Efficiency of Inter-Budgetary Regulation of Heavily Subsidized Budgets at the Subnational Level

M.P. Tashtamirov
Kadyrov Chechen State University, Grozny, Russia

ABSTRACT

The subject of this article is the set of economic and financial relations that develop in the process of inter-budgetary regulation and equalization of budgetary provision and balance of heavily subsidized budgets at the subnational level. **The purpose** of the study is to identify the degree of influence and effectiveness of the existing system of inter-budgetary regulation and fiscal decentralization in Russia in relation to heavily subsidized budgets at the subnational level in the context of their socio-economic, budgetary and financial condition and development. **The methodological** basis of the study is based on the Russian budgetary legislation, as well as domestic and foreign scientific studies devoted to the theory of fiscal decentralization (federalism), mechanisms for equalizing budgetary provision at the subnational level, approaches to assessing the degree of influence of fiscal decentralization on stimulating economic growth in regions and states. In the course of the study, the author applies a systematic approach, as well as general scientific and special methods: coefficient method, comparative, structural dynamic retrospective analysis. The analysis of the relationship and dispersion of the financial parameters of subnational budgets using the Pearson pair correlation coefficient, as well as the coefficients of variation and oscillation. The study reveals the problematic aspects of the effectiveness of the existing system of inter-budgetary regulation and the convergence of the socio-economic state of heavily subsidized regions in recent years. This result contradicts most budgetary practices and the theory of fiscal decentralization, which justifies the need for a qualitative change in the existing system of inter-budgetary regulation. **The main conclusion** of the study is that the existing mechanism of inter-budgetary regulation and the existing instruments for equalizing budgetary provision do not contribute to a significant change in the fiscal and socio-economic parameters of the development of heavily subsidized budgets at the subnational level. The nature of the use of the gratuitous aid received for this category of subjects of the country is reduced to short-term coverage of the gap in financing expenditure obligations but does not change the model of either the organization of budget regulation or the regional economy. Soft budget constraints create weak incentives and lead to financial and economic problems — increased dependency and subsidies.

Keywords: inter-budgetary relations; budget subsidies; subnational level; budgetary provision; budget revenues; inter-budgetary transfers

INTRODUCTION

Regional socio-economic systems exist within a complex set of institutional mechanisms with political, legal, constitutional and economic aspects that ensure the achievement of the well-being of the population and economic growth. One of the most important aspects is fiscal policy as a result of the choice of individual economic and financial instruments, political decisions and adopted laws and regulations. The combination of methods of budgetary and tax regulation makes it possible to form a complex mechanism for organizing inter-budgetary relations within the framework of the emerging budgetary structure, which depends on the form of the state and political structure (unitary or federal state). The importance of the mechanism of inter-budgetary regulation that has developed within the framework of the national economy in ensuring the balance of the budgetary system is of paramount importance. For countries with diverse and large geography, and different climate and environmental conditions, the key factor in achieving economic growth of territorial entities is inter-budget equalization, since it is designed to level out vertical and horizontal disproportions in subnational and local budgets resulting from economic unevenness and regional polarization.

This issue is particularly acute in relation to fiscal regulation of the category of recipient regions with a depressed socio-economic and budgetary-financial state and development. Outsider regions are characterized by long-term, chronic budgetary insecurity and imbalance, which mediates the need to systematically attract inter-budgetary transfers and grants to maintain the established level of public service delivery.

In Russia, in the last two decades, a group of regional budgets has been formed that have a high subsidized dependence on the federal level of the budget system. These subnational budgets (in recent years, 6 constituent entities of the Russian Federation) experienced problems with budgetary security and sustainability for a long time, which required significant infusions of gratuitous assistance to ensure the balance of both the budgets themselves and the entire budget system of the country [1]. In this regard, the question arises: how effective is the mechanism of inter-budgetary equalization in relation to highly subsidized subnational budgets, if this category of regions retains its depressive character and the recipient budget model? The aim of this study is to identify the criteria for the effectiveness of the current mechanism of inter-budgetary regulation to equalize the budgetary security of highly subsidized subnational budgets with the determination of the feasibility of qualitative changes in the socio-economic and budgetary state and development of these regions.

THE THEORY OF BUDGET DECENTRALIZATION AS A BASIS FOR THE DEVELOPMENT OF THE SYSTEM OF INTERBUDGET REGULATION

In the scientific literature, particularly foreign, studies of the essence, models and effectiveness of the organization of inter-budgetary relations are reduced to the concept of "fiscal decentralization" — the transfer of certain expenditure and/or revenue responsibilities to lower levels of government.[1]

Federalism and decentralization in general cover a wide range of different political and economic systems, the political and economic properties of which vary greatly [2, 3]. J. Litvack and co-authors note [4] that fiscal decentralization in itself cannot be characterized as effective or ineffective in the system of fiscal policy, which allows achieving economic justice or macroeconomic stability. The establishment of these parameters and their operation is determined by the specific structure and model of budgetary federalism that is taking shape in certain countries. Therefore, it is impossible to talk about the tendencies of federalism as such without reference to certain budgetary practices that

---

[1] Intergovernmental Fiscal Relations. The World Bank Group. URL: http://www1.worldbank.org/publicsector/decentralization/fiscal.htm (accessed on 20.08.2021).

have developed in a particular country. Some federal systems contribute to macroeconomic stability and economic growth of the regions, while others, on the contrary, using the exhaustive potential of fiscal regulation instruments, cannot ensure the achievement of high socio-economic indicators for the development of individual administrative-territorial units.

The fiscal stimulus approach has important implications for the distribution of inter-governmental transfers within federal systems. At the same time, it should be noted that the theory of fiscal decentralization has been developing for more than 60 years, its categories, approaches, models and specifics have changed. As a result, two generations of fiscal decentralization have been identified, the differences between which are very conditional. Fiscal decentralization of the first generation, formulated by R. A. Musgrave, P. B. Musgrave and D. L. Rubinfeld, focuses on the belief that federal, subnational and local authorities, when making decisions on the delimitation of revenue powers and expenditure obligations between the levels of the budget system and their use, are guided by the principles of increasing public welfare [5, 6].

The rationale for first-generation fiscal decentralization for inter-governmental activity highlights vertical and horizontal tax imbalances, side effects from incentives, and the avoidance of costly tax competition [6, 7]. Vertical imbalance occurs when the center collects taxes at a lower economic cost than local governments; it also occurs when the central government crowds out the subnational government's revenue sources. The efficiency thesis suggests that the center collects more taxes and then passes the funds to local governments to finance part of its spending. Horizontal disparities arise because regional economies differ in income and therefore in their ability to provide citizens with public goods and services. Here, too, transfers from the center can alleviate this imbalance by providing more funds to poor areas.

Second-generation fiscal decentralization models emphasize the importance of revenue generation by subnational governments [8–10], which have a significant portion of their own revenues, tend to be more accountable to citizens in providing public goods that promote market development and are less corrupt. However, as noted by J. W. Hatfield [11], W. E. Oates [12], G. Garzarelli et al. [13], the disadvantage of the theory of fiscal decentralization of the first generation is that in practice the authorities, when making budgetary and tax decisions, are guided by other motives than the intention to maximize the welfare of society locally. As a result, the efficiency of using the instruments of fiscal federalism is reduced.

Regional governments without independent sources of income can never truly enjoy financial autonomy; they may be, and probably are, under the control of the central government. Similarly, R. W. Bahl and J. F. Linn in their study of local fiscal federalism in developing countries, note that grants and transfers can reduce the responsibility of local governments for their financial decisions (they can now increase spending without increasing taxes); therefore, there will be less incentive to improve the performance of local governments and develop innovative methods for delivering public services [14].

Despite these observations, analysis of inter-governmental transfers tends to focus on equity rather than on the incentive effect of transfers on policy making.

N. Singh and T. N. Srinivasan [15] also suggest that the efficiency of tax distribution in the tax system in the standard sense of the social economy is of secondary importance compared to fiscal autonomy on the revenue side.

The logic of second-generation fiscal decentralization provides two interrelated reasons for these findings. Firstly, transfers that are negatively or slightly positively associated with subnational income growth provide local governments with weak financial incentives to stimulate local economic growth. Secondly, such systems of inter-governmental

transfers contribute to the growth of corruption.

The attempt to correct vertical and horizontal imbalances in developing countries often means that these transfer systems do not respond well to local conditions that promote local economic growth. This type of system of inter-governmental transfers provides subnational jurisdictions with weak financial incentives to stimulate local economic growth: most of the increase in local income goes to the center [15].

The model of fiscal federalism of the first generation suggests the need to reduce the tax burden on the economy and limit tax competition; while the second-generation fiscal stimulus approach promotes the organization of the system of inter-governmental transfers in such a way as to encourage subnational governments to ensure the growth of the local economy. The discussion above shows that many transfer systems achieve equalization through subnational government incentives to promote economic prosperity.

The fundamental question of public economics is how to allocate spending and taxing powers between the central government and the lower government. One of the most famous approaches, originally proposed by W.E. Oates [12], states that federal structures balance the various inefficiencies of central and local provision of public goods. With central provision, there is an inefficient homogeneity of public goods across locations, while the cross-border distribution of public goods creates an inefficiency in decentralized provision.

THE ROLE OF BUDGET DECENTRALIZATION IN ENSURING THE ECONOMIC GROWTH OF REGIONAL SOCIO-ECONOMIC SYSTEMS

There is extensive literature spanning decades, both theoretical and empirical, on the impact of fiscal decentralization on growth and other economic performance. Without explicitly addressing the issue of growth, the traditional "first generation" literature emphasized the

efficiency gains associated with it and the potential role of fiscal decentralization in boosting growth [16]. On the other hand, the "second generation" theory of fiscal decentralization emphasizes the role of government officials as selfish agents, so the results of decentralization may not always be growth-enhancing [17].

The literature directly addressing the relationship between fiscal decentralization and economic growth has been largely empirical, and results have varied widely in direction and size. Much of the research has been based on cross-country comparisons and correlations, especially in developed countries, due to the higher quality of data available [18, 19].

At an early stage, J. Martinez-Vazquez and R. McNab concluded that there was no empirical consensus on the impact of fiscal decentralization on economic growth [20], and this conclusion was recently confirmed by T. Baskaran, L.P. Feld, J. Schnellenbach [21].

A fair conclusion should be drawn from this work: the question of the causal effect of fiscal decentralization on economic growth remains open. Apart from many instances of conflicting findings, much of the previous empirical work on this subject has a potential endogeneity issue due to reverse causation and the omitted bias variable [22].

The issue of the causal impact of fiscal decentralization on economic growth has been one of the most studied in the literature on fiscal federalism.

