

AMURCON 2021
AmurCon 2021: International Scientific Conference**BUDGET INVESTMENTS AND SOCIO-ECONOMIC SITUATION
OF THE REGIONS**

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Abstract

A review of the results of research conducted by Russian and foreign scientists revealed the existence of various judgments about the nature of the impact of budget investments on the economic dynamics of the state and its individual territories. These differences predetermined the purpose of the study - to define the relationship between the dynamics of budget investments and changes in the socio-economic condition of the constituent territories of the Russian Federation. This study is based on the use of comparative analysis and statistical methods. Following the assessment of interregional differences in the dynamics of budget investments, it is concluded that a deep gap remains in the investment activity of the regions, a slight reduction of which is not systemic in nature and is mainly due to targeted measures to support regions strategically important for the federal centre. It is shown that although there is no stable statistically significant relation between the integral assessment of the socio-economic situation of the region and the activity of its budget investment policy, higher average annual growth rates of budget investments contribute to improvements in the social and economic sphere of the constituent territory of the Russian

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1. Introduction

A prerequisite for achieving Russia's national priorities in the field of socio-economic development is to ensure high rates of investment growth (Silvestrov et al., 2018). At the present stage, the main subjects of investment activity are non-governmental organizations, and the source of investment is temporarily free cash circulating in the financial market. According to this fact, the role of the state in promoting investment growth is mainly to create institutional conditions for the effective redistribution of financial resources and incentives for investments in facilities. The creation of these facilities forms the competitive advantages of the state economy. At the same time, the existence of spheres and objects that are not of interest to private investors due to the high level of risks, long payback period, unprofitability, and other factors necessitates not only indirect state regulation of investment activities but also direct participation of public legal entities in the investment process (Alandarov, 2019; Kabanov et al., 2018). In this case, it is referred to as making investments at the expense of the budgets of the budgetary system.

As an instrument of financial regulation, budget investments, like other types of budget expenditures, require analysis in terms of the results of their impact on the dynamics of economic development.

2. Problem Statement

The nature and strength of the impact of budget expenditures on quantitative and qualitative parameters of socio-economic development remain the subject of discussion in Russian and foreign science (Andreyev & Polbin, 2018; Belyakov, 2018; Kudrin & Knobel, 2017; Gonzales-Paramo & Martinez, 2003; Miyazaki, 2018). The review of the research results related to this scientific problem revealed several approaches to the analysis (Andreyev & Polbin, 2018; Belyakov, 2018; Kudrin & Knobel, 2017; Zyablitskiy, 2018). The main ones are economic and mathematical modelling of the impact of expenditures on the dynamics of macroeconomic indicators and methods of comparative analysis that allow, without complex mathematical calculations, to compare the dynamics and structure of budget expenditures with changes in parameters characterizing the socio-economic situation of the territory or sector of the economy.

The issues of budget investments impact on the dynamics of economic development are more disclosed in foreign than in Russian scientific literature (Gonzales-Paramo & Martinez, 2003; Miyazaki, 2018). At the same time, in recent years there has been a steady increase in interest in this issue in Russian science. Thus, the research (Melnikov, 2021) provides an overview of the effects that budget investments have on the dynamics of economic development of regions and overcoming territorial differentiation. The conclusions on the low effectiveness of investments that are carried out at the expense of the federal budget are also substantiated. The paper (Belov, 2018) shows that investments from regional budgets have a more prominent positive effect on the economy compared to capital investments from the federal budget, which is consistent with more general conclusions about the greater competitiveness of decentralized models of fiscal federalism.

In tribute to the theoretical significance and practical value of the results of scientific research, it should be noted that the divergence of the conclusions obtained, as well as the variability of the external

environment of budget policy, necessitate the further study of investments as one of the instruments of the budget policy of the regions.

