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FINANCIAL ANALYSIS IN BUDGETARY INSTITUTIONS

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Abstract

The article illustrates the relevance of developing new directions in the analysis and performance evaluation techniques aimed at results-based management optimizing the use of budgetary institutions' resources. The assessment of a state institution's financial condition, its financial results, and risks is implemented by analysing the financial and economic activities of the budgetary institution. The article addresses the problem of determining the proper objectives of financial analysis in an institution, along with the sources of information. The authors also assess the priority methods.

Keywords

Analysis – Balance Sheet – Report – Method – Depreciation – Coefficient

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Introduction

In modern economic conditions, the process of deeper introduction of public finance in the economy takes place. This process requires the relevant techniques, extensive authority and versatile functions of state financial control. The possibility of succeeding in the specified directions is associated with achieving the best results while using the least resources. The introduction of international financial reporting standards for the public sector in Russian accounting is aimed at achieving the primary goal – improving the efficient use of state financial and material resources and, accordingly, the effectiveness of state control. In this regard, the comprehensive analysis of economic processes at the level of financial and economic activities of economic entities is of paramount importance. This creates favourable conditions for the development of financial analysis of state institutions activities¹.

Theoretical background

Figure 1 shows a set of public management activities and measures to enhance the effective use of financial resources.

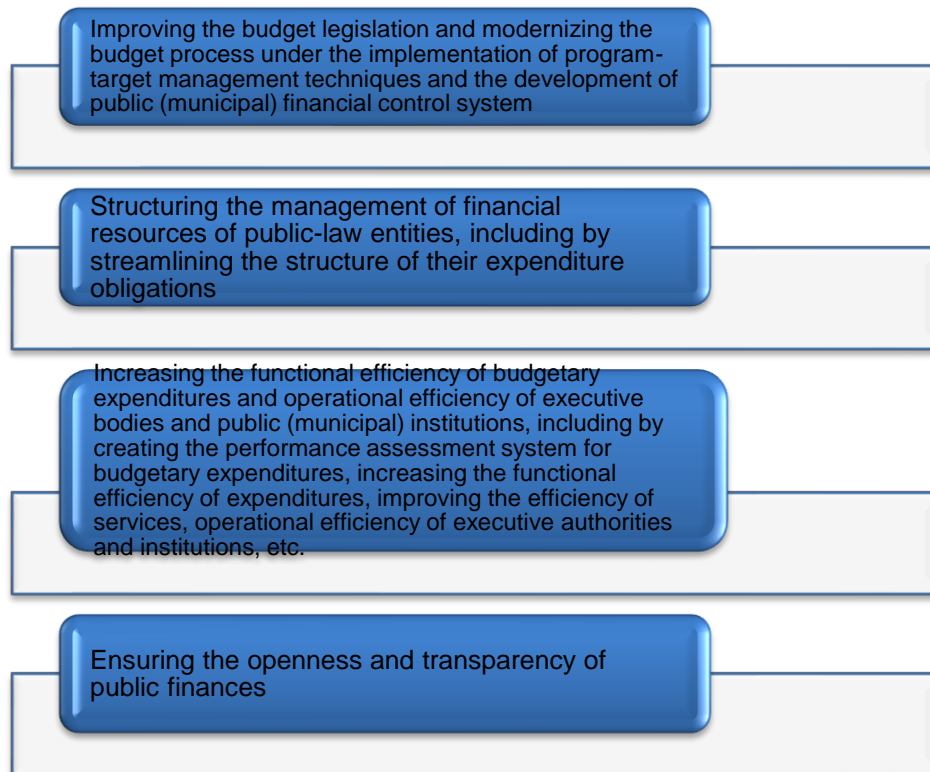


Figure 1
A set of public management activities and measures to enhance the effective use of finance resources

¹ I. M. Dovgalyuk, "Osobennosti pravovykh statusov byudzhnogo i avtonomnogo uchrezhdenii", *Nauka i obrazovanie segodnya*, num 12 (2017): 69-71; E. N. Zhavoronkova, "Reforma byudzhnetoi sistemy Rossii na sovremennom etape", *Gosudarstvennoe upravlenie*, *Elektronnyi vestnik*, num 43 (2014): 81-94. Available at: http://e-journal.spa.msu.ru/uploads/vestnik/2014/vipusk_43._aprel_2014_g./ekonomicheskie_voprosi_upravlenija/zhavoronkova.pdf y G. Miller, *Performance Based Budgeting*. Routledge. 2018.

