ФОНД “ИНСТИТУТ ЭКОНОМИКИ ГОРОДА”
INSTITUTE FOR URBAN ECONOMICS

ANALYTICAL TOOL FOR MULTI-YEAR MUNICIPAL INVESTMENT PLANNING

LONG-TERM INVESTMENT PLANNING IN YEKATERINBURG’S MUNICIPAL INFRASTRUCTURE

Moscow 2003

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Introduction

This assignment was carried out under the contract between the Institute for Urban Economics and the Organization for Economic Cooperation and Development with the support and participation of the Yekaterinburg administration.

One of the main challenges that the Russian state and municipalities face today is the development of a long-term investment policy. The existing regulatory framework deals with the fiscal year as a key planning period. The status that is given to the long-term financial plan by the RF Budget Code confirms this in the first instance. According to the Budget Code (article 174), *the long-term financial plan is a document to be prepared concurrently with a draft budget for the next fiscal year based on the medium-term forecast of socioeconomic development of the Russian Federation, federal subject, or municipality, with information on predicted budget capacities for revenue mobilization, attraction of state or municipal borrowings, and funding of principal budgetary expenditures.*

The long-term financial plan is prepared only for information and is not signed into law. In addition, the Budget Code requires that the list of budget-funded investment projects is adopted annually on an item-by-item basis.

The Russian cities, including Yekaterinburg, are beset with inadequate funding of capital investments in their infrastructure. The reasons for this problem are the following:

- impossibility to attract private investments because of the low borrowing capacity of municipal enterprises;
- imbalance between revenue sources and spending powers at the municipal level.

At the same time, practices show that even those scarce budgetary allocations for investment are used in a very ineffective way at all levels of the Russian budget system.

Thus, the implementation of budget-funded investment projects revealed the following shortcomings that are also related to the absence of a long-term investment policy:

- project objectives are inexplicit;
- there are no strict budget constraints;
- project monitoring is not efficient enough.

The way out of this situation should be sought through revising the organizational principles of the investment process, searching new sources of funding, creating conditions favorable for private investment.

For these reasons, the long-term planning of state authorities' investments at all levels has become particularly relevant. This process includes the establishment of priorities (goal-setting) for the socioeconomic policy, long-range prediction of budgetary resources, forecasting current and capital budgetary expenditures.

The structure of planned budget revenues and expenditures should reflect priorities of the socioeconomic policy based on the analysis of the main factors in economic interaction of the budget system with enterprises and the population. Such main factors may include the size of the tax burden, amount of transfer payments, provision of preferential tax treatment, development of infrastructure, stability and effectiveness of normative and legal regulation of economic activities. The experience of developed market-economy countries shows that the very availability of a long-term plan outlining budget policy priorities and conditions for interaction with businesses and the public has a stabilizing effect on economy and encourages investment. To ensure such effect, a long-term budget policy should be realistic and conservative, that, in turn, should ensure public trust in this policy. Therefore, long-term budget planning and, specifically, long-term investment planning is one of the conditions required to improve the

performance of state and municipal functions, i.e. improve the economic well-being, encourage economic development, and meet the demand for public goods in a most complete and effective way. For in the long term, the goal of the state is to develop a balanced economic policy coordinated at all levels of government and ensuring sustainable economic growth.

The above problems are becoming especially acute in the area of municipal services. Over the last years, municipal infrastructure objects in Russia have been ageing heavily because of inadequate investment. As a result, social services provided at the municipal level have deteriorated quality-wise and become less accessible. Another effect of such ageing is the increased failure rate, which has very negative consequences for the social and economic sphere, as well as environment. The state of municipal infrastructure has a damaging impact on the socioeconomic development of regions or specific municipalities. Moreover, poor infrastructure eventually reduces the investment attractiveness of municipalities. Therefore the development of municipal infrastructure is one of the most important tasks facing municipal and regional authorities.

This report analyzes the trends in making investment budgets in Russian municipalities (Section1), and provides a detailed analysis of the Yekaterinburg city budget in terms of investment spending by all socially significant branches of the city's economy (Section 2).

Given the need to attract off-budget investments in the housing, public utilities and transportation sector, Section 3 analyzes tariff regulation of municipal enterprises in Yekaterinburg as a principal market.

Section 4 deals with the development of methodology for long-term budget investments with a specific focus on the methods used to select investment projects based on limited capital development budgets.

Section 5 expounds the main principles of funding investment projects in municipal infrastructure as well as capabilities for attracting off-budget resources.

The minimization of risks associated with private investments in the housing and utility sector is explained in Section 6, while Section 7 describes possible organizational forms of interaction between public authorities and businesses in this sector.

The project team has done its best to adapt the proposed methodology to Yekaterinburg's needs.

To illustrate practical capabilities, Appendix 1 provides examples of investment projects in the housing and utility, and public health sectors.

Appendix 2 presents a business plan developed by the project team for the Yekaterinburg Northern Aeration Plant reconstruction and building project that shows a feasibility to attract off-budget investments in the development of municipal infrastructure through incorporating an investment component in the utility tariff.

Appendix 3 contains materials of the conference on long-term investment planning held in Yekaterinburg on November 28, 2003, for the members of the association "Ural Cities".

The project team comprised the following experts from the Institute for Urban Economics: E. Askerov, V. Grigorov, S. Nikiforov, E. Petrova, V. Prokofiev, D. Khomchenko, while S. Sivaev was the project manager.

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1. Financing of Capital Expenditures in Russian Municipalities

This section analyzes capital outlays of Russian municipalities, their share in budgetary expenditures and sources of funding.

The RF Budget Code states that subfederal budgets' current expenditures may not exceed revenues. Budget deficits may occur only as a result of capital investment, which is not often the case in practice. Another legislative provision says that internal borrowings are used to cover a deficit in respective budgets and to finance their expenditures for the payment of state and municipal debt obligations. It follows from this that borrowings may be allocated for either capital investment or debt refinancing.

Noteworthy is the question of how reasonable are cities' investment activities. Best public finance management practices assume non-investment in risky commercial undertakings.

A regional budget deficit may not exceed 15 percent of budgetary revenues minus transfers made from the federal budget. For a municipal budget, a stricter limitation is imposed. Its deficit may not exceed 10 percent of local budgetary revenues minus transfers from the federal and regional budgets.

1.1. Local Spending on Capital Investment

The analysis of budget execution reports for several years shows that the share of subfederal budget spending on capital construction fluctuated from 11% in 1998 to 19% in 2001. Chart 1.1 shows data on regional consolidated budgets. The consolidated budget here is the budget of a federal subject plus budgets of municipalities within its territory. This Chart shows that after the decline in 1998 capital investments in regional consolidated budgets were growing slowly from 11% to 19%. Throughout the 1996-2001 period, the size of expenditures in consolidated regional budgets increased by 8% (Chart 1.1).

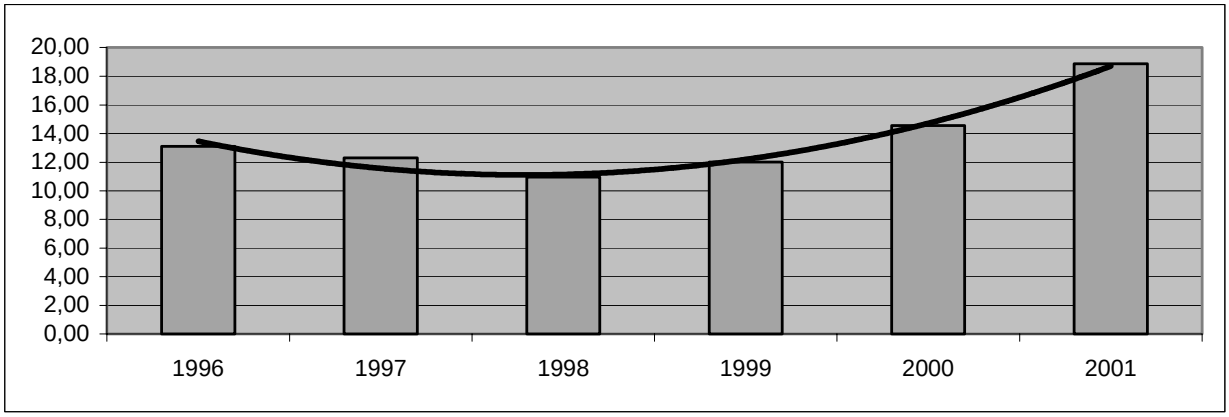


Chart 1.1. Capital expenditures in regional consolidated budgets' spending.

Chart 1.1 shows the structure of capital expenditures in regional consolidated budgets. It is evident that the proportion of spending on new construction, major repairs and procurement of equipment remained almost unchanged over the last six years despite serious financial problems in 1998-1999 caused by the financial crisis.

Since 1998, federal subjects provide to the Ministry of Finance information on the execution of municipal budgets. Such information is submitted as a sum of all local budgets within the region. This gives an opportunity to analyze local budgets separately from the regional ones.

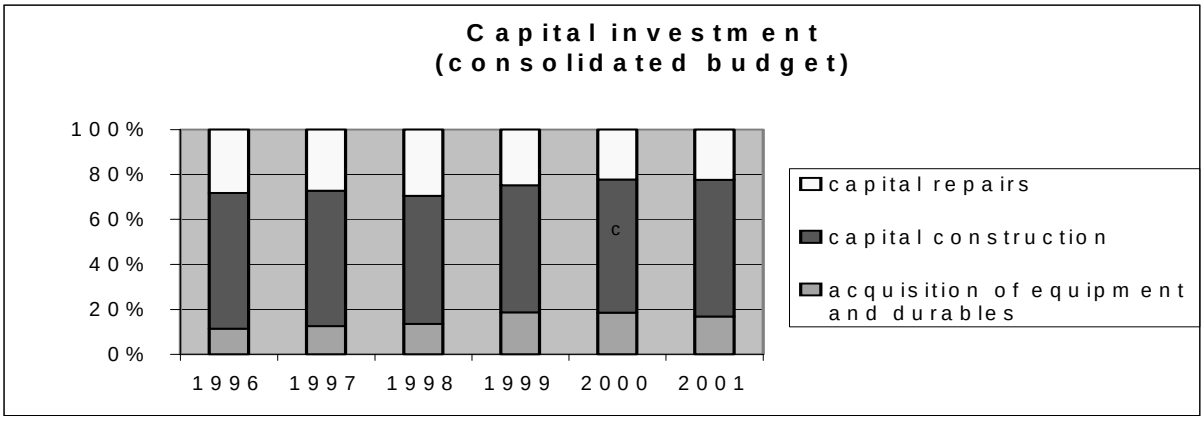


Chart 1.2. Investment in capital assets (consolidated budget). [top to bottom: Major repairs; Capital construction; Procurement of equipment and durables]

In 2000, capital expenditures of Russian municipalities averaged 13.6% of their overall spending. In 2001, this proportion increased to 14.9%. For comparison, it could be indicated that regional capital expenditures in 2000 and 2001 amounted to 15.1% and 22%, respectively.

The share of local budgets in consolidated budgets' outlays in 2000, 2001 and 2002 averaged 41.5%, 39.7% and 37.6%, respectively. Investments in capital assets split between the regions and local authorities in the same proportion. The respective share of local budgets amounted to 40% in 2000, and 37% in 2001. The difference is due to the changed procedure for accounting road funds' expenditures.

The shares of capital investment in municipal spending within the 1999-2001 period were also analyzed using budget execution data from 79 Russian cities. The average values of these shares in 1999, 2000, and 2001 were 11.2%, 11.8%, and 11.8%, respectively. The grouping of municipalities by relative value of capital investment can be reflected as follows (Chart 1.3).

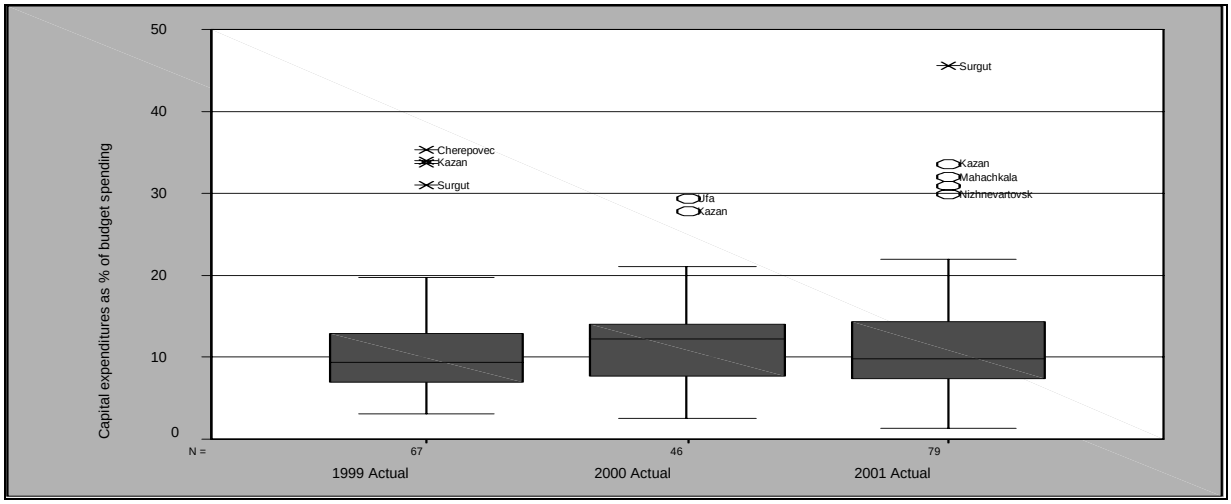


Chart 1.3. Distribution of municipalities by relative value of capital investment. [left to right, top to bottom: Share of capital expenditures in budgetary spending (%); Surgut; Cherepovets, Vologda, Surgut; Kazan, Makhachkala, Khabarovsk, Nizhnevartovsk; Ufa, Kazan; actual, 1999; actual, 2000; actual, 2001]

The area in red color includes 50% of municipalities with the proportion of capital investment within the average value. The lines above and below limit the area of all accepted values for this indicator with the exception of "extreme" points, i.e. in this example – the cities that had much larger capital investments, such as Surgut, Kazan, Nizhnevartovsk.

The line inside the rectangle characterizes the median value. Its upward shift in 2001 means that the proportions in the group of municipalities that invest beyond the average are close to one

another, whereas municipalities with relatively low investments have noticeably scattered values of the share of budgetary expenditures for investment.

In reports on municipal budget execution, it would be interesting to consider the distribution of capital investments by items:

- procurement of equipment and durables;
- capital construction;
- major repairs.

Chart 1.4 shows average data for all Russian municipalities in 2000 and 2001.

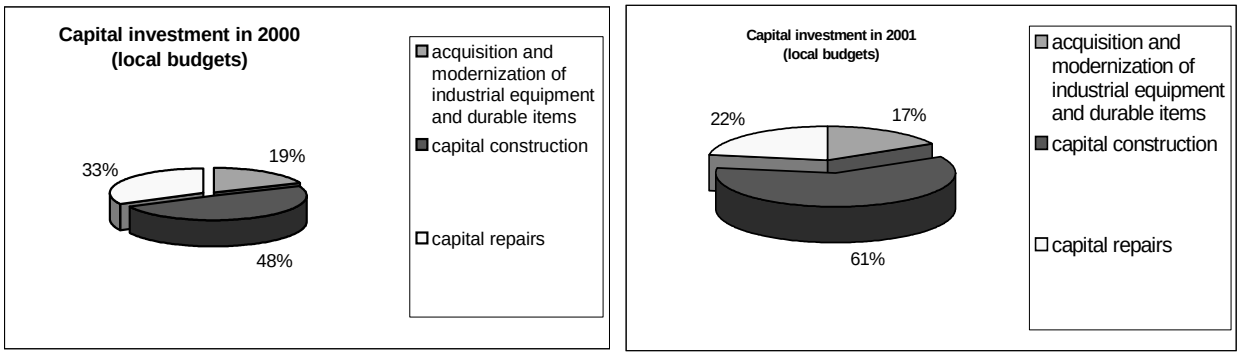


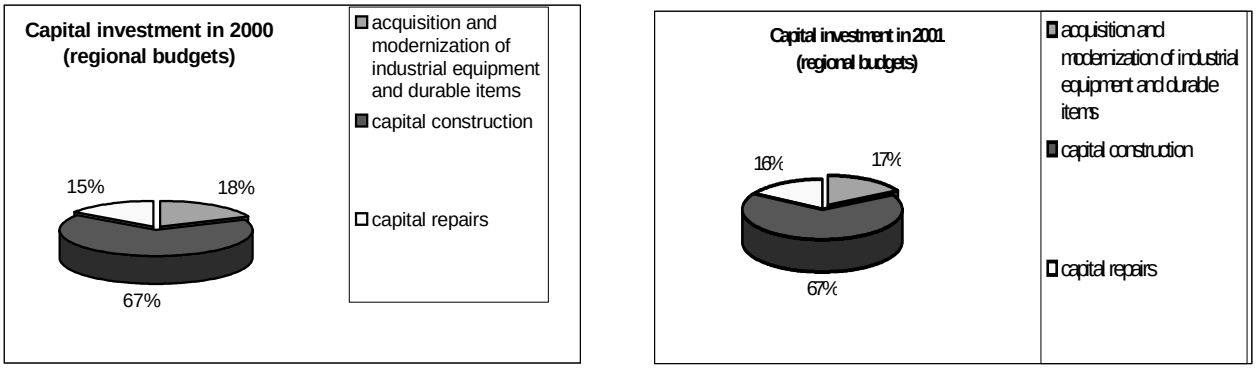
Chart 1.4. Capital investment, local budgets. [left to right, top to bottom: Capital Investment in 2000 (local budgets); Procurement of equipment and durables; Capital construction; Major repairs; Capital Investment in 2001 (local budgets); Procurement and upgrading of equipment and durables; Capital construction; Major repairs]

For comparison, the chart below shows average data on regional capital spending patterns.

On the average, a half of municipal capital expenditures is allocated for new construction, while respective regional spending makes up two thirds.

The fact that, despite most cities' very weak financial position, expenditures for new construction exceed those for major repairs by 1.5 times is worth attention (Chart 1.5).

Chart 1.5. Capital investment, regional budgets. [left to right, top to bottom: Capital Investment in 2000 (regional budgets); Procurement of equipment and durables; Capital construction; Major



repairs; Capital Investment in 2001 (regional budgets); Procurement and upgrading of equipment and durables; Capital construction; Major repairs]

The analysis of these spending subgroups by components is shown in Charts 1.6 and 1.7.

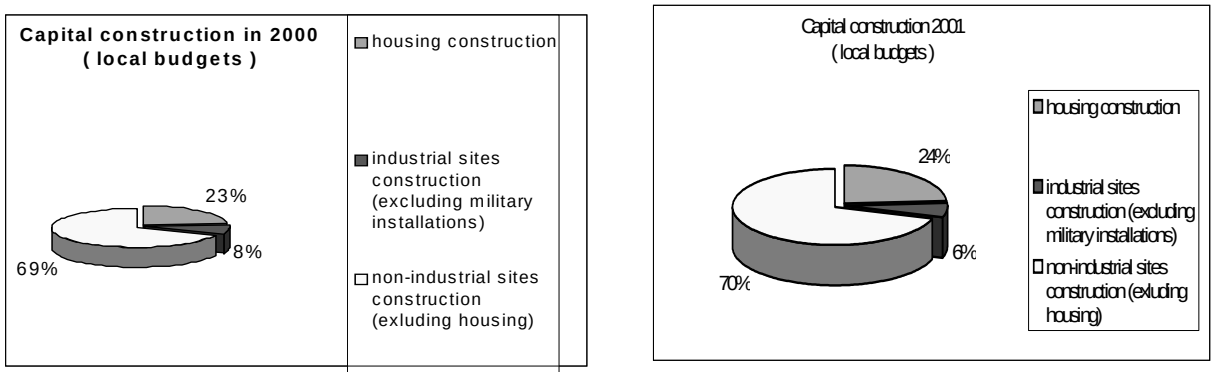


Chart 1.6. Capital construction (local budgets) [left to right, top to bottom: Capital Construction in 2000 (local budgets); Residential construction; Construction of production facilities; Construction of non-production facilities; Capital Construction in 2001 (local budgets); Residential construction; Construction of production facilities; Construction of non-production facilities]

It is apparent that municipal budgets in 2000 for the most part funded new construction of non-production facilities that include schools, health care and social institutions, etc. Approximately one fifth of capital construction falls on residential construction, and less than 10% – on production facilities. 17% of expenditures within this subgroup are allocated for construction of municipal housing.

A half of municipal budget funds allocated for major repairs are spent in the non-production sphere. One third falls on repairs of municipal housing, 16% – municipal production facilities.

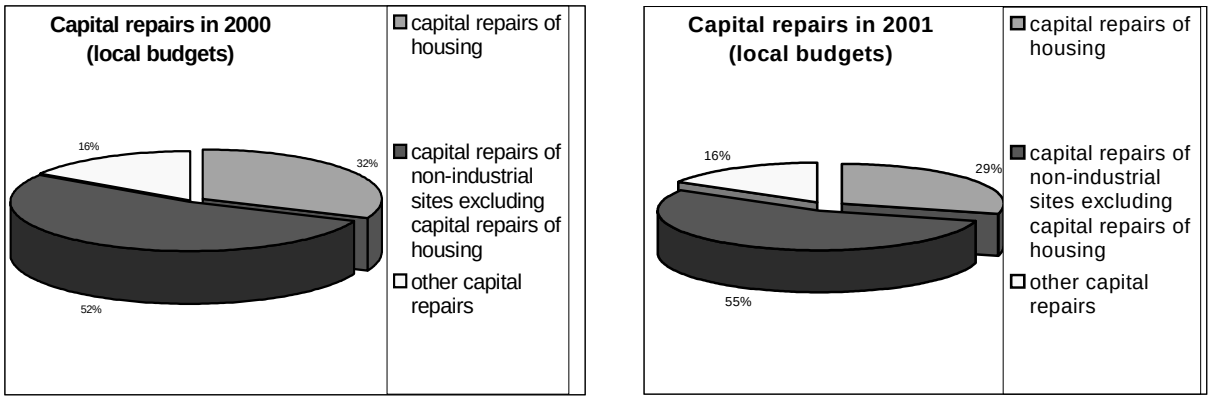


Chart 1.7. Major repairs (local budgets) [left to right, top to bottom: Major Repairs in 2000 (local budgets); Housing stock; Non-production facilities; Other major repairs; Major Repairs in 2001 (local budgets); Housing stock; Non-production facilities; Other major repairs]

Approximately one fifth of municipal expenditures reflected as capital investments are made under the line *Procurement and upgrading of equipment and durables* (Chart 1.4). Three quarters of them are allocated for municipal institutions, and only one fourth – for purchasing production equipment (Chart 1.8).

According to interviews with municipal managers, cities give high priority to the modernization of educational and health care institutions, as well as resource saving programs. The items

reflected under this line include procurement of computer equipment for municipal administrations and secondary schools, heat and water meters, other resource-saving equipment.

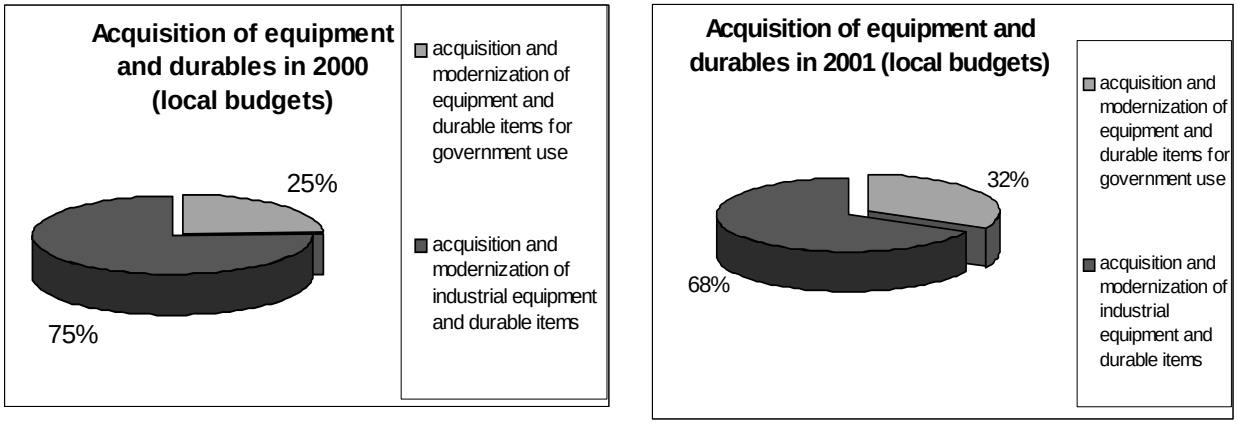


Chart 1.8. Procurement of equipment and durables (local budgets). [left to right, top to bottom: Procurement of Equipment and Durables in 2000 (local budgets); Equipment and durables for state enterprises; Non-production equipment and durables for public institutions; Procurement of Equipment and Durables in 2001 (local budgets); Production equipment and durables; Non-production equipment and durables for public institutions]

Under the lines *Construction of production facilities* and *Other major repairs*, primary allocations are made to build engineering infrastructure.

A rather general analysis of budgetary data shows that the proportions of spending on various types of capital investment are quite reasonable nation-wide. However, the cities' representative sample should be analyzed to make more substantiated conclusions.