Fiscal decentralization may also exacerbate regional disparities as jurisdictions with certain geographic or socio-demographic challenges fall further behind. These problems can be mitigated to some extent by equalization transfers between governments to compensate for external imbalances.

FISCAL DECENTRALIZATION IN RUSSIA

Theoretical work on the drivers of fiscal decentralization suggests that countries or regions will be more decentralized if their populations are more diverse in various ways if the relevant public goods can be efficiently

provided at lower levels of government, and if lower levels of government have access to adequate sources of income [23]. However, it is important to state that these theoretical considerations depend to some extent on the political system of the country, in particular on the degree of government accountability to citizens at all levels. Thus, L. Freinkman and A. Plekhanov empirically established a high degree of correlation between fiscal decentralization and population in the regions of Russia that have a high share of income from inter-budgetary transfers or income from natural resources rent. In addition, an inversely proportional relationship between urbanization and fiscal decentralization has been revealed [24]. However, if we consider the later literature on the inter-dependence of fiscal decentralization and indicators of the state of Russian regions, then the works of M. Alekseev and A. Mamedov show that, unlike the United States, almost no regional characteristics have a permanent influence on the degree of intra-regional fiscal decentralization in Russia. According to the authors, this conclusion is mainly due to the weakening of democratic institutions in the regions of Russia and the strengthening of the political and economic centralization of the country as a whole [23].

The decrease in local decentralization in the budget system of Russia may be a consequence of the weak activity of local governments in the exercise of their powers, the growth potential of which has been exhausted [25]. On the other hand, there is a constant link between local fiscal decentralization and fixed capital investment, as well as aggregate value added.

For the Russian budgetary system, the key role of inter-budgetary transfers in stimulating regional development remains, but has become less effective. E. N. Timushev, having studied the impact of the public debt of the regions of Russia on the ongoing fiscal policy, believes that for the period 2008–2018 the stimulating function of inter-budgetary transfers has decreased, especially in such

forms of gratuitous assistance as grants and subsidies [26].

Research by V. A. Fedosov indicates the growth of fiscal centralization in Russia. Although the decrease in income decentralization can be traced in most countries of the Organization for Economic Cooperation and Development (hereinafter referred to as the OECD), data from Russia indicate: firstly, lower values of fiscal decentralization; secondly, the higher rates of decline in this indicator over the past 10 years [27].

One of the key problems of the Russian model of budgetary federalism is the discrepancy between revenue sources and expenditure commitments, which are also delegated to lower levels of the federal government. A similar gap can be seen between excessive spending and insufficient revenue decentralization of the budget, which, when implemented, is negatively and significantly associated with regional economic growth [28, 29].

Despite the ambiguity of empirical studies of the impact of fiscal federalism on economic growth (the difference in the results is caused by the lack of a unified methodology and polar variables), the thesis about the positive impact of inter-budgetary transfers on stimulating the economic growth of regions and local provinces is largely determined by the mechanism of inter-budgetary regulation that has developed within any federal systems. The lack of a unified approach to regulating inter-budgetary relations allows different interpretations of the results of fiscal decentralization in developed and developing countries.

A. G. Isaev empirically reflected the negative relationship between the dynamics of inter-budgetary transfers and regional economic growth, which, according to the author, is due to the high share of social spending in certain regions of the country and the low share of capital spending, which positively correlates with economic growth in terms of GRP per capita [30].

Both politically and financially, Russia is one of the most centralized federal countries

in the world. The Federal Tax Service collects all taxes, and then the revenues are directed to the budgets of the corresponding level of government. Although there are federal, state, and municipal taxes by law, federal law places limits on the ability of lower levels of government to change the base and rate of "their" taxes. Moreover, almost all revenues from two important federal taxes (income tax and personal income tax) go to regional and municipal budgets in accordance with federal law. In addition, regional governments can transfer certain regional tax revenues to municipalities.

Considering the scientific literature review on the organization of inter-budgetary regulation and the impact of fiscal decentralization on the regional economic development of foreign countries and Russia, it should be noted that the impact of equalization transfers on certain categories of budgets has not been sufficiently studied by the subjects of the country, namely: regional budgets with a high subsidized dependence on the federal level of the budget system. The theory of fiscal decentralization boils down to the fact that the division of revenue sources and expenditure obligations by levels of government contributes to an increase in budget efficiency, the principle of justice, and an increase in the financial independence of each level of the budget system. The result of such vertical and horizontal alignment should be the stimulation of the economic and social development of this group of regions. In this regard, according to the author, an adequate assessment of the effectiveness of the existing system of organizing inter-budgetary relations in Russia is to study how fiscal decentralization affects the state and the dynamics of the development of a separate category of outsider regions. If this group of subjects of the country is not characterized by an improvement in the indicators of the socio-economic and fiscal aspects, then the current system of inter-budgetary regulation does not comply with the principles of fiscal decentralization and its potential is not used enough.

MATERIALS AND METHODS

The study includes several stages of analysis and evaluation of the effectiveness of inter-budgetary regulation and fiscal decentralization in relation to highly subsidized budgets of the constituent entities of the Russian Federation.

1. The dynamics of the number of budgets of the subject of the country (time horizon 2005–2020) is considered, the share of which in the volume of subsidies in the revenue part of the consolidated budget of the subject exceeds the 40% norm for the last 2 years in a row. To determine the subsidization of regional budgets, the formula of the corresponding coefficient (1) was used:

$$C_{si} = \frac{S_i}{OIB_i} * 100\% , \qquad (1)$$

where C_{si} — the coefficient of subsidization of the corresponding budget of the subject of the country; S_i — the total amount of subsidies provided for the year to the budget of the subject of the country; OIB_i — the volume of own income in the interpretation of the budget code of the Russian Federation (tax, non-tax revenues and gratuitous receipts, with the exception of subventions).

2. A comparative dynamic and structural analysis of inter-budgetary transfers for the period 2005–2020, provided to the budgets of the constituent entities of Russia and the category of highly subsidized budgets of the country, was carried out.

3. The degree of connection between the volumes of inter-budgetary transfers and macroeconomic and budgetary indicators of the Russian Federation was revealed according to the formula (2):

$$r = \frac{\sum_{i=1}^{n}\left(x - \breve{x}\right)\left(y - \breve{y}\right)}{\sqrt{\sum_{i=1}^{n}\left(x - \breve{x}\right)^2\left(y - \breve{y}\right)^2}} , \qquad (2)$$

where r — the correlation coefficient; x — a factor sign; y — the resulting variable.

3. The parameters of the socio-economic state and development of highly subsidized

regions of Russia and their dynamics were determined in comparison with 2005 in terms of per capita GRP and its structure, as well as the standard of living of the population and other 20 indicators reflecting the social and economic state of the regions.

4. The degree of homogeneity of highly subsidized regions in terms of the level of socio-economic development in dynamics over 16 years was revealed using the coefficients of variation and oscillation according to the following formulas:

$$\upsilon = \frac{\sigma}{\kappa} * 100\%, \qquad (3)$$

where σ — standard deviation, calculated by the formula:

$$\sigma = \sqrt{\frac{\sum x^2}{n} - \frac{(\sum x)^2}{n^2}};$$

κ — the arithmetic mean value.

$$V_R = \frac{R}{\kappa} * 100\%, \qquad (4)$$

where R — the range of variation calculated by the formula:

$$R = X_{\max} - X_{\min}$$

5. An assessment was made of the fiscal parameters of the development of highly subsidized budgets of the constituent entities of Russia in terms of per capita budgeting and financing, and the balance of budgets according to the following formulas:

$$CI_i = \frac{CBI_i / P_i}{CBI_r / P_r} * 100\%, \qquad (5)$$

where CI_i — the ratio of the sum of incomes of the consolidated budget of a constituent entity of the Russian Federation per capita to the country's incomes.

$$IBT_i = \frac{IT_i / P_i}{IT_r / IT_r} * 100\%, \qquad (6)$$

where IBT_i — the ratio of the volume of inter-budgetary transfers of the consolidated budget of the subject of the Russian Federation per capita to the volume in the country.

$$TTI_i = \frac{TNTR_i / P_i}{TNTR_r / P_r} * 100\%, \qquad (7)$$

where TTI_i — the ratio of tax and non-tax revenues of the consolidated budget of a constituent entity of the Russian Federation per capita to the country's revenues.

$$S_i = \frac{CBI_i / P_i}{CBI_r / P_r} * 100\%, \qquad (8)$$

where S_i — the ratio of subsidies from the consolidated budget of the subject of the Russian Federation per capita to the country's subsidies.

The information base for statistical analysis was the data of the Federal Treasury of the Russian Federation (reports on the execution of the consolidated budgets of the constituent entities of the Russian Federation by years), the Federal State Statistics Service (official statistics, Statistical Compilation "Regions of Russia" by years), the Organization for Economic Cooperation and Development (databases of the fiscal decentralization of OECD countries) for the period 2005–2020.

RESEARCH RESULTS

Subnational budget subsidies, as one of the key problems of ensuring the stability and balance of the budget system, have become particularly relevant in recent years, which is reflected in the adoption of a number of legislative and regulatory acts prescribing one of the goals of social and economic development of regions, federal districts and territories — reducing the level of subsidies.[2] However, in the budget legislation

---

[2] Decree of the President of the Russian Federation dated January 16, 2017 No. 13 "On approval of the fundamentals of the state policy of regional development of the Russian Federation for the period up to 2025". SPS ConsultantPlus. Resolution of the Government of the Russian Federation No. 1485-r of September 6, 2010 (as amended on October 28, 2014) "On approval of the strategy for the socio-economic development of the North Caucasus federal district until 2025". SPS ConsultantPlus. Resolution of the Government of the Russian Federation of December 28, 2009 No. 2094-r "On approval of the strategy for the socio-economic development of the Far East and the Baikal region for the period up to 2025". SPS ConsultantPlus.

