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LABOR PRODUCTIVITY IN THE REGION: ASPECTS OF
INFLUENCE ON INVESTMENT ACTIVITY

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Abstract

The problem of the impact of investment activity on labor productivity in the territories and macro-districts of the region is considered. The object of the study was the territories of macro-districts, including the Krasnoyarsk territory. The subject of the research is the processes of labor productivity transformation under the influence of investment activities in the direction of improving the efficiency of the economy of territories. The scale of investment processes is estimated in relation to the number of economic entities in the region. To assess the quality of investment in terms of technically and technologically sufficient armed labor, it was compared with the investment capital per employee. An indicative approach is used to assess the investment resources spent and their return in the form of capital strength and labor productivity. The resource indicator is represented by the ratio of investment in fixed assets to capital stock and labor productivity, and the efficiency indicator is represented by the ratio of financial results and gross value added to investment in fixed assets. This allows us to compare resources and the efficiency of their use to identify areas with problems of labor productivity growth within the economic system of the region, to suggest mechanisms for increasing investment activity in non-resource industries and the development of forms of support for them at all levels of government.

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1. Introduction

The problem of investment activity of regions has always been the basis of the resource potential of their economic growth and development (Edronova & Maslakova, 2018; Ivanov & Buchwald, 2018). The gross regional product or gross value added generated in the process of its implementation due to the introduction of new capacities and technical and technological renewal of existing ones increases even more, which makes it possible to increase the competitiveness potential of territories and the quality of life of its population (Bohomazova, 2014; Kabanov, 2015). In this regard, the assessment of investment productivity, its measurement in the space of territories, the search for factors/resources, the allocation of their features, the formation of risk areas and opportunities, is relevant for a region such as the Krasnoyarsk territory, whose GVA in 2017 amounted to 10.4 % of the total GRP of the Russian Federation (Table 1).

Table 1. Gross regional product of the subjects of the Siberian Federal district (SFD), million rubles (in current prices)

Territories	2013	2014	2015	2016	2017
Siberian Federal district	5540596,2	6134022,4	6821592,7	7096603,0	7757655,3
Republic of Altai	33313,5	39191,9	42165,7	44264,7	44571,3
Republic of Buryatia	176888,9	186492,9	202823,4	198230,1	201559,8
Republic of Tuva	41298,7	45947,9	47289,6	52769,4	59094,8
Republic of Khakassia	141850,5	158372,8	170413,1	196321,7	207579,1
Altai Territory	416110,3	446023,8	487903,3	501889,3	508756,0
Trans-Baikal Territory	22929,4	234840,8	247666,2	277100,5	300651,1
Krasnoyarsk Territory	1256934,1	1410719,9	1667041,1	1745743,2	1882315,9
Irkutsk Region	805197,5	916317,5	1001717,6	1066420,7	1192080,3
Kemerovo Region	667950,5	752024,0	843345,4	865325,3	1058113,6
Novosibirsk Region	817516,7	911219,0	1021642,9	1046879,0	1140863,0
Omsk Region	551734,0	602605,1	618127,7	621502,8	651044,7
Tomsk Region	402562,1	430266,8	471456,7	480156,3	511025,1

The share of Krasnoyarsk territory in the Russian Federation in 2010-2017 was stable at the level of 2.5%. Manufacturing industries in the structure of the region's economy as the main producers of GVA took 31.8% in 2018 and decreased by 2.7 percentage points compared to 2010 (Table 2).

Table 2. Dynamics of the Russian regions GVA and its share in GRP, 2010-2017

Indicators	2010	2011	2012	2013	2014	2015	2016	2017
Krasnoyarsk Territory								
GVA, million rubles	1055525	1170827	1183228	1256934	1410720	1667041	1767908	1882316
Share in GRP volume for Russian regions, %	2,8	2,6	2,4	2,3	2,4	2,5	2,5	2,5
Manufacturing activity								
GVA, million rubles	364676	400054	351453	354160	438913	541129	563539	591485
GVA's share of the region's GRP, %	34,5	34,3	29,8	28,1	31,1	32,6	31,9	30,9

The share of fixed capital investment in gross value added was also unstable, amounting to 76.2% of the 2013 level (Table 3). The region's manufacturing industries demonstrated investment activity - in 2018, growth was 4.25%, and the IFA share in gross value added was 2.1%.