It should be added that federal target programs sometimes provide for the construction of municipal property. In such cases, this work is financed either jointly or from the federal budget.

1.2. Size and Structure of Local Budget Debts

Three indicators were used to analyze the debt burden at the municipal level – the size of municipal budget debt, the size of municipal budget debt with provided guarantees, and the size of municipal budget debt with overdue accounts payable. The last indicator, according to the Budget Code, cannot be unquestionably associated with municipal budget debts. At the same time, outstanding debts, in the economic sense, may also relate to municipal budget debts as this is in fact a form of the forced crediting of municipal budgets at the expense of enterprises (housing and utility service debts) or municipal employees (wage arrears).

Chart 1.9 shows the structure of municipal debts in Russia. Overdue accounts payable have been also considered.

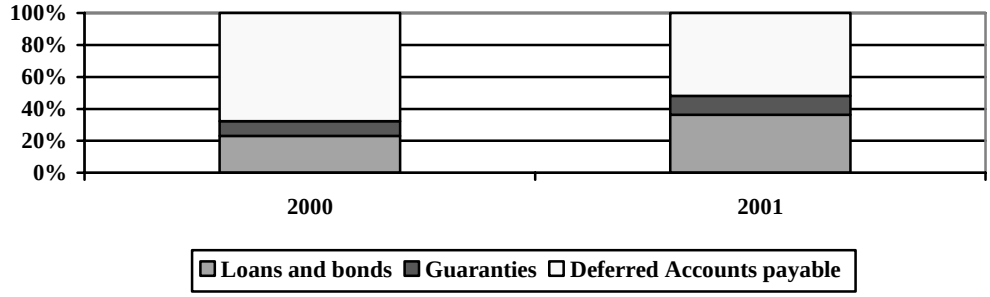


Chart 1.9. Structure of municipal budget debts. [left to right: Debt; Guarantees; Overdue accounts payable]

In 2000, the share of municipal overdue accounts payable was around 68% of the total debt. The municipal debt amounted to 23%, while provided guarantees – 9%. In 2001, the proportion of overdue accounts payable slumped to 52%. At the same time, the proportion of debt in the structure was 36%, and that of guarantees – 12%.

The debt coverage with local revenues was estimated for each federal subject. This estimation was done using municipal-level data from respective subjects. To characterize the debt burden on the budget, it is necessary to estimate the ratio of debt (in three forms) to revenues. In 2000, municipalities had debts in 28 federal subjects, in 2001 – 27 subjects. The Republic of Buryatia had the largest debt – 69% of budget revenues in 2000, and 46% – in 2001. Buryatia's debt with guarantees in 2000 was 88% of budget revenues, while this proportion with overdue accounts payable made up 123%. In 2001, similar indicators for Buryatia were, respectively: 46% – total debt proportion, 50% – with guarantees, and 88% – with overdue accounts payable.

Primorskiy Krai was the second in terms of the debt size in 2000 and 2001. In 2000, the total debt proportion was 54%, debt with guarantees – 56%, debt with overdue accounts payable – 72%. In 2001, similar indicators were 21%, 21%, and 25%, respectively.

Overall, the municipal debt/revenues ratio in Russia was 3% in 2000, and 4% in 2001. The debt proportion with guarantees came to 4% in 2000, and 5% in 2005, with overdue accounts payable – 12% in 2000, and 10% in 2001.

Thus, an upward trend in municipal debts with a concurrent decrease in overdue accounts payable has been exhibited over the last years. The analysis of the municipal debt/revenues ratio showed almost any lack of statistic relationship between the size of budgetary revenues and that of various debts. Thus, in 2000, the coefficient of correlation between municipal revenues and debts was 4%, with guarantees – 8%, with overdue accounts payable – 12%.

1.3. Sources of Funding Local Budget Deficits

According to the Budget Code, local budget deficits may be funded from the following internal sources:

- municipal loans made through issuing municipal securities on behalf of municipalities;
- credits received from credit organizations;
- budgetary loans and credits received from budgets at other levels of the Russian budget system;
- receipts from the sale of municipal property;
- change in balances of accounts.

The share of each source in covering the total budget deficit of Russian municipalities is shown below.

The size of local budget deficit throughout the 1996-2002 period and the structure of funding are presented in Table 1.1.

Table 1.1. Deficit in local budgets (billion rubles, before 1997 – trillion rubles in current prices)

Budget Lines/Years	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Total revenues	218.1	269.3	239.9	324.2	480.6	588.5	707.8

Total expenditures	223.5	283.0	243.1	323.8	483	576.5	728.3
Deficit/surplus	-5.4	-13.7	-3.2	0.4	-2.4	-15	-20.5
Funding sources							
Change in balances	2.2	2.8	0.4	-5.2	-10.9	2.7	-1.8
Securities	0.4	0.0	-0.3	-0.3	0.007	-0.06	0.54
Budgetary loans	0.0	0.0	-0.5	2.9	9.7	7.9	13.1
Bank credits	n/a	n/a	n/a	n/a	1.5	1.7	3.5
Sale of property	n/a	n/a	n/a	n/a	1.4	2.0	3.4
Other sources	n/a	n/a	n/a	n/a	2.3	0.7	1.7

Source: RF Ministry of Finance

The information of the Finance Ministry for 1996-1999 does not provide a full view of the sources of funding local budget deficit in these years. However, Table 1.1 shows that the role of securities had never been significant in deficit financing.

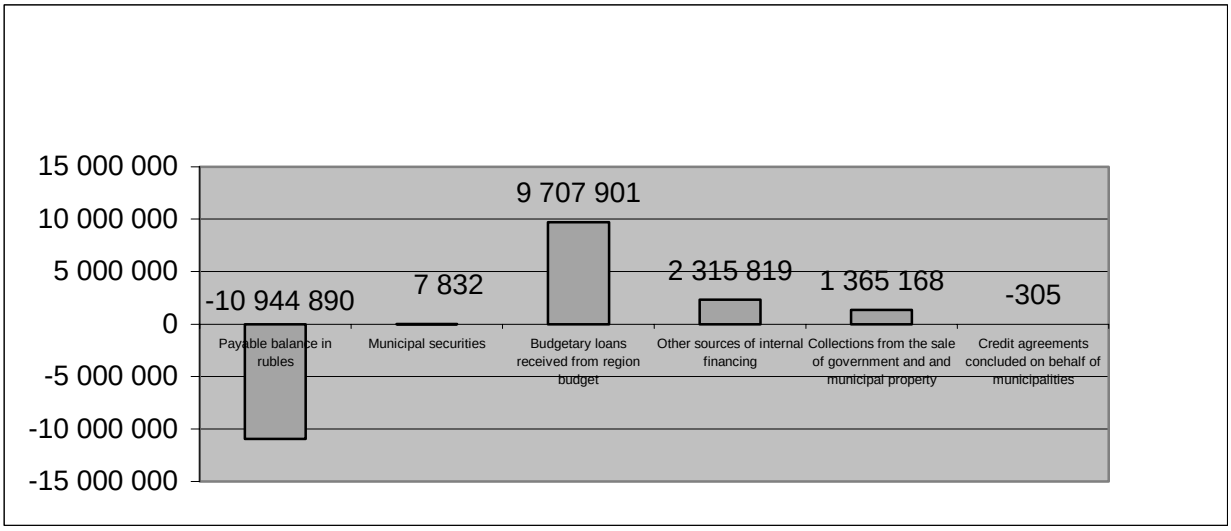


Chart 1.10. Sources of funding local budget deficit in 2000. [left to right: change in balances of bank ruble accounts; municipal securities; loans from regional budgets; other internal funding sources; receipts from sale of state and municipal property; credit agreements and contracts signed on behalf of municipalities]

Chart 1.10 shows the sources of funding the total municipal budget deficit in 2000. The main source were loans provided to municipalities from regional budgets. In that year, budgetary loans were so large that, despite the total municipal budget deficit (2.4 billion rubles), the balances of municipal budget accounts increased (10.9 billion rubles) by the end of the year.

It is also clear from Charts 1.10 and 1.11 that the funds received from the securities market were low. In 2001, the 59 million ruble coverage exceeded the issue of new securities. At the same time, credit agreements were made for the amount of 1.7 billion rubles, and for 1.5 billion in the previous year.

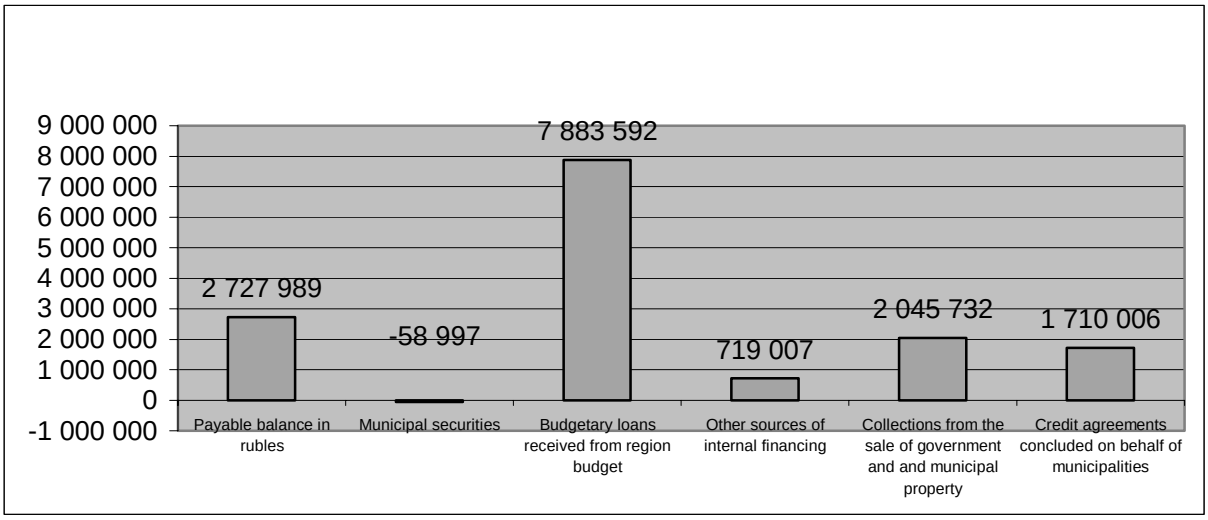


Chart 1.11. Sources of funding local budget deficit in 2001. [left to right: change in balances of bank ruble accounts; municipal securities; loans from regional budgets; other internal funding sources; receipts from sale of state and municipal property; credit agreements and contracts signed on behalf of municipalities]

Table 1.11 and Chart 1.13 show that after the 1998 crisis municipalities allocate more funds to pay off securities than attract through new emissions. The situation changed somewhat in 2002. The size of loans received by municipalities from upper-level budgets has been growing since 1999.

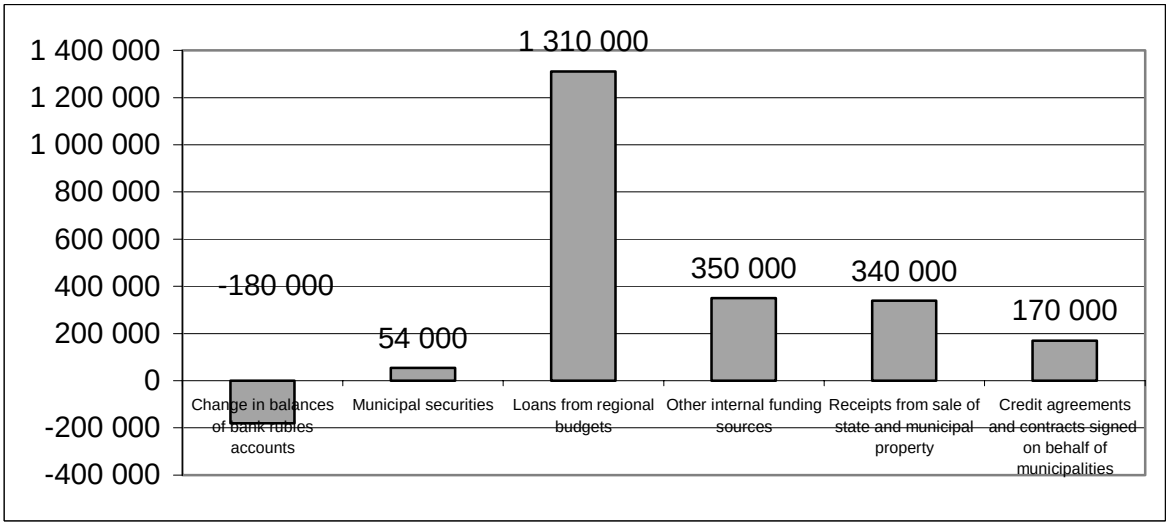


Chart 1.12. Sources of funding local budget deficit in 2002. [left to right: change in balances of bank ruble accounts; municipal securities; loans from regional budgets; other internal funding sources; receipts from sale of state and municipal property; credit agreements and contracts signed on behalf of municipalities]

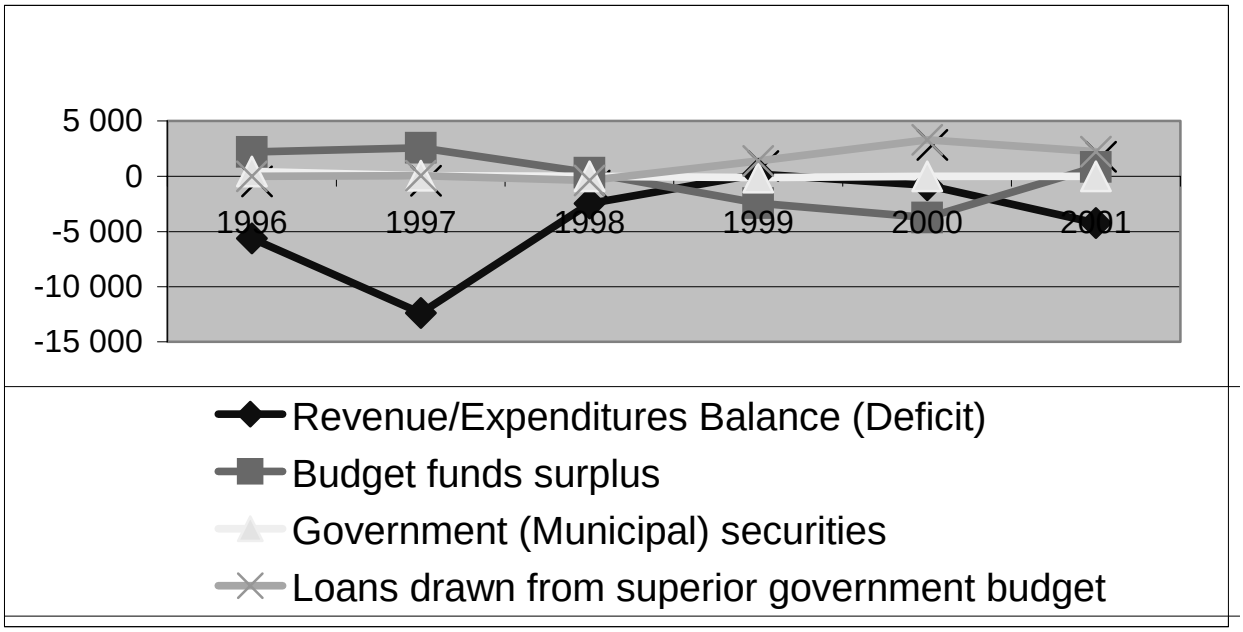


Chart 1.13. Some sources of municipal deficit financing. [top to bottom: Spending in excess of revenues (Deficit); Change in balances of bank accounts, in rubles; Municipal securities; Loans from regional budgets; Receipts from sale of state and municipal property]

According to the Russian Ministry of Finance, the total municipal debt by the end of 2000 was 12.9 billion rubles (without Moscow and St. Petersburg). In 2000, municipalities received credits from upper-level budgets for the amount of 9.7 billion rubles. That is, almost all the increase in the municipal debt was due to budgetary credits.

In 2001, the total municipal debt grew by 8.8 billion rubles, from 12.9 to 21.7 billion. During that year, municipal budgets received credits from regional budgets for the amount of 7.9 billion rubles. That is, the municipal debt growth in 2001 was just the result of budgetary credits. Any data on the rise in the municipal debt in 2002 have not yet been published.

On the other hand, it should be borne in mind that the proportion of budgetary credits in overall municipal spending is low. As a rule, these account for no more than 2% of budget expenditures.

Budgetary credits and loans are the most inexpensive sources of deficit or cash gap financing for regional or municipal budgets. Budgetary loans are provided with or without charge for no more than six months within one fiscal year. Interest-free loans are provided to finance cash gaps or as advance transfers from upper-level budgets. If loans are not repaid within one year, they are reflected in a budget execution report as deficit financing sources and add to the municipal debt.

Budgetary credits may be granted to not only budgets but also other legal entities, such as state and municipal enterprises. The Budget Code places no limitations on the credit period. Budgetary credits are often given on a commission basis. However, the charge for a budget credit is always lower than the bank interest rate. The authorities that grant budgetary loans and credits often require the transfer of property or other assets as a debt security.

For the borrower – regional administration or municipality, bank credits remain as yet more cost-effective than the issue of own bonds. At the same time, obtaining a bank credit is not only cheaper but also requires less organizational expenses and time. It was exactly for this reason that regional and municipal authorities were reducing bonded debts in 2001, refunding them in part through bank credits.

If the bond registration tax imposed on municipalities and federal subjects and currently amounting to 0.8% of the nominal volume of capital issue is abolished, debt financing of

subfederal budget deficits may become more attractive. But even after the direct organizational costs of bond issues are reduced, the latter may still be less attractive than bank credits.

The share of receipts from the sale of municipal property used for deficit financing remains sizeable – 10% in 2000, and 13% in 2001. In 2002, sales of municipal property brought 3.4 million rubles, which was 16% of the deficit. The size of receipts from property sales, as a rule, does not exceed 1% of budget expenditures. We could not analyze whether the sale of municipal property was related to the planned restructuring of municipal assets or caused by the fact that other sources for covering the deficit had not been available.

1.4. Effect of Macroeconomic Situation on Municipal Borrowings

The historical relation of net budgetary loans and net issues of municipal securities (attraction minus redemption) to the consumer price index was analyzed using several net security issues (placement minus redemption) and net budget credits from upper-level budgets (attraction minus repayment) as well as inflation data for 1996-2001.

Chart 1.14. shows the analyzed inflation/net security issue relationship.

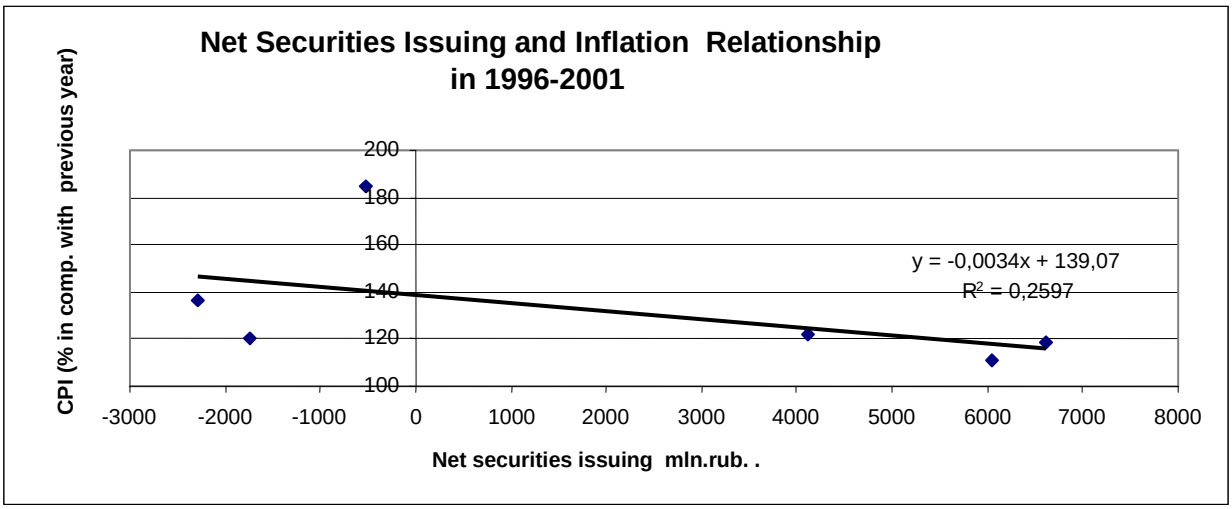


Chart 1.14. Net security issue/inflation relationship in 1996-2001. [top to bottom: Consumer price index (% to previous year); Net security issue, million rubles]

As may be seen from this chart, there is a weak negative relationship between the volume of net security issues and the level of inflation. The chart also shows coefficients for the linear regression model describing the consumer price index/net security issue relationship. All coefficients of this model proved to be significant, with the model determination coefficient being 0.25, which means a very weak effect of inflation on the net issue of securities.

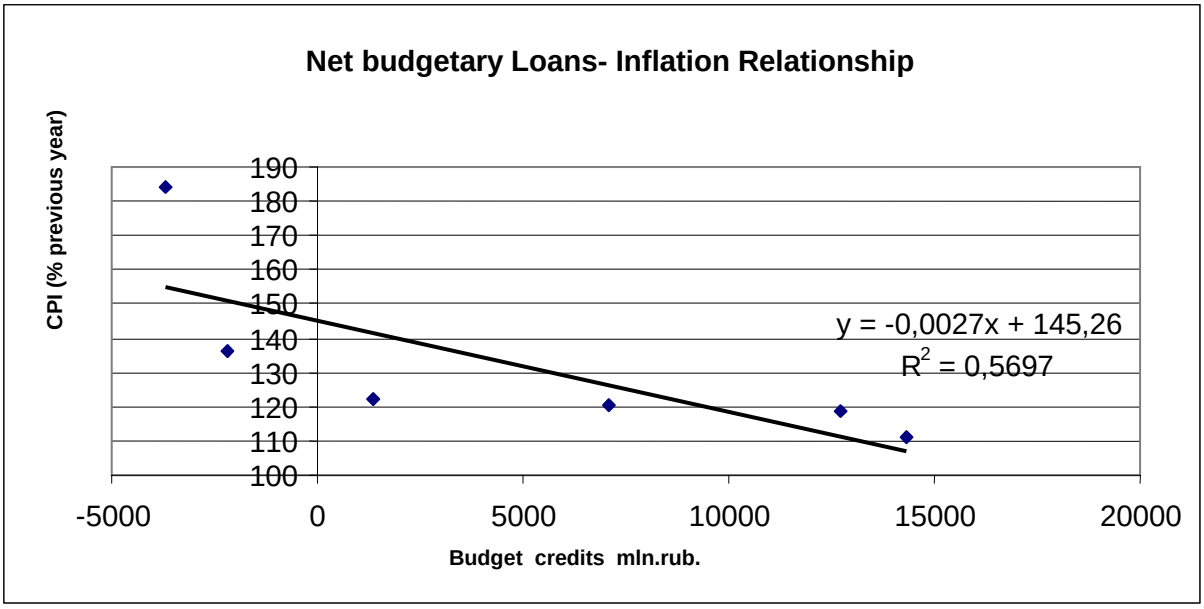


Chart 1.15 shows the net budgetary credits/inflation relationship.

Chart 1.15. Net budgetary credits/inflation relationship. [top to bottom: Consumer price index (% to previous year); Budgetary credits, million rubles]

A similar regression model built for the case in question shows that the determination coefficient is close to 0.57, which, when explaining the behavior of budgetary credits, indicates rather strong effect of inflation factors.

In both cases, the angular coefficient of the linear model is approximately 0.003. This means that the inflation effect on the volume of municipal borrowings is quite low, both for the net issue of municipal securities and net credits from upper-level budgets.

For the lack of a long enough sequence of data on the volume of municipal borrowings, the effect of macroeconomic factors in 2000 and 2001 was analyzed structurally. The relation of the total municipal debt in the region to the level of inflation was analyzed. The correlation coefficient between these indicators was around –0.05 in 2001, and –0.03 in 2000. At the same time, the level of inflation in the RF in 2001 was 118% of the previous year's level. The spread of inflation was from 115% in Vologda Oblast to 128% in Ulyanovsk Oblast. These findings are similar to those of the time-series analysis – inflation has a weak negative effect on the volume of municipal borrowings. Such behavior may be explained by the fact that budgetary revenues grow with increased inflation, which results in a slightly decreased demand for current borrowings. A maximum effect of inflation is on the size of short-term borrowings. When inflation is nearing 40%, municipalities should first step up paying off their market debts, and then budgetary credits and loans. This is exactly what happened in 1999.

Using statistics from 79 Russian cities for 1999 through 2001, we tried to establish if there is any relationship between capital expenditures and municipal borrowings, that is to find an objective answer to the question of whether the cities finance investments through borrowings.

The main observation regarding municipal borrowings during the period under review is that rather large volumes of borrowed funds in 1999 and 2000 were allocated to repay old debts, which is shown in charts below (Charts 1.16 and 1.17). The respective correlations are 0.94 and 0.93.