Table 1

Number of heavily subsidized regional budgets of Russia for the period 2005–2020

Region	The share of subsidies in own revenues of the consolidated budget of the region, %																Average
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Altai Region	42	37	30	28	31	27	24	22	23	21	20	20	24	29	24	25	27
Sevastopol										55	37	35	26	31	23	19	32
Jewish Autonomous Region	43	37	33	26	29	26	29	25	23	26	29	27	23	23	27	31	29
Kabardino-Balkarian Republic	45	42	36	32	36	33	26	27	35	35	30	28	37	38	37	32	34
Kamchatka Krai	49	42	43	38	45	53	56	58	57	58	55	55	52	49	42	43	50
Karachay-Cherkess Republic	44	50	43	40	43	34	33	39	35	39	32	35	36	38	36	35	38
Magadan Region	35	32	33	40	45	43	35	32	32	32	23	19	18	19	16	11	29
Republic of Adygea	45	49	42	34	38	34	29	25	28	27	26	22	20	21	18	18	30
Altai Republic	53	53	51	52	49	51	43	48	50	44	52	55	58	54	47	40	50
Republic of Buryatia	37	33	34	32	39	35	28	29	29	33	31	29	34	35	29	31	32
Republic of Dagestan	63	60	57	47	51	52	47	48	55	56	55	53	56	56	55	48	54
Republic of Ingushetia	58	65	61	50	65	53	50	43	45	43	43	43	50	50	58	43	51
Republic of Crimea										58	45	33	24	25	23	23	33
Mari El Republic	42	35	32	31	28	24	26	24	28	26	22	21	21	25	22	22	27
Republic of North Ossetia – Alania	40	35	35	34	36	33	34	36	39	39	38	39	32	31	28	27	35
Tyva Republic	71	68	64	62	65	64	62	49	60	60	65	60	63	65	58	47	61
Chechen Republic	58	54	74	33	49	50	58	55	70	70	61	64	61	65	57	47	58
Chukotka	14	61	68	51	41	20	25	18	14	42	35	38	36	28	22	24	34
The Russian Federation	10	8	7	7	10	9	8	7	8	9	7	7	7	9	7	9	8

Source: author's calculations according to the Federal Treasury of the Russian Federation, reports on the performance of consolidated budgets of the constituent entities of Russia by year. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/ (accessed on 20.08.2021).

Changes in subnational budgets of Russia by type of subsidies from 2010 to 2020

Type of regional budget	Level of subsidy, %	Quantity	
		2010	2020
Self-sufficient	0	6	4
Low-subsidized	1–10	44	26
Moderately subsidized	10–25	19	41
Averagely subsidized	25–40	10	8
Highly subsidized	> 40	6	6

Source: author's calculations according to the Federal Treasury of the Russian Federation, reports on the performance of consolidated budgets of the constituent entities of Russia by year. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/ (accessed on 20.08.2021).

of Russia, there is still no interpretation of this phenomenon, although there are a number of scientific papers offering various interpretations of budget subsidies. One of the author's works is devoted to identifying and developing a definition of "budget subsidies are a long-term form of the unstable financial condition of the territorial budget, which manifests itself in depressed regions that are chronically unable to fulfill current spending obligations established by law, intra-regional sources of income, which leads to low financial independence and significant dependence on gratuitous budgetary assistance in the form of subsidies" [1]. The above concept is proposed for use in this study.

Using the formula (1), let us consider the quantitative dynamics of highly subsidized budgets of the constituent entities of the Russian Federation (highlighted in gray) for the period 2005–2020 in *Table 1*.

From 2005 to 2020, the number of highly subsidized regional budgets in Russia has halved to six entities: the Kamchatka Krai, the Altai Republic, the Republic of Dagestan, and the Republic of Ingushetia, the Tyva Republic and the Chechen Republic. According to the presented data, we can talk about a decrease in the problem of subsidization in the budget system of Russia, since the number of budgets of the country's subjects with a high level of subsidization has decreased. However, while

individual regional budgets have reduced the level of their subsidization, a consistently high value was assigned to six subjects that continue to experience significant problems with budgetary security. At the same time, the average subsidization of these regions over 16 years ranges from 61% (Tyva Republic) to 50% (Kamchatsky Krai and the Altai Republic). These regions are located in different geographic and climate conditions, so it is rather problematic to determine the criteria that unite them and similar features that have become factors of a low level of fiscal development [31].

A feature of the six subjects presented is the unstable dynamics of subsidies. If in most regions there is a systematic linear decrease in subsidized dependence, then this category of budgets has a spasmodic character and instability in its dynamics. This is another confirmation of their high budget instability. On the other hand, while reducing the number of highly subsidized subnational budgets, the number of regions whose total subsidization has increased is growing. Using the method of typology of regional budgets by the level of subsidies, a comparison was made of subnational budgets over the past 10 years by 4 types (*Table 2*).

With a constant number of highly subsidized budgets, there is a significant increase in moderately subsidized subnational
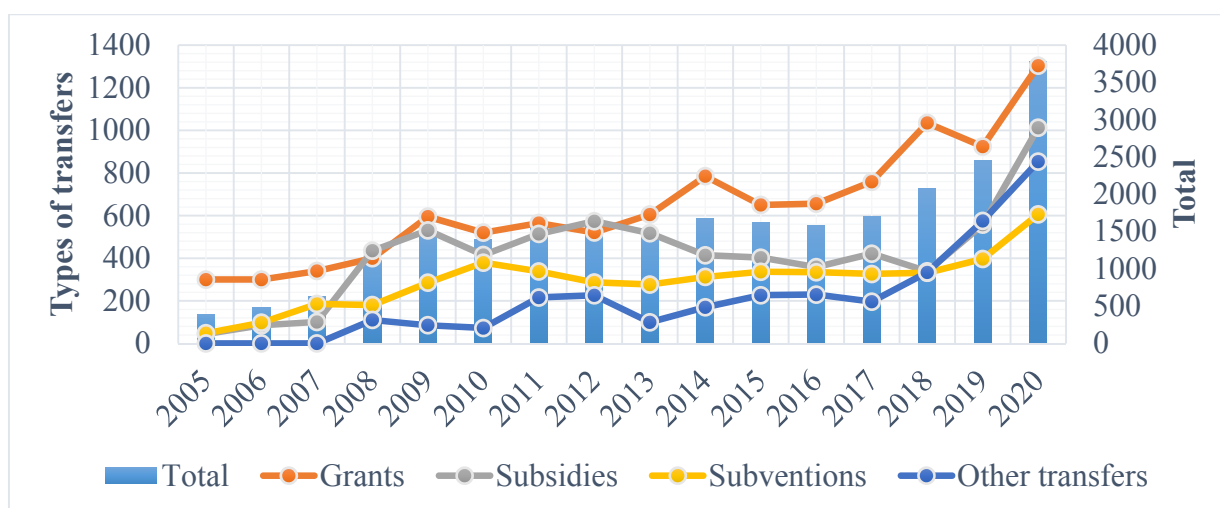
Fig. 1. Dynamics of inter-budgetary transfers to subnational and local budgets for the period 2005–2020, billion rubles

Source: Federal Treasury of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/ (accessed on 20.08.2021).
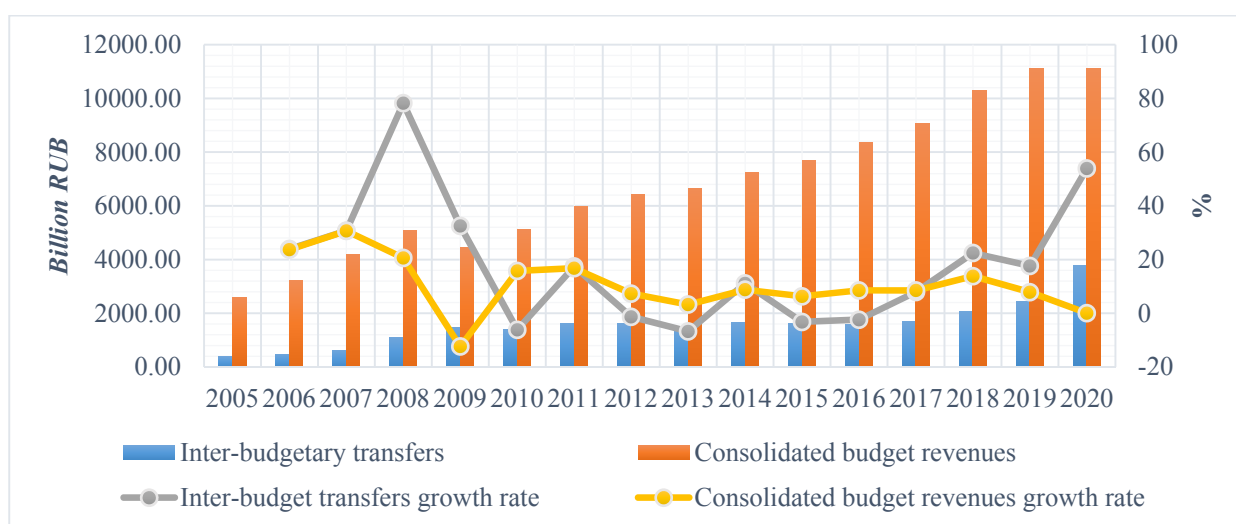

Fig. 2. Indicators of the dynamics of inter-budgetary transfers and own revenues of the consolidated budgets of the constituent entities of the Russian Federation for the period 2005–2020

Source: Federal Treasury of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/ (accessed on 20.08.2021).

budgets and a decrease in self-sufficient ones, the number of which amounted to 4 regions in 2020. At the same time, low-subsidized budgets decreased by 18 units over 10 years. Accordingly, if in 2010 the level of subsidization of most budgets of the subjects of Russia was less than 10%, then by 2020 the situation has changed to the opposite. An increasing number of subnational budgets are experiencing fiscal security problems, and

this vertical gap has continued to widen in recent years, indicating increased systemic fiscal instability and imbalances. This aspect concerns only one form of inter-budgetary transfers, respectively, in the case of analyzing the dynamics of other forms of transfers, the shares of gratuitous receipts to the budgets of the subnational level will be much higher.

