 Education	2.2.1 The level of education of the population aged 15 years or more per 1000 people of the corresponding age (by type of education)
		2.2.2 Level of illiterate population aged 15 years or more per 1000 people of the corresponding age
		2.2.3 Number of children attending preschool educational institutions
	2.3Social protection	2.3.1 The number of single pensioners I need protection per 1000 inhabitants of the corresponding age
		2.3.2 The number of children with disabilities in need of social support per 1000 inhabitants of the corresponding age
		Total 5 items
	2.4 Ecology	2.4.1 Volume of circulating and re-sequential water use per 1000 inhabitants
		2.4.2 The volume of discharged contaminated wastewater (without treatment, insufficiently treated) per 1000 inhabitants
		Total 4 items
3 Lifestyle	3.1Economic activity	3.1.1 Consumption of electricity by the population
		3.1.2 Consumption of water by the population
		3.1.3 Passed sewage from the population
		Total 9 items
	3.2 Consumption	3.2.1 Housing area in individual residential buildings of all forms of ownership
		3.2.2 Total housing area per inhabitant
		Total 6 items
	3.3 Culture	3.3.1 Number of users of public (public) libraries per inhabitant
		3.3.2 Book issuance in public (public) libraries per 1000 inhabitants
		3.3.3 Visitors to cultural and leisure facilities per 1000 inhabitants
		Total 8 items
	3.4 Sport	3.4.1 The number of people engaged in physical education and sports to the number of permanent populations
		3.4.2 Number of students in youth sports schools
	3.5 Crime	3.5.1 Reported offenses per 10,000 inhabitants
		3.5.2 Crimes committed by or with minors
		3.5.3 Number of traffic accidents per 1 resident

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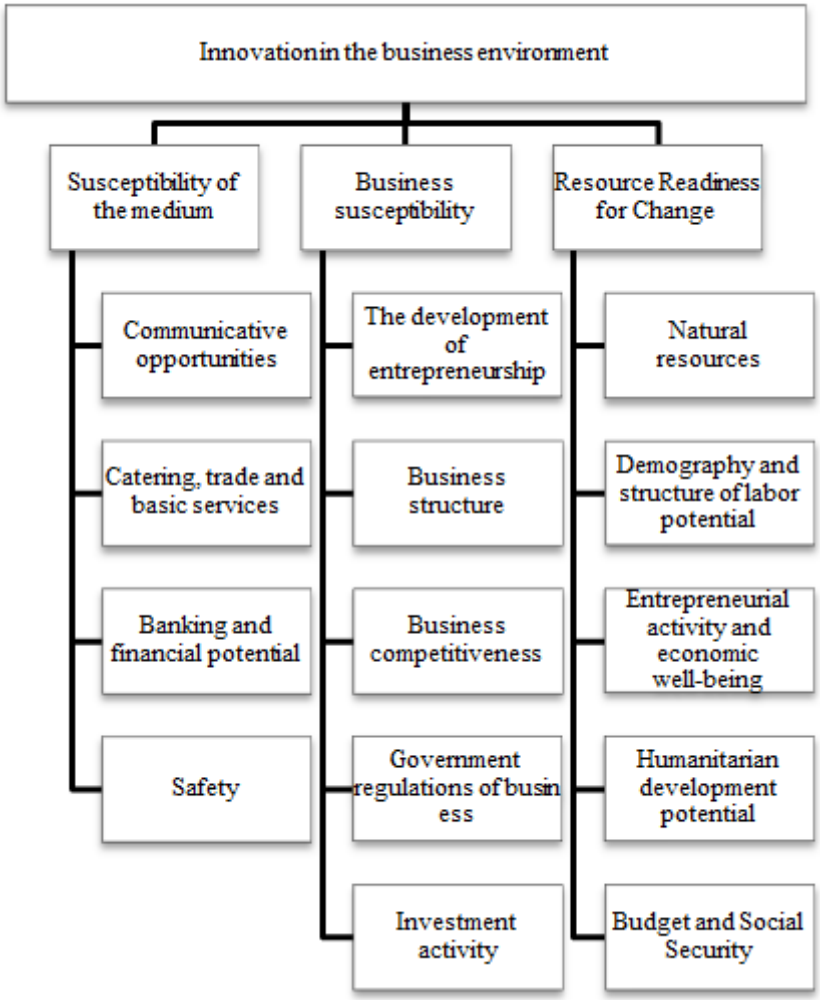