When addressing this issue, it is worth noticing that in the commercial sphere, it is medium-sized and large businesses that engage in financial analysis, since data received from standard forms of financial statements are not enough for managerial decision-making. The established finance analysis process to a certain extent characterizes the maturity of an enterprise. The reorientation from resource management to performance management in the public sector has set the budgetary institution with challenges similar to those facing a regular business. It is important for both the founder and the institution to achieve the goals by rational spending of resources within the permissible risk zone².

Financial analysis allows controlling this through a system of indicators of a budget institution, by comparing their actual values with the planned and similar in type of activity (Figure 2).

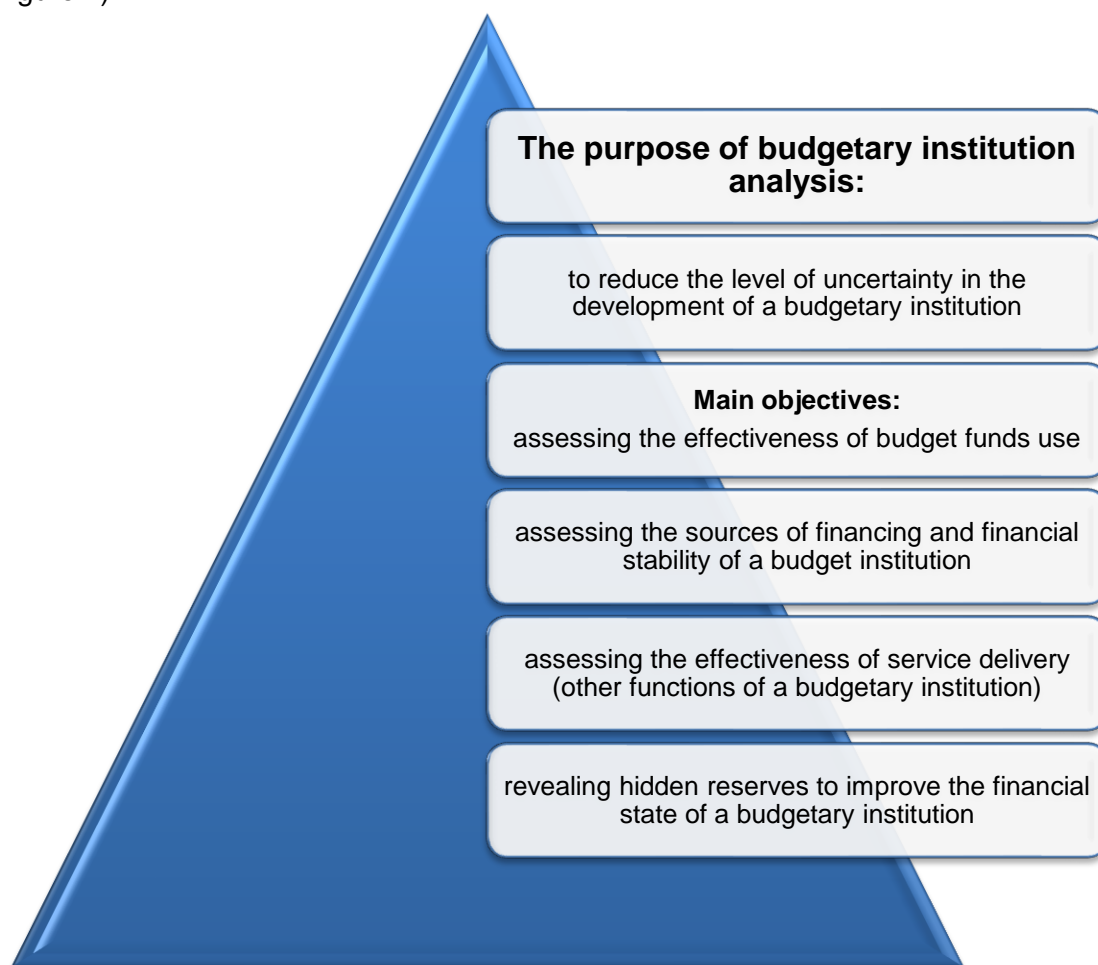


Figure 2
Goals and objectives of financial analysis of budgetary institutions

² E. V. Bergal & V. A. Nikonenko, "Risk-orientirovannyi podkhod pri planirovanii control nykh meropriyatii v finansovo-byudzhethnoi sfere", *Bukhgalterskii uchet i nalogooblozhenie v byudzhethnykh organizatsiyakh*, num 11 (2018); E. F. Tselishcheva, "Analiz effektivnosti byudzhethnykh raskhodov munitsipalnykh uchrezhdenii", *Munitsipalnye finansy*, num 14 (2014): 40-50 y T. R. Bowen; Y. Chen; H. K Eraslan & J. Zapal, "Efficiency of Flexible Budgetary Institutions", *Journal of Economic Theory*, Vol: 167(C) (2017): 148-176. Available at: <https://doi.org/10.3386/w22457>

Methods

Accounting (financial) records are a source of financial analysis (Figure 3).

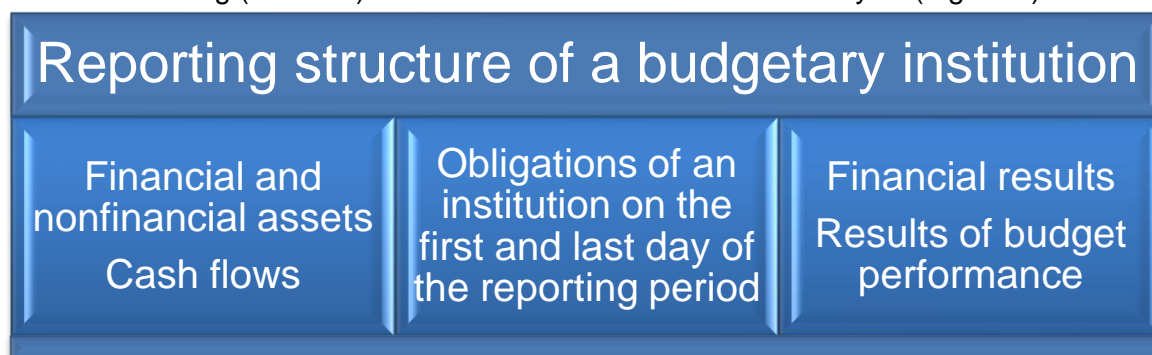


Figure 3