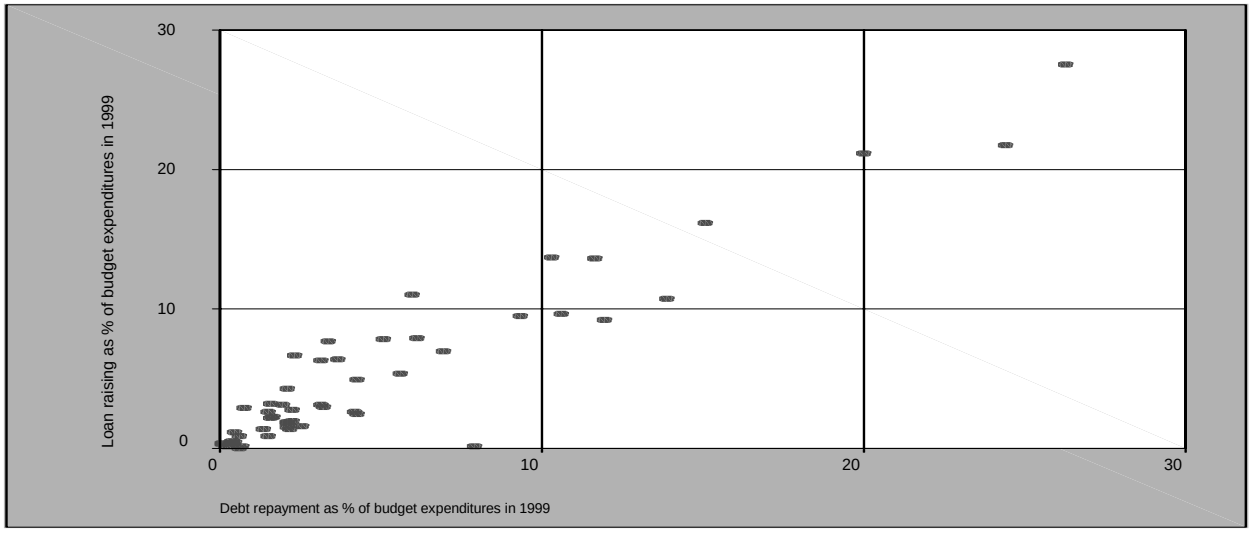


Chart 1.16. Correlation between credits obtained and debts paid by municipalities in 1999. [left to right: Credits obtained in % of budgetary expenditures, 1999; Debts paid in % of budget expenditures, 1999]

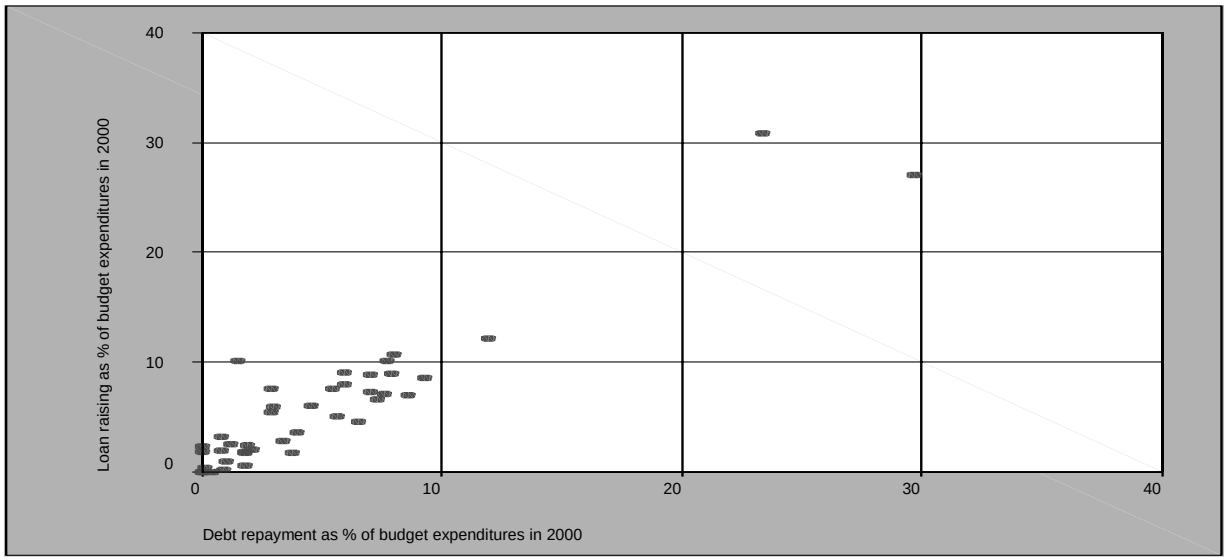


Chart 1.17. Correlation between credits obtained and debts paid by municipalities in 2000. [left to right: Credits obtained in % of budget expenditures, 2000; Debts paid in % of budget expenditures, 2000]

This was not so apparent in 2001, but the correlation between received credits and paid debts was also quite high (0.8).

Any statistical relationship between capital investments and borrowings of Russian municipalities has not been revealed.

General Conclusions

Municipalities borrow funds primarily as loans and credits from budgets of other levels and to a lesser extent as bank credits.

The total municipal debt by the end of 2001 amounted to 21.7 billion rubles, which accounted for 3.5% of average local budgetary expenditures throughout Russia. Budgetary loans and credits made up 80% of this figure. The remaining part of the debt was mostly short-term bank credits.

Over the last years, local budgets' capital expenditures were 14-15% of the average size of spending nation-wide. The analysis of data from 79 cities showed 12%. In absolute values, capital expenditures of all Russian municipalities in 2001 totaled 92.8 billion rubles. Local budget deficits shown in Table 1.1 were 0.5% (2.4 billion rubles) and 2.4% (15 billion rubles) of local expenditures in 2000 and 2001, respectively (2.8% or 20.5 billion rubles in 2002).

The comparison of the debt growth in 2001 (8.8 billion rubles) and capital investments (92.8 billion rubles) in the same year shows that even if the entire debt growth was based on investments, no more than 9.5% of capital expenditures were financed from borrowings. The remaining 90% were financed from current revenues of municipalities.

The theory of public finance has a provision that new social construction should be financed through borrowings rather than current budgetary revenues. It is assumed to be fairer if people pay implementation costs of a new project when they are already getting benefits from this project. Local authorities in Russia do not follow such practices, funding new construction with current revenues. The reason for this is probably that most of them cannot attract borrowings from credit markets because of the budget policy carried out by the government in the sphere of inter-budgetary relations.

Local budgets are in fact made by regional financial authorities that estimate the needs and annually redistribute consolidated regional budgets' revenues. The sources of revenues are assigned to municipal budgets for the short term, usually for one budget year. The size and forms of financial aid are unstable and change from year to year. Such policy in its essence has a confiscatory nature. It exhausts cities' financial resources and completely discourages them to exercise independence and initiative in financial issues. In addition, regional and local budgets have an overhang of unfunded state mandates. The result is that, when revenues grow, current expenditures rather than investments have to be increased.

The draft new federal law *On General Principles of Local Self-Governance in the Russian Federation* contains provisions that should clarify the distribution of powers between different levels of the budget system. However, there are several complications that should be mentioned in this respect. First, federal authorities have no intention to make decisions on repealing unobserved social laws. The responsibility for this will be shifted to federal subjects and local self-governments with the problem of unfunded federal mandates transformed rather than resolved. This means that in case of long-term borrowings the risk will remain that local authorities may have to increase the size of social benefits and, consequently, current expenditures.

Second, the Budget Code states that local budget deficits may not exceed 10% of local revenues minus transfers from the federal and regional budgets. If the above law is adopted, the share of subventions to municipal budgets for exercising state powers, in our estimate, will grow to 40-50% of revenues. The proportion of subsidies will be approximately 20% in overall revenues. Therefore, the "share of local budget revenues minus financial aid" will reduce to 30-40% of that of today. This will cause the legislatively established ceiling for municipalities' investments to be lowered, unless the Budget Code is amended.

Third, the reform of public management should go together with the amendment of budget and tax legislation. Before necessary draft laws are published, it is impossible to say whether local authorities will have enough funds to cope with the obligations imposed on them by the draft new law.

Finally, it should be noted that the credit history and financial position of many local authorities debar them from placing municipal general-coverage securities on the market or obtaining medium-term bank credits. It seems that in such context the investors could use other, more attractive forms of debt financing that would be less dependent on any changes in the fiscal policy. Such forms include, for example, securities guaranteed by future revenues to be produced directly by investment projects, or various concession systems.

2. Yekaterinburg's Budget Investment Policy

2.1. Socioeconomic Development

The economic reforms of the early 90s in the last century caused a decline in industrial production in Yekaterinburg. Industrial production in the city started to grow only after the ruble had been devalued in relation to the dollar in 1998. Chart 2.1 shows the level of industrial production as against 1995.

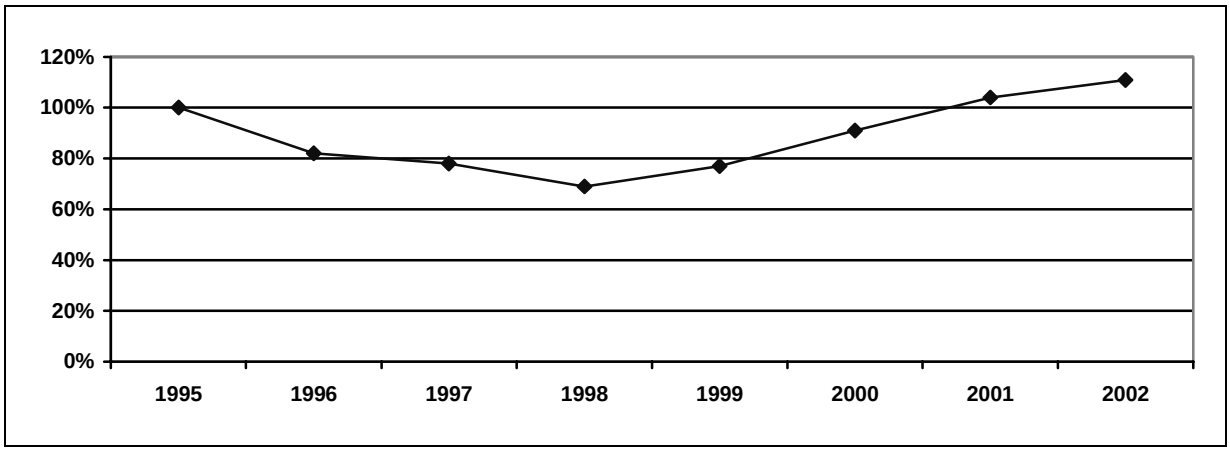


Chart 2.1. Industrial output in Yekaterinburg (% to 1995)

In 2001, the volume of industrial production exceeded the 1995 indicator. At the same time, the rate of production growth decreased in 2002 by almost three times, from 15% to 5%. Indirectly, this shows that the city industry is strongly oriented on exports while production profitability is heavily dependent on the ruble exchange rate. The steepest decline in production was in defense-generated industries.

The volume of investment in capital assets in Yekaterinburg swung: grew in 1996, slumped in 1998. After 1998, there was a steady increase in capital investment in the 1995 prices. However, the size of investment reached the 1995 level only in 2001.

Chart 2.2 shows the size of investment in capital assets in the 1995 prices.

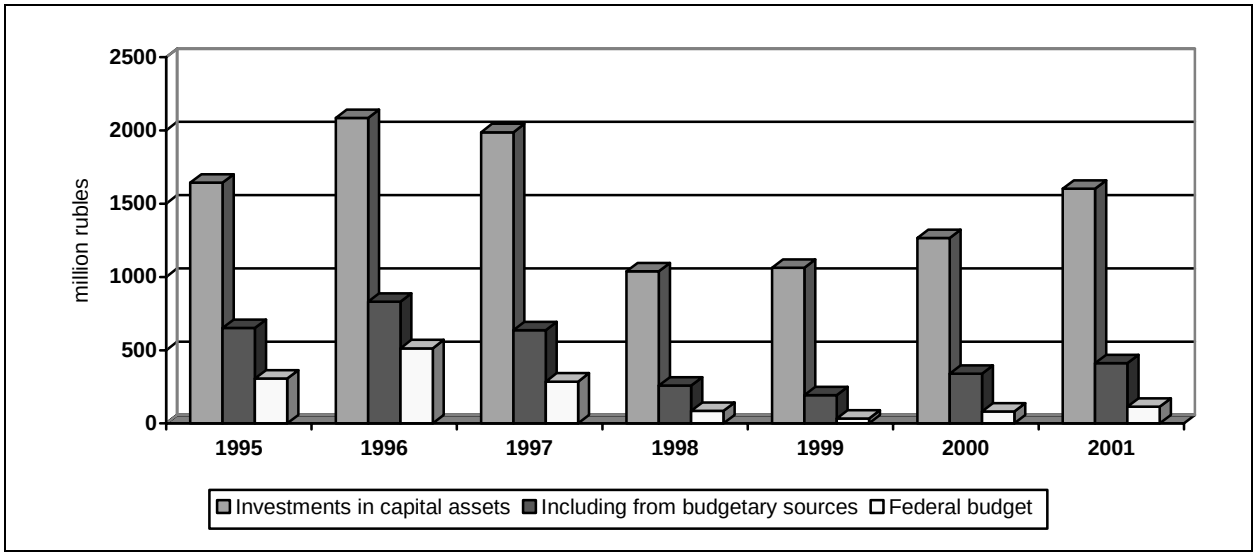


Chart 2.2. Investment in capital assets in 1995 prices. [left to right, top to bottom: million rubles; Investment in capital assets; Including from budgetary sources; Federal budget]

It should be also noted that receipts from budgetary sources still play an important role in the composition of investment. They account for a quarter of overall investment within the city. This may be explained by a large share of defense industry in the structure of industrial production in Yekaterinburg.

It is also worth to mention that the volume of per capita investment in Yekaterinburg for almost all last years was lower than the average for Sverdlovsk Oblast or nation-wide (Chart 2.3).

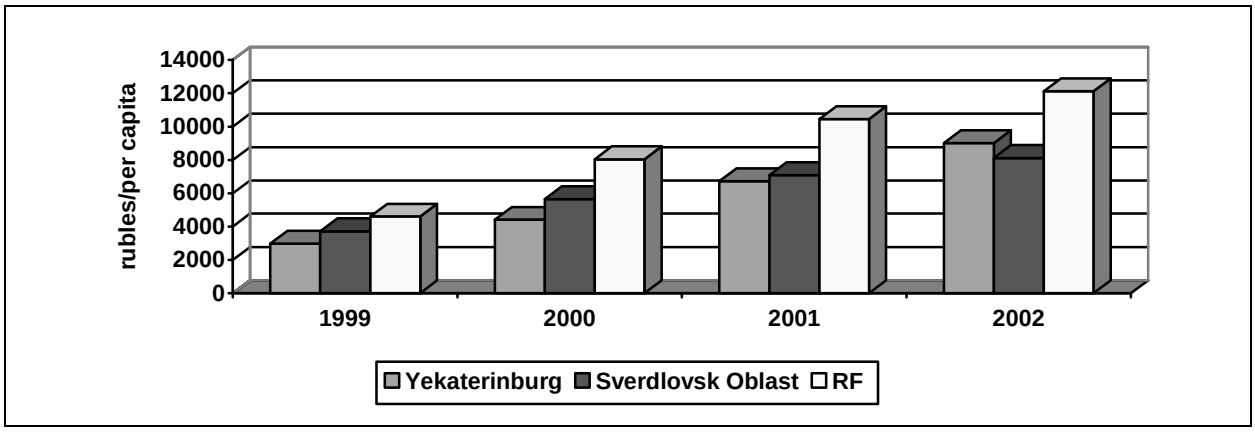


Chart 2.3. Per capita investment. [left to right, top to bottom: rubles/per capita; Yekaterinburg; Sverdlovsk Oblast; RF]

The size of per capita investment in capital assets in Yekaterinburg exceeded the oblast average (according to preliminary statistics) only in 2002.

Thus, it may be stated that Yekaterinburg has serious problems in the area of investment. It is evident that the above data confirm the deterioration of capital assets in the main branches of economy. The city administration should make great efforts to increase the city's investment attractiveness.

2.2. General Characteristics of Yekaterinburg's Budget Sphere

After the 1998 crisis Yekaterinburg budget revenues and expenditures dropped. Then, the city budget's indicators in the 1998 prices fluctuated: increased in 2000, dropped in 2001, and grew again in 2002 (Chart 2.4).

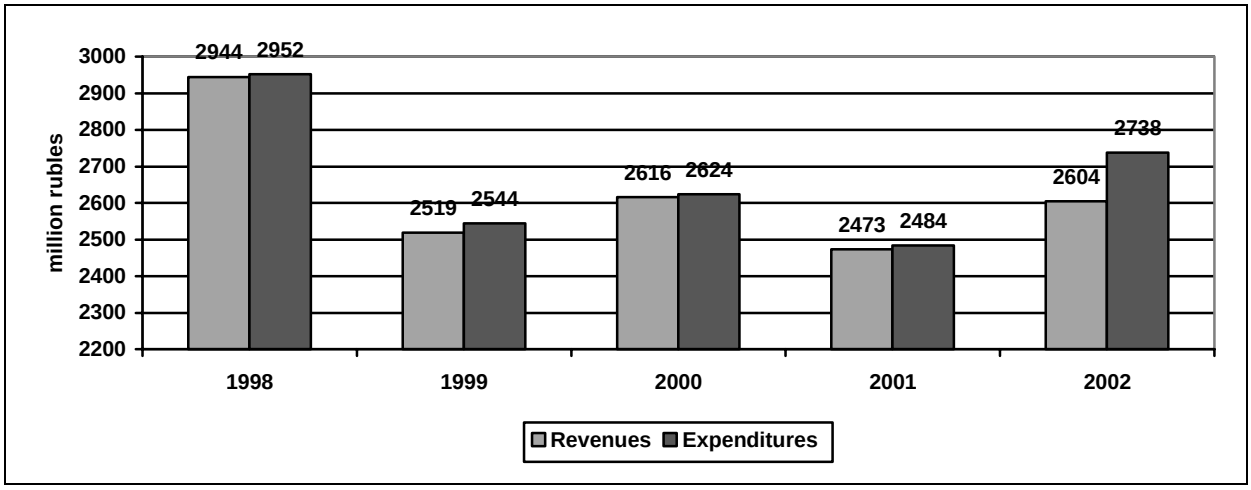


Chart 2.4. Yekaterinburg budget revenues and expenditures in 1998 prices. [left to right, top to bottom: million rubles; Revenues; Expenditures]

The basis of Yekaterinburg budget revenues are tax proceeds. In 1999, these made up over 90% of revenues. By 2002, the proportion of tax revenues decreased to 87%, largely due to non-tax revenues increased from 8% in 1999 to 10% in 2002, as well as equalization transfers grown from less than 0.1% in 1999 to 2% in 2002 (Chart 2.5). Such transfers were made mainly as subventions for exercising some state powers.

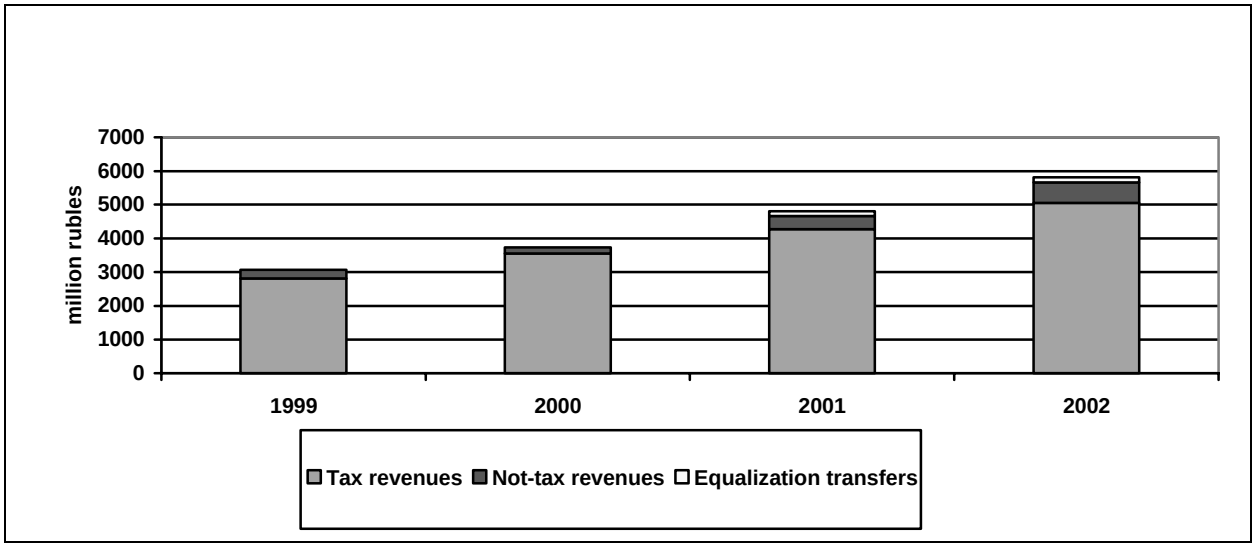


Chart 2.5. Main types of revenues. [left to right, top to bottom: million rubles; Equalization transfers; Non-tax revenues; Tax revenues]

The comparison with the average level of budget revenues is shown in Chart 2.6. In 2002, per capita tax revenues in the Yekaterinburg budget were higher than both the average at the municipal level in Sverdlovsk Oblast and nation-wide but lower than the average for the Ural Federal District. The level of per capita non-tax revenues in Yekaterinburg is almost the same as the Ural Federal District's average but higher than the average for Sverdlovsk Oblast and the RF as a whole.

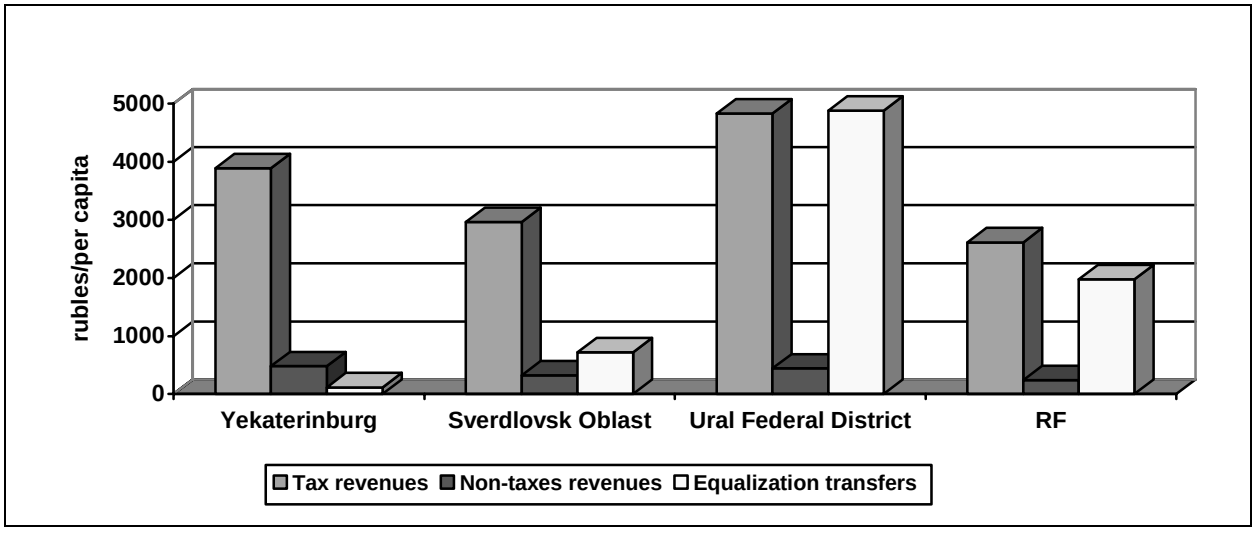


Chart 2.6. Comparison of revenue patterns in 2002. [left to right, top to bottom: rubles/per capita; Tax revenues; Non-tax revenues; Equalization transfers]

The data on the share of non-tax revenues show that the efficiency of municipal property management in Yekaterinburg is somewhat higher than the average level for Sverdlovsk Oblast.

The structure of tax revenues is shown in Chart 2.7.