Figure 2. A substantial and structural model of innovativeness of the business environment of the region

To assess the factors - resources of specific territories, an indicative approach is proposed, which allows, through data normalization, to move along the levels of structuring from individual indicators to complex indicators that characterize their substantive basis. The assessment was carried out on the entire list of territories of the region - 61 units. The research was based on statistical materials of the automated information system for monitoring municipalities in the Krasnoyarsk territory (Automated information system…, n.d.). The tables (fragments) and the figures show their informative and structural models (Figure 1, 2, table 3).

The investment activity of the territories was estimated by:

the volume of investments from all sources in fixed assets;

growth rates of investments in fixed assets;

by subjects of investments in fixed assets from all sources (small, medium, large business, budget);

by investment objects (types of economic activity).

Investment activity indicators are defined for business entities, budgets and the population, investment performance was also evaluated for all these levels, which allows us to solve a number of interrelated tasks:

determine the features of the investment activity of the territories;

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establish the degree of dominance of the territory in the region by the effectiveness of investment activity;

use the information obtained to formulate strategies and programs for the development of territories.

The basis thus formed for a multilevel assessment of the level of development of human potential, innovativeness of the business environment, and the effectiveness of the investment activity of the territories allows not only to characterize their potential, but also to carry out monitoring, highlighting the problems that require appropriate management decisions aimed at creating conditions for economic growth as a whole.

3. Results

The results of the assessment of factors - resources by the proposed methodology are presented below and serve as the basis for modeling the productivity of territories for the future.

The assessment by the human capital development index made it possible to single out the leader among the studied territories of the Southern macrodistrict - Krasnoturansky district, which was included in the top ten in the region from fifth position in the rating (table 4). The distribution of territories by the index of human development and the rate of change identified some problems in the development of human potential in the Idrinsky district.

Table 4. Differentiation of the territories of the Southern macro-district according to the human development index

HDI Growth Rate	Human Development Index			
	Territories - leaders with the highest level of human development (16)	Territories with a high level of human development (24)	Territories with an average level of human development (13)	Territories with a low level of human development (8)
MD with rapidly improving level of human development (3)	-	-	-	-
MD with an improving level of human development (18)	-	-	Ermakovsky	Idrinsky
MD with a worsening level of human development (33)	Kuraginsky Minusinsk	Shushensky	Karatuzsky Minusinsky	-
MD with rapidly deteriorating human development (7)	Krasnoturansky	-	-	-

Differentiation of territories according to the innovativeness of the business environment indicates significant problems in the Shushensky district, when not only the current level of the business environment is low, but positive trends are not expected for the future (table 5). Ermakovsky district is also characterized

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by the unattractiveness of the business environment, although it is a tourist mecca, but there the positive dynamics have been identified.

Table 5. Differentiation of the territories of the Southern macrodistrict according to the index of innovativeness of the business environment

IIDS Growth Rate	Business Environment Innovation Index			
	Territories - leaders in the level of innovativeness of the business environment (7)	Territories with a high level of innovativeness of the business environment (7)	Territories with a medium level of innovation in the business environment (29)	Territories with a low level of development of innovative business environment (18)
MD with a Positive Dynamics of Innovation in the Business Environment (34)	-	Kuraginsky Minusinsk	Krasnoturansky Idrinsky	Ermakovsky
MD with negative dynamics of business environment innovation (27)	-	-	Minusinsky Karatuzsky	Shushensky

The absolute amount of investment in fixed assets in 2018 had a spread of 156.23 thousand rubles. In the city of Minusinsk until 2418, 02 thousand rubles. In the Krasnoturansky district. The average annual growth rate of the indicator mainly fell with the exception of the Ermakovsky and Krasnoturansky districts. The low volume of investments in the city of Minusinsk is explained by the large number of small enterprises (3175 units), which exceed their average number over the remaining territories by ten times.