Table 3. Dynamics of fixed capital investments (IFA) and their share in gross value added of the Krasnoyarsk territory, 2010-2018

Indicators	2010	2011	2012	2013	2014	2015	2016	2017	2018
Krasnoyarsk Territory									
IFA, million rubles	214681	259019	330140	328346	312151	355757	381779	375271	380196
IFA's share of GVA, %	20,3	22,1	27,9	26,1	22,1	21,3	21,6	19,9	-

Investments in fixed capital are transformed into fixed assets and capital productivity, which, in turn, are determined by its technological level (Table 4). Thus, the cost of fixed assets in the Krasnoyarsk territory has increased by 2.4 times, and the capital labor ratio by 2.5 times. In manufacturing industries, the situation is similar.

Table 4. Dynamics of changes in the cost of fixed assets (FA), the degree of their depreciation and the capitallabor ratio in the Krasnoyarsk territory and manufacturing industries, 2010-2018

Indicators	2010	2011	2012	2013	2014	2015	2016	2017	2018
Krasnoyarsk Territory									
FA, billion rubles	1628	1816	2071	2336	2537	2880	3227	3605	3949
Depreciation of fixed assets, %	47	47	47	46	46	46	46	46	47
Capitallabor ratio, thousand rubles/people	1137	1264	1439	1640	1783	2022	2320	2554	2801
Manufacturing activity									
FA, billion rubles	215	238	279	297	301	332	403	427	435
Depreciation of fixed assets, %	46	46	44	47	48	18	17	52	55
Capitallabor ratio, thousand rubles/people	1018	1161	1434	1590	1607	1765	2173	2662	2247

In turn, the capitallabor ratio has also affected the growth of labor productivity in the region (Table 5).

Table 5. Dynamics of labor productivity in the Krasnoyarsk territory, 2010-2018

Indicators	2010	2011	2012	2013	2014	2015	2016	2017	2018
Krasnoyarsk Territory									
Labor productivity, thousand rubles/people	737	815	822	822	992	1170	1270	1334	737

So in 2017, it increased by 1.8 years compared to 2010. At the same time, labor productivity remains low in the basic non-resource sectors: agriculture, manufacturing, trade, transport, etc. There are no statistics on labor productivity in the spatial aspect, and its relationship with investment processes also remains closed.

2. Materials and Methods

The object of research is the Krasnoyarsk territory, which includes 6 macro-districts and 61 municipalities. The subject of the research is the processes of labor productivity transformation depending on the resources used and the results achieved.

The research was based on statistical materials of the Krasnoyarsk state statistics service and an automated information system for monitoring municipalities in the Krasnoyarsk territory (Automated information system for monitoring municipalities, n.d.; Krasnoyarsk state statistics service, n.d.).

Based on the significance of various territories in an objective assessment and comprehensive analysis of the subject of research, the following approach to research is defined.

A chain of factors/resources that affect labor productivity growth is highlighted. The primary basis was the investment resources that provide the capital equipment of production systems, which are transformed into the productivity of their labor and its effectiveness. Thus, it is possible to conduct a comparative assessment of territories, identify leaders among them, and find solutions to problems for outsider territories.

To position the territories of the region, an indicative approach is used, when ratios are determined indicating the amount of resources used to achieve effectiveness (resource indicators) and the effectiveness of processes from the resources used (efficiency indicators).

The resource indicators will include such ratios as: investment in fixed assets (IFA) to capital labor ratio (CLR) – IFA/CLR; investment in fixed assets (IFA) to labour productivity (LP) – IFA/LP.

Indicators of the effectiveness of investment activity (efficiency indicators) include the following ratios: gross added value (GVA) to investment in fixed assets (IFA) – GVA/IFA; financial result (FR) to investment in fixed assets (IFA) – FR/IFA; labour productivity (LP) to investment in fixed assets (IFA) – LP/IFA; labour productivity (LP) to capital labor ratio (CLR) – LP/CLR.