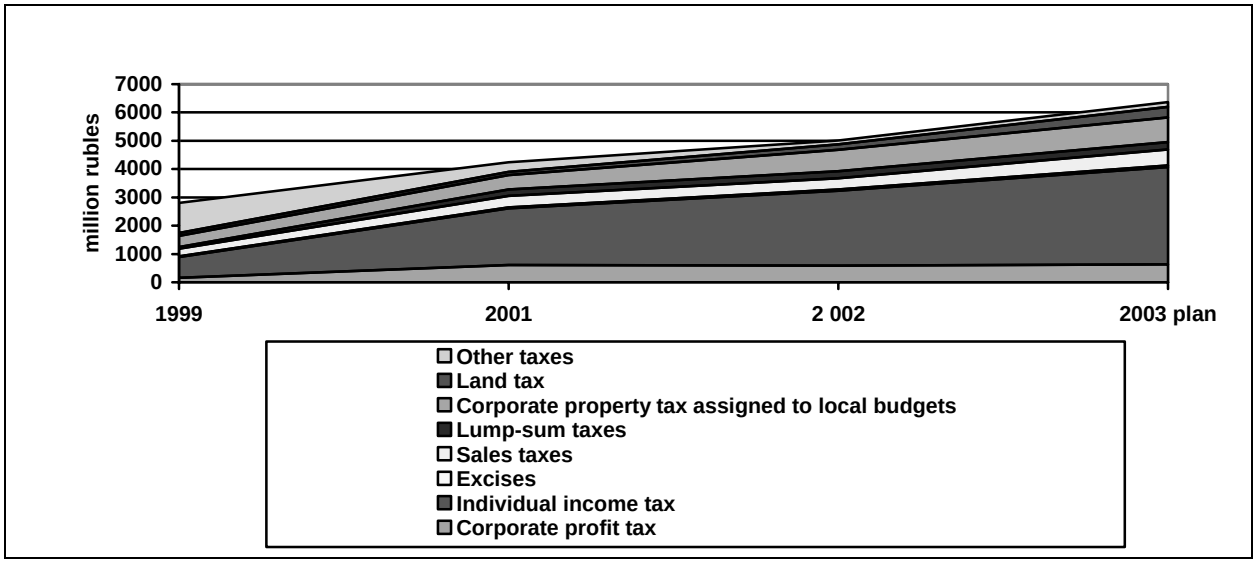


Chart 2.7. Tax revenues. [left to right, top to bottom: million rubles; Other taxes; Land tax; Corporate property tax assigned to local budgets; Lump-sum taxes; Sales tax, Excises, Individual income tax; Corporate profit tax]

The individual income tax has the largest share in Yekaterinburg tax revenues. It grew from 26% in 1999 to 52% of total tax receipts. The second, in terms of its size, is the corporate property tax. Its proportion in the tax structure within the period under analysis was 14%. The corporate profit tax was 12% of tax receipts in 2002. Its proportion swelled from 5% in 1999 to 14% in 2001.

Thus, the taxes that, from the taxation theory's standpoint, should be the responsibility of local government – income tax, corporate property tax and lump-sum taxes – are currently predominant in the structure of tax revenues in Yekaterinburg.

2.3. Principles of Inter-Budgetary Relations (Investment Accounting)

The budgetary relations between Yekaterinburg and Sverdlovsk Oblast are very unstable. The rates of allocations by main regulating taxes changed over the last five years by more than 100%.

The rates of allocations from regulating taxes to the city budget are not signed into law. The rates of those from federal and regional regulating taxes to local budgets are determined annually when drafting the oblast budget. Nor any methodologies for the distribution of equalization funds are published.

When inter-budgetary dealings are estimated, only the city budget's current needs are considered. Capital investments are funded just from the surplus of actual tax and non-tax revenues over the planned ones.

Inter-budgetary relations are established by annual laws on the Sverdlovsk Oblast budget. The regional administration lately recognized the need to set, for the long term, the size of allocations from regulating taxes to municipal budgets, but this has not been done in practice.

Thus, the existing system of inter-budgetary relations in Yekaterinburg presents great difficulties for the long-term planning of budgetary revenues and expenditures.

2.4. Debt Policy

The debt limit is established, according to the Budget Code, by annual decisions on the city budget. The debt limit to tax and non-tax revenues ratio is shown in Chart 2.8.

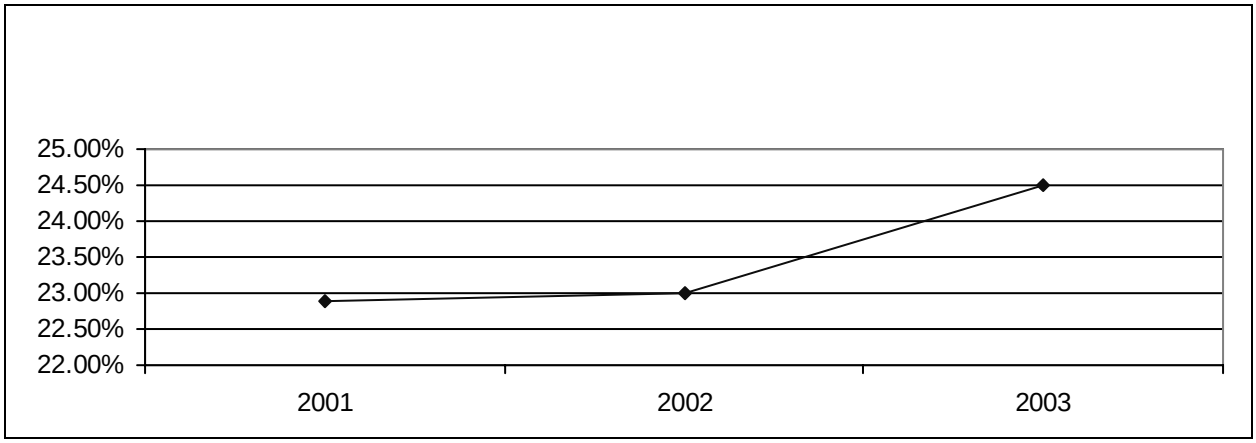


Chart 2.8. Debt size to tax and non-tax revenues ratio in Yekaterinburg budget.

The above values do not exceed the legislatively established limits (100%). At the same time, a recent slight increase in the debt burden on the budget should be noted. Although debt service costs were growing until 2002, the 2003 plan anticipates a steep fall in debt service costs (around 10 times) (Chart 2.9).

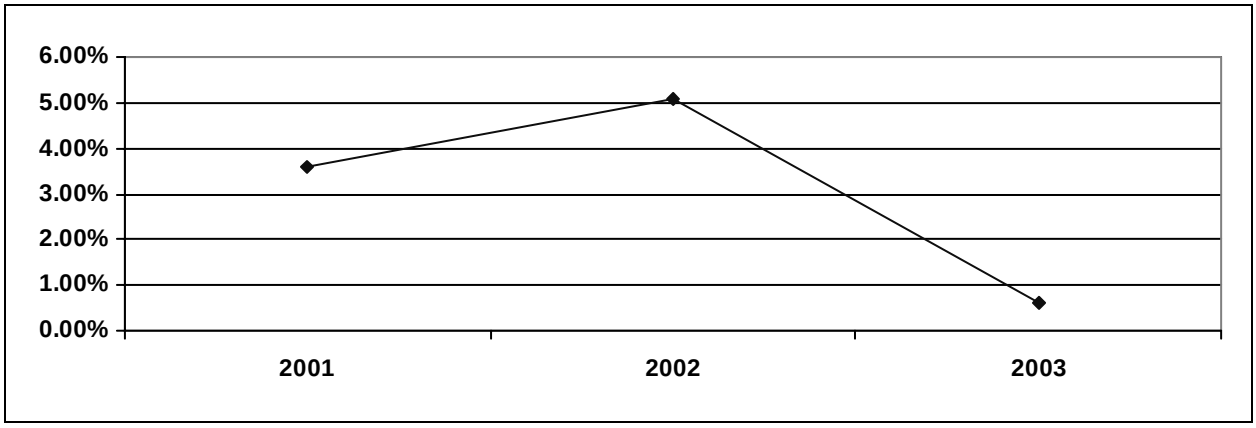


Chart 2.9. Debt service costs to budgetary revenues ratio.

The volume of debt service costs is also within the limits established by the Budget Code (15% of revenues).

Credit agreements and contracts are predominant in the Yekaterinburg debt structure, although their volume diminished from 90% in 2001 to 83% as planned in the 2003 budget (Chart 2.10).

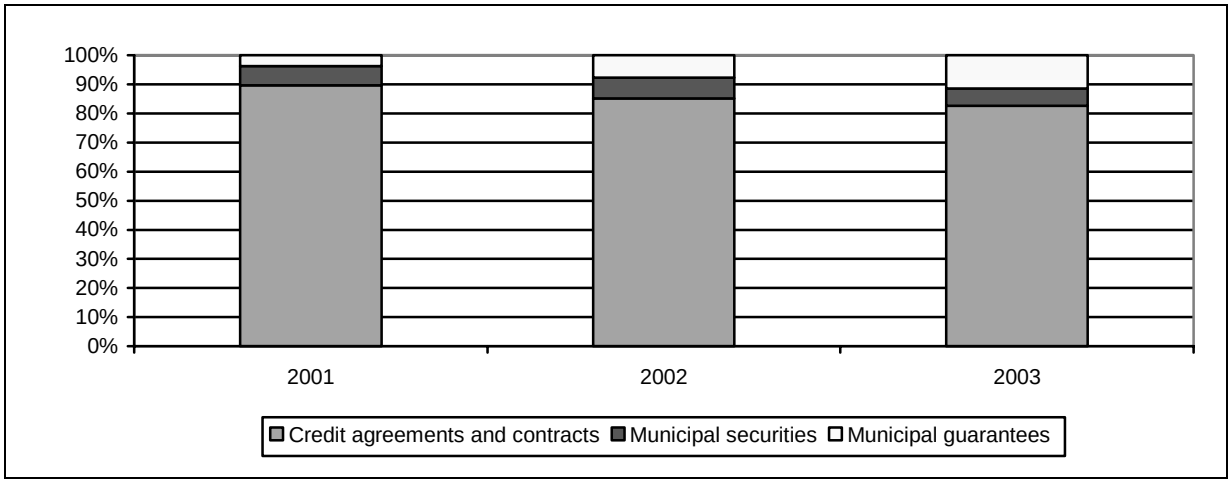


Chart 2.10. Yekaterinburg debt structure. [left to right: Credit agreements and contracts; Municipal securities; Municipal guarantees]

Also evident is the growing share of guarantees provided by the city administration – from 4% in 2001 to 11% in 2003. The proportion of securities remained at the level of 6%.

2.5. Budgetary Capital Expenditures

Capital expenditures over the last five years made up from 13% to 15% of budgetary spending in Yekaterinburg. The distribution of capital outlays by items is shown in Chart 2.11.

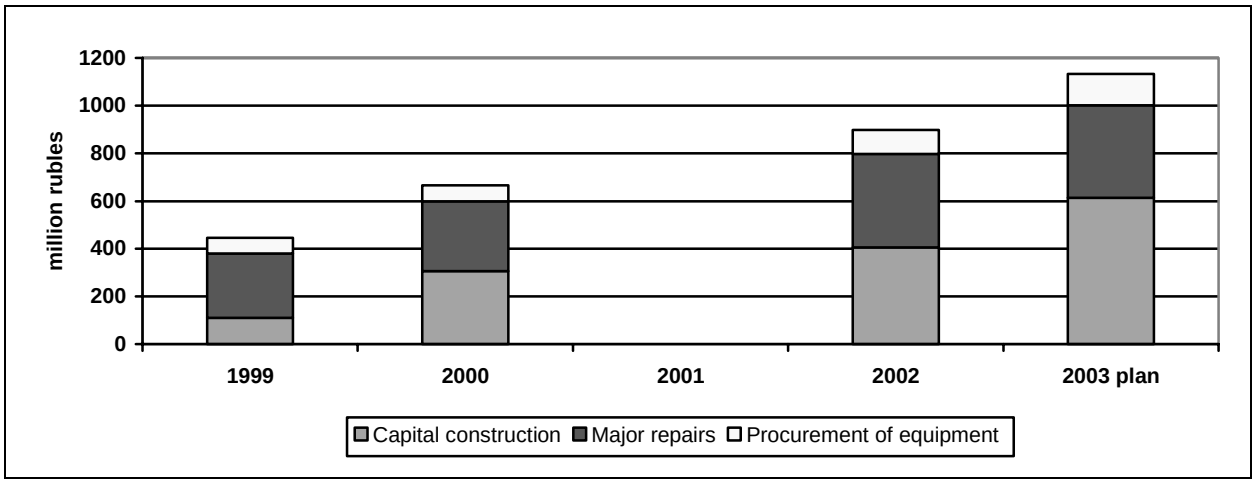


Chart 2.11. Capital expenditures in Yekaterinburg budget. [left to right, top to bottom: million rubles; capital construction; major repairs; procurement of equipment]

A large part of capital expenditures falls on capital construction and major repairs, with the share of spending on major repairs dropped from 61% in 1999 to 34% in 2003, and that of capital construction risen from 24% in 1999 to 54% in 2003.

The analysis of capital-expenditure planning revealed the following:

- At a project designing stage, the essential costs are not properly assessed;
- There is non-compliance with the priorities set by the city strategic development plan;
- The division of the capital budget by key items of spending is not substantiated;
- There is no strict regulation of program implementation parameters;
- There is neither normative framework that would regulate the investment process at all levels, nor systems of standards;
- The city has no register of capital projects.

In 2002, the City Strategic Development Plan was adopted. This plan is divided into eight program areas:

- Development and preservation of human resources;
- Restructuring of the city economy and development of economic resources;
- Development of residential environment;
- Development of goods and services markets;
- Development of transportation, agriculture and communications;
- Protection of environment and development of ecological culture;
- Development of civil society and local self-governance;
- City master plan – planning support to city development strategy.

Each area is divided into several programs. These programs, in turn, are broken down into strategic projects. Strategic projects are presented as follows:

- Proposed participants;

- Brief description;
- Goal;
- Tasks;
- List of main organizational activities;
- Anticipated results;
- Development period;
- Expected implementation start-up date.

It is assumed that the needs for financial resources to be used for the implementation of each project will be estimated after each project is developed. This conflicts somehow with the clear indication of a project implementation period because it is impossible to assess budget capacity to finance the implementation of projects before financial needs are assessed.

The City Development Strategy provides basic indicators that may serve as effectiveness criteria for program activities in the city. However, program objectives are currently formulated in the form that complicates the use of the developed criteria. For most projects, the objectives are defined so that it is hard to formalize them. This, in turn, makes a preliminary project effectiveness evaluation difficult.

Annual decisions on the city budget include as an appendix an approved list of capital construction projects to be financed from the budget. This list is rubricated by functional items and city raions where projects are located.

Currently, the list of capital construction projects is not strictly tied to target programs prepared under the city strategic development plan. Investment projects are included in the budget based on sectoral divisions' requests as presented by a supervising deputy city chief executive.

2.6. Normative-Legal Framework for Investment Activities of City Authorities

At present, the agencies in charge of the development and implementation of the investment policy in Yekaterinburg are the Economic Committee and the Investment Committee. In addition, each sectoral division of the city administration is responsible for the implementation of the investment policy in respective areas and has direct access to budgetary investment resources through the inclusion of priority sectoral projects into the list of investment projects to be financed from the budget.

On September 24, 2002, the City Duma passed the decision *On Procedure for Development, Approval and Financing of City Target Programs*. This decision regulates the process of the development and implementation of city target programs. It introduced the concept of a city target program similar to federal target programs as a series of research, production, organizational, social, economic and other activities ensuring effective solution of problems and tasks in the area of economic, social and cultural development of the City of Yekaterinburg municipality. This decision listed the main stages of the development and implementation of such programs:

- identification of problems for and making a decision on program development;
- drafting the program;
- introduction of the draft program by the city chief executive to the City Duma;
- review and adoption of the program by the City Duma with subsequent inclusion into the register of city programs;
- preparation of a summary request for financing adopted programs in the next fiscal year;

- authorization of allocations for the implementation of programs from the city budget and control over their implementation.

The decision determined who may initiate the development of such programs: individual and (or) legal persons, city administration divisions, raion administrations, City Duma's committees and deputies, public organizations, initiative groups.

The decision also defined the forms of a program development request and program presentation.

Similar to federal target programs, the procedures for monitoring program implementation, adjustment of programs and coordination of financial needs with actual budget capacity are defined in a rather indistinct way.

2.7. Overview of Investment Activity by Branches of City Economy

The main areas of the city administration's investment activity are determined by decree No. 720 of the city chief executive *On Adoption of "The Concept of Yekaterinburg Public Security"* dated July 12, 2002. This decree approved an implementation plan for this concept that designates the time frames and persons responsible for city target programs. The concept provides for the implementation of programs listed in Table 2.1.

Table 2.1. Yekaterinburg's target programs.

Programs:	**Implementation period**
Housing stock safety	2000-2003
Maintenance and improvement of territories near houses	2000
Housing stock rehabilitation	2000-2003
Pure water	2000
Transfer of state housing stock, utility networks, roads, external improvement systems from departmental enterprises to municipal property	2000
Major repairs and reconstruction of dilapidated schools	2000
Development of elevator systems	2000-2005
Development of car parking areas in the city territory	2000-2005
Development of remote districts within the City of Yekaterinburg municipality	2000-2004
Programs proposed to be developed:	**Development period**
Development of out-of-school institutions to distract teenagers from drug and substance abuse or other addictions	2000
Organization of parking areas for transit motor vehicles at the city entrances	2000
Takeover of external improvement projects, storm sewages, outdoor lighting, bridges, dams, overpasses transferred to municipal property	

It should be noted that from Yekaterinburg budget reports it is not so easy to get an idea of either financial needs or capital investments made in the city's economy. All budgetary capital expenditures should be normally reflected in budget execution reports by respective sectors. However, both the forms of budget reports and the structure of the city budget repeatedly changed over the last five years, thus making the analysis of investments difficult. Capital expenditures for investment projects of social or infrastructural nature are financed, in addition to the city budget, from the territorial road fund and the regional ecological fund. So the data on capital outlays are contained in the main report on spending by budget items as well as reports on the implementation of target programs and capital construction projects, expenditures under the municipal and regional earmarked funds.

Target programs' and capital construction projects' expenditures, as a rule, are incorporated in the main budget execution report and should not be accounted separately (to avoid double counting). But if capital construction outlays "read" in the budget more or less clearly (i.e. the report allows tracing their amounts and destination, and the attached list of capital construction projects makes these data more specific), the situation with spending on target programs and special-purpose funds is quite different. One can only guess their type and specific purpose as in the budget-attached reports on target programs or the municipal earmarked fund they are not divided into current and capital expenditures, or so "diluted" in the main report that it is impossible to trace them. Some outlays are provided for in institutions' cost estimates or respective sections of budgetary expenditures, in part they are reflected as current, in part – as capital.

As for the financing of capital expenditures from oblast funds, their amounts are often not reflected in the city budget at all or almost at all. These funds' expenditures for city programs should be apparently analyzed in addition to capital investments from the city budget.

The 2001 budget execution report noted a complete lack of capital spending on environmental protection. Capital expenditures for transportation came to 203.2 million rubles (53% of overall spending under this section) and included state subsidies for the development of subway (186.2 million rubles), electric and motor-car transportation. From the information on financing capital construction projects, it may become clear that these funds were allocated for the procurement of streetcars, refitting of 30 buses, and construction of the subway's first line (including settlement of accounts payable). For housing and public utilities, capital expenditures totaled 63.68 million rubles (4% of overall spending under this section), including spending on the housing sector – slightly over a half, or 33.16 million rubles (9% of overall spending in this sector), and public utilities sector – 30.4 million rubles (2.7% of overall spending in this sector). In the housing sector, capital expenditures were allocated for the target programs "Energy Saving", "Dilapidated Housing", "Capital Construction"; in the utilities sector – target programs "Development of Remote Districts", and "Capital Construction". From the territorial road fund's report, it transpires that the Municipal Improvements Department in 2001 received 500 million rubles to repair the roads of oblast significance. Capital expenditures for education amounted to 1.9 million rubles (0.13% of overall spending) and were allocated, by all appearance, to design a standard secondary school project and reconstruct a swimming pool (list of capital construction projects). Capital outlays for health care totaled 37.844 million rubles and were allocated to build a hospital's infectious block. Relatively large capital expenditures are also reflected in the fuel and energy section under the municipal fund line – 137.79 million rubles. From budget reports, it is hard to trace the destination of these funds, it can be only surmised that they were allocated mostly for the major repairs of municipal infrastructure.

Table 2.2. Some expenditures of the municipal earmarked fund, million rubles.

	2000*		2001		2002		2003
Section 0700 "Industry, energy, and construction"	plan	actual	plan	actual	plan	actual	plan
engineering infrastructure development fund	27.57		51.0	51.668	60.0	45.825	92.017
improvement of housing conditions for socially unprotected categories of citizens and relocation from dilapidated houses	3.2		16.0	15.992	17.913	17.595	16.558
development of social infrastructure	1.0		4.5	5.021	27.0	3.97	40.0
development of residential construction	30.0		74.18	65.116	104.292	100.675	106.442

** As the municipal earmarked fund was established in May 2000, data for 2000 are shown from the city budget fund's plan of expenditures.*

Under the engineering infrastructure development section, the municipal fund finances the construction and reconstruction of gas, heat, power, water supply and sewerage networks, roads, municipal improvements, engineering services and works. Spending on engineering infrastructure development included: water supply and sewerage – 41% in 2000, 34% in 2001; heat, power and gas supply – 30%, and 27%, respectively; city improvements – 23% in 2001. Expenditures for the provisions of housing for socially unprotected categories of citizens and relocation from dilapidated houses were allocated mainly for housing construction and purchase. There is no detailed breakdown of the fund's expenditures by items for 2002 or 2003.

The 2002 budget includes, under the construction and architecture section, state capital investments of 405.024 million rubles in two parts: non-refund state capital investments – 236.959 million rubles, and municipal earmarked fund – 168.065 million rubles. State capital investments were made in capital construction projects: infectious hospital; subway; school; residential construction; overhaul of a gas pipeline; reconstruction of heat, power, water supply and sewerage systems; construction of a water intake and water distribution networks; construction of a gas boiler-house; reconstruction of streets and crossings; gasification of dwellings; rehabilitation of houses. The municipal fund's plan of expenditures provides for spending on: development of utility infrastructure; improvement of housing conditions for socially unprotected categories of citizens and relocation from dilapidated houses; development of social infrastructure; development of residential construction. Under the transportation and environmental protection sections, the 2002 budget has "0" in the capital investment line. Under the housing and utility section, capital expenditures were 268.9 million rubles (17% of overall spending under this section), including spending on the housing sector – 158.5 million rubles (58%), and utility sector – 102.7 million rubles (including 49.9 million rubles for municipal improvements, and 52.8 million rubles – other capital outlays). This section should evidently include expenditures under the target program "Energy Saving" that amounted to 51.009 million rubles. Capital expenditures for education totaled 102.308 million rubles (5% of overall spending under this section), including 92.6 million rubles of departmental spending. Outlays for the target program "Rehabilitation of Dilapidated Schools" came to 49.878 million rubles. Capital expenditures for health care made up 78.6 million rubles (9.8% of overall spending under this section). The territorial road fund allocated 500 million rubles to the Municipal Improvements Department, and 120 million rubles – to the municipal enterprise Metropoliten (subway).

The 2003 budget, under the construction and architecture section, provides for state capital investments of 588.849 million rubles in two parts: non-refund state capital investments – 333.832 million rubles, and municipal earmarked fund – 255.017 million rubles. No state capital

investments are envisioned under the transportation and environmental protection sections. Under the housing and utility section, planned capital expenditures are 172 million rubles (9% of overall spending under this section), including spending on the housing sector – 118.75 million rubles, and utility sector – 46.6 million rubles. Capital expenditures for education will make up 152.6 million rubles (6% of overall spending under this section), including 128.2 million rubles of departmental spending within the general education subsection. The expenditures planned for the target program "Rehabilitation of Dilapidated Schools" are 60 million rubles. Planned capital expenditures for health care amount to 140.6 million rubles (13% of overall spending under this section). In addition to these departmental outlays, spending on target programs should total 35.114 million rubles. According to the law on the 2003 budget, the city budget provides no funds for the implementation of the City Duma's decisions *On Adoption of City Electric Transportation Development Program for 1999-2003*, and *On Adoption of Target Program "Housing Stock Security" for 2000-2003*. The financing of these programs was suspended in 2003.

Comments on creation of needs

Such inexplicit spending patterns and the actual lack of transparency in the disposition of funds appear to reflect existing problems with the creation of financial needs within the branches of the city's economy. The analysis of investments by virtually all branches reveals that there is no full picture of work planning and creation of financial needs within each branch. The exception is the environmental sector – the information on "environmental" investment allows to get an idea about the validity of developed measures and created financial needs based on the city's main environmental challenges and urgent tasks. In such sectors as housing and public utilities, transportation, city improvements, there exist capital construction and repair plans whose financial needs are reflected in the City Strategic Development Plan. However, financial needs of each branch are not formalized as medium-term or priority expenditures to show a substantiated priority order for measures to be taken as well as planned amounts and dates of financing from different sources (including off-budget ones). Sectoral expenditures are scattered over separate target programs and made based on a disordered receipt of funds from various sources rather than systematically. In the education and health care sectors, where investment programs are reduced mostly to capital construction, repairs or reequipment plans, financial needs are estimated according to such plans by separate target programs (often by different departments), which also interferes with the principle of the integrated planning of sectoral capital investments.

2.7.1. Environment and Nature Management

1. Investment needs

Main problems

Yekaterinburg, as the largest regional industrial city concentrating almost a third of the oblast population, to the full measure feels the functioning of the city's economy (transport, human services, public utilities). The high concentration of production, low level of technological support, continuous growth in the stock of cars have a strong impact on the environment. The last years' specific feature was that against the background of a stabilized general level of pollution new factors of environmental risk have become more evident. Intensive industrial emissions of the early 90s give place to the inertial impact of secondary pollution, the sources of which are collectors where pollutants and hazardous wastes have been accumulating for years. Such sources include soils and grounds, bed silts, industrial and domestic waste storages, disposal landfills. In addition, the state of nature-conservation equipment and the way it is used in the city's economy contribute to the strength of man's impact on the environment.