As can be seen from the data presented, there are no territories with a high share of own sources of investment, more than 50% provision in the Karatuz and Shushensky regions with the support of budget investments. The remaining territories, investing small own funds, enjoy sufficient budget support (from 10 to 40%) - Ermakovsky and Idrinsky districts and the city of Minusinsk, and also accept smaller amounts of support (less than 10%) - Minusinsky and Kuraginsky districts (tables 6).

Table 6. Classification of the territories of the Southern macrodistrict by sources of investment in fixed assets in 2018

Share of sources Financing		Group I share of own sources above 60%	Group II share of own sources is higher from 40% to 60%	Group III share of own sources below 40%
Group I	the share of budget investments is more than 40%	-	-	-
Group II	the share of budget investments from 10% to 40%	-	Karatuzsky Shushensky	Ermakovsky Idrinsky Minusinsk
Group III	the share of budget investments is less than 10%	-	-	Minusinsky Kuraginsky

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Almost all territories (up to 60%), with the exception of Idrinsky districts, where a large share of investment falls on small businesses (table 7), are allocated by large businesses in terms of investment.

Table 7. Structure of investments in the territories of the Krasnoyarsk Territory in fixed assets from all sources in 2018; %

Territory	Small business	Medium business	Big business	Municipal area
Kuraginsky	0.33	2 .52	91.76	5.39
Shushensky	0 .59	6.39	79.82	13.19
Karatuzsky	17.53	0.00	67.44	15.03
Krasnoturansky	21.59	5.77	65.78	6.85
Ermakovsky	3 .38	24.38	60.68	11.56
Minusinsk	7 .21	21.67	58.65	12.48
Minusinsky	14 .26	26.85	56.26	2.63
Idrinsky	56 .23	11 93	23.14	8.70

Idrinsky (1.5 times), Kuraginsky districts (2.2 times) and the city of Minusinsk (3.6 times) stand out with high growth rates of investments in fixed assets. The remaining territories also conduct active, but cautious investment activities, the Krasnoturansky and Karatuzsky districts are close to a one-time growth, half are the Shushensky district, and in the region of 10-30% are the Ermakovsky and Minusinsky districts (table 8).

Table 8. Classification of the territories of the Southern macrodistrict according to the growth rate of investments in fixed assets from all sources in 2010 – 2018

Group I (26)		Group II (19)		Group III (16)	
Ermakovsky	0.093	Idrinsky	1.572	Kuraginsky	2.183
Minusinsky	0.293			Minusinsk	3.649
Shushensky	0.467				
Krasnoturansky	0.819				
Karatuzsky	0.900				
Note: In parentheses of the decree, the total number of territories of the region included in this group					

The distribution of territories by the level of investment activity and its growth rate is presented. The leaders are the Karatuzsky district and the rest, except for the Idrinsky district, territories with a high level of investment activity and its growth rate. Idrinsky district has a tendency to decline in investment activity (table 9).

Table 9. Differentiation of the territories of the Southern macrodistrict by index and rate of investment activity

The growth rate of the index of investment activity	Investment activity index			
	Territories - leaders in terms of investment activity (7)	Territories with a high level of investment activity (42)	Territories with an average level of investment activity (6)	Territories with a low level of investment activity development (6)
MD with rapidly improving investment activity (34)	-	-	-	-
MD with an improving level	Karatuzsky	Ermakovsky Krasnoturansky Kuraginsky	-	-

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of investment activity		Minusinsk Minusinsky Shushensky		
MD with a worsening level of investment activity	Idrinsky	-	-	-

To develop growth scenarios, the link functions were found (table 10) and the equation was constructed.

