

# PROBLEMS OF BUDGET SUFFICIENCY OF NOVOSIBIRSK CITY

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**Abstract.** *The paper considers the key fiscal indicators for Novosibirsk City and offers the technique of assessing a city's budget and the intergovernmental fiscal flows. Having applied this technique, the author has calculated these indicators over 2006-2013 and has analyzed the balance between fiscal revenues and expenditures (the balance between local revenues and regional grants, and its dependence on the latter). In addition, the possibility of the use of budget resources to identify the main areas of spending in Novosibirsk City was analyzed; the stability of the budget of Novosibirsk City was investigated through applying the budgetary coefficients technique. Author shows that one of the major challenges of creating an effective local self-government is its adequate financial security. Solving this problem requires to strengthen the revenue base of local budgets. However, in recent years in Russian Federation the practice of growing centralization of revenues of territorial budgets has increased, and it is accompanied by an increase in the share of grants in municipal budgets. In particular, the analysis of the structure budget revenues of the largest municipality in Russia - Novosibirsk City shows a decline in the level of independence as steadily growing share of grants and we can expect further reductions in tax revenues.*

**Keywords:** *tax and non-tax revenues of the budget, grants, Novosibirsk, budget coefficients, budget expenditures of Novosibirsk City, the structure of budget revenues and expenditures.*

Novosibirsk is the largest municipality of regional subordination in the Russian Federation with a developed manufacturing industry and transport infrastructure. Significant economic, administrative and intellectual resources are concentrated in the city. Novosibirsk is the residence of the representative of the President in the Siberian Federal District, Siberian Branch of the Russian Academy of Sciences. Novosibirsk economy is characterized by a high potential compared to Russia's total. For example, the share of the labor force in the population of the city is 68,7% (the average in Russia - 60%), the share of employment in the economy is 72,7% of the labor force (in Russia - 70%).

A reflection of the existing economic potential of Novosibirsk is its financial position. A budget has decisive importance in the characterization of the financial situation of the city. It serves as

the main leverage of city government on socio-economic development of the city. Basic budget figures are shown in Table 1.

Table 1. The main budget indicators of Novosibirsk

Index (rub. per capita)	2006	2007	2008	2009	2010	2011	2012	2013
Tax revenues	4458	6802	7810	7570	7497	7980	10044	10889
Non-tax revenues	4068	5007	6649	4485	4946	5849	4474	4617
Grants	3040	6783	6654	6619	7329	8804	9280	10414
Total revenues	12157	19244	21115	18673	19772	22633	23798	25920
Total expenditures	11533	18351	22800	19937	20867	24598	24392	27656

It should be noted that the main budget figures presented in the Table 1, reveal a total budget provision of Novosibirsk, but do not allow for a qualitative analysis of the structure of budget revenues and expenditures, trends in the various budget measures, particular qualities of the alignment of budgetary security.

To solve these problems, an estimation methodology of the structure and of fiscal stability has been developed. It allows you to monitor the city budget, to identify possible ways of improving fiscal relations in Novosibirsk City. The technique is as follows. First of all, one carries out the analysis of the structure of budget revenues and directions of use of budget funds. Then, using the budget coefficients one determines the level of budget stability of the city budget. The results of this analysis can be used to assess the effectiveness of fiscal policy and its impact on economic development incentives the city. They also are important for regional and local authorities, as they provide information about the state of the financial base of the city of Novosibirsk and the trends of its formation and use.

In the structure of the sources of revenues of the budget of Novosibirsk City one can find tax, non-tax revenues and grants from the regional budget. The ratio between them is representative in terms of the assessment of the level of economic independence of the city. Furthermore, the need for diagnostic of the city budget has resulted in the development of budget coefficients shown in Table. 2. Calculations using them demonstrated their usefulness for the characterization of the state and dynamics of the budget of Novosibirsk. The practical application of budget coefficients increases the objectivity of the assessment of the budget and helps to identify the factors affecting it.