The city's major environmental concern remains air pollution. Yekaterinburg is in the list of Russian cities with the highest level of air pollution. According to the 2002 data, 435 industrial enterprises and organizations discharge pollutants in the air, but only 14.3% of emitters have

dust-trapping and gas-cleaning systems, while collection efficiency is 50.3%. The main source of air pollution in the city are motor vehicles. Because of the increased stock of cars, the environmental situation in the city determined largely by exhaust gas emissions remains strained. If the city's companies annually discharge in the air around 22 thousand tons of pollutants, motor vehicles – up to 140 thousand tons, which accounts for almost 86% of all emissions. The city registered 320 thousand motor vehicles with their annual increase being 2-3%. In such context, the organization of environmental monitoring and motor transport discharge control becomes increasingly urgent.

An important factor of the city's general epidemiological state is the organization of water supply and sewerage services. The 2002 data show that there are 143 registered enterprises-water consumers in the city, 91 of which discharge effluents in superficial water. Nearly 91% of wastewater discharged by enterprises are effluents of the municipal enterprise Vodokanal, owner of the city northern and southern wastewater treatment plants. The treatment plants of Vodokanal and those of the northern group of the city's factories fail to operate at rated capacity because of deteriorated equipment. The functioning treatment plants cannot ensure standard-quality treatment of effluents. The main reasons are overloading volumes of effluents and increased contents of pollutants in wastewater due to deficiencies or lack of local treatment facilities in companies discharging effluents in the city's collector. There is a strong by-product impact on surface sources, the quality of water remains very unsatisfactory and becomes chronically hazardous.

The technical state of water pipelines and facilities cannot ensure using drinking water in a rational way, or meeting the requirements to its quality. The improvement of water quality at filter plants that has been underway for already five years is nullified because of the condition of distributing and internal water networks.

According to the data of the state social-hygienic monitoring system, Yekaterinburg is a leader among Sverdlovsk Oblast cities in terms of environmental and sanitary-epidemiological problems, as well as intensity of various ecological problems associated primarily with air and soil pollution, unsatisfactory quality of drinking water, accumulated amounts of industrial and domestic wastes. These problems not only present an obvious danger for the majority of the city population but also cause the deterioration of natural resources and losses because of the population's disability and decreased value of real property.

Creation of needs for investment

The city administration plans, finances, organizationally and logistically supports municipal projects, including environmental programs and measures. In this respect, a competent and effective policy carried out by the Ecological and Nature Management Committee of the city administration in order to create justified investment needs in the area of environmental measures should be noted and supported in every possible way. The Ecological Committee's requests are taken into account when development programs are prepared for various branches. The Ecological Committee established an expert ecological counsel to develop a normative-legal and environmental-economic policy in the area of nature management. The main functions of this Counsel include: development of recommendations and proposals for rational nature management within the city's territory; expert analyses of programs, environmental projects, and enactments; participation in the development of integrated solutions for the city's social, environmental and economic problems. Within the framework of its functions, the Counsel: developed a Comprehensive Environmental Protection Program for 1993-1998, and Guidelines for Environmental Protection in Yekaterinburg for 1999 and beyond; reviewed and proposed recommendations for the "Pure Water" program, Procedure for Waste Treatment within the City Territory, comprehensive plans of various environmental measures, etc. The members of the counsel work vigorously on the ecological section of the Yekaterinburg Strategic Development

Plan for the period until 2015, environmental safety concept, and environmental substantiation of the City Master Plan for the period until 2025.

The size of investment needs for environmental purposes can be evaluated based on adopted program measures. City chief executive's resolution No. 264 of March 21, 2000, endorsed the Guidelines for Environmental Protection for 2000-2003 that defined the main areas of investment in environmental protection. The city chief executive annually approves cost estimates for the implementation of environmental measures within which investment projects are also funded. In 1997, the City Duma adopted the program "Pure Water", the implementation of which started in 1998. The overall program objective is to provide the population, in a sustainable way, with drinking water that should comply with standard requirements (estimated total cost of this program is 92 million rubles). The first program phase was completed in 2000. There is a concept of measures to be taken under the second stage (primary contractor – Vodokanal) that are not yet financed.

In 2003, a joint investment project with the UK Department for International Development on the improvement of solid domestic waste treatment through co-financing from the budget and the British Know-How Fund should be completed in Yekaterinburg. Under this project, the Know-How Fund financed the development of a strategy for SDW treatment (the project envisions that the investment component will be included in the tariff and that private investments will be attracted in SDW treatment, it also proposed a structure for waste disposal: 20% – to be disposed in a landfill, 30% – recycled, 50% – burned, which evidently assumes building an incinerator). Another co-financed investment project that is currently underway – reconstruction of the Shirokorechenskiy municipal SDW disposal site – will allow to extend the site's life for 30 years.

At the moment, two pilot projects are also underway that require continuation and funding from the municipal budget: (1) treatment of hazardous medical wastes, and (2) organization of refuse collection in private housing. Under the first project, an inventory of medical wastes was made, a uniform systemic approach to medical waste management developed, construction of a waste treatment plant (center) almost completed (procurement of incineration equipment was financed by the British fund, assembly and installation – from budgetary ecological allocations). The construction of this center was estimated as 7 million rubles, 3 million of which have been paid by now (end of 2003).

The environmental projects' planned investment needs are shown in Table 2.2.

Table 2.2. Investment needs in the area of environmental measures (estimated costs of environmental projects).

Year	**Amount** (million rubles)	**Including from budget**	**Including off-budget**	**Projects, activities**
1999-2005	52.105	22.5 (43%)	29.605 (57%) (Vodokanal)	"Pure Water" program (activities planned since 2000)
2000	21.765	18.8 (86%)	2.965 (14%)	
including:	18.88	16.13 (85%)	2.750 (15%) (Vodokanal)	"Pure Water" program
	0.65	100%		Development of environmental standard concept
	0.765	100%		Support to and development of environmental monitoring system
	1.47	1.27 (86%)	0.2 (14%) funds of enterprises	Waste minimization: reconstruction of SDW disposal site, recycling of mercury-containing wastes, disposal of medical wastes, treatment of

Year	Amount (million rubles)	Including from budget	Including off-budget	Projects, activities
				wastewater.
2001	11.383	2.0 (18%)	9.383 (82%)	
including:	3.183	2.0 (63%)	1.183 (37%) funds of enterprises	"Pure Water" program
	4.2		100% funds of Sverdlovskaya broiler plant	Construction of dung drying shop
	4.0		100% funds of Turbine-motor plant	Reconstruction of galvanic effluents neutralization plant
(2001-2005)	17.7		100% (funds of enterprises VIZ, and Airport Koltsovo)	Construction and reconstruction of treatment plants ("Pure Water" program)
2002*	4.09	100%		Designing and development of environmental projects, investment activities (according to 2002 consolidated estimate)
2003*	13.2	100%		Designing and development of environmental projects, investment activities (according to 2003 consolidated estimate)

** For 2002 and 2003, the data from the plan of financing environmental measures are shown according to the approved cost estimate. The actual needs must be much higher.*

Setting investment priorities

In view of the deficit in funds, the Ecological and Nature Management Committee develops and implements environmental programs, projects and measures on a phase-by-phase basis depending on established priorities and identified ecological problems that have the strongest impact on population health. Based on the existing environmental situation in the city, the Ecological Committee identified the following priority areas:

- ensuring environmental safety of citizens;
- protection of water sources and improvement of drinking water quality;
- protection of atmospheric air;
- treatment of industrial and domestic wastes;
- maintenance of specially protected natural territories and restoration of green plantations;
- ecological education and information.

The Ecological Committee's activities in 1999-2000 were aimed to implement annual environmental protection programs "Guidelines for Socioeconomic Development of the City", target environmental programs "Pure Water", "Clean Air", "Wastes", "Comprehensive Plan of Measures for Environmental Rehabilitation of the Lake Shartash". Priority investments were selected considering the recommendations of the City General Development Plan's section Environmental Sanitation.

2. Actual investments

Environmental measures in Yekaterinburg are financed from the following sources:

- Budget;
  - city budget (including land tax receipts);
  - oblast budget (including funds of the former Budget Ecological Fund that have been accumulated in the oblast budget since 2001 and allocated as subventions for city environmental measures and implementation of separate measures under oblast programs);
  - federal budget (funds for separate measures under federal programs);
- Funds of enterprises and organizations (determined by investment plans of enterprises, organizations, municipal and other programs);
- Resources of international funds (Know-How Fund, TACIS program).

Budgetary investments

The budgetary financing of environmental measures is shown in Table 2.3.

Table 2.3. Budgetary financing of environmental measures (current and capital expenditures), million rubles.

Year	Plan	Actual	Comment
1999	5.158	5.158	
2000	8.762	8.726	including 2.094 – from city budget
2001	10.0	10.0	including 1.0 – from city budget
2002	11.5	8.305	
2003	24.1	7.025 (by September 1, 2003)	including 0,2 – from land tax (city budget)

Budgetary funds for environmental purposes are allocated according to estimates for environmental measures annually approved by the city chief executive. Until 2001, the city budget had a municipal ecological fund which received by law 60% of payments from city organizations for nature exploitation (e.g. receipts from such payments in 2000 totaled nearly 8 million rubles). From 2001 to 2003, all payments were assigned to the Sverdlovsk Oblast earmarked budget fund. According to the Sverdlovsk Oblast law *On Revenues and Expenditures of Budget Ecological Fund of Sverdlovsk Oblast*, the same 60% of payments collected in the city from nature users were allocated as subventions to the city budget for environmental measures. In 2003, the oblast ecological fund ceased to exist, proceeds from nature users' payments, although included in the city budget, were not indicated in a separate line, and according to a verbal agreement were intended for environmental purposes. The oblast budget should allocate 24 million rubles as subventions for environmental measures (in the previous years, environmental subventions were around 12 million rubles). By September 1, 2003, they amounted to only 7 million rubles (see Table 2.3).

The oblast Ministry of Natural Resources developed a procedure to make expenditures for environmental measures as subventions from the oblast budget. Based on the amount of subventions, the city chief executive issues a resolution to adopt a list of environmental measures within the City of Yekaterinburg municipality to be financed from the subventions provided from the oblast budget in current year. The Ministry of Natural Resources of Sverdlovsk Oblast and the Yekaterinburg Administration sign annual agreements on financing environmental

measures within the city's territory. According to the adopted plan of measures and based on allocated funds contracts are made with companies-contractors.

Budgetary funds for environmental protection are accumulated from small amounts allocated for separate environmental measures concerning primarily natural complexes. As for environmental investment projects, it should be noted that, although they are given due regard as much as possible, budget funds allocated for them clearly come short. Thus, according to the adopted spending budget for 2002, only 4 million rubles out of 11.5 million of total environmental spending were intended for investment (under the designing and construction of environmental facilities section – 2.5 million rubles, and also investments under the air protection, ecological monitoring, rehabilitation of specially protected natural territories sections). In 2003, the adopted spending budget for the amount of 24.1 million rubles provided for 13.2 million rubles of capital expenditures (under the designing and construction of environmental facilities section – 7.775 million rubles, and also investments under the protection of water resources, air protection, ecological monitoring, rehabilitation of specially protected natural territories sections). If to consider that the needs for only the second phase of the "Pure Water" program (from 2000 to 2005) are 52.1 million rubles, investments under the 2002-2003 budgets make up only 33% of this amount, while, in addition to the "Pure Water" program, the city also needs capital expenditures for other programs – "Atmospheric Air", "Industrial and Domestic Waste".

Off-budget investments

The funds of enterprises in the annual size of environmental investment should play a special role. The share of enterprises in capital expenditures is continually growing and at the moment should be around 80% of the costs of currently implemented projects. The city's industrial enterprises annually plan and make environmental investments aimed to reduce pollution, build dust-trapping and gas-cleaning systems, eliminate pollution sources, etc. In 2002, the city's enterprises funded 20 environmental measures resulting in pollutant emissions in the air reduced by 234 tons, including:

- Uralmash plants – following the replacement of an open-hearth furnace with a gas-purifying furnace-bowl discharges reduced by 105 tons;
- Sverdlovsk bakery – due to the conversion of a boiler-house from solid fuel to gas and the elimination of coal piles discharges reduced by 53 tons;
- Ural steel-work plant – as a result of the routine adjustment of boilers and the elimination of a joiner's yard discharges reduced by 46 tons.

The second phase of the "Pure Water" program is expected to be financed by Vodokanal for 57%, which requires a prudent tariff regulation policy in the area of water supply and sewerage services.

3. Capabilities for off-budget investment

The comparison between budgetary expenditures and investment needs shows that the allocated budgetary funds are clearly inadequate for making the city's economy environmentally oriented. Therefore, it is important to enhance the role of the city administration (Ecological Committee) in the regulation of the investment process in order to attract investments from other sources. The fulfillment of this task requires methodological support in the form of newly developed mechanisms of financing and attraction of investments.

The city has already made some steps to seek additional capabilities for financing capital expenditures. The investment project on SDW treatment (jointly with the DFID) has developed a methodology to include the investment component in the tariff and attract private investments in SDW processing, as well as proposed a rational waste disposal structure. A refuse collection

model is being refined at the moment. The developed recommendations are already being implemented in practice, e.g.: on ecologists' initiative, the city increased the waste disposal tariff from 0.32 to 4.8 ruble/man/month, which allowed the municipal enterprise Spetsavtobaza to overhaul equipment and machinery and purchase new refuse-collecting trucks. Spetsavtobaza is currently a monopolist and collects SDW in the city on a contractual basis. In certain cases, waste is collected by departmental organizations using their own vehicles. The Ecological Committee's experts are quite right to believe that it would be practicable to separate waste collection from processing and provide a competitive environment.

2.7.2. Public Utilities

The public utilities infrastructure is owned by the local government and various departments. The total length of heat networks calculated as one pipe is 34,115.9 km, including 2,315.6 km of municipally owned networks. In recent years, departments transferred some heat networks to municipal property – over 600 one-pipe km from 1998 to 2003. The city has more than 130 heat-generating sources not counting roof boiler-houses that use natural gas. 10,919.4 thousand Gc of heat were supplied to consumers in 2002. The population consumed 83% of supplied heat.

The length of water supply networks is 1,518.6 km, sewerage – 1,100.4 km. The local government owns 1,400.3 km of water supply networks, and 1,031.6 km of sewerage networks. In 2002, consumers were supplied with 143.3 million cubic meters of water of drinking quality, 76.2% of which the population consumed. The volume of wastewater from consumers totaled 173.1 million cubic meters, including from the population – 135.6 million cubic meters (78.3%). The networks' wear is nearly 60%.

Main problems

The utility sector's major problem is the high level of wear and tear of capital assets. The most objective indicator of the state of property in the utility sector is the rate of failures. It should be noted that a take-off trend in the failure rate has been observed in recent years. Chart 2.12 shows the growth in malfunctions of heat, water distribution and sewerage networks.

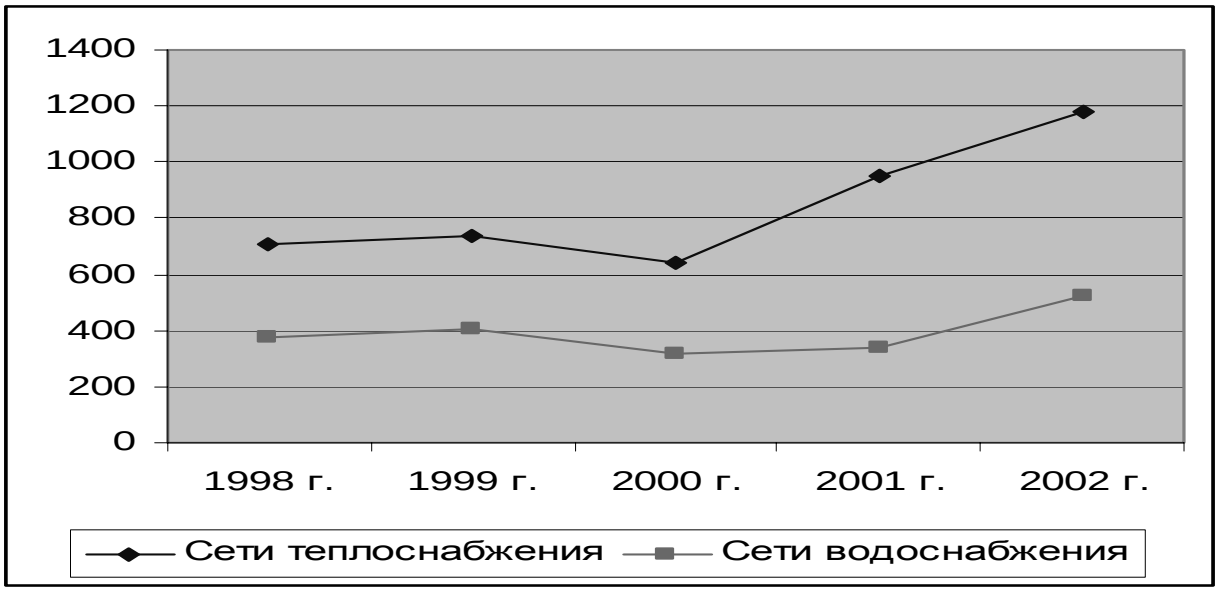


Chart 2.12. Rate of failures of heat, water supply and sewerage networks. [left to right: Heat networks, Water supply networks]

The rate of failures in 2002 increased as against 1998: for heat networks – by 67%, water supply networks – by 40%.

99.5 km of heat networks were overhauled and relaid in 2002, which is slightly more than the average for the last five years. 1,607.3 km of networks required major repairs. If the rate of repairs remains at the 2002 level, repairs of networks requiring major overhaul will take 16 years with the rated service life of pipes being 15-20 years. The actual service life is much shorter. The Yekaterinburg Strategic Plan adopted by City Duma's decision No. 40/6 of June 10, 2003 provides for annual repairs or replacement of up to 200 km of heat networks. If the Strategic Plan is implemented, the repairs of networks requiring major overhaul could be completed in 8-10 years. The situation with municipal water distribution systems is even more difficult. 1,022.7 km of networks need major repairs, 25.5 km were overhauled in 2002, and the complete replacement will take 40 years. The public utilities sector needs investments that the local government is incapable to provide. To attract much-needed off-budget investments, favorable conditions for investors should be created and risks minimized.

The 600 million ruble debt for heat to Sverdlovenergo remains a serious problem. The reason for this debt is the unbalanced tariff policy of regional authorities. The tariffs do not correspond to actual costs, nor there is any mechanism to pay debts to enterprises. In the area of water supply, there exists a developed but now inoperative program "Worn-out Networks" that provides for the rehabilitation of treatment plants and an intake heading. But overall, the utilities sector has no target budgetary investment programs, although some utilities carry out certain investment programs, yet without plans or project justifications.

Creation of needs for investment

The sector's investment needs may be estimated based on the data from the Yekaterinburg Strategic Plan, data on major repairs or upgrading of utility infrastructure, and approved program cost estimates.

The Strategic Plan contains a forecast of the public utilities sector's investment needs for the period until 2015. According to this forecast, the sector's investment needs (in actual prices) will be 3.5 billion rubles by 2005, 11.3 billion – by 2010, and 13.5 billion – by 2015.

Based on the provided information, it is possible to estimate investment needs for major repairs of the housing stock. In 2002 prices, approximately 1.8 billion rubles are needed for major repairs or replacement of overhaul-requiring heat networks[1], and 2.5 billion rubles – for water supply networks. The Strategic Plan includes an investment plan for the development of utility infrastructure. Thus, it is proposed to complete, by 2015, the reequipment of an open heat system into a closed one with the estimated cost of 1.3 billion rubles. By 2008, it is planned to fit out 6 thousand heat registration nodes, the estimated investment needs are 670 million rubles, annual investment needs for major repairs of heat networks are from 180 to 230 million rubles. A note should be also made of the heavy wear of boiler equipment that reaches 68% and requires additional investment.

The investments in water supply and sewerage systems are described in the Strategic Plan in greater detail. Investment needs for water supply systems up to 2010 are estimated as 950 million rubles, for sewerage systems – 425 million rubles; up to 2030, water supply systems– 3,950 million rubles, sewerage – 1,280 million rubles. Investment needs for the construction and reconstruction of water supply networks until 2010 are estimated as 630 million rubles, sewerage – 280 million rubles. In addition, it is proposed to make investments to overhaul the operating reservoir, complete the construction of the Verkhnee-Araslanovskoye reservoir, implement water-protection measures, reconstruct intake facilities, build an aeration plant's sludge basin.

As a rule, major repairs of heat, gas, water supply and sewerage networks, as well as energy-saving facilities are financed mostly from off-budget sources, such as enterprises' resources

[1] City administration report "Yekaterinburg: Socioeconomic Development Results in 2002 and Major City Development Trends in the Last 5 Years".

accumulated from depreciation charges or repair funds included in tariffs. New construction and the upgrading of utility infrastructure are usually funded from the budget.

Setting investment priorities

The city has no uniform system for the establishment of investment priorities. The approaches to the selection of investment projects depend on the source of investment. Budgetary investment priorities are established based on annual capital investment plans adopted by the local government. Expenditures under adopted capital investment plans are included in the city budget. Off-budget investments in the sector are confined to utilities' outlays for major repairs and rehabilitation of infrastructure. Off-budget investment priorities are set by utilities that manage municipal property. The plans of major repairs are coordinated with the city administration. As a rule, municipal organizations do not prepare either economic or social rationale for the priority of investment projects. The projects are selected solely on a subjective basis, sometimes adjusted to political wishes of the local government.

The city administration has just embarked on making inventory of the public utilities infrastructure to prepare a program of capital investment. During the preparation of this program, it is proposed to make a list of investment projects. The program is not assumed to define the principles for the selection of investment projects. The list of investment projects does not allow to formulate the city's investment policy properly, nor bears the test of time. Any change in external conditions necessitates the review and adjustment of investment priorities. For this reason, it is more important for long-term sectoral investment programs to establish project selection principles that would ensure the attainment of objectives set by the local government. This would allow to achieve such objectives within a shorter period of time.

In addition to the capital investment program, a concept of a new target resource-saving energy efficiency program is expected to be prepared by the end of 2003 that will be financed from various sources.

Actual investments

This sector's projects are financed from two sources: city budget, and utilities' funds received as municipal property depreciation charges and other components of tariffs on service. So far, we could not find any investment program on upgrading or building the utility infrastructure. The program "Energy Saving" is financed from the city budget, and some elements of investment in the utility sector from the city budget have been traced in the program on remote settlements.

Budgetary investments

There were no budgetary allocations for the construction of heat networks in 1999 and 2000, or water supply networks in 1998 and 1999. The situation started to change since 2000. In 2001, the construction of 2.5 km of heat networks, 5.3 km of water supply networks, and 0.8 km of sewerage networks was funded from the budget, while in 2002 – 3.2 km of heat networks, 6.7 km of water supply networks, and 0.7 km of sewerage networks. As a rule, construction investment programs in the utility sector were financed through the program "Development of Remote Settlements".

The program "Energy Saving" is underway in the city, within which the investments in 2002 amounted to nearly 51 million rubles.

Off-budget investments

As already mentioned, off-budget investments in the utility sector are confined to expenditures for major repairs and rehabilitation of infrastructure financed by utilities from depreciation funds and other revenues. Investments in major repairs of heat networks over the last five years have

been continuously growing in money terms with the volume of work remaining virtually the same (Chart 2.13).

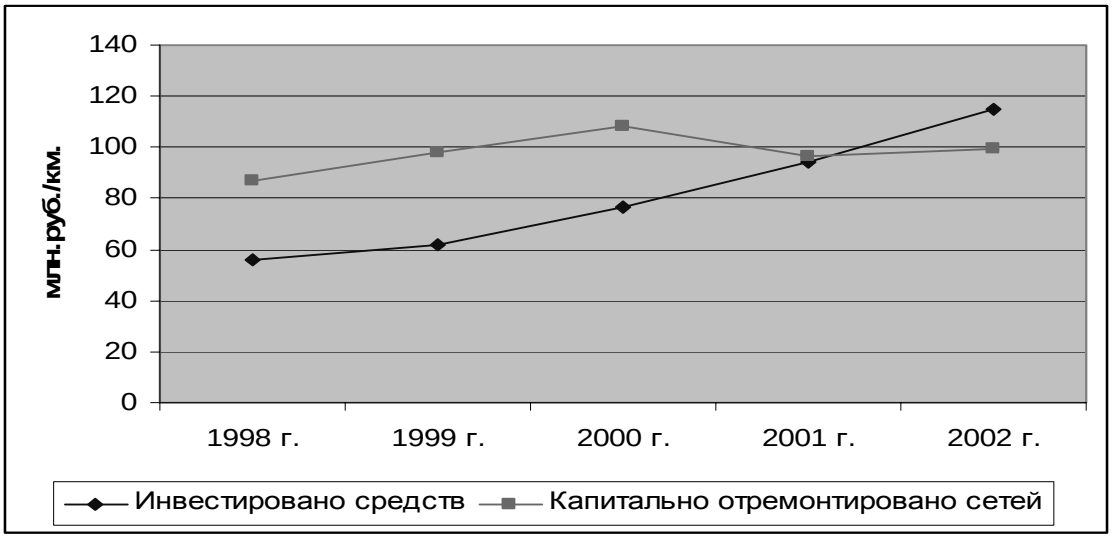


Chart 2.13. Off-budget investments in heat supply. [top to bottom, left to right: million rubles/km; Invested funds; Overhauled networks]

The situation with water supply and sewerage systems is different. In 2001, there was an upsurge in the volume of major repairs financed by enterprises. In 2002, the volume of major repairs remained at the level of 2001. If allocations for major repairs of water supply and sewerage networks in 1998 were 10.4 million rubles, in 2002 enterprises spent 64.6 million rubles for these purposes and repaired 25.5 km of networks (Table 2.4).

