Impact of General Government Sector Expenditures in the Added Value of Regions of the Russian Federation

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Abstract—**Expenditures of the general government sector have an increasing impact on the socio-economic development of the regions in the Russian Federation. Such exposure can vary quite greatly, depending on the sector's presence in the territory. At the same time, there are no proven methods in calculating both the share of the general government sector in the regional and municipal economies and the calculation of the impact on the value added of territories in world and Russian science. In this article, the authors presented an algorithm for the formation, distribution and use of resources of the general government sector at the territorial level, where the main interconnections and flows of financial resources of the sector are clearly presented. The algorithm is based on a number of modifications to the routing flow system of national accounts, required for the calculation of the basic indicators of the regional segment. For municipalities, approaches to the methodology for calculating transfers in kind and for collective consumption have been clarified. To assess the share of the Public Administration sector in the gross regional product, the regions of the Urals Federal District were selected as the object of study. The calculations show that the impact of the sector on the formation of added value for the different regions of the Urals Federal District, from 3.5% to 20%. Also, the authors calculated the impact of the expenses of the consolidated budgets of the regions and federal spending in the territory. The highest value observed by federal expenditure in Kurgan area (9.89%) or 19 861 million. Rub. The smallest in the northern regions of the Urals Federal District, Khanty-Mansi and Yamalo-Nenets Autonomous areas index of more than 0.5%. The study led to a number of conclusions on the possibility of constructing a territorial segment of the general government sector in the Russian Federation. In particular, it was determined that the dependence of territories on expenditures of the general government sector is determined by the economic potential of the region.**

Keywords—*general government sector, system of national accounts, regions, local territories.*

I. Introduction

The resources of the general government sector in the Russian Federation are of great importance in shaping the added value of the national economy. In 2017, out of a little more than 92 bln. rub. Gross domestic product in the fiscal sector accounted for almost 33 trillion. rub., or more than 35% of the total expenditure of the country. However, in territorial aspect, the impact of general government on the development of the economy and the gross domestic product

varies widely. There are regions in which the sector's share is poorly felt (for example, oil and gas territories), while in others it forms the basis of the territory's economy (republics of the North Caucasus).

At the regional level, between the municipalities, the contribution of the general government sector are also quite different. In territories where there are variety of government agencies or institutions funded by the budget, the formation of the municipal product is directly dependent on the financial flows of the state, including through social assistance and benefits.

At the national level the methodology of constructing an account "Governance" has been well described and structured. However at the territorial level (regions and municipalities) in the world and domestic science there is no universally accepted approach to determining the impact of financial flows on the formation of value added. At the same time, the development of such an approach is essential for understanding the formation of the added value of regions and local areas.

II. Literature review

The general government sector is the term that underlies the concept of the international System of National Accounts. Together with other institutional sectors of the economy (financial and non-financial, NPOs, households), general government is involved in socio-economic development both in the country as a whole and in individual regions. In Russia, the role of the general government in the economic development of the country has increased in recent years, the effect of public funds for the activity of individual areas is very important.

Public administration entities are included in the general government sector. In the Russian Federation, these consist of central government; state government, local government and social security funds. In addition, the sector includes some non-profit organizations (NPOs) and production units, which in form relate to non-financial organizations, but in content are integral parts of government. These production units may be in the form of State Corporation, that is, under the full control of the state, and producing goods and services at non-market prices. Either in the form of quasi-corporations, where governments have an impact on decision-making, but they operate by market rules. Thus, the government sector is much wider than just government agencies [1].

The directions of the public administration sector flows at the national level have been studied quite fully in the world practice [2]. There are some differences in the approaches to displaying the movement of financial resources [3].

The most authoritative organization dedicated to comparing the contribution of the general government sector in the economic development of the country, is the Organization for Economic Cooperation and Development (OECD), which regularly carries out comparisons between countries in the share of public sector in the national economy [4-5].