Reporting structure of a budgetary institution

The list of accounting (financial) statement indicators of a budget institution used for financial analysis includes³:

1) balance sheet indicators (assets, liabilities, net assets). They provide information on the distribution of assets of a budget institution by articles, the need for investment, the ratio of fixed and current assets, along with the amounts of receivables. The analysis of the structure of liabilities, long-term and short-term debt provides important information. The balance sheet formula is presented in Figure 4;



Figure 4
Mathematical definition of the balance sheet

2) indicators of the report on the financial performance that characterize the economic features of revenues and expenses for the reporting period. The main goal of state institutions is not to receive profit, but to control budget funds. Revenues are important for government activities that are wholly or partly funded by consumer fees. However, for activities funded primarily from budgetary allocations, the primary interest is costs;

3) cash flow statement indicators reflecting cash inflows and outflows. This information is of interest to analyse the inflow sources and expenditure during the reporting period;

4) report indicators comparing the approved budget with the budget execution;

³ L. N. Gerasimova, *Metody upravlencheskogo ucheta* (Moscow: Prospekt, 2016); N. G. Ivanova, *Gosudarstvennye (munitsipalnye) uchrezhdeniya v usloviyakh reformy byudzhethnogo sektora* (St. Petersburg: SPEU, 2014) y S. Y. Platoshechkina, "Ob otsenke effektivnosti ispolzovaniya gosudarstvennykh raskhodov", *Audit i finansovyi analiz*, num 3 (2015): 136-142.

- 5) explanatory note to the disclosed indicators;
- 6) explanations⁴.