Table 10. Parameters of the equation for the GVA of the territories of the Southern macrodistrict

Model	Unstandardize dodds		Standardized Odds
	B	standard error	Beta
ln HDI	1.521	0.683	0.651
ln BAII	0.175	0.550	0.097
ln IAI	0.408	0.129	0.246

For the territory of the Southern macrodistrict, the equation has the form:

$$GVA = HDI^{0,053} * BEII^{1,225} * IAI^{0,529} \quad (2)$$

The resulting equation is characterized by the following parameters:

with Degree of reliability is quite high and it is 93.2%, which suggests the possibility of using the model for the forecast (table 11);

the coefficient of elasticity by the factor "Development of human potential" indicates, $E_{\mathrm{HDI}} = 0.053$, that an increase of 1% of the human development index leads to the growth index by 1.52%;

the coefficient of elasticity by the factor "Business Environment Innovation Index" $E_{BEII} = 1.125$ shows, that a 1% increase in the index of innovativeness of the business environment leads to an increase of 1.225 %;

the coefficient of elasticity by the factor "Investment activity index" $E_{IAI} = 0.529$ shows, that an increase of 1% in the index of investment activity leads to an increase in the indicator by 0.529%;

elasticity of total$E_T = 2.144$ that, with the combined influence of strategic resource factors at 1%, GVA is growing at 1.807%.

Table 11. Summary for the GVA model of the territories of the Southern macrodistrict

Model	R	R- square	Adjusted R- squared	Standard error of estimation	Change Statistics	
					R- squared change	Change f
GVA	0.966	0.935	0.865	1.91238	0.932	13.776

4. Discussion

The development of growth scenarios for the territories is based on various possibilities for their influence on the increase in GVA. In the Southern Territory, according to a combination of factors - resources, they refer to territories with their average values. Four scenarios of GVA growth are considered: inertial, investment, infrastructural and social.

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The inertial scenario is based on current trends from 2010 to 2018. The growth rates are shown in table 12.

Table 12. Change in factors - resources of the territories of the Southern macrodistrict under the inertial scenario, %

Territories	Human Development Index	Business Environment Innovation Index	Investment Activity Index
Minusinsk	11.9	-3.4	-10.0
Ermakovsky	15.0	-0.3	-50.6
Idrinsky	3.5	4.1	-22.3
Karatuzsky	1.6	0.2	160.6
Krasnoturansky	18.4	7.9	32.0
Kuraginsky	1.1	-17.8	-15.6
Minusinsky	14.8	-2.1	-2.5
Shushensky	11.0	-8.0	-35.9

All the territories of the Southern macrodistrict were included in the cluster with a high level of investment activity and an average level of innovativeness of the business environment and human potential (table 12).

Calculation of forecast values of GVA for the period from 2019-2022 are given in the table 13.

Table 13. The forecast of the GVA of the territories of the Southern macrodistrict for the period from 2019 - 2022. according to the inertial scenario, thousand rubles

Territories	2019	2020	2021	2022	Growth thousand rubles	Growth rate, %
Ermakovsky	64 745	85 824	113 767	150 807	86 062	132.9
Idrinsky	492 237	504 710	517 500	530 614	38 377	7.8
Karatuzsky	134 715	100 537	75 031	55 995	-78 720	-58.4
Krasnoturansky	52 734	47 391	42 589	38 274	-14 459	-27.4
Kuraginsky	518 290	465 386	417 883	375 229	-143 061	-27.6
Minusinsk	144 619	136 643	129 107	121 987	-22 633	-15.6
Minusinsky	441 053	545 828	675 492	835 958	394 905	89.5
Shushensky	403 637	330 583	270 751	221 748	-181 889	-45.1

The total amount of GVA by 2022 can reach 63,275.54 million rubles, which is less than the level of 2018 (table 13). The inertial scenario preserves and even builds up the positions of the Ermakovsky and Minusinsky regions to a greater extent, respectively (32.9% and 89.5%) and Idrinsky regions (+7.8%). The remaining territories, following the inertial scenario, lose GVA in large volumes: Karatuzsky (-58.4%), Shushensky (-45.1%), more than a quarter of the initial volumes are in the Krasnoturansky and Kuraginsky districts, 15.6% in the city of Minusinsk.