At the regional level, international experience allocation of general government sector flows of the economy in the SNA is quite diverse. For example, in the European Union there is a fairly complete and structured system for assessing regional disparities, in practice, implemented in all EU Member States [6-7]. Also interesting is the experience of Canada, where the statistical office has developed a system for collecting information on the movement of resources of general government sector in the territories [8].

In scientific articles, many researchers consider the sector as Collaborative Governance, as the expanded influence of state structures on the social and economic development of regions and municipalities. One of the factors of Collaborative Governance is Resource Conditions, as the financial capabilities of local communities [9]. In another study, the contribution of the general government as one of the factors for the development of the province of

Kalimantan, Indonesia was assessed by Achmad, Z. [10]. In the work Kopek, Rudolf [11] discusses features of the development of accounting policies in the general government sector, using the Czech Republic as an example.

The most popular area of studying the contribution of the general government sector to regional development is the formation of Social Accounting Matrix. This approach is based on the theory of constructing input-output tables, gives a general idea of the impact of the general government sector [12]. With regard to the Russian Federation, there are other studies on the role of general government in the development of local territories [13-14].

However, at the municipal level, due to the large number of restrictions of an informational and methodological nature, there is practically no study of the impact of general government sector on the development of territories.

III. RESEARCH METHODOLOGY

The studies Theoretically, the general government sector in the System of National Accounts is a redistributive sector, providing regulatory and equalizing functions of the economic development of the national economy.

Based on the theoretical provisions of the 2008 SNA, the authors formed a scheme for the formation, distribution and use of resources of the general government at the territorial level, which clearly shows the main relationships and flows of the financial resources of the sector (Figure 1).
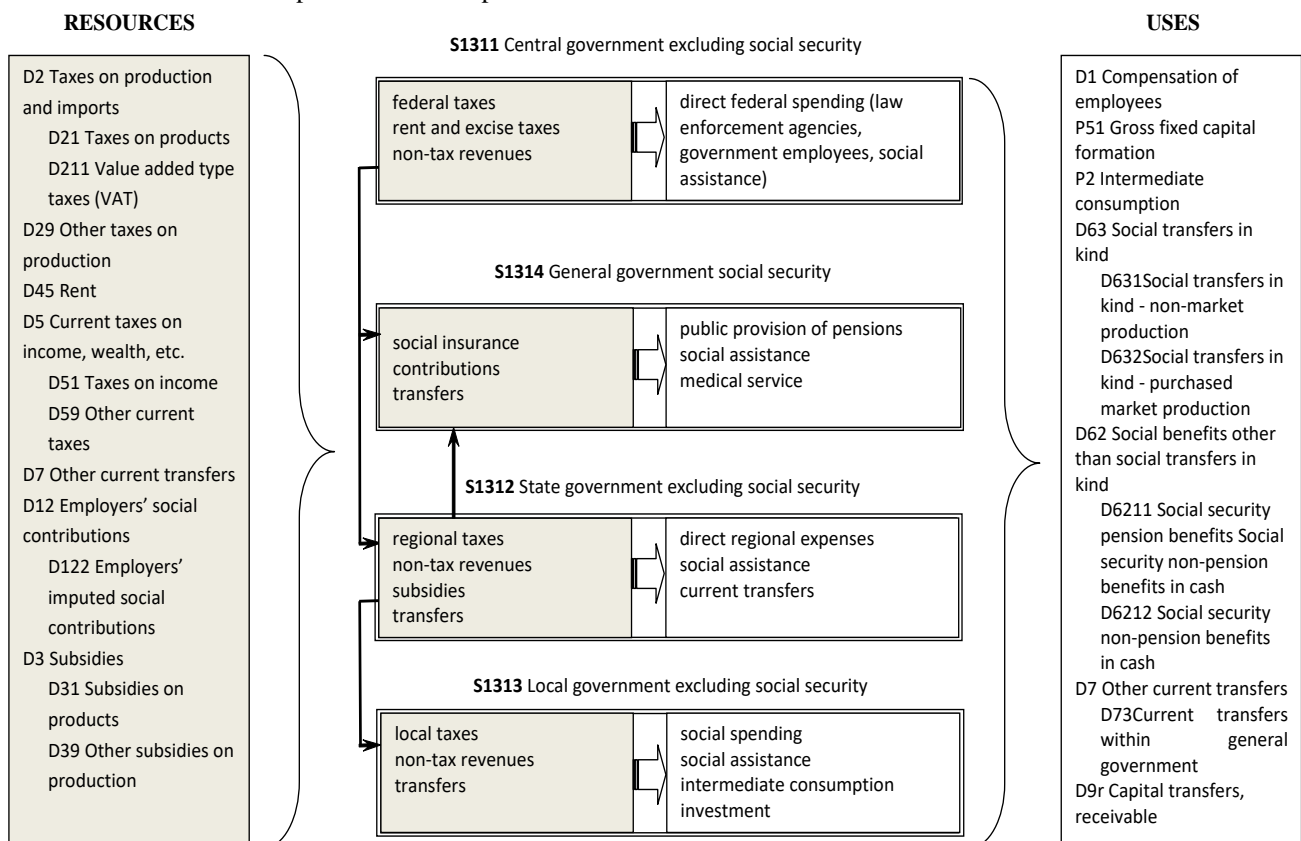