Resource indicators characterize the amount of investment in fixed assets per unit of capital labor ratio and labor productivity as the resulting indicators of investment activity.

Efficiency indicators determine the effectiveness of investment activity.

The research process determined the following sequence of analytical steps:

1. Analysis of investment activity of territories;
2. Characteristics of labor productivity of territories;
3. Assessment of resource and efficiency indicators, positioning of territories.

3. Results

The analysis of investment activity by macro-districts and territories of the Krasnoyarsk territory reflected the potential for its accumulation over the period 2015-2018. Thus, the Eastern macro-district is characterized by small investments and the mobility of investment processes - from growth to decline and back (Table 6). The highest volume of investment is in Borodino (1307020 thousand rubles), which also have an upward trend (since 2015 more than 2 times), Kansky (960734 thousand rubles) and Rybinsky districts (959092 thousand rubles). Borodino (+33.0%) and Nizhneingashsky (+86.9%), Kansky (+12.5%) and Taseyevsky (+10.5%) districts were distinguished by high average annual investment growth rates.

Table 6. Dynamics of the indicator of investment in fixed assets and the average annual rate of change in the Eastern macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Borodino	555675	483498	644130	1307020	87	133	203	133
Kansk	747078	350814	454652	639884	47	130	141	95
Abansky	144791	51650	41246	43085	36	80	104	67
Dzerzhinsky	79110	50411	73543	55122	64	146	75	89
Ilsky	751878	525066	130074	117363	70	25	90	54
Irbeysky	271271	395744	147406	164208	146	38	111	85
Kansky	674678	727131	884045	960734	108	122	109	113
Nizhneingashsky	108522	494088	75161	709527	455	15	944	187
Partisansky	1107252	691235	60073	227310	62	9	378	59
Rybinsky	427786	2838873	2171286	959092	664	76	44	131
Sayansky	821041	186426	16414	24174	23	9	147	31
Taseyevsky	23881	12683	18009	32200	53	142	179	110
Uyarsky	914275	187492	238298	320168	21	127	134	70

The investment process in the territories of the Southern macro-district was also not stable (Table 7).

Table 7. Dynamics of the indicator of investment in fixed assets and the average annual rate of change in the Southern macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Minusinsk	527610	241403	353165	496020	46	146	140	98
Yermakovsky	110216	48087	204967	250843	44	42	122	132
Idrinsky	80015	39334	27016	26331	49	69	97	69
Karatuzsky	213840	243914	86560	127649	114	35	147	84
Krasnoturansky	192901	280104	185371	340950	145	66	184	121
Kuraginsky	3607748	3606295	399156	744133	100	117	186	59
Minusinsky	226346	170459	266877	134857	75	157	51	84
Shushensky	392118	388467	336351	403834	997	87	120	101

Thus, positive dynamics of activity took place in Yermakovsky (+31.5%), Krasnoturansky (+20.9%) and Shushensky (+1.0%) districts. Kuraginsky district (744133 thousand rubles) and Minusinsk city (496020 thousand rubles) were characterized by large investment amounts, but they were still insufficient for updating production on a modern technical and technological basis.

According to the average annual dynamics of investment in fixed assets, the territories of the Western micro-district can be divided into two groups, depending on its growth or decline (Table 8).

Table 8. Dynamics of the indicator of investment in fixed assets and the average annual rate of change in the Western macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Achinsk	4898015	5722892	3835228	2188369	117	672	576	76
Bogotol	328709	345803	134609	139168	105	39	103	75
Nazarovo	401318	627304	694496	1190508	156	111	171	144
Sharypovo	191961	113187	215931	223335	59	191	103	105
Achinsky	57844	438047	99113	145458	757	23	147	136
Birilussky	11263	36558	51812	143255	325	142	276	233

Bogotolsky	282545	313730	34109	701278	111	11	205	135
Bolsheuluisky	7844498	3730842	2756413	6936821	48	74	252	96
Kozulsky	239212	84347	280477	459318	35	333	164	124
Nazarovsky	1322702	763586	814747	606458	58	107	74	77
Novoselovsky	411482	327099	324432	311710	79	99	96	91

In most territories (8 out of 14), investment growth rates ranged from 5 to 40%. Significant growth rates were observed in Achinsky (+36%), Bogotolsky (+35.4%), Kozulsky (+24.3%) districts, and Nazarovo city (+43.1%). By the volume of attracted investments - Bolsheuluisky (6936821 thousand rubles) and Sharypovsky (12068576 thousand rubles) districts.