Results

When conducting financial analysis, it is necessary to consider that the indicators presented in the financial statement are interconnected. For example, the depreciation presented in the statement of financial performance compared with the volume of assets from the balance sheet provides information on the write-off volumes and possible investments. The analysis of reporting indicators allows concluding about the proper or inappropriate activities of a budget institution, to decide whether it is possible to trust its leader in the future and to change the direction of its activities.

Let us further consider some analysis methods of financial and economic activities applicable to budgetary institutions.

Ratio analysis method

The coefficients are relative indicators, calculated based on accounting entries. They include the following groups:

Stability ratios (Figure 5, Table 1).

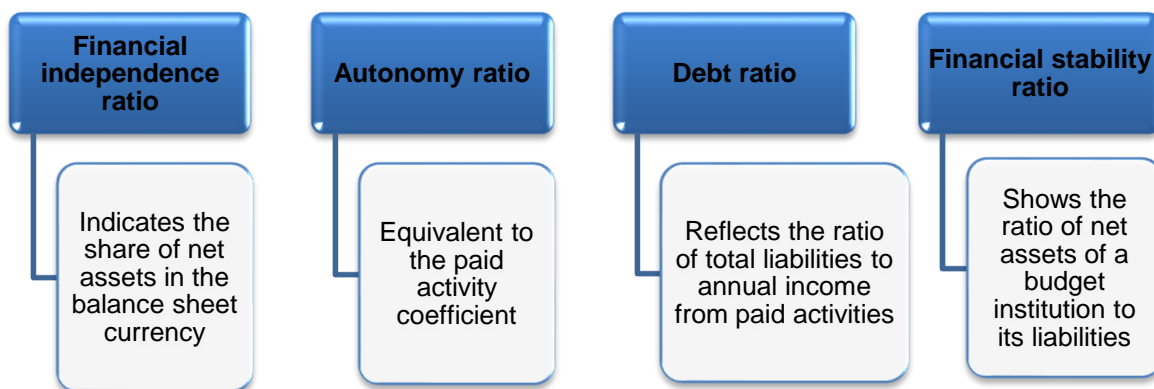


Figure 5
Stability ratios

⁴ L. N. Gerasimova, "Neobkhodimost otrazheniya v bukhgalterskom uchete informatsii nefinansovogo kharaktera", *Uchet. Analiz. Audit*, num 1 (2015): 77-81; L. A. Krokhmal, "Problemy realizatsii v Rossii gosudarstvennogo zadaniya na okazanie obrazovatelnykh uslug po programmam vysshego obrazovaniya", *MIR (Modernizatsiya. Innovatsii. Razvitie)*, Vol: 7 num 2 (2016): 105-109. Available at: <https://cyberleninka.ru/article/n/problemy-realizatsii-v-rossii-gosudarstvennogo-zadaniya-na-okazanie-obrazovatelnyh-uslug-po-programmam-vysshego-obrazovaniya> y A. I. Matei & C. Gaita, "Characteristics of Process Management in the Public Institutions in Romania: Comparative Analysis", *Procedia Economics and Finance*, num 39 (2016): 94-101. Available at: <https://ssrn.com/abstract=2810787>

Indicator	Criterion	Characteristic
Financial stability ratio	not lower than 0.5-0.7	At least 50-70 kop. of capital should be allocated per 1 ruble of borrowed funds

Table 1
Characteristics of the financial stability ratio

The financial stability ratio provides protection against the bankruptcy risk. It is a ratio of capital to borrowed funds (leverage). Limiting the leverage ratio through financial stability contributes to minimizing the risks associated with the generation of losses, early withdrawal of loans by lenders, and cash gaps.

When setting the value of the financial stability standard, it is worth considering that in economic growth, the coefficient may be lower than in a crisis. Industry specifics also affect the standard value: regular cash flow from several independent clients forms the basis for lowering the indicator, and on the contrary, irregular receipts, high concentration of revenue on large customers are grounds for tighter conditions and higher indicator. Depending on the macroeconomic situation and the type of institution activity, the ratio may vary from 0.2 to 1.

Example 1. Let us calculate the financial stability ratio of an enterprise based on the balance sheet presented in Table 2.