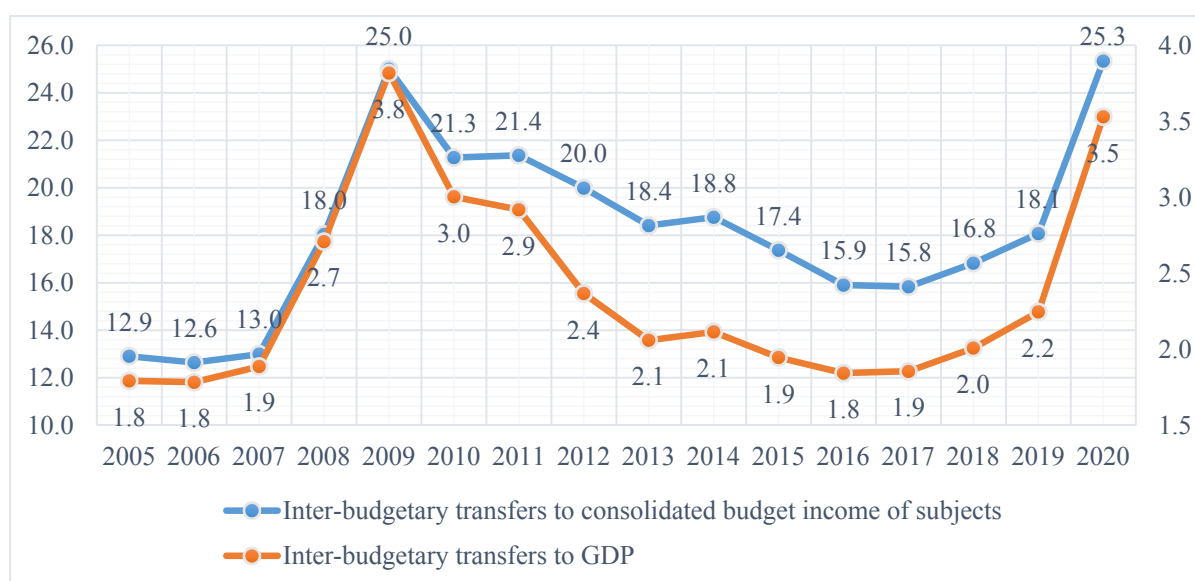Over 15 years, the total volume of inter-budgetary transfers has grown by almost

Fig. 3. **Dynamics of relations of inter-budgetary transfers to income of the consolidated budgets of the constituent entities and gross domestic product of Russia**

Source: calculated by the author according to the Federal Treasury of the Russian Federation, the Federal State Statistics Service of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/; https://rosstat.gov.ru/accounts (accessed on 20.08.2021).

10 times, while the structure of the forms of transfers shows differences in growth volumes: subsidies by 23 times, subventions by 12.6 times, other transfers by 7.7 times and grants by 4 times. The situation is similar in terms of average annual growth rates: subsidies — 38%, other transfers — 26%, subventions — 23%, grants — 12%. Despite the prevailing share, the smallest increase over the period under review is observed in the form of grants, while targeted types of transfers grew at a higher rate.

If in the period 2008–2013 the volumes of grants and subsidies were approximately at the same level, differences and domination of grants are also observed in subsequent years. Also, since 2017, other transfers began to play a more significant role in the structure of inter-budgetary transfers than subventions, the distribution volumes of which began to decline. On an accrual basis for the period under review, the average shares of forms of inter-budgetary transfers are grants — 44%, subsidies — 26%, subventions — 19% and other transfers — 10%. Over the past three years, the share of grants has declined significantly in favor of an increase in targeted funding in the form of subsidies and other transfers.

From 2009 to 2017, the total amount of grant assistance changed little, but since 2018, annual growth rates have accelerated by 22%, 18% and 54%, respectively. Obviously, in the context of the COVID-19 pandemic, 2020 was characterized by the need to increase budgetary assistance to the regions.

This assumption is confirmed by the data in *Fig. 2.*

The increase in the volume of inter-budgetary transfers to the subnational and local levels of the budget system is inversely proportional to the indicators of the volume of tax and non-tax revenues of regional and local budgets, which remained practically unchanged in 2019 and 2020, while expenditures increased over the same period by 15%. One of the main reasons for the increase in the number of subsidizations of regional budgets and the level of subsidized dependence is the insufficiency of the budget of expenditure obligations with revenue sources in the form of tax and non-tax revenues, which allow achieving financial independence and pursuing a more effective local economic policy.
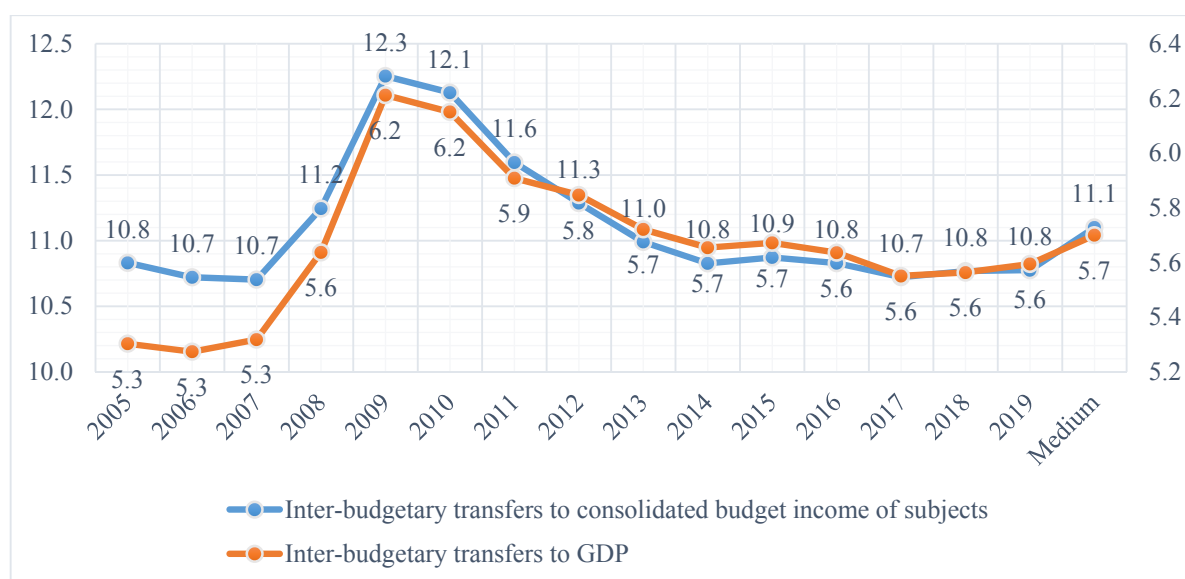
Fig. 4. **Dynamics of relations of inter-budgetary transfers to income of the consolidated budgets of the constituent entities and gross domestic product of OECD countries**

Source: calculated by the author according to the Federal Treasury of the Russian Federation, the Federal State Statistics Service of the Russian Federation, OECD. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/; https://rosstat.gov.ru/accounts; https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 23.08.2021).

The allocation and distribution of gratuitous aid to subnational and local budgets over the analyzed period grew linearly with the development of the national economy and the general indicators of the consolidated budgets of Russian regions.

Fig. 3 data show that there is a close relationship between the volume of inter-budgetary transfers and the total revenues of the budgets of the country's constituent entities, as well as GDP. Analyzing the dynamics of the presented indicators, it is clearly seen that the role of gratuitous aid increases during periods of economic instability, as was the case during the financial crisis of 2008–2009, as well as in 2020. Economic uncertainty and problems with the receipt of own revenues in the budgets of subnational and local levels (as a result of crisis phenomena) cause an increase in the share of transfers in the income structure of the consolidated budgets of the constituent entities of the Russian Federation and in the country's GDP, which is associated with the need to compensate for the increased volume of expenditures on the provision of public goods.

If in the post-crisis period the ratio of transfers to GDP returns to the pre-crisis level, then this does not happen in the case of the incomes of the consolidated budgets of the subjects — until 2008, the indicator was about 13%, in the period 2011–2019 — an average of 18%. This circumstance may indicate the persistence of unresolved problems in the budgetary and financial condition of a larger number of subnational budgets. Foreign countries are characterized by other signs of such dependence (*Fig. 4*).

Fig. 4 presents data for 35 countries that are members of the OECD, with the calculation of the average value for all participants for each year. The first difference from Russian practice is the large share of inter-budgetary transfers in the GDP of countries and a smaller share in the total volume of consolidated incomes at the subnational and local levels. The second difference, despite the similar growth of indicators in 2008–2010, is the less volatile dynamics for the period under review, as well as the return of values to the pre-crisis period for the two analyzed indicators. It is logical to assume that these countries, both federal and unitary, use the

Table 3

Values of the Pearson correlation coefficient between inter-budgetary transfers, budget revenues of the constituent entities and GDP of Russia

Factor trait	Inter-budgetary transfers
Revenues of the consolidated budgets of the constituent entities of the Russian Federation	0.922784
Expenses of the consolidated budgets of the Russian Federation	0.940423
GDP at current prices	0.973926

Source: calculated by the author according to the Federal Treasury of the Russian Federation, the Federal State Statistics Service of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/; https://rosstat.gov.ru/accounts (accessed on 20.08.2021).

Fig. 5. **Indicators of subsidies in the system of inter-budgetary relations in Russia for the period 2005–2020**
Source: calculated by the author according to the Federal Treasury of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/ (accessed on 23.08.2021).

potential of fiscal decentralization to the maximum in developing the system of inter-budgetary regulation. This approach makes it possible to direct less financial resources of the consolidated budget revenues to financial assistance to the subnational and local levels of the country.

Given the similarity of the dynamics of indicators in *Fig. 3*, it is advisable to determine the degree of correlation between the presented values. As a result, a closer relationship between the inter-budgetary transfers and GDP at current prices over the past 16 years was found according to formula (2) (*Table 3*).