3. Research Questions

The subject of this research is capital investments carried out at the expense of the budgets of the constituent territories of the Russian Federation. Thus, it is planned to study the following aspects of the problem:

3.1. trends in the formation of investment expenditures carried out at the expense of the consolidated budgets of the constituent territories of the Russian Federation;

3.2. interregional differentiation of the investment budget policy, for the evaluation of which it is proposed to calculate and analyse the dynamics of the share of budget investments in the total amount of expenditures and the gross regional product; the number of budget investments per capita;

3.3. impact of the investment budget policy on the change of the socio-economic situation in the regions.

4. Purpose of the Study

The purpose of the study is to define the relationship between the indicators of the investment budget policy pursued by the constituent territories of the Russian Federation and the change in their socio-economic situation, using the method of comparative analysis.

5. Research Methods

The methodological basis of the study is the basic provisions of the theory of public finance. Statistical methods (analysis of dynamics, structure, variation), grouping and comparative analysis are used directly during the study. The information base of the study consists of the data of the ratings of the socio-economic situation of the constituent territories of the Russian Federation, compiled annually by the RIA Rating Agency, reports on the execution of consolidated budgets of the constituent territories of the Russian Federation for the period of 2016-2020, analytical data of the Ministry of Finance of the Russian Federation.

6. Findings

6.1. Dynamics of investment expenditures of budgets: general trends and interregional differences

Between 2016 and 2020, the expenditures of consolidated budgets of the constituent territories of the Russian Federation increased by 57% in nominal terms, the growth of capital investments in state and municipal property amounted to about 36%. Interregional comparisons show that the growth rates of total budget expenditures ranged from 119% to 223%. In the budgets of most federal constituent territories, the basic growth rate ranged from 140 to 159% (41 regions). The constituent territories of the Federation with

budget expenditures that doubled or rose even higher over the five years include the city of Sevastopol, the Republics of Tyva, Adygea and Kalmykia.

A significantly greater variation is characterized by the indicator of expenditures on capital investments. The constituent territories of the Federation leading in terms of the growth rates of these expenditures were the city of Sevastopol (an increase in the value of the indicator by more than 10 times) and the Republic of Adygea (an increase of more than 5 times). A multiple increase in capital investments in the state and municipal property (by two or more times) was noted in the budgets of another 25 constituent territories of the Russian Federation.

There was a decrease in investment-oriented expenditures in the budgets of 13 constituent territories of the Federation. Capital investments in state and municipal property decreased to the greatest extent (by 40% or more) in the budgets of the Republic of Ingushetia, the Kirov Region, and the Jewish Autonomous Region. The tendency to redistribute budget funds in favour of solving current problems was also observed in economically successful regions, for example, the city of St. Petersburg and Krasnoyarsk Krai.

The analysis allowed us to identify the main reasons for the decrease in investment costs:

- the need to release funds to address the priorities that have arisen in the context of the pandemic;
- implementation of a set of measures aimed at improving public finances (reducing the budget deficit and public debt, limiting new government borrowing);
- completion of individual major projects for the development of road, transport, and municipal infrastructure.

In world theory and practice, the reduction of budget investments is considered as one of the mechanisms of fiscal consolidation and reduction of risks of loss of financial stability under the influence of short-term adverse market fluctuations. A number of studies by foreign scientists (Andreyev & Polbin, 2018; Stähler & Thomas, 2012) have shown that reducing budget expenditures on capital investments provides the greatest positive effect compared to alternative options for reducing budget expenditures. The expediency of using this experience in the regions of the Russian Federation may be questioned due to the significant differences in the conditions of fiscal policy (the initial level of economic development, monetary policy, the state of the financial market) in Russia and abroad. In our opinion, the reduction of budget investments can have a short-term positive effect in the form of a reduction in total expenditures, budget deficit, and the need for new borrowings. However, in the medium term, such a measure will have the opposite effect, due to the deepening of existing structural imbalances and a decrease in economic potential

6.2. The share of budget investments in the structure of budget expenditures as an indicator of the investment policy of the region

The lag in the growth rate of budget investments from the dynamics of total expenditures led to a decrease in their share from 12.6% in 2016 to 10.9% in 2020. The trend towards a decrease in the share of investment expenditures in the budgets of the constituent entities of the Russian Federation began to manifest itself in 2017-2018, which indicates a decrease in the activity of regional authorities in conducting investment budget policy.