The second of the considered scenarios is investment, which implies an increase in investment activity in these territories, where they were insignificant with the previous values of the other factors - resources (table 14). In the Southern macrodistrict of such territories, six out of eight.

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Table 14. Change in factors - resources of the territories of the Southern macrodistrict under the investment scenario, GVA growth, %

Territories	Human Development Index	Business Environment Innovation Index	Investment Activity Index
Minusinsk	12	-3	-10
Ermakovsky	15	0	-50,6
Idrinsky	4	4	-22,3
Karatuzsky	2	0	161
Krasnoturansky	18	8	32
Kuraginsky	1	-18	-2,5)
Minusinsky	15	-2	-35,9
Shushensky	11	-8	0

Table 15. Forecast of the GVA of the territories of the Southern macrodistrict according to the investment scenario for the period 2019 - 2022, thousand rubles

Territories	2019	2020	2021	2022	Growth thousand rubles	Growth rate, %
Ermakovsky	64 745	106 118	173 930	285 074	220 329	340.3
Idrinsky	492 237	631 290	809 625	1 038 338	546 102	110.9
Karatuzsky	134 715	166 623	206 089	254 903	120 188	89.2
Krasnoturansky	52 734	66 451	83 737	105 520	52 786	100.1
Kuraginsky	518 290	532 304	546 697	561 480	43 190	8.3
Minusinsk	144 619	185 191	237 145	303 675	159 056	110.0
Minusinsky	441 053	646 876	948 748	1 391 492	950 438	215.5
Shushensky	403 637	466 184	538 422	621 855	218 217	54.1

There is no territory for an absolute decrease in the volume of GVA according to the investment scenario for all factors - resources, on the contrary, they have increased their values (table 15). By 2022, the total amount of GVA can reach 76,164.23 million rubles, which is 13.03% higher than the base level of 2018.

The third scenario focuses on the innovativeness of the business environment, the development of its infrastructure and institutional capabilities in those areas where there were problems (table 16).

Table 16. The dew rate of factors - resources of municipalities under the infrastructure scenario, %

Territories	Human Development Index	Business Environment Innovation Index	Investment Activity Index
Minusinsk	11.9	0.0	-10.0
Ermakovsky	15.0	-0.3	-50.6
Idrinsky	3.5	4.1	-22.3
Karatuzsky	1.6	0.2	160.6
Krasnoturansky	18.4	7.9	32.0
Kuraginsky	1.1	0.0	-15.6
Minusinsky	14.8	0.0	-2.5
Shushensky	11.0	0.0	-35.9

Calculation of forecast values of GVA for municipalities for the period 2019 - 2022. given in table 17.

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Corresponding Author: Anna Moskvina
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Table 17. GVA forecast for the territories of the Southern macrodistrict for the period 2019 - 2022. according to the infrastructure scenario, thousand rubles

Territories	2019	2020	2021	2022	Growth thousand rubles	Growth rate, %
Ermakovsky	64 745	106 118	173 930	285 074	220 329	340.3
Idrinsky	492 237	658 000	879 585	1 175 791	683 554	138.9
Karatuzsky	134 715	124 920	115 837	107 415	-27 300	-20.3
Krasnoturansky	52 734	66 451	83 737	105 520	52 786	100.1
Kuraginsky	518 290	537 922	558 299	579 447	61 158	11.8
Minusinsk	144 619	185 191	237 145	303 675	159 056	110.0
Minusinsky	441 053	646 876	948 748	1 391 492	950 438	215.5
Shushensky	403 637	394 505	385 579	376 855	-26 782	-6.6

The total amount of GVA under this scenario by 2022 will amount to 79197.4 million rubles. This is 17.54% higher than in 2018. The largest increases in the indicator were shown by Ermakovsky district (340.3%) and Minusinsky (215.5%) - tourist centers of the region, for which the infrastructure factor is central. At the same time, the strengthening of the infrastructure factor in the Kuraginsky, Minusinsky, Shushensky districts and the city of Minusinsk led to a decrease in GVA in the Karatuzsky and Shushensky districts from 6 to 26%.