The scale of investment processes in the territories of the Priangarsky macro-district was determined by the interests of large corporate structures and, although they generally had a negative average annual dynamics for 2015-2017, they provided adequate increases in the volume of GVA territories (Table 9). The Eniseisk city and the Severo-Eniseisky district were distinguished. Significant Federal investments were sent to the Eniseisk city in connection with the anniversary. In the Severo-Eniseisky district, 15.3% more was spent on the development of extractive industries in 2016 than in 2015, and 12.7 times more in 2017 than in 2016. In 2018, the flow of investment decreased by half compared to 2017. On average, this territory annually attracted 44.8% of all investments.

Table 9. Dynamics of the indicator of investment in fixed assets and the average annual rate of change in the Priangarsky macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Eniseisk	424833	581125	487150	559086	137	84	115	109,59
Lesosibirsk	2536832	3363634	1227298	1560430	133	36	127	85,05
Boguchansky	48884442	54508331	11187988	15468813	111	21	138	68,14
Eniseisky	1081149	212348	144959	153064	20	68	106	52,12
Kazachinsky	66351	35653	28253	30957	54	79	110	77,56
Kezhemsky	1771779	1277027	1679157	1074591	72	131	64	84,65
Motyginisky	2131093	3032993	2316325	3390964	142	76	146	116,75
Pirovskiy	83178	97735	23046	20274	118	24	88	62,47
Severo-Eniseisky	5765818	6646258	18004185	17496685	115	271	97	144,78

It is worth noting Motyginisky district with its potential for gold mining, where the average annual growth rate of investment was at the level of + 16.7% and reached in 2018 the volume of investment in 3390964 thousand rubles.

The territories of the Northern macro-district of the region are specialized in the industries that produce and process these raw materials and are always attractive for investment in the conditions of growing global markets (Table 10).

Table 10. Dynamics of the indicator of investment in fixed assets and the average annual rate of change in the Northern macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Norilsk	74393911	93602459	65579494	76229343	126	706	116	100,82
Taimyrsky (Dolgan-Nenetsky)	24588110	45758599	30738555	22723049	186	67	74	97,40
Turukhansky	37881780	32852425	47174852	48037910	87	144	102	108,24
Evenkisky	32736007	34460240	64122588	58243814	105	186	91	121,17

However, the situation with investment activity is ambiguous. In Norilsk – from growth in 2016 (+25.8%) to a fall in 2017 (-30.0%) and again growth in 2018 (+16.2%). In the Taimyrsky district-growth (1.86 times), then over the next two years, the fall. In Turukhansky district – from a fall in 2017 to an increase in moderate activity. In Evenkisky district – in 2017, the growth in investment almost 2 times (1.86) and their gradual decline, which provided an average annual rate of 121.1%.

Describing the investment process in the Central macro-district, it should be noted its stable dynamics in all territories, except Bolshemurtinsky district, where in 2016, compared to 2015, investment decreased by almost 2 times (Table 11). In 2017 and subsequent years, there was an increase in investment, but their size has not yet reached the level of the base period.