Table 2. The algorithm for calculating of budget coefficients

Name	Formula	Content
The ratio of grants and collected revenues	$R_{GCR} = G/CR$	G – grants; CR – collected (tax and non-tax) revenues
Coefficient of budget effectiveness of territories *	$C_{BE} = R/P$	R – budget revenues; P – average annual population of the municipal settlement
Coefficient of budget debts *	$C_{BD} = D/E$	D – local budget deficit, E – municipal settlements budget expenditures. If $D < 0$ , then $C_{BD} = 0$ .
Coefficient of budget coverage *	$C_{BC} = R/E$	R – budget revenues E – budget expenditures
Coefficient of budget provision of the population	$C_{BP} = E/P$	E – budget expenditures P – average annual population of the municipal settlement.
* $C_{BE}$ , $C_{BD}$ , $C_{BC}$ are calculated in two ways. I variant: R – is collected (tax and nontax) revenues of municipal settlement, D – is the difference between expenditures and collected revenues of municipal settlements' budgets; II variant: R – is disposable revenues of municipal settlement (tax, non-tax revenues and grants from the regional budget), D – is the difference between expenditures and disposable revenues.		

The calculation of presented budget coefficients allows to prove the size of financial assistance to local authorities from the regional budget. In addition, these coefficients transparently

highlight the financial situation in the city, the structure of the municipal budget, also they allow to evaluate the solvency of Novosibirsk City.

For purposes of analysis of the expenditures of the city budget is useful to consider the structure of expenditures in the following areas: national issues; national security and law enforcement; national economy; housing and utilities; environmental protection; education; culture, cinematography and mass media; public health and sports; social policy.

In general, the methods of analysis of budget and intergovernmental flows allows to evaluate the structure of revenues and expenditures, to identify trends in the various budget indicators, to investigate the problem of equalization in budgetary provision and to analyze the stability of the budget of Novosibirsk City. The results of the analysis, in turn, can serve as a basis for identifying possible areas for improving fiscal policy and budget relations to improve the financial independence and investment attractiveness of Novosibirsk City, for development in line with modern innovative trends.

The main budget revenues are tax, non-tax revenues and grants. And a sustainable basis for the revenue base of local self-government budgets can only be considered tax revenues associated with the economic potential of the area. Most of the non-tax revenues is either temporary or unstable. In addition, the structure of local revenues, in addition to tax, non-tax revenues and grants includes also revenues from business activities. Their share in the total revenues of municipalities of the Novosibirsk oblast on average over the period under review was 1,5%. Generalized structure of revenues of municipal budgets of municipal districts and towns (cities) subordinate to the authorities of the Novosibirsk oblast (excluding Novosibirsk City) for the period 2006-2013 years is shown in Table 3.

Table 3. Structure of revenues of municipal budgets Novosibirsk region, %

Year	Tax and non-tax revenues	Grants	Revenues from business activities
2006	17,92	80,37	1,71
2007	16,08	82,57	1,36
2008	19,41	79,39	1,20
2009	20,38	78,10	1,52
2010	16,72	81,03	2,25
2011	17,18	80,84	1,98
2012	18,25	81,69	0,06
2013	17,89	82,11	0

As shown by information of Table 3 average in administrative districts and urban districts the share of tax and non-tax revenue is less than 20%. Accordingly, the share of grants from the higher budget exceeds 80%. In Novosibirsk, the situation is significantly differs from the other municipalities of the region. Shares of tax and non-tax revenues in the city budget for the period 2006-2013 years are shown in Table. 4.