Balance sheet	Amount, thousand rubles
Cash	2,000
Current assets (excluding cash)	16,000
Fixed assets	12,000
Total assets	30,000
Capital (equity)	10,000
Short-term liabilities	14,000
Long-term liabilities	6,000
Total liabilities	30,000

Table 2
Notional balance sheet of an enterprise

$$R_{\text{fin. stab.}} = (10,000 / (14,000 + 6,000) \text{ thousand rubles}) \times 100\% = 50\%.$$

Conclusion: The ratio is in the acceptable risk zone.

A budgetary institution interested in increasing its budget revenues may use the concept of cost of capital for the following purposes:

- to calculate the alternative use of the property (for example, which is more profitable – to operate real estate and spend money in extrabudgetary activities or to lease property and place funds on deposit);
- to access the effectiveness of bank loans.

Liquidity ratio (absolute liquidity, urgent liquidity, current liquidity).

The liquidity of a budgetary institution is the ability to make timely payment of monetary obligations of the federal budget at a certain point in a financial year.

To calculate the liquidity of cash in the economic sphere, one can use such indicators as quick, current and long-term liquidity ratios. However, the traditional method of calculating the liquidity ratio is not suitable for public finance. It is worth noticing that in Russia the budget is implemented rather unevenly. This is mainly because most contracts payments are made at the end of the year. Moreover, there is a practice of developing significant budget funds at the end of the year.

Considering the specifics of budgetary institutions, one can use the working capital ratio (WCR) to calculate the liquidity ratio:

$$R_{liq} = CB_{kg} / (1/12 E) + (1/12 P),$$

where CB_{kg} refers to cash balance at the reporting date;
 $1/12$ is the WCR rate;
 E refers to the federal budget expenditures for the corresponding year;
 P refers to the payments from sources of financing the federal budget deficit.

Net asset value method

To calculate the efficiency of using net assets of a budget institution, one needs to decide on the funds attributed to this category of assets. The financial result listed in the balance sheet liabilities forms the assets working in extrabudgetary activities.

As for the founder's funds, they participate in both major financial and extrabudgetary activities. Budgetary institutions can fully take them into account when calculating the net assets or allocate some conditional part of the founder's funds involved in extrabudgetary activities. One can use income or another more suitable indicator (salary rate, floor space) as an indicator to distinguish the founder's funds between the major financial and extrabudgetary activities. It is also possible to use the procedure established for calculating the ratios of paid activity.

Example 2. Based on the balance sheet of a budgetary institution, let us determine the size of net assets, provided that the assets are not divided between the major financial and extrabudgetary activities (Table 3).

	Balance sheet account	Total, thousand roubles
Assets		
1	Residual value of tangible assets	199,518
2	Residual value of intangible assets	184
3	Inventories	13,792
4	Investments in nonfinancial assets	2,362
5	Production costs	580
Total nonfinancial assets		216,436
6	Monetary resources	161,072
7	Income Calculations	-5,614
8	Calculations on advances paid	22,740
9	Calculations with accountable persons	108
10	Other accounts receivable	-179,920

10.1	Calculations for VAT tax deductions	1,374
10.2*	Settlements with the founder	-337,294
10.3*	Depreciation of assets of particular value	156,000
10.4	Residual value of assets of particular value	-181,294
Total financial assets		-1,614
Balance		214,822
Liabilities		
11	Settlement of commitments	1,266
12	Settlements for payments to the budget	1,220
13	Other settlements with creditors	44
Total liabilities		2,530
14	Financial results	212,292
Total financial results		212,292
Balance		214,822

* Data in lines 10.2 and 10.3 are not included in the balance sheet currency

Table 3

Notional balance sheet of a budgetary institution

Net assets are calculated as follows:

$$NA = (212.292 + 181.294) \text{ thousand roubles} = 393,586 \text{ thousand roubles}$$

When assessing the effectiveness of a budgetary institution, it is necessary to take into account all funds involved in income-generating activities: the founder's and the institution's own funds.

Particular attention should be paid to assessing the financial stability of a budgetary institution: compared to commercial organizations, the situation here looks different.

Example 3. Based on the balance sheet of a budgetary institution, let us calculate the financial stability ratio (data in Table 3):

$$R_{\text{fin. stab.}} = 212,292 \text{ thousand roubles} / (2,530 + 5,614) \text{ thousand roubles} \times 100\% = 2,607\%.$$

The capital exceeds the liabilities by 26 times. This fact indicates an extremely high security of obligations by the own funds of a budgetary institution due to their low value.