In 2016, the average value of the indicator for the constituent territories of the Federation was 10%, the minimum level of expenditures for capital investments (from 3 to 5%) was noted in the budgets of the Murmansk, Ulyanovsk, Astrakhan regions, the Komi Republic, Kostroma, Ivanovo, and Tver regions. The budgets of the city of Moscow (24%), the Sakhalin Region (about 30%), and the Republic of Ingushetia (over 39%) were characterized by the highest share of investment expenditures.

In 2020, the average level of capital investments in the budgets of the constituent territories of the Russian Federation has not undergone significant changes (about 9.9%). The range of values of the indicator ranged from 3.1% (Kirov Region, Jewish Autonomous Region) to 29.4% (Republic of Crimea), which, at first glance, illustrates the tendency for regions to converge in terms of the share of funds allocated for the renewal and development of infrastructure. This trend is explained by the objectives of budget regulation and the peculiarities of its mechanism. Subsidies and certain types of other inter-budgetary transfers are the main tools for levelling the imbalances in the provision of social, road, and engineering infrastructure in the regions. Over the period 2016-2020, the number of investment-oriented subsidies increased fourfold – from 88.8 billion roubles to 359 billion roubles. These tools of budget regulation allow increasing the costs of capital investments to the constituent territories of the Russian Federation, whose budget potential is limited. As shown in the research (Timushev, 2020), it is subsidies and other inter-budgetary transfers that are characterized by the greatest stimulating effect on the expenditures of the budgets of the constituent territories of the Federation, in contrast, for example, to subventions, which receipt weakly motivate regional public authorities to increase expenditures that contribute to the long-term development of the territory.

It should be noted that the hypothesis of convergence of regions in terms of budgetary investment policy requires additional verification, because the results of comparing data for only two years, one of which was characterized by a complex and atypical socio-economic situation, may reflect random fluctuations, but not stable trends.

6.3. The relation between the socio-economic situation of the regions and budget investments

To define the relationship between the level of socio-economic development of the constituent territories of the Russian Federation and their activity in the field of capital investments in state (municipal) property, the data of the socio-economic development rating and indicators illustrating the scale of investment activity of the regions should be compared.

The regions were divided into five groups depending on the value of the integral indicator of socio-economic status and the corresponding rank in the rating compiled by the RIA Rating Agency. The division was based on the criterion of the degree of lag of the i -th region from the leading one in terms of socio-economic development (i.e., the first place in the rating). The first group includes the constituent territories of the Federation, the value of the integral assessment of the socio-economic situation of which lags behind the indicator of the leading region by no more than 20%. The second group consisted of regions with a degree of lag in the range of 20-40%; the third group - with a lag estimated at 40-60%; the fourth group - with a lag of 60-80%. The fifth group includes the constituent territories of the Federation with the worst indicators of the socio-economic situation, inferior to the leading region in terms of integral assessment by more than 80%.

Further, within each group, the variation was estimated according to the following indicators: capital investments at the expense of budgetary funds per capita (Table. 1); the share of capital investments made at the expense of budgetary funds in the gross regional product (Table 2).

The highest average indicator's value of per capita budget investments was recorded in the category of constituent territories of the Federation with the best indicators of socio-economic development. All constituent territories of the Federation assigned to this group have the highest level of budgetary security, which means that budget funds are sufficient not only to solve priority tasks but also to implement projects aimed at further development of competitive advantages and creating comfortable living conditions, as well as conducting economic activity. The average value of per capita budget investments of the constituent territories of the Federation, the leaders of the rating, is 67% higher than the indicator for the second group of regions and 2.5 times higher than the indicator of the third group. This fact characterizes the persistence of a noticeable gap in the investment opportunities of the constituent territories of the Federation, which have unequal conditions and, as a result, different levels of economic development.