Table 11. Dynamics of the indicator of investment in fixed assets and the average annual rate of change in the Central macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, million rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Divnogorsk	1253	777	1732	1041	62	223	60	94,02
Kedrovyy	4	3	3	10	74	103	348	138,41
Krasnoyarsk	66115	64436	83218	80179	97	129	96	106,64
Sosnovoborsk	392	180	105	417	46	59	397	102,02
Balakhtinsky	197	368	397	259	487	108	65	109,59
Berezovsky	506	600	1171	805	119	195	69	116,72
Bolshemurtinsky	2287	952	1027	1122	42	108	109	78,88
Emelyanovsky	1129	2154	5157	2794	191	239	54	135,27
Mansky	604	387	63	1281	64	16	2033	128,49
Sukhobuzimsky	248	214	509	278	86	239	55	94,02

Describing investment activity in the Central macro-district, it is impossible to single out any of the territories where the process would proceed without failures. In 2016, there was an increase in investment in Balakhtinsky, Berezovsky and Emelyanovsky districts, in the rest they decreased by an average of 50-70%. In 2017, investment-active territories continued to grow. In Emelyanovsky district and Divnogorsk city, for example, investments increased by more than 2 times compared to 2016.

Territories that reduced investment activity, on the contrary, accelerated the process of activity, except for the Mansky district. In 2018, we managed to attract investment in Sosnovoborsk city (396.8%) and Mansky district (2 times). This is due to the demand for the products of new industries that are opening with the specialization of agricultural and timber processing.

In 2018, the production of 1 ruble of GVA accounted for less than a ruble of fixed assets in Bolshemurtinsky (0.87 rubles), Emelyanovsky (0.52 rubles), Bolsheuluisky (0.69 rubles), Partisansky (0.72 rubles), Uyarsky (0.83), Eniseisky (0.93 rubles), Motyginisky (0.39 rubles), Turukhansky (0.59 rubles) districts, as well as in the cities of Norilsk, Minusinsk, Borodino, Achinsk, Bogotol. The capitallabor ratio was high in Bogotolsky (214.2 rubles), Kozulsky (61.1 rubles) and Achinsky (17.6 rubles) districts. In the first case, low capitallabor ratio indicates a balance of the used capacity in terms of labor productivity, in the second - the inefficiency of the used fixed assets and their low productivity. In general, the capital intensity was provided by an increase in the cost of fixed assets by 1 ruble GVA from 1 ruble to 10 rubles. Among the balancing territories are Balakhtinsky (1.35 rubles), Sukhobuzimsky (1.61 rubles), Uzhursky (1.53 rubles) districts, Achinsk and Bogotol, Krasnoturansky (1.30 rubles) and Minusinsky (1.17 rubles) districts.

As a result of the increase in the capital intensity of production, the increase in the labor capital intensity was observed. Its analysis as an indicator of the effectiveness of investment processes in the territories suggests positive development. Since 2015, only two territories of the region (Turukhansky and Achinsky districts) have had negative average annual growth rates. The highest average annual increases in capital stock were observed in Boguchansky (+125.4%), Evenkisky (+99.8%), Tyukhtetsky (+18.0%), Bolshemurtinsky (+33.5%), Berezovsky (+16.4%) districts, in the cities of Krasnoyarsk (+17.8%) and Sosnovoborsk (+30.1%).

In turn, the labor capital ratio as a result of investment activity is aimed at ensuring the growth of labor productivity in the region's economy. Its research on the territories of macro-districts shows different efficiency of return on invested capital. Thus, the dynamics of labor productivity in the Priangarsky macro-district in comparison with other macro-districts is falling and is 90.2% (Table 12).

Table 12. Dynamics of labor productivity changes in the Priangarsky macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Average annual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Eniseisk	401,4	354,6	395,4	21	88,36	111,49	5,21	37,16
Lesosibirsk	219,8	396,3	349,8	7	180,32	88,26	1,96	31,49
Boguchansky	-719,0	1484,2	641,9	-731	-	43,25	-	100,57
					206,43		113,94	
Eniseisky	280,1	259,7	301,3	328	92,71	116,02	108,81	105,39
Kazachinsky	222,2	233,5	285,7	325	105,09	122,36	113,81	113,54
Kezhemsky	1612,5	1918,8	1591,4	1715	119,00	82,94	107,76	102,08
Motyginisky	1390,0	1979,9	2272,3	2522	142,44	114,77	111,00	121,97
Pirovskiy	356,5	226,4	270,7	350	63,51	119,55	129,28	99,38
Severo-Eniseisky	5060,9	16271,7	9242,8	5037	321,52	56,80	54,49	99,84

In 2018, low values of the indicator in Eniseisk (20.6 thousand rubles/person) and Lesosibirsk (6.9 thousand rubles/person), negative values in Boguchansky district (-731.4 thousand rubles/person). Territories with positive growth dynamics (Eniseisky, Kazachinsky, Pirovskiy districts) reached labor productivity at the level of 350 thousand rubles/person, which is typical for agricultural and processing production profiles.