Table 4. Shares of tax and non-tax revenues in the budget of Novosibirsk, %

Index	2006	2007	2008	2009	2010	2011	2012	2013
Tax revenues, including:	36,67	35,34	36,99	40,54	37,92	35,26	42,21	42,02
Personal income tax	19,48	19,10	23,45	25,83	24,53	23,47	30,14	30,90
Taxes on total income	5,15	3,45	3,75	4,06	3,93	3,60	3,77	3,28
Property taxes	12,04	12,80	9,80	10,65	9,47	8,19	8,29	7,83
Non-tax revenues, including:	33,46	26,02	31,49	24,02	25,02	25,84	18,80	17,81
State fee	0,83	0,64	0,66	0,85	2,08	1,69	0,56	0,56
Revenues from the use of property	15,02	12,03	13,25	11,39	9,59	8,39	9,23	8,64
Revenues from the sale of assets	10,64	8,89	10,23	5,16	7,49	7,65	5,50	4,91

As seen from Table 4, in the structure of tax revenues more than half is personal income tax, and in general for the examination period, the share of the tax increases. The share of property taxes and the taxes on total income in 2006-2013 years is reduced. In the structure of non-tax revenues the revenues from the use of property and revenues from the sale of assets are dominated. In general, during the period, the share, both the non-tax revenue, as well as their individual components is reduced.

One of the shortcomings of the system of intergovernmental fiscal relations at the level of subjects of the Federation is the high degree of centralization of budget revenues on sub-federal level, and skew in favor of the budget grants in the structure of municipal revenues. To identify the dependence of the city budget from grants of the regional budget the share of collected (tax and non-tax) revenues and share of grants in total budget revenues of Novosibirsk were calculated (table 5).

Table 5. The structure of budget revenues in Novosibirsk, %

Index	2006	2007	2008	2009	2010	2011	2012	2013
Share of collected (tax and non-tax) revenues	70,13	61,36	68,48	64,55	62,93	61,10	61,01	59,82
Share of grants, including	25,01	35,25	31,52	35,45	37,07	38,90	38,99	40,18
Donations	3,09	0	0	0	0	0	0	0
Subsidies	19,16	25,84	16,72	24,54	23,32	22,77	21,54	22,42
Subventions	1,33	9,07	14,02	10,31	13,51	14,09	15,92	17,39
Other grants	0	0	0,69	0,53	0,19	2,37	1,61	0,14

The share of collected revenues in the budget of the city of Novosibirsk in the period 2006-2013 years generally decreases from 70 to 60%. Accordingly, the share of grants grows (from 25 to 40%). In the structure of grants the most are subsidies (from 53 to 77% of grants for 2006-2013.), then subventions from the regional budget.

In 2006 and 2007 in the revenues structure of the city budget, in addition to tax, non-tax revenue and grants were also revenues from business activities. Their share in the total revenues of the budget of Novosibirsk City was 4,9 and 3,4%, respectively.

To assess the structure of budget expenditures is interesting to calculate the shares of expenditures on national issues; national security and law enforcement; the national economy; housing and utilities; environmental protection; education; culture, film and mass media; public health and sports; social policy (table 6).

Table 6. Expenditure structure of Novosibirsk, %

Index (rub. per capita)	2006	2007	2008	2009	2010	2011	2012	2013
National issues	9,72	7,19	7,15	8,74	8,01	6,08	6,22	5,98
National security and law enforcement	2,53	1,95	2,11	2,55	2,84	2,21	0,50	0,50
National economy	9,62	15,07	15,86	13,76	18,65	3,39	14,80	19,54
Housing and utilities	21,01	19,62	18,22	12,98	13,00	27,59	12,39	14,93
Environmental protection	0,03	0,02	0,01	0,01	0,01	0,01	0,01	0,01
Education	34,23	30,64	35,37	37,82	35,41	35,93	45,85	49,28
Culture, cinematography and mass media	2,37	1,94	1,90	2,19	1,83	2,21	1,71	1,77
Public health and sports	16,92	11,61	13,90	15,44	15,04	17,45	11,93	1,55
Social policy	3,58	11,96	4,91	6,50	5,12	3,80	5,11	4,88

From 2006 to 2013 the share of expenditures on national issues decreased from 9,72 to 5,98%. The share of expenditures on national security and law enforcement did not exceed 3%, declining in 2012-2013 to 0,5%. On the national economy (mainly transport and roads) as a whole over the period considered from 9,62 up to 19,54% of the costs were spent. We note dramatic reduction of these expenses in 2011, which was due to the absence in this year's expenditures on the road sector.