Table 3 shows that the volume of distributed inter-budgetary transfers is in a higher direct relationship with the GDP indicator than with the total revenues of the consolidated budgets of the country's subjects, which determines
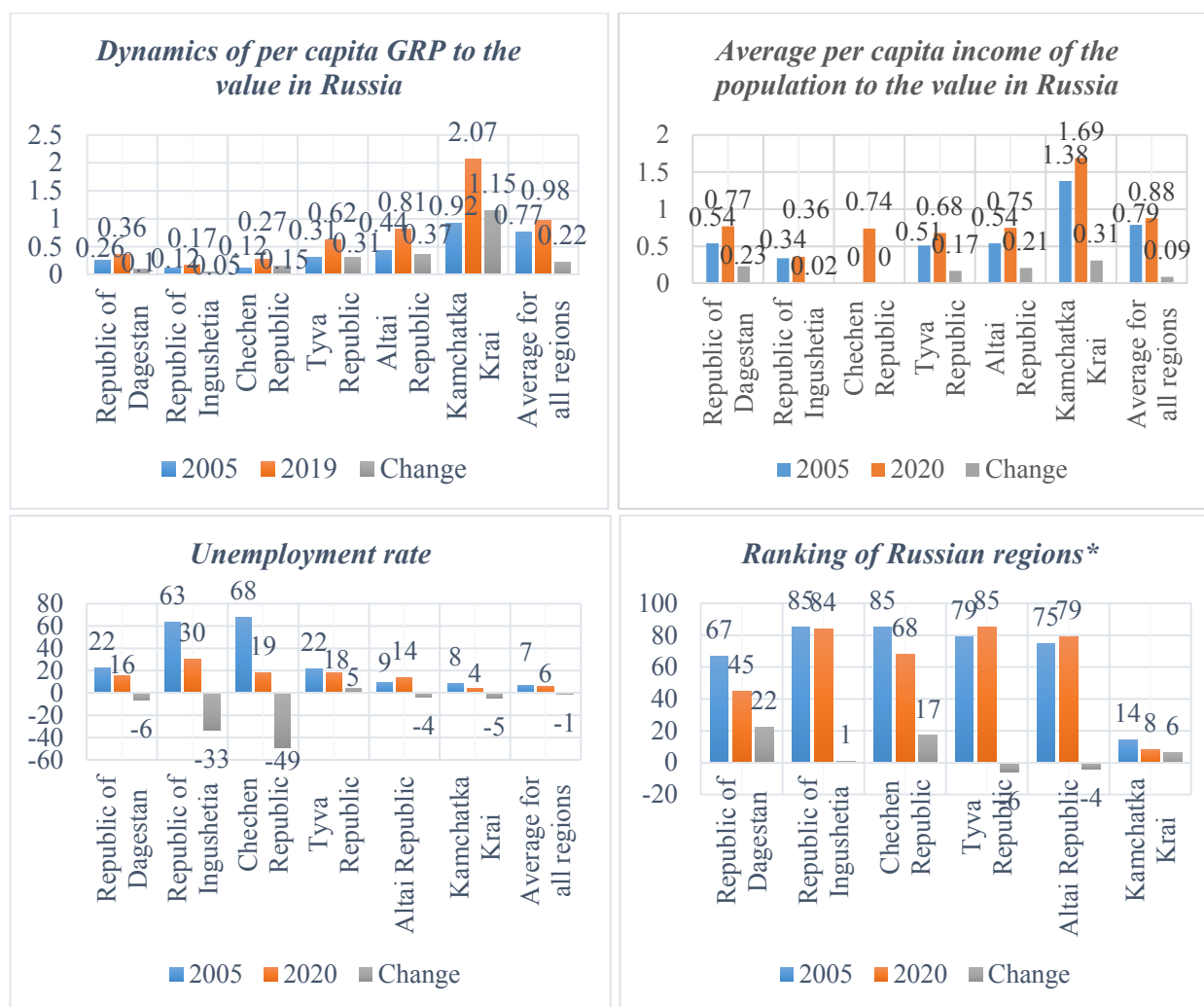
Fig. 6. **Parameters of socio-economic development of heavily subsidized subnational budgets of Russia**

Note: * the rating of Russian regions is based on 20 indicators characterizing the socio-economic condition of the subject

Source: Regions of Russia. Socio-economic indicators. 2006–2020. URL: https://rosstat.gov.ru/accounts; https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 24.08.2021).

the importance of exogenous indicators of the external environment in the system of inter-budgetary regulation. On the other hand, expenses also have a more direct impact on the volume of grants allocated.

In general, the rapid growth of inter-budgetary transfers in recent years is logically caused by an increase in the number of regional budgets with an average subsidy, as shown in *Table 2*, and maintaining a high level of subsidized dependence in six subjects, the dynamics of expenditures of which is growing disproportionately to the growth of tax and non-tax revenues. Despite the persistence of highly subsidized budgets, the negative effects of the increase in the budget deficit

at the subnational level, which is reflected in the growth of fiscal insecurity in more regions, need to be neutralized.

Over the past 16 years, highly subsidized subnational budgets of Russia in the amount of six units have concentrated on average 24% of the total amount of distributed subsidies to equalize budgetary security and balance budgets (*Fig. 5*). If before 2014 the share of subsidies directed to highly subsidized regions accounted for almost a third of the total volume of subsidies, then by 2020 this figure has dropped to 17%. This dynamic is understandable, as subsidies in the structure of intergovernmental transfers have also almost halved their share to 35% in 2020.
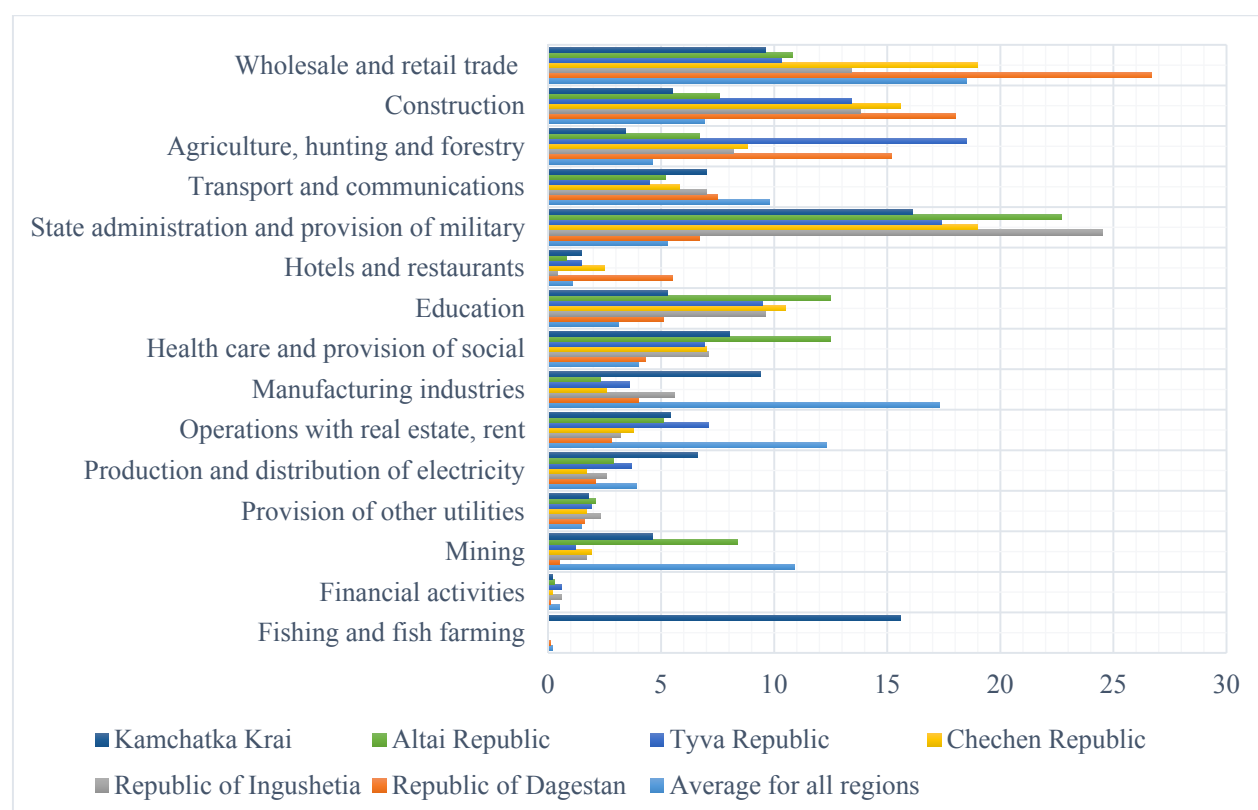
Fig. 7. **The structure of the regional economy in terms of GRP of heavily subsidized regions of Russia on average for the period 2010–2020, %**

Source: Regions of Russia. Socio-economic indicators. 2006–2020. URL: https://rosstat.gov.ru/accounts; https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 24.08.2021).

However, intergovernmental transfers are on the rise, indicating a change in the nature of transfers in favor of targeted transfers.

Given the volume of transfers provided to highly subsidized subnational budgets of Russia over the past 16 years, it should be assumed that the cumulative effect of such financial assistance should affect the improvement of the socio-economic situation in this category of regions. To assess the socio-economic performance of allocated inter-budgetary transfers to the budgets of regions with a high share of subsidized dependence, a dynamic assessment of the parameters of the socio-economic state of this category of subjects of the country was carried out from 2005 to 2020 (*Fig. 6*). Since the comparison of the absolute values of indicators of the socio-economic development of outsider regions with other regions or among themselves in time will not have a comparative potential and significance, the calculations were carried out

in relation to similar indicators for Russia as a whole, with the allocation of average regional values.

With the exception of the Kamchatka Krai, the rest of the analyzed regions had one of the worst indicators of the socio-economic condition in 2005, which is represented by the diagram with the ranking of the constituent entities of the Russian Federation. For all assessed parameters, this category of regions was characterized by values below the average for all regions. Slightly more than 4% of the country's population lives in highly subsidized entities, with four of them having populations of less than 500,000, making the provision of public goods more expensive as there are no economies of scale. On the other hand, the Kamchatka Krai, the republics of Tyva and Altai have a vast territory with an underdeveloped transport and logistics infrastructure, as well as harsh natural and climate conditions. In addition, these regions
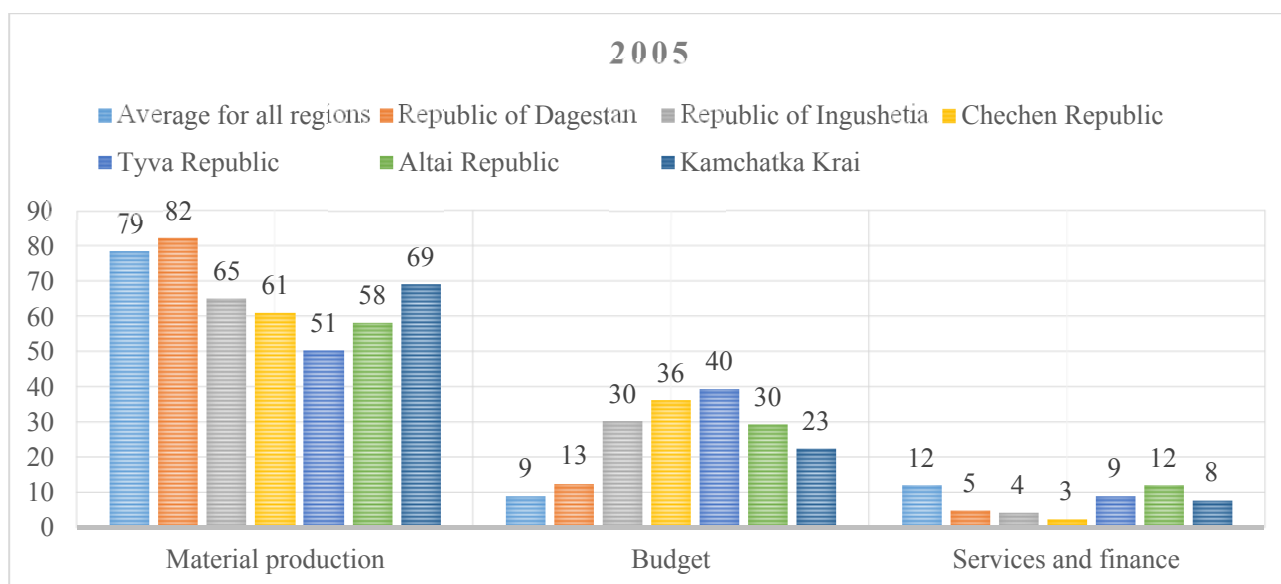
Fig. 8. **Structure of the regional economy of Russia in 2005 by GRP industry indicator, %**

Source: Regions of Russia. Socio-economic indicators. 2006–2020. URL: https://rosstat.gov.ru/accounts; https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 24.08.2021).

are quite remote from the centres of supply of resources and products. The regions of the North Caucasus, on the contrary, are distinguished by a high population density, developed transport routes and a favorable warm climate.