Labor productivity in the Severo-Eniseisky district at the level of 5036.7 thousand rubles/person increased in 2016 (63.2 times), decreased in subsequent years almost to the initial level due to insufficient volumes of generated GVA.

At the same time, in the Central macro-district, which specializes in manufacturing, the growth rate, although negative, in Sosnovoborsk provided an increase in labor productivity at the level of 93.8% (Table 13).

Table 13. Dynamics of labor productivity changes in the Central macro-district of the Krasnoyarsk territory, 2015-2018

Municipality	Value of the indicator, thousand rubles				Growth rate, %			Averageannual growth rate, %
	2015	2016	2017	2018	2016	2017	2018	
Divnogorsk	2610,3	14108	2282,3	3483	540	16	153	110,09
Kedroviy	265,8	281,0	272,7	307	106	97	113	104,93
Krasnoyarsk	465,4	536,9	708,2	963	115	132	136	127,41
Sosnovoborsk	-1469,1	133,2	303,8	367	-9	228	121	-62,98
Balakhtinsky	398,4	302,2	336,2	346	76	111	103	95,38
Berezovsky	315,6	371,8	388,0	454	118	104	117	112,85
Bolsheurtinsky	322,0	545,1	643,4	839	169	118	130	137,59
Emelyanovsky	525,8	593,5	634,1	599	113	107	94	104,44
Mansky	264,5	253,4	281,0	312	96	111	111	105,62

Problems arose in Emelyanovsky district in 2018, but they did not affect its average annual dynamics (+4.4%). The value of the index, all areas of macro-district can be divided into two groups. The first with capacity ranging from 300 to 600 thousand rubles per person, which includes Sosnovoborsk (366,9 thousand RUB/person), Balakhtinsky (345,7 thousand RUB/person), Berezovsky (453,5 thousand RUB/person), Mansky (311,6 thousand RUB/person) and Sukhobuzimsky (318,2 thousand RUB/person) areas. The second – from 600 thousand RUB/ person and higher. And in the second group of territories, only Divnogorsk reached the highest value in 2018, the rest with a capacity of 600 to 1000 thousand rubles/person (Krasnoyarsk, Bolsheuluisky, Emelyanovsky districts). The transformation of labor productivity in the region makes it necessary to measure it with the capital strength and investment invested in its support. To do this, you should use a resource indicator that reflects the size of their contribution to achieving the above indicators.

The summarized data below reflect the different results of investment activity in improving productivity and labor capital availability in the Krasnoyarsk territory's macro districts in 2018 (Table 14).

Table 14. The impact of investment activity on changes in capitallabor ratio and labor productivity in the macro-districts of the Krasnoyarsk territory, 2018

Macro-district	IFA, thousand rubles	CLR, thousand rubles/person	LP, thousand rubles/person	Resource indicators	
				IFA / CLR	IFA /LP
South	315577,1	855,5	351,9	368,9	896,8
Priangarsky	4417207,1	3140,1	1063,5	1406,7	4153,4
Eastern	427606,9	84,0	395,6	527,2	1880,9
Western	1803299,5	2433,7	460,2	741,0	3918,5
Central	818677,4	1871,2	1070.1 (847.7)	437.5	705.0