Table 2.4. Off-budget investments in water supply and sewerage (million rubles).

		Units	**1998**	**1999**	**2000**	**2001**	**2002**
Heat supply	Major repairs and relaying of networks	km	87.0	98.3	108.4	96.2	99.5
		m rubles	55.9	61.9	76.7	94.6	114.9
Water supply and sewerage	Major repairs and relaying of networks	km	11.9	10.8	14.0	25.9	25.5
		m rubles	10.4	10.7	23.7	62.5	64.6
	Capital construction (put into service – networks)	km	-	0.5	2.1	6.2	7.4
		m rubles	-	6.0	14.3	8.5	25.5
Gas supply	Capital construction of gas lines (total)	km	21.5	28.3	36.4	19.8	32.5
		m rubles	7.3	8.7	12.0	8.6	17.2

Capabilities for off-budget investment

Investment projects implemented in the city are not divided into commercial and social. Commercial are those projects that may pay for themselves through savings from their implementation. For such projects, the pay-back period is estimated quite easily, and economic conditions to attract off-budget funds are created. Budgetary financing in such projects may help reduce pay-back periods or loads on service consumers. Social projects have social effect and are

funded from budgets only. The projects in the utility sector, especially in the area of energy saving, have a commercial nature. They may be paid back through savings of resources achieved during their implementation. If an energy saving project fails to pay off, investments should not be made in such project.

A budget-funded implementation of commercial projects, specifically, energy saving projects, results in diverting budgetary funds from social tasks. It should be noted that for private investors the most attractive are commercial projects. The attraction of private investors will allow to solve the same problems within shorter period and without the need to divert budgetary funds. To attract private investors, conditions that guarantee the return of invested funds and minimize investment risks should be created.

Investors' risks can be minimized by a deliberate tariff policy that would guarantee the investor continuous earnings for provided services throughout the pay-back period, and a system of contractual relations between the city administration and the investor.

The basis for the efficient use of off-budget investments is an efficient management of municipal property. Municipal enterprises that manage municipal infrastructure are financed based on a cost-is-no-object approach – the worse the situation in the enterprise, the more funds it receives. It is obvious that such system of municipal management cannot be efficient. This system needs change. The relations between public utilities and the local government should be based on agreements on the commercial management of municipal property. Such agreements should stipulate conditions and terms for property management, objectives and tasks to be fulfilled by the manager, rights and obligations of the implementing agency, financial powers and responsibilities. Building such system of municipal property management should allow:

- increasing the effective use of available investment funds;
- creating economic prerequisites to attract additional off-budget investments.

The conditions and terms of a municipal property management agreement should be coordinated with the tariff policy carried out by the local government. The goals established in the agreement by the property owner should be backed with actual funding.

2.7.3. Municipal improvements

1. Investment needs

The Municipal Improvements Department of the city administration is in charge of:

- streets, driveways, embankments of the total length of 1,302.0 km by 2003;
- street lighting network of the total length of 1,069.5 km;
- 2,776 streetlights;
- domestic waste disposal sites of the total area of 90 hectares;
- 10 public lavatories;
- territories for general use (parks, gardens, squares, boulevards, forest, etc.) of the total area of 24,163 hectares;
- flower beds and gardens of the total area of 12.0 thousand sq. meters;
- grass-plots of the total area of 79.0 thousand sq. meters;
- trees and bushes.

Main problems

According to the city chief executive's resolutions, many organizations, both municipal and other, are currently in charge of city improvements. These include the Municipal Improvements Department, raion administrations, private companies. Each organization is responsible for its specific area, but the city has no single center for the collection and analysis of information from all entities responsible. As a result, it is difficult to receive complete information on the state of the city improvements sector, and the analysis has to be based only on data on the work performed by the Municipal Improvements Department.

Most of city improvements are financed from the city budget. Because of the deficit in budgetary funds, the volume of road construction and major repairs has been reducing over the last five years. Concurrently, the financing of routine road repairs has been reducing as well. The exception was 2002, when routine repairs doubled as compared to 2001. The reduction of road construction and repairs has negatively impacted the state of roads in the city.

The financial situation in municipal enterprises working in this sector is very tight. By January 1, 2003, their accounts payable reached 123.9 million rubles, which is 29% of annual receipts. The accumulated accounts payable are secured by accounts receivable to 60% only. At the same time, the information from the Municipal Improvements Department shows that the city budget's payables to the Department are continuously decreasing. The municipal enterprises' and the city budget's accounts payable to the Municipal Improvements Department are shown in Chart 2.14.

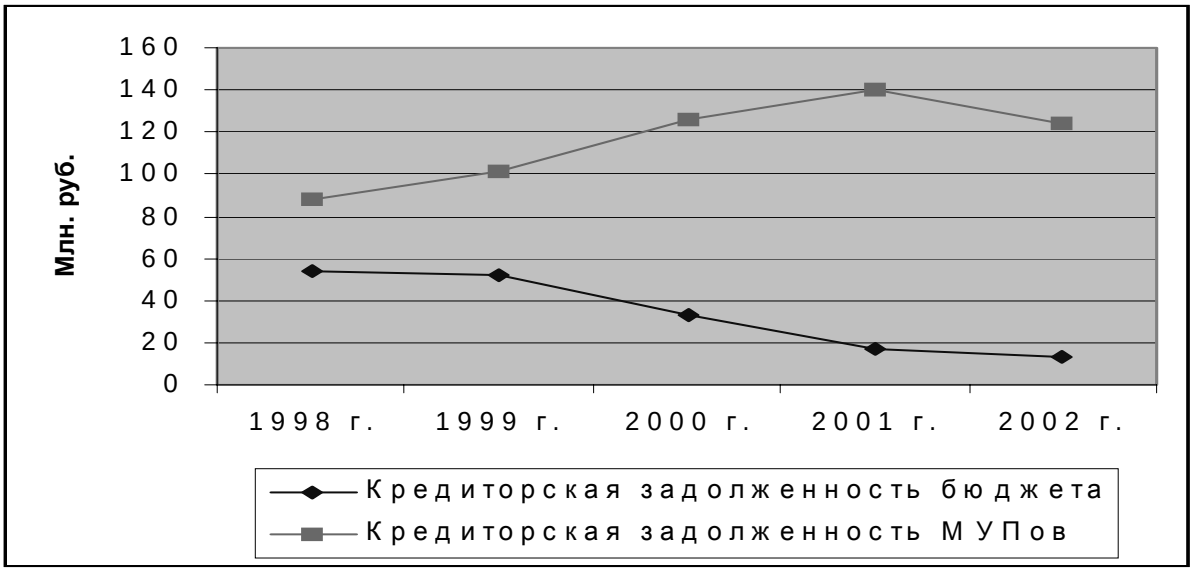


Chart 2.14. Financial position of municipal improvement enterprises. [left to right, top to bottom: million rubles; Budgetary accounts payable; Municipal enterprises' accounts payable]

The existing situation is indicative of:

- wrong tariff policy carried out by local authorities. Tariffs established for municipal enterprises by the local government do not correspond to actual costs;
- substitution of administrative for civil legal relations in the municipal improvements sector. Local authorities force dependent municipal enterprises to provide services based on underestimated rates, which leads to enterprises' losses.

The local tariff policy results in losses of municipal property and depreciation of municipal enterprises' capital assets. For example, solid and liquid domestic waste-collection trucks have become almost completely overage. The depreciation charge in the tariff structure is small and does not provide necessary funds for rehabilitation. The depreciation rate is less than 1.5% in the enterprise's revenues. Furthermore, as local authorities cannot perform their financial obligations regarding Spetsavtobaza's services, most of depreciation funds are on accounts payable. Such

failure of local authorities to perform their obligations is a serious problem that has a negative impact on the city's economy.

Creation of needs for investment

The annual spending on municipal improvements exceeds 1 billion rubles. The actual needs are much higher, especially for the maintenance and current repairs of arterial and residential roads. The estimated annual financial needs for road construction and major repairs are by 2.5 times higher than respective allocations in 2002. The needs for current road repairs also go beyond actual funding by approximately two times (source: Municipal Improvements Department).

The city developed special programs on municipal improvements that have been approved by the city chief executive and provide for the implementation of measures until 2005, including programs on solid domestic waste processing, forestry, green plantations, reconstruction of bridges and overpasses (Table 2.5).

Table 2.5. City target programs in the area of municipal improvements.

Program	**Years**	**Financial needs** (million rubles)	**Budget**	**Off-budget**
Comprehensive development of street-road network and public transportation lines in Yekaterinburg for the period until 2005	1999-2005	1,493.304	138.509 – city budget 1,354.795 – territorial road fund	0.225
Arrangement of car parking areas in Yekaterinburg for the period until 2005	1998-2005			100% (commercial organizations' funds)

The city administration has not established any formalized procedure for setting investment priorities in the municipal improvements sector. The Improvements Department does not evaluate social significance of implemented projects, nor formulates objectives to be attained through project implementation, nor assesses the effectiveness of investment projects in terms of their outcomes. Investment priorities are set based on subjective and political factors.

One of the main areas of municipal improvements is the construction and repairs of roads aimed first of all to resolve problems related to increasing traffic. Most of these projects involve large-scale associated work, such as demolition of houses, removal of utility networks, construction of new facilities. As a consequence, some decrease in constructed and repaired roads was registered in the last two years. Because of the city's anniversary the volume of occasional motor-road reconstruction and repairs in 1998-1999 was large.

In 2002, city improvements were largely concentrated on the construction and current repairs of roads and arrangement of the street-road network, sizeable allocations were made for the installation of streetlights. The established priority investments in municipal improvements for 2003 include: major repairs of roads, sidewalks and residential roads, rehabilitation and organization of green spaces, reconstruction of a domestic waste disposal site. From the territorial road fund, it is proposed to make sizeable allocations for the construction and reconstruction of large road-transportation projects: roads, streets and traffic interchanges.

2. Actual investments

Municipal improvement investment projects are funded from both budgetary sources (including ecological fund, territorial road fund) and off-budget sources (enterprises' and organizations' proceeds from depreciation charges). As a rule, most of budgetary funds are allocated for capital construction and repairs, while enterprises' funds are spent to purchase equipment and transport vehicles.

Budgetary investments

City investment projects are funded from the city and oblast budgets. The larger part of the program "Development of Street-Road Network and Public Transportation Lines for the Period until 2005" is financed from the oblast budget (territorial road fund). Thus, 1,236.1 million rubles were allocated for this program from 1999 through 2002, including 88% financed from the oblast budget, and only 12% – from the city budget. It was expected that 225 thousand would be raised for the implementation of this program from off-budget sources, yet they have not been received (Table 2.6).

Table 2.6. Budgetary financing of program "Development of Street-Road Network and Public Transportation Lines for the Period until 2005" (million rubles).

Years	Plan	Actually allocated	Actually spent
Total for 1999-2002	1,493.304	n/a	1,236.095
including:			
city budget	138.509	n/a	148.587
territorial road fund	1,354.795	n/a	1,087.508
In 2002	540.203	330.351	433.607
including:			
city budget	42.203	42.203	45.588
territorial road fund	498.0	288.148	388.019

In addition to funding the programs adopted by the local government, allocations are made from the city budget for some investment projects. Such projects are financed through the Municipal Improvements Department. Until 2000, the construction of municipal enterprises' capital assets used to be financed from the budget. Thus, budgetary funds were allocated during several years to build production facilities of the municipal enterprise Gorsvet. The construction was completed in 2002. The cost estimate of the project totaled 19.780 million rubles, including slightly over 50% financed from the city budget. The investments from the city budget for five years are shown in Table 2.7.

Table 2.7. City budget's investments in municipal improvements.

Year	Budgetary investment	Including:	
		Construction and repairs of buildings and facilities	Procurement of materials, equipment and vehicles
1999	4.04	3.98	0.029
2000	13.842	6.086	7.755
2001	10.0	0.0	10.0
2002	16.91	0.0	16.910

The practice of the budget-financed purchase of equipment and machinery for municipal enterprises has been preserved. For the municipal enterprise Spetsavtobaza, the procurement of 7 vehicles was financed from the budget in 2000, 4 – in 2001, 3 – in 2002, and 1 – in 2003. Municipal property given for use to enterprises is actually renewed based on budgetary allocations.

Budgetary investments in the procurement of production facilities for municipal enterprises should be recognized as wrong. Such practices give rise to parasitic attitudes of municipal enterprises and discourage efficient work. Enterprises may and must ensure investment in upgrading its means of production through own economic activities. The city administration may establish tariffs for municipal enterprises ensuring, provided those work efficiently, the implementation of investment programs that should be developed by enterprises and adopted by local authorities.

The principal drawback of the existing budgetary system of investment in municipal improvements is the lack of a formalized procedure for setting investment priorities. The selection of projects is made based on subjective or political principles, which substantially reduces the effective use of budgetary funds.

Off-budget investments

The projects implemented in the area of municipal improvements are financed mostly from the budget. This appears to be right as this sector deals mainly with the provision of public services. The use of off-budget funds for the implementation of city improvement projects should be the exception rather than the rule. Enterprises' funds should be used to rehabilitate and upgrade production facilities, purchase engineering tools or machinery, build ancillary facilities, etc. Based on the information from the Municipal Improvements Department, investments of municipal enterprises working in the city improvement sector are shown in Table 2.8.

Table 2.8. Investments of municipal improvement enterprises.

Year	**Investment** (million rubles)	**Including** (million rubles):	
		Machinery, equipment	**Transport vehicles**
1999	4.57	4.57	0.0
2000	7.84	7.84	0.0
2001	3.26	3.26	0.0
2002	2.28	1.98	0.30
2003	5.52	5.52	0.0

From this information, it can be easily concluded that these enterprises' revenues are insufficient for the rehabilitation of production facilities. This may be explained by the aforementioned two obvious reasons:

- Tariffs that do not cover actual costs;
- Budget debt for actually performed work.

However, there is a third reason that, in our view, is key in this situation.

The municipal improvements sector is potentially highly competitive. So the main task is to discontinue municipal enterprises' monopoly, ensure a competitive award of contracts for both current improvements and implementation of investment projects.

Investment programs of enterprises should be financed by enterprises themselves only. The local government establishes tariffs that ensure the implementation of an agreed-on investment program provided the enterprise works effectively. The use of budgetary funds for the implementation of enterprises' investment programs should be regarded as inefficient.

The city has already some experience in the coordination of tariffs with an enterprise's investment program. Thus, the SDW collection tariff since 2002 includes a truck-overhaul component. The municipal enterprise Spetsavtobaza obtained from the Yekaterinburg municipal bank a 10 million ruble credit for this component at the interest rate of 21% (today – 18%). The entire credit was allocated for overhauling the trucks, 13 of them have been repaired.

2.7.4. Transportation

1. Investment needs

Transportation services in Yekaterinburg include surface transportation – streetcars, trolleybuses, buses, fixed-route taxis and taxicabs – and the subway. The main load is on the surface municipal passenger vehicles. Transportation services for passengers in Yekaterinburg are offered by municipal and private vehicles. By 2003, the fleet of municipal passenger vehicles included:

- 613 buses;
- 463 streetcars;
- 261 trolleybuses;
- 54 subway cars.

Private passenger vehicles include 495 buses and jitneys. Chart 2.15 shows the passenger transportation balance for the last five years.

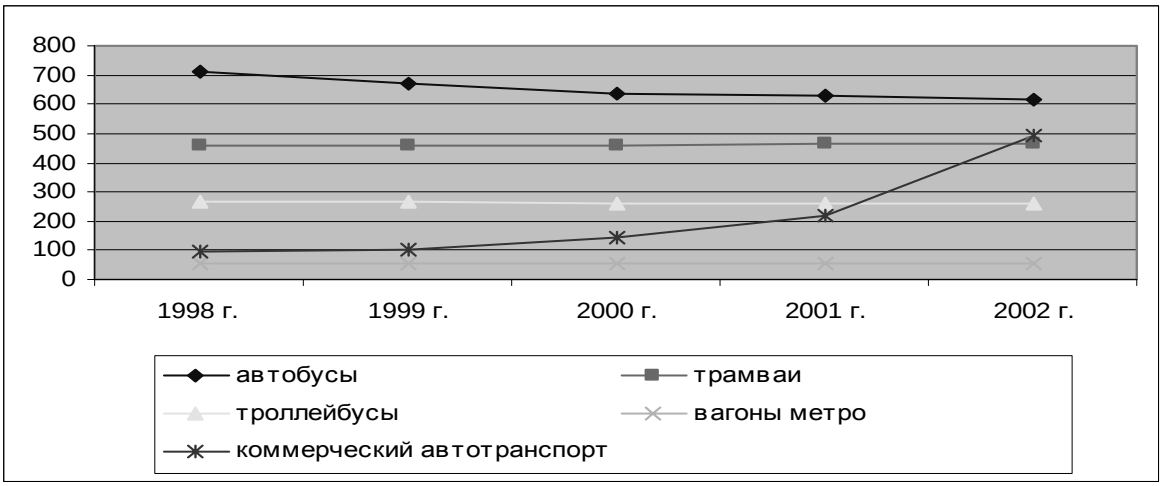


Chart 2.15. Passenger transportation vehicles in Yekaterinburg. [left to right: buses, trolleybuses, commercial motor transport, streetcars, subway cars]

Main problems

Municipal vehicles provide the major part of intercity passenger services. The share of private transportation services increased over the last five years from 0.24% in 1998 to 2.98% in 2002. The main problem in the transportation sector is caused by inadequate reimbursement of discount fares for privileged categories of passengers from the oblast budget: the funds transferred to enterprises in 2001 and 2002 as compensation for reduced fare rates made up only 11-12% of the required amount. Accounts payable keep on growing each year. Chart 2.16 shows the growth in accounts payable by the city's transportation companies.

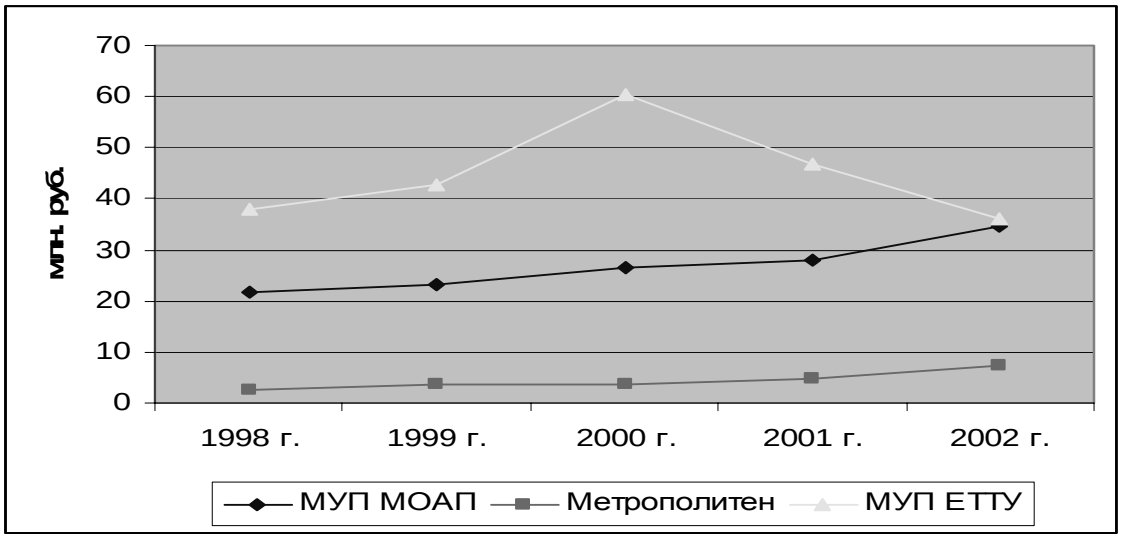


Chart 2.16. Financial position of municipal transportation companies. [left to right, top to bottom: million rubles; Association of bus enterprises; Metropoliten (subway); Streetcars and trolleybuses administration]

As may be seen from this diagram, municipal enterprises' accounts payable continue to grow. The exception is streetcars and trolleybuses administration, where a positive downward trend in accounts payable was exhibited in the last two years.

The rate of return from transportation services (expenditures/revenues ratio) is: subway – 61.9%, buses – 70.7%, streetcars – 89.5%, trolleybuses – 91.8%. Financial forecasts made by the Economic Committee of the city administration show that such measures as the reduced proportion of municipal motor vehicles (as most unprofitable), increased compensation from the federal and oblast budgets for discount fares, as well as other organizational measures fail to resolve the problem of inadequate funding in principle given existing transportation tariffs. In such context, the deficit in funding will inevitably continue to grow in future. As the Economic Committee's experts noted, essentially new approaches should be worked out already in 2003 to organize and financially support the municipal transportation sector, optimize municipal transportation enterprises' expenditures, increase their revenues through an adjusted tariff policy (differentiation of tariffs).

The municipal enterprises' fleet of vehicles keeps on aging. The average age of buses exceeds the rated service life by 3.5 years, streetcars – by 3 years, trolleybuses – by 1 year.

Creation of needs for investment

The lack of funds to renew the municipal fleet of vehicles is now offset by the development of maintenance facilities and increased volumes of major repairs. As compared to 1998, the volume of major repairs raised by 6-9 times. This allowed to keep up the provision of scheduled transportation services at a high level.

Budgetary investment needs could be assessed based on the adopted program of electric transportation development in Yekaterinburg for 1999-2003 that envisions improvement and power supply for trolleybus lines, modernization of power supply for streetcar lines, reconstruction of a trolleybus intersection, reconstruction of a streetcar junction, and construction of a streetcar line (Table 2.9).

Table 2.9. Investment needs for the program "Development of Electric Transportation in Yekaterinburg".

Years	1998-1999	2000	2001-2003
Amount (million rubles)	2,189	5,025	7,85

The city administration has no document that would regulate the establishment of investment priorities for the development of passenger services in Yekaterinburg. The Transportation Committee regards the development of streetcar systems as a priority. The Committee has not provided an economic or any other rationale for its priorities. Its opinion is based on the subjective expert evaluation of the situation in the city.

The Yekaterinburg strategic development plan has slightly different public transportation priorities. As one of the highest priorities, the plan designates the development of the subway. The plan comprises the construction and repairs of streetcar lines, construction of trolleybus lines, development of the fixed-route taxi network, gradual transition of companies from minivans to medium- and high-capacity buses.

There is no uniform system for establishing public transportation priorities in the city.

2. Actual investments

Budgetary investments

At present, no budgetary investment outlays are made for the city's public transportation sector.

Funds from budgets of various levels are allocated to cover current costs, but cannot compensate for transportation benefits provided to the population. In 2002, such benefits were granted for 1 billion rubles, with only 160.1 million rubles paid, including 124.3 million rubles allocated for compensation, the remaining funds may be qualified as investments in city transportation. The budgetary financing of public transportation in the city is shown in Table 2.10.

Table 2.10. Budgetary financing of Yekaterinburg public transportation sector.

	Units	Years				
		1998	**1999**	**2000**	**2001**	**2002**
Required compensation for benefits, including:	m rubles	363.6	383.2	613.2	933.6	1,063.1
Bus enterprises	m rubles	89.6	107.0	192.3	259.2	305.6
Subway	m rubles	10.0	12.2	21.7	37.0	51.0
Streetcar-trolleybus administration	m rubles	264.0	264.0	399.2	637.4	706.5
Compensated benefits	m rubles	47.9	46.3	52.1	120.0	124.3
Bus enterprises	m rubles	20.1	21.4	23.8	46.2	50.7
Subway	m rubles	2.5	-	5.4	5.1	6.0
Streetcar-trolleybus administration	m rubles	25.3	24.9	22.9	68.7	67.6
Financed from the city budget	m rubles	170.7	184.0	253.5	176.6	160.1
Bus enterprises	m rubles	56.6	72.3	107.5	70.2	58.2
Subway	m rubles	22.97	27.0	38.3	27.7	40.5
Streetcar-trolleybus administration	m rubles	91.1	84.7	107.7	78.8	61.4

Off-budget investments

Most investments in the public transportation sector are off-budget. The repairs and procurement of vehicles in the last five years were financed solely by carriers. The appearance of private carriers that replaced failed municipal buses has made the situation in the transportation sector

much easier. Over the last five years, only 13 buses (fleet – 613 buses), 13 streetcars (fleet – 463), and 25 trolleybuses (fleet – 261) have been purchased.

The lack of investment in purchasing transport vehicles necessitated increased investment in the major repairs of vehicles. Over the five years, from 1998 through 2002, the volume of major repairs of buses increased by 6 times, streetcars and trolleybuses – by 1.2 times.

A note should be made of private investment in the public transportation sector. By 2003, there were 20 private carrier companies in the city servicing 60 year-round routes. If private companies used only 98 vehicles in 1998, the number of private buses by 2003 reached nearly 500, including 85 large buses, such as Mercedes, Mann, Setra, etc.

City transportation has already become a very attractive business for private investors. The establishment of sector development priorities is a critical task to be fulfilled by the city administration. Such priorities should be set based on economic and social evaluations of prospective investment projects rather than subjective opinions.