Let us examine the structure of the net assets of a budgetary institution. Net assets and net equity represent equity, respectively, for assets and liabilities. As a rule, net assets are not separated by items in the assets of the balance sheet – only their total value is calculated. At the same time, based on the conditions of economic feasibility, when the capital primarily includes low-liquid assets, and lastly the money, their conditional separation is possible. Indeed, the funds of creditors will first be charged from the institution accounts, and only then from less liquid assets.

Example 4. Based on the balance sheet (Table 3), let us disclose the structure of net assets including the owner's equity.

Net assets amount to 393,586 thousand rubles (Table 4).

Nonfinancial assets within the size of net assets are 216,436 thousand rubles.

Net asset balance = $393,586 - 216,436 = 177,150$ thousand rubles.

Calculations within the size of net assets = $22,740 + 108 + 1,374 = 24,222$ thousand rubles.

Net asset balance = $177,150 - 24,222 = 152,928$ thousand rubles.

Financial resources in net assets = $152,928$ thousand rubles.

Net assets	Value, thousand rubles	Share, %
Nonfinancial assets	216,436	55
Calculations	24,222	6
Financial resources	152,928	39
Total net assets	393,586	100

Table 4

The structure of net assets of a budgetary institution including the owner's equity

This structure determines the potential for extrabudgetary activities of budgetary institutions. The net assets structure shows that the institution has everything necessary for the smooth operation (fixed and cash assets).

Example 5. Based on the balance sheet (Table 3), let us disclose the structure of net assets excluding the owner's equity.

Net assets amount to $212,292$ thousand rubles (Table 5).

Nonfinancial assets within the size of net assets = $216,436 - 181,294 = 35,142$ thousand rubles

Calculations = $24,222$ thousand rubles

Financial resources = $152,928$ thousand rubles

Net assets	Value, thousand rubles	Share, %
Nonfinancial assets	35,142	17
Calculations	24,222	11
Financial resources	152,928	72
Total net assets	212,292	100

Table 5

The structure of net assets excluding the owner's equity

This structure determines the internal reserves of a budgetary institution in the field of loss coverage. A high proportion of financial resources creates a solid margin in case of unforeseen circumstances.

Degree of Operating Leverage. As an element of financial analysis in budgetary institutions, one can use the degree of operational leverage, the essence of which is that by changing the volume of services provided and the cost structure, it is possible to change the profit value.

This technique is based on the division of costs into conditionally constant and conditionally variable. The operating leverage shows by how many times the rate of change in profit from the provision of services exceeds the rate of change in revenue from the provision of services.

The degree of operational leverage manifests itself in both the major financial and extrabudgetary activities of a budget institution. The financing system through the state (municipal) assignment is a classic reimbursement scheme of fixed and variable costs. Property maintenance costs relate to fixed costs, the value of which is insensitive to changes in the volume of state assignments or additional paid services. In practice, the operating leverage leads to the following results:

- 1) if the volume of the state assignment (paid activity) increases, in the conditions of constant property maintenance costs, a budgetary institution receives savings (profit);
- 2) if the volume of the state assignment (paid activity) decreases, in the conditions of constant property maintenance costs, this leads to the over-expenditure (loss) in a budgetary institution.

Today, the use of this technique seems appropriate.

Previously, the degree of operational leverage did not pose a threat to the activities of budgetary institutions, as, firstly, in the conditions of good budget filling, the size of the state assignment was high, and secondly, the founder covered property maintenance costs even if it brought income from the paid activity.

Today the challenge is to prevent the negative side of the operating leverage, which can be achieved either by increasing the provision of paid services of a budgetary institution or by selling assets surplus. Moreover, budgetary institutions must solve this task under adverse macroeconomic conditions (under the reduced purchasing power of the population and business activity of the business sector).

Depreciation analysis. The depreciation of valuable movable and immovable assets of an institution, in respect of which the institution does not have the right of independent disposal, is repeatedly reflected in the balance sheet of a budgetary institution. The depreciation:

- reduces the book value of assets;
- reduces debt to the founder;
- increases the positive financial result of a budgetary institution.