In the Southern macro-district, the least investment activity is spent on the growth of the capitallabor ratio. Most of it is spent in the Western macro-district. The Northern macro- district is singled out from the analysis due to the specifics of extractive industries and large amounts of resources spent, which are not comparable with other territories. In terms of labor productivity growth, the most investment activity is accounted for in the Priangarsky (4153.4 rubles/RUB) and Western (3918.5 rubles/RUB) macro-districts. There is a trend in the territories when more investment activity is spent on obtaining labor productivity than on capital-intensive processes. The difference between macro regions is: Southern – 2.4, Priangarsky- 2.9, Eastern-2.1, Western-5.3, Central-1.7. This confirms the role of capitallabor ratio in the growth of GVA. Capitallabor ratio is more voluminous in terms of resource than labor productivity, as evidenced by the indicator, but the return on it is manifested with a multiple increase in labor productivity. Investment activity also manifests itself in the resulting performance indicators – the financial result of the business and and the gross value added of territories (Table 15).

Table 15. Comparative assessment of investment activity based on the financial results of economic entities in the macro-districts of the Krasnoyarsk territory (FR/IFA indicator), 2018

Value of the indicator	Territories
<1 RUB / RUB	<p><u>Southern macro-district:</u> Minusinsk (0,28), Karatuzsky (0,03), Krasnoturansky (0,07), Minusinsky (0,41), Shushensky (0,86).</p> <p><u>Priangarsky macro-district:</u> Kazachinsky (0,41), Severo-Eniseisky (2,58), Ilansky (0,10), Irbeysky (0,60), Kansky (0,39), Rybinsky (0,05), Taseyevsky (0,66).</p> <p><u>Western macro-district:</u> Nazarovo (0,67), Bolsheuluisky (0,26), Nazarovsky (0,54), Novoselovsky (0,23), Tyukhtetsky (0,37), Uzhursky (0,57), Sharypovsky (0,07).</p> <p><u>Central macro-district:</u> Sosnovoborsk (0,19), Balakhtinsky (0,04), Berezovsky (0,31), Emelyanovsky (0,36), Mansky (0,01), Sukhobuzimsky (0,28).</p>
1-5 RUB / RUB	<p><u>Southern macro-district:</u> Idrinsky (1,22).</p> <p><u>Northern macro-district:</u> Turukhansky (1,89)</p> <p><u>Priangarsky macro-district:</u> Pirovskiy (4,57)</p> <p><u>Eastern macro-district:</u> Abansky (1,49), Partisansky (4,27), Uyarsky (1,52).</p> <p><u>Western:</u> Achinsk (1,89).</p> <p><u>Central macro-district:</u> Krasnoyarsk (1,89), Bolshemurtinsky(1,36)</p>
Value of the indicator	Territories
> 5 RUB / RUB	<p><u>Northern macro-district:</u> Taimyrsky (9,21)</p> <p><u>Priangarsky macro-district:</u> Kezhemsky (6,17), Motyginsky (5,05)</p> <p><u>Centralmacro-district:</u> Divnogorsk (20,8)</p>
Negative value, RUB / RUB	<p><u>Southern macro-district:</u> Kuraginsky (-0,15), Yermakovsky (-0,02)</p> <p><u>Eastern macro-district:</u> Sayansky (-0,16)</p> <p><u>Western macro-district:</u> Bogotol (-0,05), Sharypovo (-0,31), Achinsky (-0,02)</p>

Investment activity correlated with the financial results obtained shows that most of the region's territories receive from 0.01 rubles (Mansky district) to 0.86 rubles (Shushensky district) for the invested 1 ruble. High returns in the investment-attractive Northern and Priangarsky macro-districts. Negative results are accompanied by investment activity in Kuraginsky (+0.15 RUB/RUB), Ermakovsky (-0.02 RUB/RUB) and Sayansky (-0.16 RUB/RUB) districts.

The effectiveness of investment activity is also reflected in the GVA received by the subjects of territories. Table 16 shows a comparative assessment of the performance indicator GVA/IFA.