The share of the created GRP of the six regions under consideration in the total structure in 2005 was less than 2%, reaching only 2.2% in 2019. However, in terms of per capita GRP to the average value of this indicator in Russia, there is a noticeable increase, especially in the Republics of Chechnya, Tyva and Altai, and the Kamchatka Krai. At the same time, it should be noted that the growth rates of GRP in these regions exceeded values in recent years (on average by 2–4%), which could be the basis for increasing the tax potential and improving budget parameters. Positive shifts can be traced in terms of average per capita monetary incomes of the population in relation to the average for the Russian Federation, as well as the unemployment rate (with the exception of the Altai Republic — an increase in unemployment to 14%).

According to the cumulative result from 2005 to 2020, when assessed by 20 criteria of the socio-economic condition, three regions

significantly improved their performance (Republic of Dagestan, Chechnya and Kamchatka Krai), a slight improvement in the Republic of Ingushetia. The deterioration of the social condition and economic development in the ranking of regions is observed in the republics of Tyva (from 79th to 85th place) and Altai (from 75th to 79th place).

A characteristic feature of regions with a high subsidized dependence is the similarity in the structure of the regional economy and a significant difference in values from other federal subjects of the country. The leading economic-forming sectors on average for all highly subsidized regions of Russia are public administration, wholesale and retail trade, construction, and agriculture (*Fig. 7*). The differences between the regions are insignificant, however, compared with the average values of the GRP structure for all federal subjects of Russia, the differences are significant, with the exception of the trade sector.

The regional economy of Russia as a whole is characterized by the predominant role in the creation of added value of four industries: trade, manufacturing, real estate and mining. The last three industries in highly subsidized
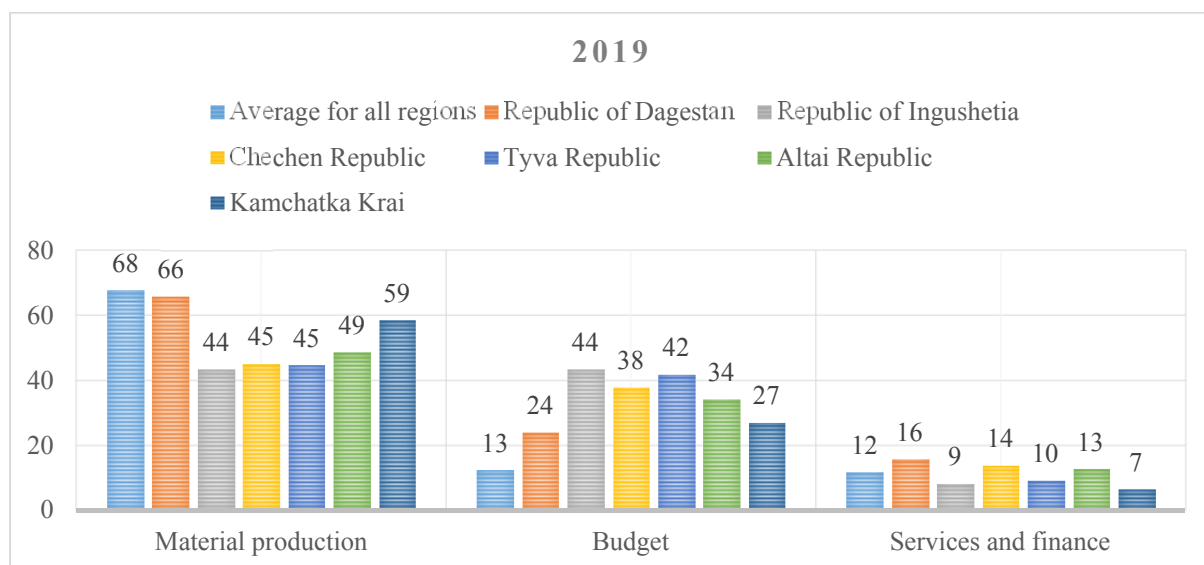
Fig. 9. **Structure of the regional economy of Russia in 2019 by GRP industry indicator, %**

Source: Regions of Russia. Socio-economic indicators. 2006–2020. URL: https://rosstat.gov.ru/accounts; https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 24.08.2021).

regions account for a share from 7.3% in the Republic of Dagestan to 19.4% in the Kamchatka Territory, although the average for all regions of the country is 40.5%, which is several times higher. At the same time, the share of the public sector (education, healthcare and public administration) in the GRP structure of our sample ranges from 16.1% in the Republic of Dagestan to 47.7% in the Altai Republic. For all regions of Russia — 12.4%, respectively. It should also be noted that the branch of public administration is the most significant in highly subsidized regions, except the Republics of Dagestan and Tuva, which does not allow for the effective implementation of the regional economic potential and the formation of tax revenues.

Since the data in *Fig. 7* illustrate the average values of the GRP structure of the regions over the past 10 years; to determine the effectiveness of inter-budgetary equalization for the period under consideration of 15 years, it is advisable to compare the data of 2019 and 2005. For comparison, sectors of the economy are grouped into three types of economic activity: material production (manufacturing, mining, construction, trade, transport and communications, agriculture, energy); public sector (public administration, education,

healthcare); services and finance (real estate, hotels and restaurants, financial activities, other services). Such a grouping will make it possible to determine how much the socio-economic nature of the development of highly subsidized regions has changed compared to the average values for the country. On the other hand, the tax potential is most effectively realized in the sphere of material production, and not in the public sector, which does not allow stimulating tax autonomy and competition at the subnational level.

In 2005, the public sector in the regions of Russia occupied a smaller share in the GRP structure (*Fig. 8*). However, in highly subsidized subjects of the country, this indicator is much higher, with the highest value in the Republic of Tyva (39.5%), and the lowest in the Republic of Dagestan (12.7%). The discrepancy between the sample of regions and the average values for the country can also be traced in the sphere of material production, with the exception of the Republic of Dagestan (82.3%).

The structure of Russia's regional economy has changed over the past 15 years (*Fig. 9*). Firstly, the share of material production in the creation of added value in all regions of Russia decreased by 14%, services and finance by 1%,

**Indicators of variation and oscillation of the socio-economic state of heavily subsidized regions
of Russia in 2005 and 2019**

Types of economic activities	2005		2019		Changes 2019/2005	
	variation coef., %	oscillation coef., ea	variation coef., %	oscillation coef., ea	variation coef.	oscillation coef.
Material production	17%	0.49	18%	0.44	1	−0.05
Budget	34%	0.94	23%	0.55	−12	−0.39
Services and finance	52%	1.40	31%	0.81	−20	−0.59

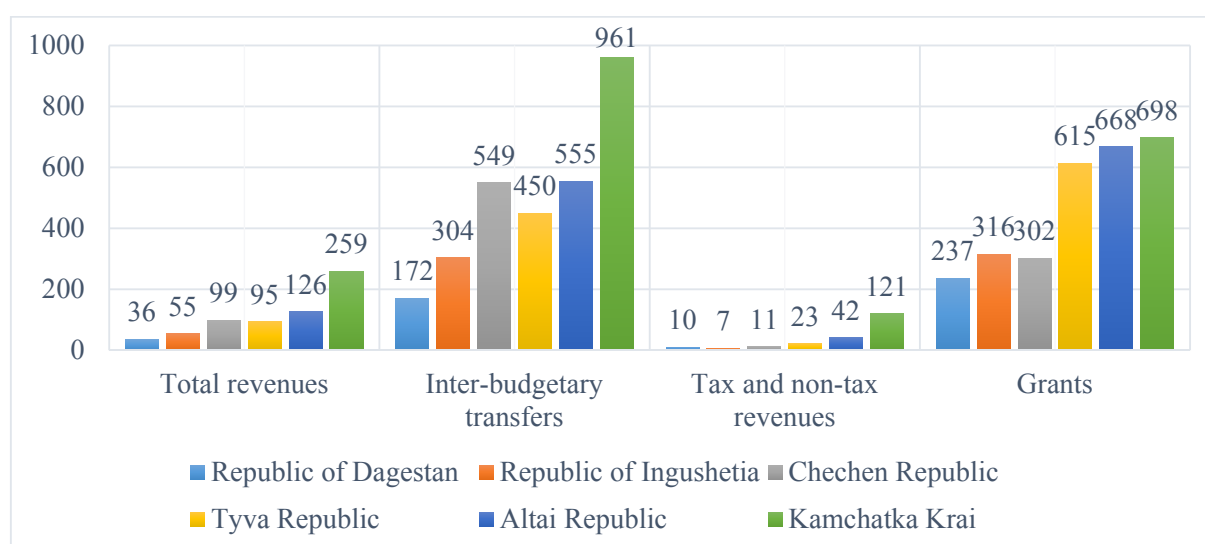*Source:* author's calculations according to *Fig. 8* and *9*.

Fig. 10. **Parameters of budget and tax status of highly subsidized subnational budgets of Russia in 2005–2007**
Source: calculated by the author according to the Federal Treasury of the Russian Federation, the Federal State Statistics Service of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/; https://rosstat.gov.ru/accounts (accessed on 25.08.2021).

and the growth of the public sector amounted to 37%. Secondly, if in 2005 the Republic of Dagestan was ahead of the average values of the regions in terms of material production, then in 2019 all highly subsidized regions reflect values below the average value in Russia. Thirdly, all highly subsidized regions reduced the share of material production sectors in the GRP indicator by an average of 20% (from −11% in the Republic of Tyva to −33% in the Republic of Ingushetia). Fourthly, the share of budgetary sectors of the regional economy of highly subsidized

territories increased inversely proportionally by an average of 30%, with the highest value in the Republic of Dagestan (+91%). Fifthly, one can positively assess the rapid growth of the services and finance sector in highly subsidized regions, which grew by an average of 127% (Chechen Republic +460%), with the exception of the Republic of Tyva (−16%).