By reducing the book value of assets by the amount of depreciation, one can calculate the residual value of assets, objectively reflecting its real value, which corresponds to the generally accepted practice of financial reporting.

Although the budgetary institution's debt to the founder for the transferred assets is reflected in the balance sheet, it does not affect the balance sheet currency. When calculating the balance sheet currency, one should consider an indicator reflecting the difference between settlements with the founder and depreciation accrued on valuable assets.

Thus, financial reporting of a budgetary institution implies amortization of the debt to the founder. In this case, settlements with the founder are reflected in the asset balance with a negative sign. By contrast, it should be noted that for commercial institutions, the founders' (participants') contributions are recorded in the liability balance in own funds as equity capital and are not reduced as depreciation on assets is accrued to the authorized capital.

Another characteristic of a budgetary institution balance sheet is the reflection in its composition of a positive financial result of depreciation calculated on valuable assets. This is because budgetary institutions do not pay for the acquisition of these properties and do not have a debt affecting the balance sheet currency.

An example of a balance section of a budgetary institution is presented in Table 6.

Assets		Liabilities	
Balance sheet	thousand roubles	Balance sheet	thous and roubles
Nonfinancial assets		Financial results	
Book value of valuable assets*	200,000	Financial result of accrued depreciation of valuable assets	50,000
Depreciation of valuable assets**	50,000		
Residual value of valuable assets	150,000		
Financial assets			
Settlements with the founder***	-200,000		
Depreciation of valuable assets****	50,000		
Residual value of valuable assets	-150,000		

Note: data in lines marked with "*" are not included in the balance sheet currency.

Table 6
Example of a balance section of a budgetary institution

Similar operations in a commercial organization are presented in Table 7.

Assets		Liabilities	
Balance sheet	thousand roubles	Balance sheet	thous and roubles
Book value of assets*	200,000	Authorised capital	200,000
Depreciation of assets	50,000		
Residual value of assets	150,000		

* Data on book value and depreciation value are not included in the balance sheet currency.

Table 7
Notional balance sheet of a commercial organization

The share of accrued depreciation (reflected in the liability side of a balance sheet as a positive financial result) in the balance sheet currency of a budget institution is significant. Since settlements with the founder, reduced by the depreciation amount, are reflected in the assets with a negative sign, they cover the residual value of the valuable assets indicated in the noncurrent assets section.

Thus, there is a mutual absorption of balance sheet accounts, while the residual value of valuable assets has no effect on the balance currency of a budgetary institution. When assessing the balance of a budgetary institution in terms of the rules of commercial organizations, on the one hand, there is an overestimated profit, and on the other hand – an understated asset. When analysing financial activities of a budgetary institution, it is necessary to transform the balance to assess the efforts of a budgetary institution itself and the impact on the financial result of using the owner's equity.

How does one assess a positive financial result in terms of accrued depreciation? Of course, it increases profit; however, it cannot be recognized as received at the expense of labour efforts of a budgetary institution. It is a sort of "gift". However, this profit is quite rightly taken into account when calculating the own funds of a budgetary institution when it is necessary to assess the financial stability (solvency) of an autonomous institution. It is advisable to calculate financial indicators in two sections: with and without accrued depreciation. As for the assets reflected in the asset of a balance sheet, when assessing the effectiveness of extrabudgetary activities, it is possible to divide the assets using the ratio of paid activity.

Conclusion

The above findings lead to the following conclusion:

When assessing the efficiency of using budgetary resources and developing techniques for measuring and creating performance criteria, one should consider not only the economic component linking the volume of works (services), the result with the cost of their provision, but also various other components of efficiency. Financial analysis is intended to ensure an objective assessment of budgetary institution activities. Based on the analysis results, the founder and the director of a budgetary institution make management decisions to ensure the development of an institution. Financial analysis techniques allow comparing the actual values of indicators with those obtained in the context of rationing, previously planned or industry average. Comparative analysis of budgetary institutions does not only allow the founder to monitor subordinate agencies, the analysis results are also taken into account when allocating grants to perform government assignments. Thus, financial indicators reflect the activities of a budgetary institution and its financial situation in a quantitative ratio.

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