Fig. 1.   Theoretical structure resources and use of territories for the general government sector in the SNA

The basic idea of this approach is the formation of the general government accounts on the basis of a comparison of revenues from the territory and of the expenses of all the

"public" sources. The balancing indicator is net lending / borrowing of the territory. As a general government resource, it is proposed to use the payments received by different types

of taxes, social security contributions and other non-tax revenues coming into all levels of the budget system. Then, the resources of the public sector are transformed into payments to the households, either in the form of capital transfers (investments) in a certain territory (municipalities or the region as a whole). As a result, a comparison of the structure and balances of financial flows of the sector allows us to assess the impact of General government sector on the development of certain territories.

The proposed algorithm is based on several changes in the flow routing systems of national accounts, required for the calculation of the basic indicators of the regional segment.

- In contrast to the classification of tax payments on the budget system levels (federal, regional, local), we propose to rely on the general stream of payments generated by the territory. This position allows us to not pay attention to the redistribution of financial flows within the budget system.

- The revenues of general government in the regional accounts should be reflected in the context of taxes, social contributions, other current revenues (non-tax) and capital subsidies areas. Tax payments are the main source of revenue for the general government. We use the classification of the SNA in their calculation: these are taxes on products, other taxes on production, as well as taxes on income (households and enterprises).

- At the regional level, direct federal and regional expenditures are indirectly reflected in the Gross Regional Product account. In the Russian classification of economic activities, a significant part of the added value of the general government sector is included in sections O (Public administration and military security; compulsory social security), P (Education), Q (Health and the provision of social services). For local territories, the source of information may be the data on the accrued wages of these sectors, adjusted for the added value of the regions.

- The main expenditure item of the general government sector, the cost of collective services consists of wages, intermediate consumption and consumption of fixed capital. In our opinion, to create the financial balance of the general government sector, it is worth using the value added indicator of the public sector of the economy without intermediate consumption.

The biggest challenge in the calculation of the expenditure part of the general goverment sector occurs at the municipal level. Cash payments in public administration expenditures can be tracked according to statistics, but transfers in kind and to collective consumption require a review of the methodology for calculating them. These include:

1. Federal budget expenditures in the territory that funding from various federal departments and agencies through direct payments. The Russian law enforcement agencies funding is distributed to areas above and may not appear in the local or regional budgets (the Interior Ministry, the Federal Security Service, Ministry of Defense, Ministry of Emergency Situations, etc.). For each municipality, the proportion of such funding may be different, depending on the number of employees.