Expenditures of municipal budgets have a strong social dimension. Thus, the share

expenditures of the city for housing and communal services in 2006 and 2011 was more than 20%, other years of the period under review the share of these costs was less than 20%. It is worth noting a sharp rise in the share of expenditures for housing in 2011. In particular, in 2011, there was a sharp increase in absolute and relative terms, of budgetary investment in the housing sector. The share of expenditures on environmental protection for the whole of the period under review was very low and decreased from 0,03% in 2006 to 0,01% in 2013.

In the structure of budget expenditures of Novosibirsk City share of expenditures on education as a whole for the period 2006-2013 years increased, reaching in 2013, 49,28%. The share of expenditures on culture, cinematography and mass media was at an average of 2%. The share of expenditures on health and sport changed during the considered period from 11,61 to 17,45%, in 2013 the share of this type of expenditures decreased to 1,55% due to the transfer of authority addressed to the regional level. In the 2006-2013 the city spent from 3,58 to 6,5% on social policy, and there was a sharp jump of the share of this type of expenditures in 2007 (1,96%).

Thus, the city authorities are responsible for the most important trends in the socio-economic development of Novosibirsk. Thus they have very limited tax revenues, which are entirely under their jurisdiction (Tax Code refers to local taxes only land tax and personal property tax). In addition, revenues from local taxes are practically independent of the effectiveness of economic policy of the municipality. It, accordingly, can weaken the motivation for local governments to develop business in the territory. In this regard it should be noted decrease of deductions of personal income tax to the budget of the city from 40 to 30%, which resulted in the reduction in the 2015 budget revenues at 3.5 billion rubles.

An important aspect of budget analysis is the analysis of fiscal stability. It can be implemented using budget coefficients - indicators of the state budget, calculated as the ratio of the absolute budgetary indicators for each other. The results of calculations for the budget coefficients of Novosibirsk are presented in Table 7.

Table 7. Budget coefficients calculated for Novosibirsk City<sup>2</sup>

	R <sub>GCR</sub>	C <sub>BE</sub>		C <sub>BD</sub>		C <sub>BC</sub>		C <sub>BP</sub>
		I	II	I	II	I	II	
2006	0,36	8527	12158	0,26	0	0,74	1	11533
	7,06	1648	10741	0,84	0,01	0,16	0,99	10555
2007	0,57	11808	19244	0,36	0	0,64	1	18351
	9,19	2939	19421	0,85	0,004	0,15	0,996	18961
2008	0,46	14459	21114	0,37	0,07	0,63	0,93	22800
	8,51	3617	21844	0,83	0,02	0,17	0,98	22197
2009	0,55	12054	18673	0,40	0,06	0,61	0,94	19937
	6,92	3989	22745	0,81	0,01	0,19	0,99	22517
2010	0,59	12484	19836	0,40	0,05	0,60	0,95	20935
	8,40	4266	31532	0,83	0,01	0,17	0,99	31561
2011	0,64	13830	22633	0,44	0,08	0,56	0,92	24598
	8,68	4885	34121	0,83	0,01	0,17	0,99	34209
2012	0,64	14518	23798	0,40	0,02	0,60	0,98	24392
	7,79	5302	37601	0,83	0,003	0,17	0,997	36255
2013	0,67	15265	25517	0,44	0,06	0,56	0,94	29226
	7,87	6569	45511	0,83	0,01	0,17	0,99	45549

During the period under review, there is an increase of the value of the ratio of grants and collected revenues. This indicates the increasing dependence of the budget of the city of Novosibirsk on regional budget. Nevertheless, the average value of this ratio calculated for the municipal districts and other cities of the Novosibirsk oblast, significantly higher than values of the coefficient of the R<sub>GCR</sub> for Novosibirsk City.