Table 16. Rating of territories within macro-districts of the Krasnoyarsk territory according to the average annual rate of change of such an indicator of efficiency as GVA/IFA, 2015-2018

Territories	Rank	Average annual growth rate, %	Territories with negative growth rates, %
Southern macro-district			
Karatuzsky	1	56,3	
IdrinskyKuraginsky	2	90,7	Krasnoturansky (-12,6)
MinusinskyShushenskyMinusinsk	2	23,4	Yermakovsky (-18,8)
	3	20,2	
Northern macro-district			
Taimyrsky	1	10,7	Turukhansky(-2,5) Norilsk (-25,3) Evenkisky (-250,1)
Priangarsky macro-district			
Eniseisky	1	92,0	
Pirovskiy	2	70,9	Severo-Eniseisky (-25,3)
Boguchansky	3	38,0	Pirovskiy (-29,3)
Kazachinsky	4	36,9	Lesosibirsk (-61,7)
Kezhemsky	5	26,2	
Motyginisky			
Eastern macro-district			
Sayansky	1	236,7	Kansky (-5,3)
Partisansky	2	115,6	Taseyevsky (-10,2)
Ilansky	3	95,2	Borodino (-14,9)
Abansky	4	49,9	Rybinsky (-25,6)
Uyarsky	5	44,9	Nizhneingashsky (-45,4)
Irbeysky	6	35,1	Dzerzhinsky (-59,5)
Western macro-district			
			Uzhursky (-5,2)
			Sharypovsky (-5,7)
Tyukhtetsky	1	39,2	Sharypovo (-7,9)
Bogotol	2	119,3	Bolsheuluisky (-25,1)
Achinsk	3	19,8	Nazarovo (-25,4)
Nazarovsky	4	9,7	Kozulsky (-15,0)
Novoselovsky	5	39,2	Bogotolsky (-38,6)
			Achinsky (-47,3)
			Birilussky (-55,8)
Central macro-district			
			Sukhobuzimsky (-6,2)
Bolshemurtinsky	1	72,7	Berezovsky (-5,6)
Krasnoyarsk	2	17,9	Balakhtinsky (-9,6)
Divnogorsk	3	17,9	Mansky (-16,2)
			Emelyanovsky (-24,7)
			Sosnovoborsk (-16,5)

The indicator FR/IFA characterizes the efficiency of business investment activity, while the GVA/IFA indicator characterizes the total efficiency of economic sitsem of territories. The table shows its values in 2018, allowing us to speak about the preferential return on investment activity in the amount of up to 10 RUB/RUB: from 0.4 RUB/RUB in the Bogotolsky district to 9.3 RUB / RUB in the Karatuzsky district. There was a negative GVA in Boguchansky district (-0.7) due to the negative financial result.

The highest rates of return on investment activity are in the Eastern macro-district. The average annual growth rate of over 100% is observed in Sayansky (+236.7%) and Partisansky (+115.6%) districts.

In the Western macro-district such growth rates are observed in the Tyukhtetsky district – 119.3%. About half of the territories in each macro district have negative growth rates of performance indicators.

All this affects the development of economic sectors and the competitiveness of their products.

It should be noted the contradictory impact of investment activity on economic growth in macro-districts and their territories, which allows positioning them, making a choice between them, and allocating situations of optimal use of resources for the growth of capital and labor productivity in the direction of increasing the volume of GVA.

4. Conclusions

Analysis of the problem of labor productivity transformation as a result of investment activity revealed a number of trends that affect its growth. The first is related to the dynamics of investment activity, which takes a balanced character in territories without relying on extractive industries. Territories whose economy is based on extractive industries are unbalanced in terms of efficiency and resource return. Territories where both types of production are present are either on the wave of investment activity, or under it. All this makes it necessary to choose the tools for decision-making in each of these cases. It is necessary to regulate the database on investment activity for economic sectors, which at the stage of approval will allow you to build thresholds for returns in the form of GVA, capital strength and labor productivity.

The second trend is based on the interdependence of the technological level of production, regulated by the capitallabor ratio, as a result of investment activity and labor productivity, which, in turn, forms the GVA of territories and the financial results of economic entities. The implementation of the national project "labor Productivity and employment", taking into account the mutual influence of labor productivity and gross value added, will allow us to consider investment activity in this direction, which will strengthen the validity of strategic decisions.

The study identified problems of labor productivity transformation under the influence of investment activity, identified the most successful territories that have reached a balance of indicators, and identified problem points for making special management decisions.

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