2. The expense of the regional budget at the local level does not have a territorial reference. This applies to the costs of managing and financing social facilities. In Russia, a significant part of the expenditures of regional budgets goes under the article "Granting subsidies to budgetary, autonomous institutions and other non-profit organizations", where the ultimate beneficiaries cannot be distinguished and the structure of expenses is not indicated.

3. There is also another problem of allocating from the expenditure structure of the local budget for wages, final consumption and other expenses. Since part of the expenditures goes through "state tasks", and does not show the structure of expenses.

Thus, in the institutional general government sector, a series of interconnected accounts is formed that reflects both the structure of tax revenues from territories according to the SNA classification and the expenses incurred by all structural units of the sector in terms of value added. In fact, the difference between the receipts of all payments from other sectors and the expenses incurred from all sources make up the indicator of net lending/borrowing of the institutional general government sector.

IV. RESULTS

To assess the share of the general government sector in the gross regional product, the regions of the Urals Federal District were selected as the object of study. It includes six regions with different specialization of economic activity and the level of socio-economic development.

In accordance with the described methodology, the types of added value of "General government" were selected (Figure 2). As can be seen from the diagram, the influence of the sector on the formation of value added is different for the regions of the Urals Federal District, from 3.5% to 20.0%. Let's take a closer look at the selected regions.
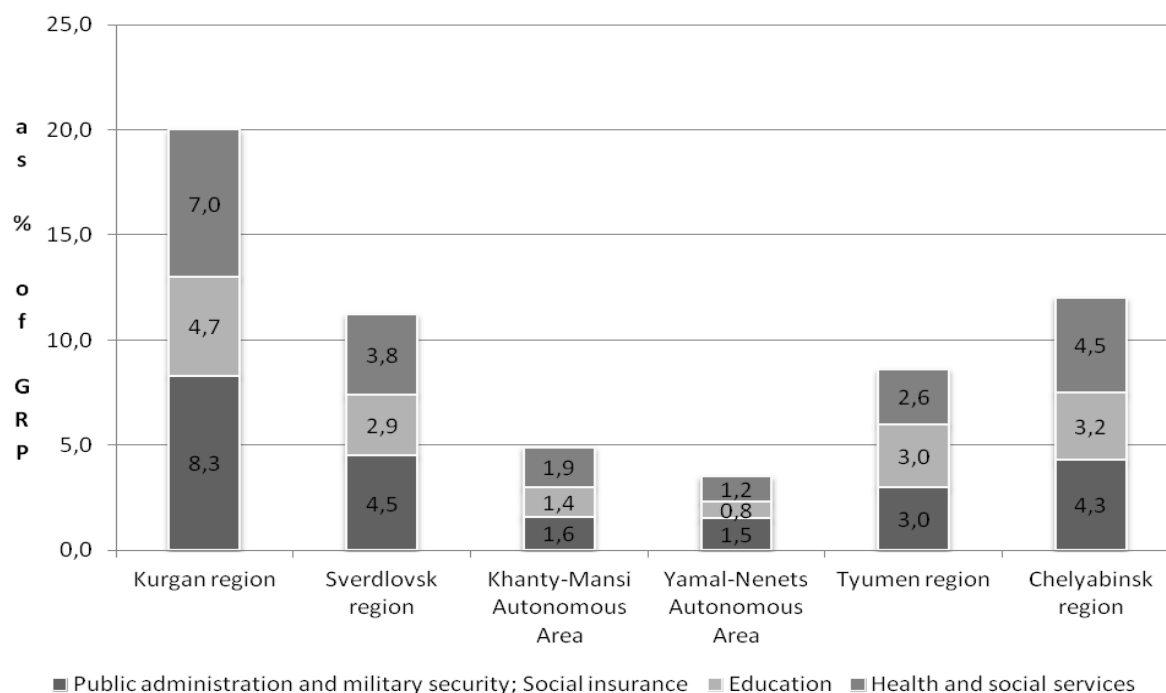
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Fig. 2.   Contribution of general government sector in the gross regional product of the Ural Federal District regions, %, In 2017