With regard to the coefficient of budget effectiveness of territories (budget revenues per capita), we note that according to the first variant of calculations for the period from 2006 to 2013,

<sup>2</sup> Average values of the coefficients for the municipal districts and towns (cities) subordinate to the authorities of the Novosibirsk oblast for comparison are shown in italics.

Novosibirsk had a fairly high value of this indicator. Compared to other municipalities of the region, Novosibirsk shows one of the highest values of the coefficient of the  $C_{BE}$ , which increases as a whole for the period.

It is noteworthy that according to the second variant of the calculations (including grants from regional budget) Novosibirsk - one of the major donors to the regional budget – is located in the middle group by this indicator. On average, after the transfer of grants from the regional budget to local ones revenues of rural municipalities of Novosibirsk oblast increases several times.

As noted above,  $C_{BD} = C_{BC} + 1$ . Consequently, we consider the results of the calculations of these budget coefficients together.

According to a first variant of the calculations in 2006-2013 the coefficient of budget coverage in Novosibirsk ranged from 0,56 to 0,74, i.e. from 56 to 74% of the expenditures of the city budget were covered by collected tax and non-tax revenues, and in general for the period value of this coefficient steadily declined. It should be noted that the average for the municipalities of Novosibirsk region (excluding Novosibirsk City), this ratio was less than 0,2, i.e., on average less than 20% of the expenditures of municipalities financed by tax and non-tax revenues collected in the respective territories.

In the whole region for the period 2006-2013 years the municipalities with the highest values of the coefficient of fiscal debt, and thus the lowest values of the coefficient of the budget coverage are the same territories, in which the ratio of grants and collected revenues had the highest values.

According to the second version of the calculation in 2006 in 24 municipalities and urban districts of Novosibirsk oblast  $C_{BD}$  was zero. In 2007, these municipalities was 25, in 2008 - 10, in 2009 - 20, in 2010 - 17, in 2011 - 13, 2012 – 29 and in 2013 - 19. Expenditures of local authorities are determined by their disposable revenues, which consist of collected revenues, grants from the regional budget and borrowed funds (loans, etc.). The size of the latter is very small. Because region from its budget covers a significant part of an important expenditures of territories for which local authorities do not have the funds, then the coefficient of budget debts, calculated on the second variant for the entire period considered has low values, respectively the coefficient of the budget coverage in many cities and districts close to 1.

Generally the values of the coefficients of budget debts, calculated by the second variant, in Novosibirsk were among the highest (compared to other municipalities of the region), corresponding coefficients of budget coverage were thus lower in Novosibirsk than the average for the region.

In all the municipalities of Novosibirsk oblast disposable revenues of municipalities per capita slightly different from the expenditures of municipalities per capita. Therefore, in general, the results of calculations of the coefficient of budget provision of the population by cities and districts of Novosibirsk oblast coincide with the results of calculations of the coefficient of budget effectiveness of territories, considering by the second variant.

In general, the results of the study can be summarized that one of the major challenges of creating an effective local self-government is its adequate financial security. Solving this problem requires, first of all, to strengthen the revenue base of local budgets. However, in recent years the practice of growing centralization of revenues of territorial budgets has increased, and it is accompanied by an increase in the share of grants in municipal budgets.

In general, it should be noted that the proposed method for evaluation of budgets and intergovernmental flows allows you to:

- evaluate the structure of the budgets, both in terms of income generation, received directly in the territory, and with the position depending on grants transferred from the budgets of the higher level;
- analyze the possibility of using of budget resources to identify the main areas of expenditures in the territories;
- to investigate the stability of territorial budgets by calculating of budget coefficients.

Analysis of the structure budget revenues of Novosibirsk shows a decline in the level of independence as steadily growing share of grants (from 25,01% in 2006 to 40,18% in 2013). We can expect further reductions in tax revenues.

The structure of expenditures of the city budget as a whole reflects the prioritization performance of its core functions, in accordance with which the main items of expenditures are expenditure on education, housing and communal services, and national economy. However, the instability of their own revenues makes problematic financial provision of budget authority of city government.