The fourth version of the scenario conditions is aimed at developing the human potential of the territories and is called “social” (table 18). We considered this scenario due to the fact that the macro-district is a single space for living and for moving the population in order to find work and use the potential of the social and personal competencies that it has achieved.

Table 18. The growth Rate of the resource factors of municipalities in the social scenario, %

Territories	Human Development Index	Business Environment Innovation Index	Investment Activity Index
Minusinsk	11.9	-3.4	-10.0
Ermakovsky	15.0	-0.3	-50.6
Idrinsky	3.5	4.1	-22.3
Karatuzsky	1.6	0.2	160.6
Krasnoturansky	18.4	7.9	32.0
Kuraginsky	1.1	-17.8	-15.6
Minusinsky	14.8	-2.1	-2.5
Shushensky	11.9	-3.4	-10.0

Calculation of forecast values of GVA for municipalities for the period 2019 - 2022. given in table 19

Table 19. Forecast of the GVA of the territories of the Southern macrodistrict for the period 2019 - 2022. according to the social scenario, thousand rubles

Territories	2019	2020	2021	2022	Growth thousand rubles	Growth rate, %
Ermakovsky	64 745	106 118	173 930	285 074	220 329	340.3
Idrinsky	492 237	631 290	809 625	1 038 338	546 102	110.9
Karatuzsky	134 715	124 920	115 837	107 415	-27 300	-20.3
Krasnoturansky	52 734	66 451	83 737	105 520	52 786	100.1
Kuraginsky	518 290	532 304	546 697	561 480	43 190	8.3

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Minusinsk	144 619	185 191	237 145	303 675	159 056	110.0
Minusinsky	441 053	646 876	948 748	1 391 492	950 438	215.5
Shushensky	403 637	388 812	374 531	360 774	-42 863	-10.6

In the space under study, the human development index is high and positive in most territories (Ermakovsky - 15.0; Krasnoturansky - 18.4; Minusinsky - 14.8%; Shushensky - 11.0%). In the Idrinsky (3.5) and Krasnoturansky (1.6) districts, also the positive productivity of the territories together leads to an increase in GVA by 8.56% in the amount of 73,151.7 million rubles. At the same time, there is a negative dynamic of its growth in the Karatuzinsky (-20.3%) and Shushensky (-10.6%) regions.

The generalized results of the GVA within the framework of the proposed scenarios will allow us to dwell on the infrastructure and investment options for the development of territories (table 20).

Table 20. Summary results of scenario conditions for the growth of the GVA of the territories of the Southern macrodistricts 2019 - 2022

Criteria for evaluation	Inertial	Investment	Infrastructural	Social
The total increase in GVA, thousand rubles	-4 106 063	8 782 623	11 815 784	5 770 130
GVA growth rate, %	6.489	13.034	17.536	8.309
The number of territories of growth, units	16	40	35	32
The level of differentiation of territories, %	6.623	4.558	5.047	4.750

5. Conclusions

The infrastructural option is preferable since the sensitivity of the GVA to this indicator is 2.3 times higher than for investment activity and 23 times higher than for human potential. The combination of innovative business environment with sufficient investment activity and stable quality of human potential can significantly increase the results of forecasts.

In general, the study will solve the following set of problems:

1. Clarify the concept of gross value added for a municipality as a territory that is part of a region. A formula is proposed and justified for calculating the GVA of the territories "lower - up", and not by distributing it in accordance with the specified criterion "top - down", which allows to specify strategies for their development based on the resource potential for growth.

2. To determine the composition of strategic factors - resources that affect the productive capacities of the territories to increase GVA.

3. To propose meaningful models of factors - resources, a system of indicators and a criterion for their measurements, which form the structural elements of the factor - resource basis of the productivity of territories.

4. On the basis of correlation - regression analysis, determine the priority of the influence of each of the factors - resources, on the productivity of territories for solving specific strategic development problems.

The results of the study can be used as tools for strategic planning of territorial development and monitoring its results.

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