Kurgan region. The highest value of the share of public administration is present in the Kurgan region. The reason for this is the low production potential of the territory, most of the GRP is engaged in agriculture, manufacturing and trade activities. Kurgan region is the lowest place in the index of GDP per capita, and the budget is not enough to cover the expenditures of their fundamentals. About 8% of the region's added value is occupied by state administration and social insurance, and about 7% is health care. In total, the structure of the added value of more than 20% relates to the activities generated by budgetary expenditure.

Sverdlovsk region. The region belongs to the industrialized territories of Russia. About 30% of GRP occupy industries related to manufacturing activities. Another feature of the territory is the high share of the trade and service sector, wholesale and retail trade account for 18% of value added, real estate operations account for another 12%. Contribution general goverment sector is 11.2%, about equally divided between control and military software, education and health.

Chelyabinsk region. The structure of the gross regional product is similar to the Sverdlovsk region. Industrial production occupies a more significant part and trade less. General government in the GRP structure occupies 12.0%, with a greater share of health care.

Tyumen region. Specificity of GRP structure is the high proportion of industry (16.9%) and mining (15.4%) and trade (13.6%). Other sectors do not make a significant contribution to the value added of the territory. The government sector is not as significant, is about 8.6%, and evenly distributed among the activities.

Khanty-Mansiysk Autonomous Area. Region in the Urals Federal District, the most dependent on one industry - in GRP accounted for about two thirds of mineral extraction. Since the territory is one of the most industrialized in Russia, the weight of government is small. Only 4.9% of the GRP is occupied by the branches of public administration, the largest in health care.

Yamal-Nenets Autonomous Area. More than half of the region's GRP is also mining. A significant part is occupied by construction (15.4%) and trade (6.2%). Among the regions of the Urals Federal District in the Yamalo-Nenets region has the lowest significance of public administration, only 3.5%. Education accounts for 0.8% of GRP, healthcare 1.2%, the rest is management and security.

To assess the impact of budget expenditures, we consider the structure of expenditures by the example of the Kurgan region in 2017 (Figure 3). This diagram illustrates the consolidated budget expenditures (regions and municipalities together) of Kurgan area of expenditure. Almost a quarter of the budget goes directly to salary costs. Approximately the same amount is spent on social assistance to households, while 12% applies to purchases of goods and services. Indirect expenditures of the public sector of the Kurgan budget include subsidies to budget organizations, accounting for 26% of total expenses.
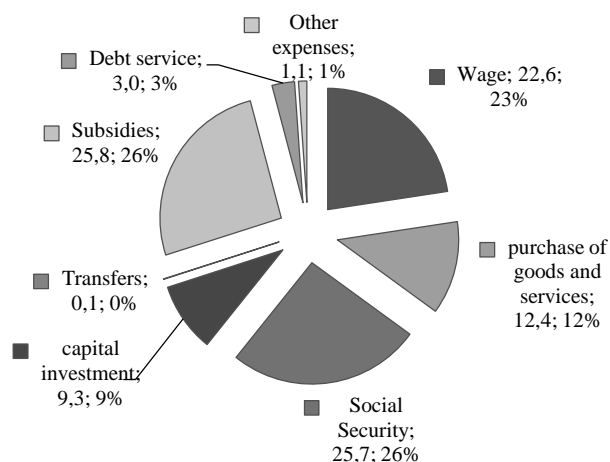

Fig. 3.   Consolidated budget expenses structure of the Kurgan region, %, in 2017

The authors, based on the presented methodology, as well as the methods presented in the work [15], calculated the effect of the expenses of the consolidated budgets of the regions and federal expenses in the territory. As an added value in the region considered cost items related to its formation. This is the cost of wages and social payments, subsidies to budgetary institutions. Federal spending on the territory defined as the difference between the contribution of the general goverment sector and expenses of the consolidated budget of the region.