Transportation projects implemented in the city should be rated as commercial. Investments in city transportation should be paid off through transportation tariffs. The aggressive arrival of private carriers in this sector confirms the idea of recouping investments. Local authorities may provide financial support for the implementation of large investment projects, such as construction of the subway or streetcar lines, where they should be guarantors of the return of funds for the medium term rather than actual investors.

The development of efficient municipal property management is a critical task in this sector. At the moment, providers of public transportation services are mostly municipal enterprises. Tightly gripped in administrative barriers, these enterprises have no economic incentives for efficient work. The involvement of private investors in the management of municipal transportation based on concession agreements with a strict control retained by the municipality over property management should make the transportation sector more attractive.

2.7.5. Housing

1. Investment needs

The total area of the city's housing stock is 25,421 million sq. meters (8,375 houses), including dwellings in rundown and emergency condition – 1.27%. Over the last five years, the area of the city's housing stock increased by 4% with the proportion of ramshackle dwellings remaining the same. Local authorities manage 73.6% of the housing stock (18,717 million sq. meters). At the same time, an upward trend is observed in the municipal housing stock through the transfer of departmental housing. From 1998 to present, more than 3 million sq. meters of the housing stock has been transferred from departments to municipal management. The proportion of privatized dwellings in municipally managed houses is 58.7%. Homeowner partnerships and co-operatives manage 2.4 million sq. meters of the housing stock. There are about 200 homeowner partnerships in the city. Around 92% of the housing stock is provided with all utility services, including central heating.

The city is divided into 7 administrative raions, with Ordzhonikidzevsky raion having the largest housing stock – 4.46 million sq. meters, and Oktyabrsky – the smallest – 2.2. million sq. meters.

Main problems

Housing reforms are a critical factor in the recovery of the city's economy because they provide for a phased reduction in budget subsidies and the sector's transition to self-sufficiency. However, the capabilities for increasing the sector's revenues are currently restricted by the paying capacity of the population. As compared to 1998, the proportion of residential payments for utility services increased by 2 times (from 40% to 80%). The growth in the rates of payment

for residential housing, on the one hand, relieves the burden on the city budget and improves financial indicators of housing enterprises, but, on the other, increases spending on housing subsidies for the population and causes the residential customers' debt for housing and utility services to grow. It should be noted, however, that the increase in additional spending on housing subsidies in 2002 was by 3 times less than the savings of budgetary funds achieved from the grown proportion of residential payments. But the problem of the population's growing debt remains. In 2002, this debt increased by 61% and by the end of the year reached 398 million rubles. The major share in the debt structure is that of previous years' debts which are virtually non-repayable.

The main problem in the housing sector is still the low level of convenience of the housing stock managed by local authorities. The reasons lie in the chronic underfunding of the sector. The needs for major repairs of the housing stock are met to less than the half. The analysis of financing major repairs in the last five years has shown that funding in absolute terms increases each year, but the inflation-adjusted estimation proves the opposite. The actual financing of major repairs reduces rather than grows (Chart 2.16).

Chart 2.16. Budget allocations for major repairs of housing stock. [top to bottom, left to right: Allocations for major repairs; million rubles; In actual prices; In 2002 prices]

The inclusion of a charge for major repairs in residential payments in 2002 somewhat improved the situation, but not essentially because budget financing was concurrently reduced (by over 4 times). As a result of this charge introduced, the volume of major repairs slightly decreased rather than increased. A similar situation arises with current repairs of the housing stock. If 3,708 million sq. meters of the housing stock were repaired in 1999 based on allocations for current repairs, in 2002 – only 2,830 million sq. meters.

Poorly operating elevators and internal equipment remain a problem for the population. A note should be made of the high level of elevators' wear, which entails increased maintenance costs and recurrent malfunctions. By 2003, the number of elevators in the Yekaterinburg housing stock totaled 6,193, including municipal – 4,756. The number of elevators with over 25-year service life that require refitting or replacement is 803 units. Over the last three years, 46 elevators were replaced, and 30 refitted. It is clear that given existing funding it will be impossible to put all elevators in order, and the situation will keep on getting worse.

Another remaining serious problem of the housing sector as a whole is that this sector is not attractive for investors. Any work of capital nature is financed only from the budget and residential payments that are clearly not enough to ensure a satisfactory state of the housing stock. Today, the city has no conditions for investment in the housing sector, and investment risks are too high. The reasons are as follows:

- predominance of administrative over contractual relations in housing management. Several agencies of the city administration are engaged in the management of the housing stock: Housing and Utility Department, Municipal Property Management Committee, and raion administrations. These agencies' powers are not clearly delineated, which results in the unstable work of housing organizations, administrative principles of management, accumulation of unsupported accounts payable;
- management of the housing stock is not a commercial activity and, as a consequence, there are no economic incentives for companies-managers to work efficiently, and there is a high administrative dependence. Housing stock managers are organized as municipal agencies that are established by law to perform non-commercial functions and are funded in full or in part from the city budget (article 120, §1, RF Civil Code). The budgetary financing of municipal enterprises, on the one hand, allows monitoring their revenues and assures stable, yet not so high, salaries and social protection for municipal employees, but, on the other, impedes investment in the housing sector and provides no incentives for efficient work. The institutions established by the local self-government are budgetary by definition as they should be financed completely or in part from the city budget. According to the Russian Budget Code, revenues of institutions are budgetary revenues, which turns the residential customers' payments for housing and utility services into some taxes, makes the sector financing more complicated, and monopolizes housing management. Currently, institutions, contrary to legislation, do not transfer their revenues to the city budget, but this only increases the instability of managing organizations' financial position as well as the risks for investors;
- housing enterprises do not pay off their debts. Their accounts payable over the last five years (from 1998 to 2003) have grown from 612 to 1,404.2 million rubles. The situation is complicated by the fact that accounts receivable are by two times less than accounts payable. Housing organizations have no sources to settle accounts payable. It is obvious that given such financial situation in housing enterprises any investments are not forthcoming;
- the reason for such financial situation is the wrong tariff policy and substitution of administrative for civil legal relations. The problems of the tariff policy lie in the imbalance in tariffs and the city budget. The established tariffs are not backed with actual funding, which negatively impacts first of all the volume and quality of performed work. When establishing tariffs, neither production nor investment programs of enterprises for the tariff period are developed, nor actual receipts from the population are accounted, which invites losses for housing organizations.

Low salaries remain another problem in the housing sector. Housing enterprises lose competent personnel, which has its impact on the quality of service and leads to a decreased efficiency of housing management.

In the existing situation, risks associated with investment in the housing sector are too high, which is confirmed by a complete lack of investment.

Creation of needs for investment

The size of capital investments in the city's housing sector may be assessed based on the Yekaterinburg Strategic Development Plan, adopted target programs' cost estimates, and major repair plans. According to the Plan's forecast, investment needs in the housing sector should be 600 million rubles by 2005, increase to 1.6 billion rubles by 2010, and to 2.9 billion rubles by 2015.

City chief executive's decree No. 502 of May 19, 2000, approved the target program "Housing Stock Security" for 2000-2003. The program comprises fitting the houses with metal doors,

entrance intercommunication systems, locks, and elevator safety devices. The program outlines the main areas of work, while specific activities are determined annually, after the budget is adopted, based on available funds.

The tasks associated with the modernization of elevators in Yekaterinburg were specified in city chief executive's resolution No. 497 of July 10, 1997, *On Stages in Modernization of Elevators in Yekaterinburg until 2005*. Based on this resolution, a committee was set up to supervise the modernization. However, no long- or medium-term modernization programs were developed. The city's customer service bureaus annually collect information on the state of elevators to prepare a modernization plan based on allocations from the annual budget. Such plan serves to assess the needs for materials. Some materials are procured on a competitive basis by the city administration's Economic Committee. For three years of the elevators modernization program, implementation costs amounted to nearly 60 million rubles. It is planned to spend another 13 million rubles from the city budget for the modernization of elevators in 2003. The actual needs are much higher than budgetary allocations. To modernize overage elevators, more than 300 million rubles are needed.

As far as financial needs for major repairs of the housing stock are concerned, the Housing and Utility Department's experts estimated that the total sum of required repairs is 2 billion rubles. This amount has been actually accumulated during previous decades. It is clear that available funds come short, although the budget spending plan on major repairs of the housing stock used to be fulfilled since 1997. According to the city administration, there are no long-term major repair programs in the city. However, the city strategic development plan for the period until 2015 includes major repairs as well. Also, a program, or rather a list of major repairs of the housing stock based on planned financing is developed annually. Each year after the city budget is adopted, the Housing and Utility Department prepares a "budgetary" part of the cost estimate for major repairs and distributes budgetary funds among housing organizations. Housing organizations estimate residential customers' payments and prepare their proposals for financing major repairs (justifications), separately for budgetary financing, and separately for receipts from the population. The Housing and Utility Department summarizes the information from housing organizations and develops a plan of major repairs to be financed from the budget and a plan of repairs to be financed through residential payments. Both plans are submitted for review to the Economics Committee and the City Financial Department, and adopted by a city chief executive's resolution. After adoption, the city administration considers the plans as a part of the housing stock major repair program.

Investment priorities in the housing sector are established, as a rule, annually, when work plans for target programs are being developed. Investment priorities in the housing sector are set only subjectively, taking into account political conditions.

2. Actual investments

Investments in the housing sector from various sources are allocated for the target programs "Housing Stock Security", "Modernization of Elevators", "Rehabilitation of Municipal Housing Stock", and major repairs of the housing stock. The funding sources of these programs and areas include: budgetary investments, receipts from residential payments for major repairs, housing enterprises' funds.

Budgetary investments

Budgetary investments in the housing stock are shown in Table 2.11. The city budget provides for investment in the housing and utility sector under the "capital expenditures" and "major repairs" sections, as well as the "financing of target programs" section. For example, if previously the modernization of elevators was financed from budget capital expenditures only, the city budget in the last two years earmarked money directly for the program. Thus, in 2002, resolution No. 610 of the city chief executive approved the municipal order for purchasing 46

passenger elevators from the Ural Elevator-Building Plant for the amount of 13.8 million rubles, while in 2003, resolution No. 58 approved the procurement of 31 elevators for 13 million rubles.

Table 2.11. Capital investment in the housing stock.

	Units	**1998**	**1999**	**2000**	**2001**	**2002**
Major repairs of municipal housing stock	thousand sq. meters	n/a	n/a	n/a	256.9	261.5
Financing of major repairs	million rubles	77.7	137.2	117.6	161.6	167.7
Including from residential payments	million rubles	-	-	-	-	128.1

Since 2002, major repairs of the housing stock are financed from two sources: budget allocations and residential payments. The volume of major repairs of the municipal housing stock under the adopted plan for 2002 was 167.7 million rubles, including 39.1 million rubles from the budget. The major share of city budget funds was allocated to raions to settle accounts payable to contractors for major repairs of the municipal housing stock in 2001. The city chief executive's resolution approved the list of major repairs for 2003 totaling 31,053.0 thousand rubles. The repairs of 48 houses are planned to be financed from the budget. This list contains arrangements for financing the preparation of design estimates.

The control over budget expenditures is carried out by the Housing and Utility Department.

For the housing sector, the city budget each year provides capital expenditures for the preparation of the housing stock for winter and takeover of utility networks from departments. In the 2003 budget, these allocations were 15 and 40 million rubles, respectively. For the "Remote Districts" program, funds are allocated from the infrastructure rehabilitation budget fund (in 2003 – 20 million rubles), some – from raion budgets (for cold water) and heat supply enterprises' own funds (15 million rubles). The clients of this program are raion administrations. The energy saving program was financed through special allocations from the oblast budget.

Off-budget investments

Until 2002, major repairs were financed through budgetary investments only. In 2002, the city chief executive's decree introduced a charge for major repairs of the housing stock. This allowed to reduce budgetary financing by more than 4 times (Chart 2.17).

Chart 2.17. Capital investment in the housing stock. [top to bottom, left to right: million rubles; Budgetary financing; Residential customers' payments]

The city chief executive's resolution approved a list of major repairs of the housing stock to be financed from residential customers' payments. The major repairs of 260 houses are planned to be financed from residential payments. This list also specifies activities related to the preparation of design estimates.

The modernization and replacement of elevators used to be financed solely from the budget until 2003. Since 2003, a trend toward attracting residential customers' money for these purposes has started to show. 14,264.6 thousand rubles were allocated from residential payments for major repairs in 2003. Residential customers' investments in the modernization and replacement of elevators exceed those from the budget.

A gradual transition from budgetary financing to residential payments for repairs and replacement of elevators is the city's policy that should be recognized as appropriate and complying with that of the Russian government.

The city population pays 80% of rendered housing and utility services. The difference between corporate and residential tariffs (20%) is subsidized to enterprises from the local budget. Currently, budget subsidies are not provided for specific purposes, they are just granted to housing enterprises that use them as they think suitable. Budget subsidies are an unstable funding source. It is advisable to convert budget subsidies into investments, and to use residential payments to cover current costs. Such approach would be in line with legislative requirements. With article 15 of the federal law *On Principles of Federal Housing Policy* amended, residential customers' payments for major repairs are found unlawful. In addition, the division of responsibility for financing current and capital expenditures creates favorable conditions for the development of competition in the area of housing management and maintenance. Capital spending may be much easier adapted to unstable budgetary financing than current expenditures. To convert subsidies into capital expenditures, it is necessary to:

- cancel residential payments for major repairs;
- establish the rates of residential payments that would fully reimburse enterprises' current maintenance and service expenses;
- convert budget subsidies into investments in major housing repairs.

The needs for major repairs of the housing stock are so high that both the population and the city budget fail to satisfy them immediately or within a short period of time. Other investments should be attracted. Residential customers' payments are a stable source of revenues that could be used to return borrowings or investments. But for such investments to be made in the housing stock, investment risks that are extremely high today should be minimized. To that end, financial situation in the housing sector should be improved. First of all, a system of tariff regulation should be established that would ensure the work of housing organizations without losses. Any services or goods provided within the established tariff should be backed with actual funding.

Concurrently with the adjustment of the tariff policy, accounts payable and accounts receivable should be inventoried. Based on such inventory, debt restructuring should be developed.

In addition to financial rehabilitation, housing management and maintenance should be de-monopolized. A transition should be made from administrative to civil legal relations in the housing sector to turn housing management from non-commercial into commercial activity with small business getting involved.

2.7.6. Residential Construction

1. Investment needs

Over the last five years, 1,562.1 thousand sq. meters of housing space was built in Yekaterinburg, including 236.2 thousand sq. meters of single-family homes. It should be noted that in the last three years (from 2000 to 2003) there was a steady growth in the construction of multifamily apartment houses with a decrease in that of single-family homes. Chart 2.18 shows the residential construction trends.

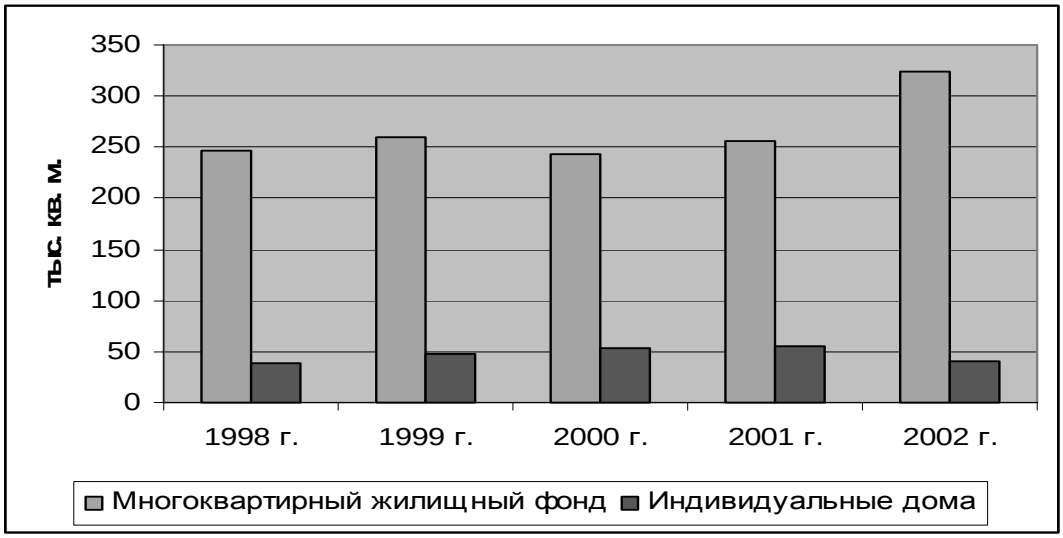


Chart 2.18. Residential construction in Yekaterinburg. [left to right, top to bottom: thousand sq. meters; Multifamily apartment houses; Single-family homes]

In addition to the housing stock, social construction projects are underway in the city that include educational institutions, hospitals and outpatient clinics. The details of such projects are shown in Table 2.12.

Table 2.12. Completed social construction projects.

Project	Indicators	1998	1999	2000	2001	2002
Educational institutions	students	0	0	825	0	0
Hospitals	beds	32	630	232	0	120
Outpatient clinics and stations	referrals/shift	290	50	905	0	850

Main problems

The absence of a building land market remains to be the main problem in this sector. The lack of mechanisms for the sale of land for residential construction generates various non-market models of payment for land, which, in turn, gives rise to corruption and, as a consequence, deficiency of revenues in the city budget and high prices for new dwellings. Furthermore, the lack of market mechanisms for the sale of land restrains the attraction of additional investment in construction through various mortgages.

The policy of “exactions” carried out by local authorities has a negative impact on the housing market. The city introduced compulsory payments (voluntary donations) for real-estate developers to improve social and municipal infrastructure. Altogether, developers must pay additionally at least 23% of construction project costs. These payments are made by construction

companies from their profits, which makes tax payments higher and, as a result, also the cost of construction.

House prices in the city are quite high because of not only high demand but also high construction costs. One of the factors having a negative impact on the price of new dwellings is the uncertainty regarding connections to the utility infrastructure. Technical conditions for such connections are determined by utility companies. The cost of connection expressed in the volume of construction of new or reconstruction of old facilities may vary by several times, thus making conditions for construction companies unequal. The creation of equal conditions for all real-estate developers is an actual problem of the residential construction sector.

One of the priority tasks of the city administration as defined by the strategic plan is slum clearance. The proportion of dwellings in rundown and emergency condition with over 70% wear is 1.5% of the total multifamily housing stock.

Creation of needs for investment

The City Strategic Development Plan contains two scenarios of residential construction development by 2015. In the first scenario, per annum residential construction should reach 500 thousand sq. meters by 2005, and 800 thousand sq. meters – by 2015. Dilapidated dwellings should be reduced proportion-wise to 1% by 2005, and demolished by 2015. In the second scenario, residential construction should reach 320 thousand sq. meters by 2005, and 400 thousand sq. meters by 2015, with the proportion of ramshackle dwellings being 1.4% by 2005, and 1.2% by 2015. These scenarios allow to estimate investment needs shown in Chart 2.19 in 2002 prices.

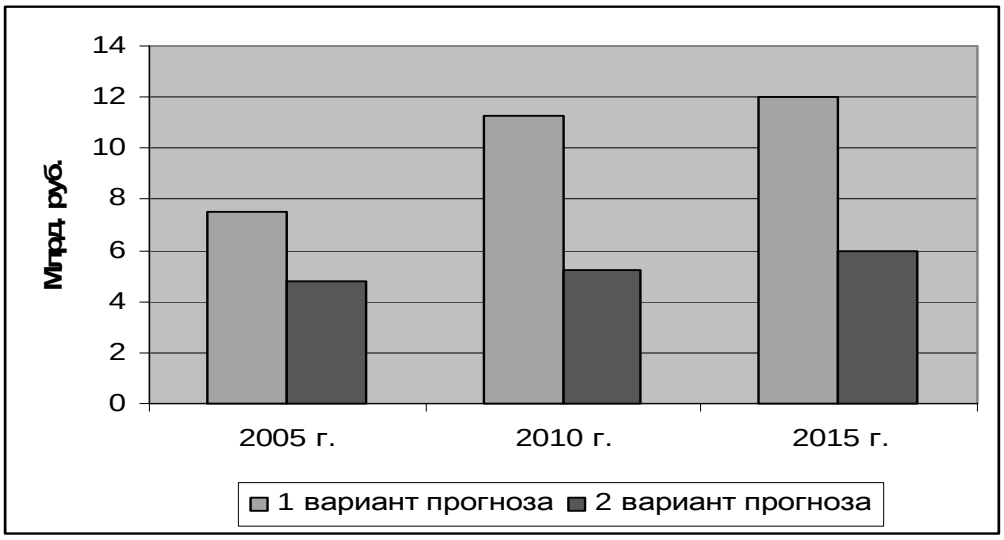


Chart 2.19. Estimated investment needs for residential construction. [left to right, top to bottom: billion rubles; First scenario; Second scenario]

In addition to the major repairs program, the program “Rehabilitation of Municipal Housing Stock” aimed to replace slum areas with new construction is being implemented in the city. Based on city chief executive’s resolution No. 1267 of November 1, 2001, the city budget funded a pilot house reconstruction project in 2002 during which all possible reconstruction options were worked out. 5 houses will be rehabilitated in 2003. The city has established a mobile fund of the total area of 49.5 thousand sq. meters (including hostels – 6 thousand sq. meters) that is gradually increased through the transfer of hostels to municipal property. The estimated cost of the complete demolition of houses in tumbledown and emergency condition is 5.7 billion rubles.

The city implements housing programs for orphan children and children that are not in parental custody. Under the orphan children program, 381 families are on a waiting list for dwellings by January 1, 2003. The estimated cost of investment in 2002 prices is around 100 million rubles.

Setting investment priorities

The city administration gives high priority to attracting investments in residential construction. Several housing investment programs are underway in the city. A program of housing bonds has been successfully implemented in the city since 1995. Under this program, 12 apartment houses of the total area of 75 thousand sq. meters have been built. The last regular housing bond issue was in 2003.

In 2001, a saving and loan program of building societies was initiated in the city. A first house under this program was built in 2002.

The implementation of the program on dilapidated houses remains a priority for budgetary financing. The relocation from dilapidated houses until 2000 used to be financed solely from the budget. Since 2000, the relocation is financed from both the budget and off-budget sources. Real-estate developers on whose sites there are tumbledown houses participate in the relocation.

In 1996, the federal law *On Additional Guarantees for Social Protection of Orphan Children and Children Not in Parental Custody* entered into force. The city administration developed a program to provide this category of citizens with dwellings. From 1997 to present, 390 families of orphan children have received dwellings.

In addition to orphan children, the city administration also provides free dwellings to other eligible categories of citizens. The trends in the provision of dwellings to certain categories of citizens are shown in Table 2.13.

Table 2.13. Provision of free dwellings to certain categories of citizens (thousand sq. meters).

Category	1998	1999	2000	2001	2002
Orphan children	2.95	2.33	1.39	2.24	1.63
Participants in military operations in Afghanistan	0.36	0.47	0.068	0.065	1.2
Families with many children	0.6	0.61	0.13	0.18	0.7
Invalids and WW II veterans	0.47	0.54	0.92	1.00	2.73
Total	21.64	11.06	7.05	8.26	13.02

2. Actual investments

Investments in residential construction are made from both budgets of various levels and off-budget sources. Budgetary investments, as a rule, are made in the construction of houses intended for the relocation from shabby and dangerous dwellings, as well as provision of dwellings to privileged categories of citizens on the waiting list. In addition, the city administration makes investments in housing construction for employees of budget-funded organizations. Off-budget investments are usually those made by the population to purchase dwellings.

Budgetary investments

The program “Rehabilitation of Municipal Housing Stock” until 2003 was financed from: federal budget (30%), city budget (35% – rental payments), and off-budget sources (35% - through increasing the number of stories in houses). 15.5 million rubles were spent under this program by September 2003. In 2004, it is planned to reconstruct 30 houses, including multistoried ones (7-storied), which should allow to increase gradually the share of off-budget funds and make the

program self-financing. Special federal funds are allocated to the primary contractor – Yekaterinburg municipal unitary enterprise "Specialized Housing Maintenance and Rehabilitation Department" (SUERZH). Russia's Gosstroy (State Construction Committee) and SUERZH made an agreement, according to which Gosstroy undertakes to lay out 24 million rubles. 9 million rubles were already provided by August 1, 2003. The city budget makes allocations for the program from municipal housing rental payments. Rental payments are transferred through the Housing and Utility Department (financial-budgetary department of the city administration allocates these funds to SUERZH after they are approved by the treasury and countersigned by the Housing and Utility Department). In 2003, planned rental payments totaled 42.6 million rubles (Yekaterinburg chief executive's resolution No. 64 of January 22, 2003). Two years ago, the procedure for the formation of funds was different: first, title lists of capital projects by housing enterprises were made, and the financing of listed projects was estimated to the amount of collected rental payments. Now, rental payments are transferred to the budget in a centralized manner without the establishment of separate funds by raions, so all funds go through SUERZH.

SUERZH was granted preferential terms for new housing construction. According to the general practice existing in the city, the developer transfers to local authorities or a legal entity authorized by the city administration at least 23% of the estimated cost of a project under construction in the form of either housing space or as direct payment. SUERZH was exempt from such payments. However, there is an obligation for enterprises to allocate a part of revenues from market sales of dwellings to finance slum clearance programs.