An important feature of the presented data is significant changes in the homogeneity of the socio-economic situation of highly subsidized regions over the period under review. Since regional budgets with a high
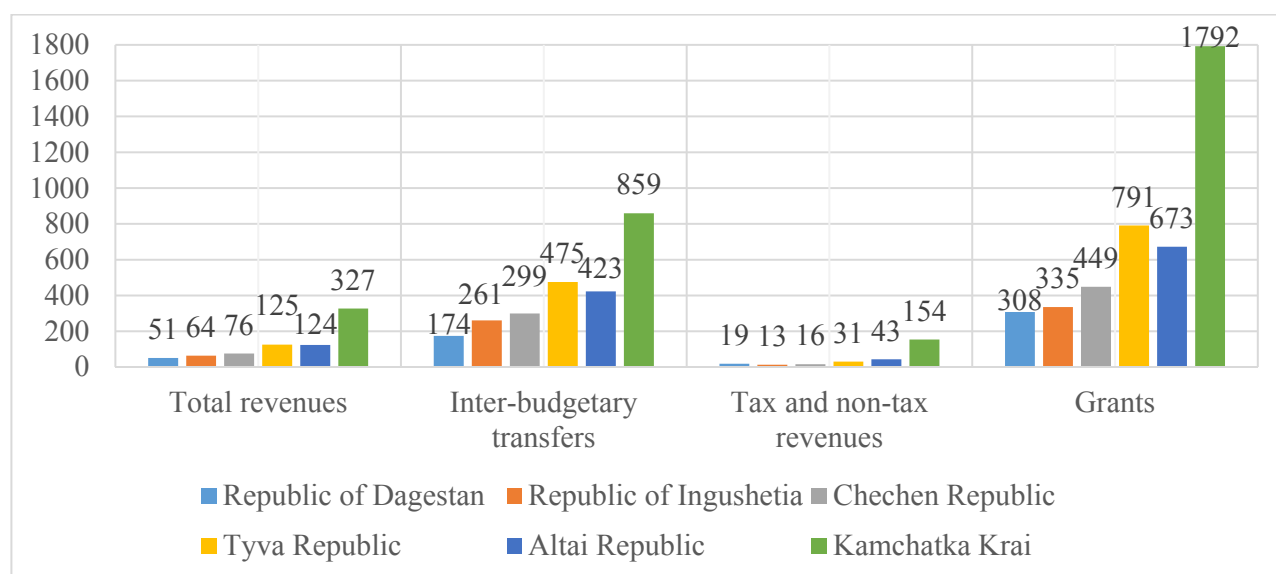
Fig. 11. **Parameters of budget and tax status of highly subsidized subnational budgets of Russia in 2018–2020**
Source: calculated by the author according to the Federal Treasury of the Russian Federation, the Federal State Statistics Service of the Russian Federation. URL: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/; https://rosstat.gov.ru/accounts (accessed on 25.08.2021).

share of subsidization have similar properties in the structure of the regional national economy, it is necessary to determine the dispersion index of these properties in their dynamics since 2005.

Using the data in Fig. 8 and 9, as well as applying the formulas for calculating the coefficients of variation (3) and oscillations (4), revealed the dynamics of the degree of homogeneity of highly subsidized regions in the structure of their socio-economic structure (*Table 4*).

In 2005, the degree of homogeneity of the structure of the economy of highly subsidized regions was within a moderate value only in the sectors of material production, based on the normality of the interval values of the dispersion of the data array when calculating the coefficient of variation (< 33.3%). Also, the oscillation coefficient, as an indicator that determines the remoteness of extreme values from the entire data scale (range of variation), is characterized by high levels in the public sector, services and finance [32].

In 2019, there is a significant approximation of all highly subsidized regions to a homogeneous set of analyzed data on sectors of the regional economy with low standard deviations, which indicates the homogeneity of regions with high subsidies according to the criteria of socio-economic development.

Another unifying criterion for highly subsidized regions is the lack of an established production and economic specialization in the national system of labor division [33], as well as the weak development of enterprises with highly productive industrial production, which indicates a low role of the manufacturing industry in creating added value.

Thus, over the 15 years of development of highly subsidized regions, they have converged in terms of the characteristics of the economic state in the direction of reducing the contribution of value added to the material production sector (as the most suitable sector for stimulating the local budget's own revenues). The role of the public sector in the creation of the GRP of highly subsidized regions has increased, which does not allow us to speak about the effectiveness of the regional economic and financial policy pursued over the years by both the federal government and local governments. Highly subsidized regions not only retained a low level of realization of the regional economic potential, but also increased the dependence

of the economy on the public sector. Accordingly, over the past 16 years, the model of a "resource-intensive" regional economy, which was formed in highly subsidized regions in 2005, has strengthened, which, in the context of injecting more than a third of all subsidies to equalize budgetary security and balance, has not led to a change in the development model.

In addition to the socio-economic aspect of the state and development of regions with high subsidized dependence, their fiscal component is of great importance. To determine the fiscal efficiency of inter-budgetary regulation of highly subsidized subnational budgets, an analysis was made of the parameters of per capita financing for this category of regions in comparison with Russian values. *Fig. 10* and *11* show the ratios of these indicators calculated by formulas (5)–(8). The data were calculated for three years of the initial (2005–2007) and final (2018–2020) periods with averaging for a more accurate statistical picture.

In highly subsidized regions, per capita financing in terms of the total revenues of the consolidated budget of a constituent entity of the country exceeds the Russian value in the Republic of Altai and Kamchatka Krai in the period 2005–2007, which is due to the small population. The lowest values are in the republics of Dagestan and Ingushetia. However, regarding the volume of inter-budgetary transfers and subsidies per capita, highly subsidized regions exceed the Russian values by an average of 5 and 4.7 times, respectively. An essential feature of the obtained data is the low level of tax and non-tax revenues per capita in relation to a similar indicator in Russia. With the exception of the Kamchatka Territory, which subsidized dependence is mainly due to the peculiarities of natural and climate conditions and geographical location, all other highly subsidized regional budgets are characterized by catastrophically low results.

Flows of inter-budgetary transfers to regions with high subsidized dependence in 2005–2020 did not have a significant positive impact on their fiscal position, which is expressed in the following aspects. Firstly, with the growth of total per capita income in two subjects, this indicator decreased (the Chechen Republic −23% and the Republic of Altai −2%). Secondly, on average, the reduction in non-repayable funding per capita (−15%) was offset by a 45% increase in per capita subsidies compared to the national figures. The largest increase was in the Kamchatka Krai (+157%), the Republics of Chechnya (+48%) and Dagestan (+30%). Thirdly, the indicator of per capita tax and non-tax revenues relative to Russian values remained low, despite a slight increase.

CONCLUSIONS

The conducted research and the research results allow us to draw the main conclusion that the existing mechanism of inter-budgetary regulation and the existing tools for equalizing budgetary security do not contribute to a significant change in the fiscal and socio-economic parameters of the development of highly subsidized subnational budgets. The nature of the use of gratuitous aid received by this category of subjects of the country is reduced to short-term coverage of the gap in financing expenditure obligations but does not change the model of either the organization of budgetary regulation or the regional economy.

The local economic administration did not use the economic potential at the disposal of highly subsidized regions to stimulate the tax base, which caused an increase in the budget burden on the federal level of the budget system and became an incentive to deprive donor regions of motivation for budgetary efficiency. This statement boils down to the fact that in the conditions of the Russian model of fiscal decentralization, stable regional budgets and regions with stable socio-economic and financial characteristics experience more difficulties than they receive preferences. Regional donor budgets with a high level of tax and non-tax revenues are forced to redistribute a significant part of their revenues within the framework of vertical
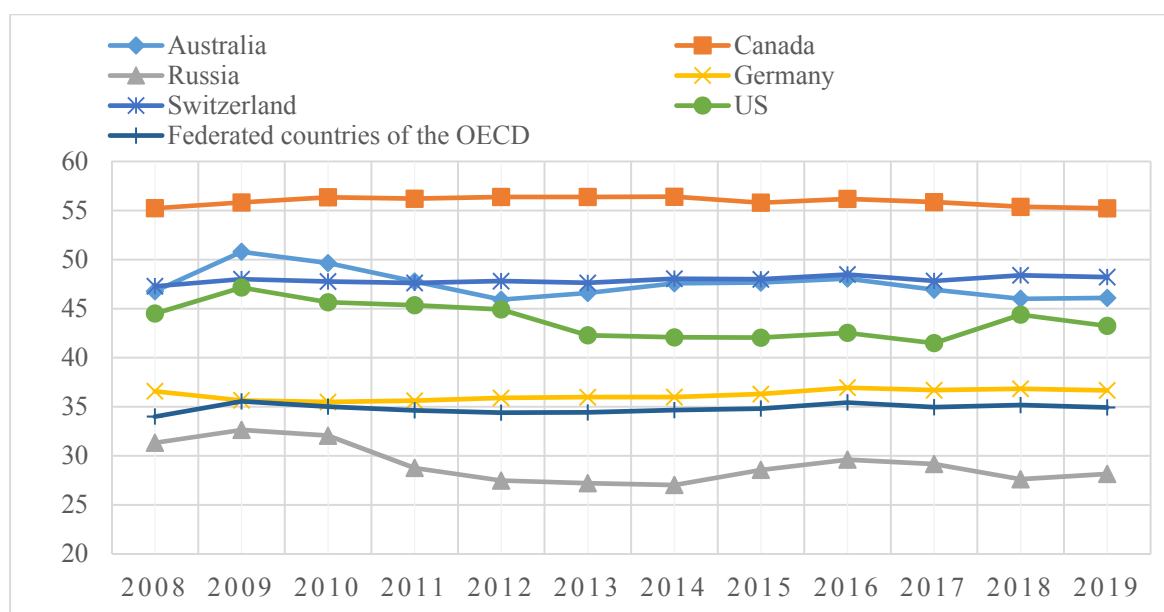
Fig. 12. **Fiscal decentralization by income in Russia and federal OECD countries, %**
Source: calculated by the author according to OECD data. URL: https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 26.08.2021).

budget equalization, deducting a share of income tax and rental income, ultimately in favor of recipient budgets. In the modern budget practice of Russia, there are no mechanisms to stimulate budget stability and balance, which deprives the self-sufficient type of subnational budgets of motivation for self-sufficiency and tax competition.

Heavily subsidized subnational budgets with an increasingly high share of the public sector in the creation of value added to the gross regional product do not contribute to stimulating tax revenues. This category of budgets for the period 2017–2020 mobilized on average less than 1% of tax and non-tax revenues in the total volume of this type of income of the consolidated budgets of the constituent entities of the Russian Federation.