As seen from the table I, the greatest value of the federal expenditure observed in Kurgan area (9.89%) or 19 860.5 million. Rub. This figure is primarily due to the low GRP of the region, which in 2017 amounted to only a little more than 200 billion rubles. Uniform financing of budget expenditures from the federal budget is available in the Sverdlovsk and Chelyabinsk regions. Sverdlovsk region GRP 1.5 times higher than in Chelyabinsk. However, the share of federal spending is about the same, slightly more than 4%. In the northern regions of the Ural Federal District, the role of federal spending is the least significant. If Tyumen area rate is 3.18 %, in Khanty-Mansi and Yamal-Nenets autonomous area it is only more than 0.5%. Federal budget expenditures in the Khanty-Mansi autonomous area accounted for only 10.9% of total public sector expenditures in the territory. In the Kurgan region, this indicator was 49.3%.

TABLE I.   THE ADDED VALUE OF THE GENERAL GOVERNMENT SECTOR BY FUNDING EXPENDITURES, MLN. RUB., IN 2017

Regions of Urals Federal District	Gross regional product	Total Value Added Government	Consolidated budget expenditures in the region	Federal budget expenditures	Federal % to GRP
Kurgan region	200,868.2	40,173.6	20,313.1	19,860.5	9.89
Sverdlovsk region	2,142,514.3	239,961.6	147,884.9	92,076.7	4.30
Khanty-Mansi Autonomous Area	3,511,127.5	175,556.4	156,426.5	19,129.9	0.54
Yamal-Nenets Autonomous Area	2,461,442.8	120,610.7	105,972.2	14,638.5	0.59
Tyumen region	1,013,424.5	87,154.5	54,973.4	32,181.1	3.18
Chelyabinsk region	1,348,564.7	161,827.8	95,622.4	66,205.4	4.91

V. CONCLUSIONS

The study led to a number of possibilities for constructing a territorial segment of the general goverment sector in the Russian Federation:

- General government sector expenditures are an important element of social and economic development of the country. There are few works describing methods for calculating the contribution of the sector to the regional and municipal economies.

- A full display of the withdrawal and expenditure of resource flows of the general government sector is possible when constructing SNA balances. As resources necessary to use all the threads of tax and non-tax payments collected from the territory. As a use, it is proposed to summarize regional (municipal) expenses and federal spending in the local territory.

- In the Russian Federation, there is a strong difference in the contribution of the general government sector to the regional value added. In the example, Ural Federal District, it was shown that the differentiation between the regions is nearly 5 times.

- The authors substantiated the methodology for determining the contribution of the federal budget to the region's value added, based on calculations of the expenses of the region's consolidated budgets. The data indicate that the greatest dependence on federal spending is present in the Kurgan region. In the structure of the GRP, all budget expenditures account for 20%, of which 9.9% of the federal part.

- The largest expenditures in GRP accounted for the sector "Public administration and defense; social insurance", and the lowest expenditures in the regional budgets UFD belongs to the sector "Education".

- The dependence of territories on expenditures of the general government sector is determined by the economic potential of the region. The higher the value added of the territories, the less is the share of government spending. At the same time, regional budgets do not increase in proportion to the region's GRP, which indicates the withdrawal of tax revenues from the rich areas.

VI. DISCUSSION OF THE RESULTS

It should be noted that our study is the first step in the formation of the full accounts for the general government sector at the territorial level. At the regional level in Russia, sufficient data are presented on the income and expenses of the sector, so the development of accounts is, although technically difficult, but feasible. In municipalities, information on the movement of sector flows is presented in fragmented and disparate form. Therefore, in our opinion, the development of accounts for the general government sector at the level of local territories is the most difficult task.

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