Table 1. Indicators of variation of the constituent territories of the Federation by the number of budget investments per capita

Indicator	I group 6 constituent territories of the RF	II group 13 constituent territories of the RF	III group 31 constituent territories of the RF	IV group 30 constituent territories of the RF	V group 5 constituent territories of the RF
Average	16 177,5	9 704,42	6 451,95	6 814,26	6 789,78
Minimal	8 405,39	3 831,86	2 579,65	2 272,65	3 602,84
Maximal	39 711,01	36 332,17	37 546,58	24 849,80	11 976,20
Relative scope of variation	1,94	3,35	5,42	3,31	1,23
Variation coefficient, %	68	88	98	75	42

It is noteworthy that the lowest average indicator of per capita budget investments was characterized by the regions assigned to the third group according to the degree of lagging behind the constituent territory of the Federation – the leader of economic development. In our opinion, the revealed situation characterizes one of the key problems of the spatial development of the state in general and budget regulation in particular. Its essence can be summarized as follows: the constituent territories of the Federation occupying the middle positions in the ratings of socio-economic development, on the one hand, are significantly inferior to the leading regions in terms of economic potential, on the other hand, according to the level of budget security (which is not low), receive inter-budget transfers in an amount smaller than those lagging behind in the economic development of the constituent territories of the Federation. Consequently, they bear the greatest risks of deterioration of their public finances and reduced opportunities to support the economy in the face of adverse changes in the external environment or the negative impact of endogenous factors.

A comparison of the values of variation coefficient obtained for each of the groups of constituent territories of the Russian Federation allows the conclusion where the greatest differences in the number of budget investments per capita are characteristic of regions with average economic development indicators

included in the third group. A significant spread of values is mainly due to a significant excess of the amount of capital investments in state property objects carried out from the budget of the Republic of Crimea over the indicators of other regions. At the same time, the main source of budget investments for the Republic of Crimea is targeted inter-budgetary transfers from the federal budget provided for financial support of projects in the field of road infrastructure development, culture, healthcare, etc. A significant excess of per capita budget investments over the average for the group is also characteristic of the Kaliningrad Region and the Kaluga Region. It should be noted that both the Republic of Crimea and the Kaliningrad Region have a special geostrategic significance for the Russian Federation, which determines the priority attention of the Government of the Russian Federation to improving the infrastructure of the respective territories and creating prerequisites for their sustainable development. The maintaining of the number of budget investments at a relatively high level can be considered as a characteristic feature of the financial policy of the Kaluga Region. Kaluga Region is one of the few constituent territories of the Russian Federation that have independently developed and successfully implemented an economic development strategy that has significantly increased the level of budget security of the region and achieved financial self-sufficiency.

The group of regions lagging behind in socio-economic development is the most homogeneous in terms of per capita budget investments. The smaller variation in comparison with the indicators of other groups of regions is explained not only by the commonality of the problems of socio-economic development but also by the common principles and guidelines of budget regulation carried out in relation to these regions by federal state authorities.

The indicators of variation related to the share of capital investments in state and municipal property in the gross regional product are presented in Table 2.

Table 2. Indicators of variation of the constituent territories of the Federation by share of capital investments in the gross regional product

Indicator	I group 6 constituent territories of the RF	II group 13 constituent territories of the RF	III group 31 constituent territories of the RF	IV group 30 constituent territories of the RF	V group 5 constituent territories of the RF
Average	1,32	1,42	1,55	2,26	3,66
Minimal	0,59	0,62	0,47	0,43	1,53
Maximal	2,67	3,98	12,93	10,28	6,06
Relative scope of variation	1,57	2,38	8,03	4,35	1,24
Variation coefficient, %	54	59	138	97	50

The analysis of the average values of the indicator reveals a pattern: the lower the level of socio-economic development of the region, the greater the share of budget investment expenditures in the gross regional product. From a mathematical point of view, this is explained by the relatively small volume of the gross regional product of territories with a weak level of development of both the real and financial sectors of the economy and a low level of well-being of the population. From the standpoint of budget regulation, such dependence is interpreted as follows: for regions with depressed economies, budget investments are a more significant mechanism for the redistribution of financial resources compared to economically prosperous regions.