Chronic subsidies to outsider regions contributed to the development of "budget dependence" and high dependence on federal funding, which led to the practice of planning budget expenditures taking into account future subsidies, without looking for additional sources of income. In the context of the rise in the cost of providing public goods, such a significant financial and budgetary lack

of independence leads to the fact that the volume of inter-budgetary transfers is forced to increase, at the federal level it is required to allocate more funds to regulate inter-budgetary relationships with continuing low efficiency.

The implementation of nationwide functions for the provision of public goods is based on the sustainability of budgets at all levels and their balance. The persistence of the problem of high and medium subsidization of a number of budgets at the subnational level does not allow for sustainable financing of expenditure obligations. Accordingly, these categories of outsider regions create barriers to stimulating the receipt of revenues in the consolidated budgets of the country's subjects, thereby maintaining a low level of fiscal decentralization. The share of revenues at the regional level of the Russian budget system in the volume of consolidated state revenues is significantly lower than that of the federal lands in the OECD (*Fig. 12*). Despite the theses about the growth of decentralization in the budgetary system of the state, this statement is contrary to practice.

The dynamics differ in the context of states both with a federal system and with a unitary

one. However, Russian data show a larger decline in fiscal decentralization.

The results of evaluating the effectiveness of the current mechanism of inter-budgetary regulation of highly subsidized budgets at the subnational level allow us to highlight the following key features:

The almost complete lack of efficiency from the realization of the economic potential of highly subsidized regions, considering the available natural resources and geographical location.

Extremely low tax potential to stimulate tax revenues to increase the level of tax competition and autonomy.

The public sector plays an increasingly important role in creating the added value of the GRP of highly subsidized regions, which can reduce the quality of economic growth assessment due to the lack of sectoral industry specialization in the nationwide division of labor.

Flows of inter-budgetary transfers, especially subsidies, do not stimulate social and economic development at the pace that is typical for foreign countries, according to a review of the literature. On the other hand, the current pace of economic development is largely based on transfer flows, as tax and non-tax revenues remain low.

An important issue of the current situation is the unsecured volume of expenditure obligations provided at the subnational level. This issue is especially acute for outsider regions, which, in conditions of low financial self-sufficiency, are not able to ensure the search for additional sources of income.

Where outsider regions receive inefficiently low public goods from the federal government, one way to mitigate this inefficiency may be to supplement these types of spending with their own provision of the same public goods. But in this case, the tax rates chosen by outsider regions can be significant even in the case of complete centralization, when the entire spectrum of public goods is provided at the federal level. As a result, tax increases caused by the decentralization of the provision of a small number of public goods can lead to a loss of first-order efficiency. Whether welfare falls or not will depend on the size of these tax increases.

It should also be noted that those budgetary restrictions that are imposed on regional budgets with a high share of subsidies in the structure of their own income (more than 40% over the past 2 years) are not tough enough and do not fulfill their function. This conclusion is based on an analysis of the parameters of the fiscal situation in highly subsidized regions. It should be recognized that it is of the utmost importance to establish hard budget limits for all levels of government, especially for subnational ones. Soft budget constraints create weak incentives and lead to a number of financial and economic problems — an increase in dependency and subsidization.

REFERENCES
1. Tashtamirov M.R. The local budget subsidy dependence: Identification and classification. *Finansy i kredit = Finance and Credit*. 2020;26(5):1099–1117. (In Russ.). DOI: 10.24891/fc.26.5.1099
2. Shah A. Balance, accountability, and responsiveness: Lessons about decentralization. Washington, DC: The World Bank; 1999. 41 p. DOI: 10.1596/1813–9450–2021
3. Watts R.L. Comparing federal systems. Montréal: McGill-Queen's University Press; 1999. 138 p. (Queen's Policy Studies Series. Vol. 50).
4. Litvack J., Ahmad J., Bird R. Rethinking decentralization in developing countries. Washington, DC: The World Bank; 1998. 48 p. (The World Bank Sector Studies Series). DOI: 10.1596/0–8213–4350–5
5. Musgrave R.A., Musgrave P.B. Public finance in theory and practice. New York: McGraw-Hill Book Co.; 1976. 778 p.

6. Rubinfeld D.L. The economics of the local public sector. In: Auerbach A.J., Feldstein M., eds. Handbook of public economics. vol. 2. Amsterdam: Elsevier Science Publishers; 1987:571–645.

7. Boex J., Martinez-Vazquez J. Designing intergovernmental equalization transfers with imperfect data: Concepts, practices, and lessons. In: Martinez-Vazquez J., Searle B., eds. Fiscal equalization. Boston, MA: Springer-Verlag; 2007:291–343. DOI: 10.1007/978–0–387–48988–9_12

8. Boadway R.W., Shah A. Fiscal federalism: Principles and practice of multiorder governance. Cambridge: Cambridge University Press; 2009. 620 p. DOI: 10.1017/CBO9780511626883

9. Singh N.K., Srinivasan T.N. Federalism and economic development in India: An assessment. In: Hope N.C., Kochar A, Noll R, Srinivasan T.N., eds. Economic reform in India: Challenges, prospects, and lessons. Cambridge: Cambridge University Press; 2013:33–95.

10. Careaga M., Weingast B.R. Fiscal federalism, good governance, and economic growth in Mexico. In: Rodrik D., ed. In search of prosperity: Analytic narratives on economic growth. Princeton: Princeton University Press; 2003:399–435. DOI: 10.1515/9781400845897–015

11. Hatfield J.W. Federalism, taxation, and economic growth. *Journal of Urban Economics*. 2015;87:114–125. DOI: 10.1016/j.jue.2015.01.003

12. Oates W.E. Toward a second-generation theory of fiscal federalism. *International Tax and Public Finance*. 2005;12(4):349–373. DOI: 10.1007/s10797–005–1619–9

13. Garzarelli G., Keeton L. Laboratory federalism and intergovernmental grants. *Journal of Institutional Economics*. 2018;14(5):949–974. DOI: 10.1017/S 1744137417000595

14. Bahl R.W., Linn J.F. Urban public finance in developing countries. Oxford, New York: Oxford University Press; 1992. 574 p. URL: https://documents1.worldbank.org/curated/en/963911468739534803/pdf/multi-page.pdf

15. Singh N., Srinivasan T.N. Federalism and economic development in India: An assessment. Munich Personal RePEc Archive. MPRA Paper. 2006;(12452). URL: https://mpra.ub.uni-muenchen.de/12452/1/MPRA_paper_12452.pdf

16. Glennerster H. Geoffrey Brennan and James M. Buchanan, The power to tax: Analytical foundations of a fiscal constitution, Cambridge University Press, 1980. *Journal of Social Policy*. 1982;11(3):395–397. DOI: 10.1017/S 0047279400011971

17. Qian Y., Weingast B.R. Federalism as a commitment to reserving market incentives. *Journal of Economic Perspectives*. 1997;11(4):83–92. DOI: 10.1257/jep.11.4.83

18. Blöchliger H., Akgun O. Fiscal decentralisation and economic growth. In: Kim J., Dougherty S., eds. Fiscal decentralisation and inclusive growth. Paris: OECD; 2018:25–47. (OECD Fiscal Federalism Studies). DOI: 10.1787/9789264302488–4-en

19. Wang F. The influences of fiscal decentralization on economic performance: Empirical evidence from OECD countries. *Prague Economic Papers*. 2018;27(5):606–618. DOI: 10.18267/j.pep.674

20. Martinez-Vazquez J., McNab R. Fiscal decentralization and economic growth. *World Development*. 2003;31(9):1597–1616. DOI: 10.1016/S 0305–750X(03)00109–8

21. Baskaran T., Feld L.P., Schnellenbach J. Fiscal federalism, decentralization, and economic growth: A meta-analysis. *Economic Inquiry*. 2016;54(3):1445–1463. DOI: 10.1111/ecin.12331

22. Wooldridge J.M. Econometric analysis of cross section and panel data. Cambridge, MA, London: The MIT Press; 2010; 1064 p.

23. Alexeev M., Mamedov A. Factors determining intra-regional fiscal decentralization in Russia and the US. *Russian Journal of Economics*. 2017;3(4):425–444. DOI: 10.1016/j.ruje.2017.12.007

24. Freinkman L., Plekhanov A. Fiscal decentralization in rentier regions: Evidence from Russia. *World Development*. 2009;37(2):503–512. DOI: 10.1016/j.worlddev.2008.05.010

25. Timushev E.N. Intraregional fiscal decentralization: Indicators and dynamics. *Finansy = Finance*. 2019;(8):19–26. (In Russ.).

26. Timushev E.N. Debt burden, local fiscal decentralization and fiscal incentives for regional authorities. *Finance: Theory and Practice*. 2020;24(1):58–75. DOI: 10.26794/2587–5671–2020–24–1–58–75

27. Fedosov V.A. Decentralization of fiscal relations in Russia in the context of global trends. *Finansy i kredit = Finance and Credit*. 2020;26(9):2151–2166. (In Russ.). DOI: 10.24891/fc.26.9.2151

28. Yushkov A. Fiscal decentralization and regional economic growth: Theory, empirical studies, and Russian experience. *Voprosy ekonomiki*. 2016;(2):94–110. (In Russ.). DOI: 10.32609/0042–8736–2016–2–94–110

29. Alekhin B.I. Vertical fiscal imbalance and regional economic growth. *Finansovyi zhurnal = Financial Journal*. 2020;12(6):39–53. (In Russ.). DOI: 10.31107/2075–1990–2020–6–39–53

30. Isaev A.G. Distribution of financial resources within the budget system of the Russian Federation and regions' economic growth. *Prostranstvennaya ekonomika = Spatial Economics*. 2016;(4):61–74. (In Russ.). DOI: 10.14530/se.2016.4.061–074

31. Tashtamirov M.R., Baysaeva M.U., Batashev R.V. Systematization of factors and conditions of high subsidization of regional budgets. *Fundamental'nye issledovaniya = Fundamental Research*. 2020;(11):185–192. (In Russ.). DOI: 10.17513/fr.42896

32. Prokofiev V.A., Tolmachev M.N., Golovko M.V. Questions of estimation and normalization of the variation coefficient. *Voprosy ekonomiki i prava = Economic and Law Issues*. 2017;(112):34–37. (In Russ.).

33. Klimanov V.V., Mihailova A.A. Improving the regulation of budgets of highly subsidized regions. *Finansy = Finance*. 2015;(7):11–17. (In Russ.).

ABOUT THE AUTHOR

Magomed R. Tashtamirov — Cand. Sci. (Econ.), Assoc. Prof., Department of Finance, Credit and Antimonopoly Regulation, A.A. Kadyrov Chechen State University, Grozny, Russia
https://orcid.org/0000-0002-6777-3863
basxo@yandex.ru

Conflicts of Interest Statement: The author has no conflicts of interest to declare.