A review of the various indicators leads to conclusions similar to those presented above. The regions united within the third group mostly differ in the share of budget investments in the gross regional product. The Republic of Crimea has the highest level of budget investments in the gross regional product (both for the group and for the totality of the constituent territories of the Russian Federation). For comparison: the variation coefficient of the indicator, calculated without the data for the Republic of Crimea, will be 46% versus 138% (Table 2).

A comparative analysis of the dynamics of socio-economic development and the activity of regions in the sphere of budget investments revealed that in groups of regions with a lower rate of growth of budget investments, a greater number of constituent territories of the Federation worsened their socio-economic situation, which led to a decrease in their rank in the rating (Table 3).

Table 3. Distribution of the regions according to the ratio of the average growth rate of investment expenditures and the dynamics of their socio-economic situation

Indicator	Number of constituent territories of the Russian Federation				
Average chain growth rate budget investments	<0	0 – 9,99%	10 – 19,99%	20 – 29,99%	>30%
Changing in the rank					
Increase	5	9	9	7	8
No changes	1	3	1	2	0
Decrease	7	15	9	7	1

Such a pattern gives reason to believe that active investment in the creation of engineering, industrial and social infrastructure facilities forms an impetus to economic growth. Studying the composition of the regions that provided the highest growth rates of budget investments and demonstrated a noticeable improvement in the socio-economic situation, we can conclude that the thesis about the positive impact of budget capital investments for the constituent territories of the Federation with different levels of development is fair. At the same time, the sectoral structure of investments and its compliance with the priority needs of the regional economy and the social sphere is of particular importance (Demidova & Kamalova, 2021; Kosov, 2019).

In continuation of the comparative analysis, the dependence between the rank of socio-economic development of the region and its position on the level of budget investments in GRP and on the number of budget investments per capita was assessed. Spearman's rank correlation coefficient was calculated for the evaluation. In the first case, the obtained value (-0.33) indicates the presence of a weak negative relationship between the parameters. This explains not the strength and direction of the impact of budget investments on the size and dynamics of GRP, but rather their importance in the formation and use of financial resources of the region. It should be noted that for regions lagging behind in economic development, budget investments, to a certain extent, compensate for the lack of capital investments from other sources due to the low level of investment attractiveness of the territory and limited internal resources.

The value of the Spearman coefficient for the pair "the rank of socio-economic development - the place in terms of per capita budget investments" (about 0.23) indicates the presence of a weak positive relationship between the parameters. As explained above, this is due to the fact that in regions with medium and low levels of socio-economic development, the main (or significant) sources of financial support for

capital investments include the transfers from the federal budget, which make up for the lack of budget funds of the constituent territories of the Russian Federation, formed at the expense of tax and non-tax revenues and borrowings.

7. Conclusion

1. Budget investments are one of the instruments of financial regulation, with the help of which state authorities influence the reproduction of physical and human capital. An increase in investment-oriented expenditures, including the involvement of inter-budgetary transfers from the federal budget, is, in our opinion, one of the conditions for overcoming structural and territorial imbalances.

2. In 2016-2020, there was a decrease in the investment activity of the regions. The opposite situation is typical for a small number of constituent territories of the Federation, mainly belonging to the category of strategically important territories.

3. The analysis of the variation of investment expenditure indicators allowed us to conclude that there is a significant gap in the investment opportunities of the constituent territories of the Federation belonging to different groups in terms of socio-economic development, and their activity in the implementation of budget investments. The slight convergence of indicators is mainly a natural consequence of the increase in investment subsidies provided from the federal budget to regions with a low level of economic and budgetary potential. This indicates the inertia of investment processes in the regions, their predetermination by decisions taken at the federal level. However, a radical change in the current system is possible only in the context of a comprehensive reform of not only the mechanism of the budget regulation but also of approaches to the implementation of spatial development policy in general.

4. The most significant, in our opinion, is the confirmation of the hypothesis about the existence of a positive impact of a stable increase in budget investments on the socio-economic situation of the regions. This conclusion was made in accordance with the comparison of the dynamics of the ranks of the constituent territories of the Federation and the average growth rates of capital investments carried out at the expense of budgetary funds.

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