Programs on the provision of dwellings to privileged categories of citizens and employees of budget-funded organizations are usually implemented through voluntary transfers of a number of apartments by developers for the city's needs. Each developer, after the construction is completed, provides to the city administration, on a gratis basis, 10% of the total area of built housing space. These voluntary donations are used to implement free housing programs.

Off-budget investments

The city administration makes great efforts to attract off-budget investments in residential construction. Since 1995, housing bonds have been issued that allowed to attract nearly $25 million in the housing sector. With the participation of the city administration, a saving housing partnership was formed that already built a house in 2002.

A large part of investments in residential construction are attracted by private developers. In 2002, private developers invested in residential construction approximately 5 billion rubles.

There exist several reasons for restraining investment in residential construction:

1. There is no civilized land market. The exactions to be paid from developer's profits are substituted for land charges, which increases housing costs. The lack of land ownership rights prevents the attraction of borrowings using land as security.
2. Municipal organizations arbitrarily determine technical conditions for connections to utility networks, which gives rise to corruption and makes construction-associated risks higher.
3. The system of building loans for the population is poorly developed, which also restrains investment in residential construction.

2.7.7. Education

1. Investment needs

Main problems

There are more than 500 municipal educational institutions in the city, including kindergartens. The major investment program in this sector is the city program of major repairs and reconstruction of dilapidated schools (built in the prewar period) initiated in 1998.

The main investment problems are:

- lack of funding for renewing kindergarten and school equipment;
- lack of funding for renovating children's recreational camps (12 such camps are municipally owned, but only 3 of them are on the education budget, the others are the assets of housing organizations that regard them as a burden as there are no funds to maintain them.

The functioning and development of the education sector is largely dependent on budgetary financing.

Creation of needs for investment

In view of the fact that many city schools need major repairs, the City Duma annually adopts a target program of repairs and reconstruction of dilapidated schools. For its implementation, allocations are made from the city budget. In compliance with the program, 26 educational institutions (including 18 schools) were repaired during the 1998-2002 period. From 2 to 4 schools are repaired each year (average repair period – 2 years), estimated cost of one school's repairs is 30 million rubles. The total of 25 schools still need repairs, which, given today's level of funding, will take over 10 years (Table 2.14).

Table 2.14. City target programs in the area of education.

Target programs	**Years**	**Financial needs** (million rubles)	**Including budget**	**Including off-budget**
Yekaterinburg education system development program for 2000-2004	2000-2004	105	100%	-
- "Gifted Children"	including 2003	5	100%	-
- reconstruction and major repairs of educational institutions	including 2003	100	100%	-

Setting investment priorities

The city administration announced as a priority of its budget policy for 2003 strengthening the material and technical base of secondary educational institutions and major repairs of schools. Given appropriate budget allocations, it is proposed to repair another 5-10 schools. At the same time, the main criteria for the inclusion of a project in the program of repairs is the availability of project documentation. But the preparation of project documentation is not financed from the budget, such documentation is made by raions.

2. Actual investments

For the most part, the city's educational institutions are financed from the budget. In 2002, total maintenance expenditures for municipal educational institutions from the city budget in current prices increased, as against 2001, by 1.4 times, which was largely the consequence of grown utility tariffs and increased salaries. The proportion of salaries in general costs is continually growing: it reached 60% in 2001, and 68% – in 2002, which slashed the budget capacity for financing the remaining current expenditures as well as spending on the sector's development. Specifically, this impacted the financing of expenditures for major repairs of schools. As compared to 2001, the size of these expenditures reduced by 25%.

Secondary schools are financed from raion budgets; boarding schools, special schools, sports schools – from the city budget. As a result, the city has actually 8 separate budgets for education (one city and seven raion budgets). Budget expenditures for education are shown in Table 2.15.

Budgetary investments

Table 2.15. Budgetary financing of municipal educational institutions (current and capital expenditures), million rubles.

Year	Plan	Actual	From city budget	Including for major repairs
1998	697.750	677.9	676.9	29.6
1999	945.698	893.1	892.1	49.5
2000	1,031.178	1,041.2	1,040.0	67.2
2001	1,427.952	1,338.8	1,307.5	91.9
2002	2,098.559	1,890.7	1,855.0	68.8
2003	2,518.2		(major repairs – 63.0)	85

In 2003, the city budget allocated 63 million rubles for the school reconstruction program, and, for the first time, the oblast budget – 22 million rubles.

Another funding source for major repairs are capital investments from the current budget for maintenance of educational institutions: 36 million rubles were allocated in 2001, 58 million – in 2002, 98.1 million – in 2003. 37.9 million rubles were also allocated in 2003 to purchase equipment for several schools.

In 2002, Yekaterinburg with the support of the city chief executive and chiefs of raion administrations took part in the presidential program "Children of Russia", under which modern computer classrooms were equipped in 23 schools. The total cost of equipment was over 6 million rubles, including federally financed – 2.4 million.

Off-budget investments

There is an energy saving program in the education sector. Under this program, power consumption limits for specific buildings are established based on respective power specifications. Each year these limits are brought down by 3%. The receipts are spent for the resource-saving program, first of all – for the installation of metering equipment.

The boards of trustees of the city's educational institutions have accumulated experience in attracting off-budget funds and sponsoring assistance in the form of equipment and building materials.

3. Capabilities for off-budget investment

In recent years, the financing from international funds and attraction of off-budget resources through boards of trustees and paid additional educational services are becoming important sources of funding for the education sector. In 2002, the City Duma adopted the regulation *On*

Provision of Paid Additional Services By City Educational Institutions. It may be noted that this regulation has made its contribution in increasing educational institutions' revenues. The revenues from off-budget services grew in 2002, as against 2001, by 1.5 times, including from paid services – by 1.2 times. As compared to 1998, the volume of paid services increased by almost 9 times (Table 2.16).

Table 2.16. Off-budget revenues of municipal educational institutions (million rubles).

	1998	**1999**	**2000**	**2001**	**2002**
Revenues from business and other profit-producing activities (including charitable assistance and sponsorship)	21.0	34.9	39.9	80.7	125.3
- including revenues from paid services	6.5	10.4	15.7	46.6	57.6

2.7.8. Health Care

1. Investment needs

There are more than 300 medical institutions and organizations of all forms of ownership in the city, including 58 municipal health care institutions (the number of building is much higher). The needs for current repairs of buildings are 200-250 million rubles, around 35 million of which are financed.

Within the period from 1999 to 2005, it is proposed to implement several city target programs for the health care sector adopted by the city chief executive's resolutions: program "Anti-HIV/AIDS", "Development of City Children's Multifield Hospital No. 9", "Development of Yekaterinburg Cardiologic Service", "Emergency Measures for Tuberculosis Control in Yekaterinburg", "Mother and Child Health", "Comprehensive Prevention of Substance Abuse in Yekaterinburg". The proposed size of budget financing for these programs amounts to 42.8 million rubles.

There exist capital-spending plans for large purchases of equipment, equipment is renewed on a competitive basis. Tenders for repairs are organized through raion administrations that establish evaluation committees. Gorzdrav (city health care department) has its own control authority – supervisory audit office.

The Major Repairs Department is in charge of capital spending and prepares plans and cost estimates for repairs as well as signs contracts. Although projects are formally coordinated with the sector's clients, sectoral requirements are not always considered. By now, budgetary investments have been made in the construction of the largest regional infectious hospital for 1,600 beds.

Based on the adopted territorial program of state-guaranteed free medical care, current expenditures for "budgetary" types of assistance for salaries, fees, medicines, soft stock and food are financed in Sverdlovsk Oblast from the territorial compulsory medical insurance fund. Current expenditures for the maintenance of buildings as well as major repairs are financed from the budget. Financing priorities for repairs are established practically in accordance with the schedule of licensing medical institutions. The financing of major repairs is directly proportional to the licensing level and requirements. Overall, resource optimization and saving mechanisms are organized in the health care sector.

In recent years, a priority is given to the state of hospitals' diagnostic and treatment facilities and the provision of equipment to resuscitation units.

2. Actual investments

Health care institutions are financed from the following sources: budget, territorial compulsory medical insurance fund, off-budget sources (paid services, sponsorship). In 2002, budgetary expenditures for the maintenance of health care institutions in current prices increased, as against 2001, by 23%. At the same time, the proportion of budgetary financing in overall spending on health care institutions from all sources in the 2001-2002 period reduced from 41% to 38%, which was caused by a change in the oblast program of state guarantees and the transfer of several additional services to the financing from the territorial compulsory medical insurance fund. In the structure of expenditures, the share of salaries is becoming increasingly high: from 45% in 2001 to 55% in 2002 (Table 2.17).

Table 2.17. Financing of municipal health care institutions (current and capital expenditures), million rubles.

Year	Municipal health care institutions maintenance costs	Financing from city budget	Including construction and major repairs	Financing from territorial compulsory medical insurance fund
1998	682.8	323.1	n/a	274.9
1999	943.7	396.0	n/a	422.8
2000	1,337.9	603.3	n/a	549.8
2001	1,634.1	667.3	37.844	711.8
2002	2,158.0	820.9	130.5	963.2

In 2002, the needs for current expenditures in the sector amounted to 3,600 million rubles.

Table 2.18 contains information on the execution of the city budget in the public health sector.

Table 2.18. Execution of the city budget (current and capital expenditures), million rubles.

	Budget plan	Actual	Including actual investments	
1999	448.893	402.664	189.252	Underfunded major repairs, procurement of equipment, medicines (these items' share in made expenditures is 47%)
2000	397.924			
2001	644.741	644.741	37.844	
2002	786.056	797.228	78.654	
2003	1,087.242		140.682 (plan)	

In 2002, capital expenditures for the construction and major repairs of municipal health care institutions totaled 130.5 million rubles.

Under the environmental section if the city budget, allocations are made for the program of prophylaxis, diagnostics and treatment of children with environmentally-specific diseases (in 2003 – 2 million rubles from an ecological subvention for purchasing equipment and expendables).

The Health Care Department attracts some small funds for capital spending from off-budget sources. For the most part, these are small investments in purchasing instruments. Corporate investors also financed two large hospital reconstruction and construction projects (payback period is 3 years, investments will be paid off through reduced tariffs for corporate clients).

Over 100 million rubles were spent in 2002 for upgrading equipment, repairs and provision of medical equipment (Table 2.19).

Table 2.19. Off-budget revenues of municipal health care institutions (million rubles).

	1998	1999	2000	2001	2002
Revenues from business and other profit-producing activities (including charitable assistance and sponsorship)	84.7	124.9	184.8	255.1	373.9
- including revenues from paid medical service	78.1	105.6	167.6	220.8	327.4

2.8. General Conclusions

Yekaterinburg, in terms of its budget investment policy, differs from most Russian cities for the better. The main achievements of this policy are:

- Focus on strategic objectives in urban development;
- Availability of target city development programs.

At the same time, Yekaterinburg, similar to other Russian cities, is facing an acute problem of underfunded capital investments in its infrastructure. The are several reasons for this problem:

- imbalance between sources of revenue and spending powers at the municipal level;
- impossibility to attract private investments because of the low borrowing capacity of municipal enterprises.

However, practices showed that even scarce budgetary allocations for investment are used in a very ineffective way at all levels of the Russian budget system.

Thus, the implementation of budget-funded investment projects revealed the following shortcomings that are also related to the absence of a long-term investment policy:

- project objectives are inexplicit;
- there are no strict budget constraints;
- project monitoring in not efficient enough.

The way out of this situation should be sought through revising the organizational principles of the investment process, searching new sources of funding, creating conditions favorable for private investments.

For these reasons, long-term investment planning has become particularly relevant. This process includes the establishment of priorities (goal-setting) for the socioeconomic policy, long-range prediction of budgetary resources, and forecasting current and capital budgetary expenditures.

The structure of planned budget revenues and expenditures should reflect priorities of the socioeconomic policy based on the analysis of the main factors in economic interaction of the budget system with enterprises and the population. Such main factors may include the size of the tax burden, amount of transfer payments, provision of preferential tax treatment, development of

infrastructure, stability and effectiveness of normative and legal regulation of economic activities. The experience of developed market-economy countries shows that the very availability of a long-term plan outlining budget policy priorities and conditions for the interaction with businesses and the public has a stabilizing effect on economy and encourages investment. To ensure such effect, a long-term budget policy should be realistic and conservative, which, in turn, should ensure public trust in this policy. Therefore, long-term budget planning and, specifically, long-term investment planning is one of the conditions required to improve the performance of state and municipal functions, i.e. improve the economic well-being, encourage economic development, and meet the demand for public goods in a most complete and effective way. For in the long term, the goal of the state is to develop a balanced economic policy coordinated at all levels of government and ensuring sustainable economic growth.

The most urgently-needed change in the budget process of Russian municipalities is the transition from "achieved-level budgets" to budgets estimated based on standards. However, this view comes on the resistance of regional and local authorities that believe that the use of standards, given continually changing conditions for the formation of budget revenues, would lead to a growth in the budget deficit.

The transition to real budget planning when a budget would be at once a political document, a financial plan, an organizational plan, and a channel for the transmission of information on the authorities' intentions, may become possible as an understanding is developed at the regional and local level that both regions and local self-governments are the agents of national and social development. Strange as it may seem but most mayors do not regard themselves as government agents fully responsible for the situation in the state and the society.

The predominant number of local budgets from year to year reproduce the structure established many years ago. To develop new approaches to the organization of the budget process, the following should be done.

First, the budget planning process should be coordinated with local authorities' general work plans. Currently, work plans of local administrations are, as a rule, the lists of internal organizational measures. They simply state the work schedules of respective units' managers. We failed to come across such a work plan that would show adopted municipal programs and projects with the indication of time frames and amounts of finance.

Second, the procedure for setting objectives and priorities of municipal development for further dissemination among structural units and preparation of project requests for funding should be established. Even if the budget is prepared based on a general plan of municipal needs, it won't be possible to do without announcing the local government's objectives and priorities for the new budget year. As most local budgets are adopted in the first or second quarter of a new budget year, the local administration's divisions make expenditures according to the structure of the last year's budget. This means that the goals realized in it are virtually those set for the previous period.

Third, in the preparation of budget execution forecasts and possible scenarios especially important is statistic information. As a rule, municipal economic and financial departments are capable of studying work plans of only a limited number of companies. Moreover, the submitted information suffers from inaccuracy in addition to its incompleteness regarding all taxpayers in the city. To expect in earnest that, even in a stable economic situation, it would be feasible to make a realistic and complete evaluation of most companies' revenues is certainly impossible. Therefore the evaluation should be focused on companies that are characterized by high qualification of management and also by their share in budget revenues exceeding 50%. Of course, municipalities could be recommended to be careful when evaluating forecasted revenues, but this will be difficult given local budgets' permanent deficit with local revenues deliberately overstated by regional authorities.

Without the situation in municipal statistics fundamentally changed, the required completeness of statistic data will not be achieved a long time still. It should be noted that in 1997 a new system of the Indicators of Socioeconomic Development of Municipalities was adopted. However, its drawbacks were so apparent already when it was being adopted that currently it is not in demand at all.

Fourth, the ideology of budget making should be changed, the budget should be regarded as a document determining living conditions of the municipality's population rather than an estimate of possible revenues and expenditures.

To perform these tasks, the Institute for Urban Development will carry out activities under the project *Long-Term Investment Planning in Yekaterinburg's Municipal Infrastructure* in the following areas:

- Review and analysis of the current investment planning process with the evaluation of implemented projects' effectiveness;
- Review and analysis of normative and legal budget documents regulating the budget process in Yekaterinburg and assessment of the financial reporting system;
- Development of a long- and medium-term investment planning methodology for Yekaterinburg, including:
  - forecasting of socioeconomic development;
  - selection of objectives and priorities of the budget investment policy for the long term;
  - selection and ranking of investment projects to be included in the investment program;
  - attraction of external funding sources for the implementation of investment programs;
  - implementation of the investment program (monitoring and routine evaluation of effectiveness);
- Preparation of proposals to improve:
  - financial reporting system;
  - evaluation methodology for investment projects' effectiveness;
  - methodologies for the selection and ranking of investment projects to be included in the city's investment program;
- Preparation of proposals for amendments to the city's normative and legal framework;
- Development of a long-term investment plan for Yekaterinburg.

The improvement of the budget process will ensure greater stability and better execution of the investment plan.

The investment plan will comprise capital construction projects related to the development of the municipal housing, utility and transportation sectors, where it is feasible to finance investment projects not only from the municipal budget but also for the account of those who use respective services.

The attraction of private investments to finance projects in the area of municipal infrastructure is critically important as it is very unlikely that the existing municipal needs for investment could be met through budget funds only. The establishment of a system of co-financing for investment projects will boost the effective use of budgetary funds, while the system of budget allocations itself should provide incentives for prospective recipients to attract private investments.

The attraction of private investments is restrained by the low borrowing capacity of municipal enterprises.

To increase the borrowing power of municipal enterprises, certain efforts should be put forth in the following three areas:

- Improvement of relations between municipal enterprises and the local self-government;
- Improvement of the tariff regulation of enterprises-natural monopolists aimed to reach a compromise among all parties concerned;
- Creation of a system for monitoring activities of municipal enterprises.

In this connection, the tariff regulation of municipal enterprises is of practical importance for potential investors.

3. Analysis of Tariff Regulation of Yekaterinburg's Municipal Enterprises

The system of tariff regulation in Yekaterinburg is neither efficient in terms of the normal functioning of regulated enterprises nor encouraging the attraction of private investment in the housing, public utilities, or transportation sectors. The reasons for its inefficiency lie in the inadequate division of regulatory responsibilities between the city and oblast administrations and the lack of well-defined objectives as regards the work of municipal enterprises and the role of the tariff policy in their effective operation.

Yekaterinburg's tariff regulation system has no clearly set goals, nor is based on economic mechanisms that would encourage investment and cost reduction. For an effective operation of a tariff regulation system, the owner (municipality in the case in question) should set clear-cut objectives for regulated enterprises. The tariff regulation system then becomes a tool for attaining such objectives and monitoring the work of enterprises. Failing such objectives, tariff regulation is a political instrument applied based on political rather than economic considerations. As none of the city programs has, as its major goal, the attraction of off-budget investments, Yekaterinburg's system of tariff regulation remains a political instrument.

There are budget-funded target programs in Yekaterinburg, but tariffs are not designated in them as a source of funding. In their place, enterprises funds are indicated. It turns out that enterprises, without any guarantees that target program-related costs will be reimbursed through tariffs, have to either implement such programs to the damage of their principal services or frustrate program implementation. The availability of target programs by itself is a positive factor, as it formalizes the owner's requirements to enterprises, but tariffs in such programs are unfortunately not considered as a source of funding.

One of the consequences of the lack of regulatory goals and the disregard for tariffs as an implementation tool for target programs is that there are no real funds for investment projects of municipal enterprises. Yekaterinburg's system of requests for the revision and establishment of tariffs based on the "costs plus return" basis gives enterprises no scope for financing their investment outlays. When tariffs are revised, the prime cost of services is determined and the tariff is estimated based on the prime cost and the rate of profitability. Unfortunately, the prime cost of utility services is a quantity that has very little economic sense and does not reflect the costs that the enterprise bears to manufacture its products or provide its services. Thus, existing legislation does not allow to include some costs inevitably incurred by enterprises in the prime cost, such as losses from uncollected residential payments, budgetary underfunding, etc. So the existing system of requesting tariff revision gives enterprises no opportunity to reflect all their costs. Also, the "costs plus return" method encourages enterprises to overestimate rather than reduce their costs because such overestimation leads to increased tariffs and increased revenues.

As some of its essential costs (e.g., a part of interest on loans, spending on reconstruction and development of capital assets) the enterprise can pay only from revenues, tariff-incorporated revenues, if calculated as percentage in the prime cost, may not be enough to finance required expenditures. Ideally, profitability should be estimated based on the enterprise's investment needs, but now it is not a calculated value and often fails to cover investment needs. This is especially the case for most municipal enterprises which have a single level of profitability established as 5%. As a consequence, the tariff policy is almost never used as a source for off-budget investment.

Another drawback of Yekaterinburg's tariff regulation system is the absence of fixed dates for the revision of housing and utility tariffs. Such uncertainty in revision dates increases the risks within the sector and deters private investors. The private sector needs to forecast the return of investments, but doing so without fixed tariff revision periods is impossible. The uncertainty of the tariff policy is also harmful for functioning enterprises as it prevents them from planning operations with enough confidence. The fixed dates would enable a timely inflation-adjusted indexing of tariffs. It should be also noted that the existing procedures for tariff regulation do not provide for an automatic indexation of housing and other utility tariffs when gas and power

tariffs grow. Unlike the revision, the automatic indexation of tariffs makes it possible to cut financial and time inputs in setting new tariffs and minimize companies' losses associated with the increased cost of resources.

Among other features of Yekaterinburg's tariff regulation system, a note should be made of the city Tariff Commission (attached to the Economic Committee) that reviews the scope for increasing municipal tariffs and prepares resolutions to be signed by the city chief executive. The availability of such commission comprising officials from various departments is an advantage for reviewing tariff revision requests as it gives an opportunity to consider the views of all parties concerned. The rates of residential payments and housing tariffs are approved by the city chief executive without discussing them with the City Duma (according to the City Charter, pricing is the function of the city administration), which makes the tariff formation process far less politically motivated. The proposals for residential payments and utility tariffs for consumer groups (except water tariffs) are prepared by the Housing and Utility Department and the Fuel-Energy Department (after the Regional Power Committee approves average tariffs for utility services).

When preparing tariff proposals, municipal enterprises submit work plans and title lists of annual major repairs to the Fuel-Energy Department, which allows to control spending. The proposals for tariffs on elevator and waste disposal services are prepared by enterprises themselves and submitted to the Tariff Commission for review.

The inefficiency of the existing tariff regulation system directly impacts municipal enterprises and discourages investment. Below follow several examples of such impact on municipal enterprises.

Currently, the city's heat supply companies experience difficulties with the rehabilitation of heat networks. There are no budgetary allocations for the rehabilitation, while the exclusion of emergency-repair costs from heat supply service costs does not allow enterprises to reduce the networks' deterioration. Thus, inefficient tariff regulation prevents enterprises from renewing their capital assets and ensuring uninterrupted heat supply in Yekaterinburg.

The existing water supply and sewerage tariffs make no allowance for utilities' investment needs. Several facts are indicative of this. First, the target program "Pure Water" does not specify from which sources the municipal enterprise Vodokanal should finance program activities. Second, the sewerage tariffs were reduced in June this year, while over 500 km of sewerage networks need repairs and the rate of failures increased by 53%. The legal aspects of the tariff regulation of municipal water supply and sewerage utilities are discussed in Section 3.1.

The tariffs on SDW and Spetsavtobaza' services are regulated by the city administration, the established tariffs, however, do not allow to make investments from revenues and force enterprises to include these expenditures in major repairs.

The situation in the tariff regulation of passenger transportation is largely similar to that in the municipal enterprise Vodokanal, but in the former case the oblast government established a single tariff for all categories of transport, including the subway, as 5 rubles per trip. The established single tariff is not optimal because of the differences in the size and structure of transportation companies' expenditures. Such tariff policy is far from being efficient and leads transportation companies to insolvency. The legal aspects of the tariff regulation of transportation services are discussed in Section 3.2.

In conclusion, it should be mentioned that the city administration is currently developing new forms of municipal enterprises' reporting and tariff revision requests. According to its officers, the new forms will be focused on management rather than business accounting. It is proposed to conduct several workshops for municipal employees to train them management accounting skills. Also, the growth in housing and utility prices and the implementation of municipal enterprises' maintenance and repair programs are being monitored.

3.1. Tariff Regulation of Municipal Water Supply and Sewerage Utilities

In the review of Yekaterinburg's tariff regulation system, one serious problem should be discussed concerning the division of competence in the area of tariff regulation at the level of Sverdlovsk Oblast.

According to federal legislation, the rates of payment, rates of utility service consumption for the population, and tariffs on services rendered by municipal enterprises and organizations are established, unless otherwise provided by federal laws, by local self-governments (article 17, §4, federal law No. 131-FZ of October 6, 2003, *On General Principles of Local Self-Governance in the Russian Federation*, RF Government decree No. 887 of August 2, 1999, *On Improvement of Payments for Housing and Utility Services and Measures for Social Protection of Population*). Furthermore, the establishment of tariffs on municipal enterprises' services falls exclusively within the competence of a municipality's representative body. However, federal legislation contains a contradictory provision that, according to government decree No. 239 of March 7, 1995, *On Measures to Rationalize State Regulation of Prices (Tariffs)*, the regulation of water supply and sewerage tariffs falls under the jurisdiction of regional authorities, without the indication of regulated water supply utilities' form of ownership most of which are municipal unitary enterprises. Thus, at first sight, both local and regional authorities are entitled to establish tariffs for water and sewerage utilities. But as the local authorities' rights are determined by the federal law *On General Principles of Local Self-Governance*, while regional administrations' powers – by a governmental decree, i.e. regulation that may not conflict with federal law, the tariffs for municipal water and sewerage utilities should be regulated by local governments, while those for non-municipally owned utilities should be established at the regional level. Unfortunately, Sverdlovsk Oblast authorities, similar to other Russian regions, roughly interfere in the local government's powers as, according to article 2, §4, of the oblast law *On Drinking Water Supply in Sverdlovsk Oblast* (No. 2-OZ, February 12, 1999) and oblast government decree *On Approval of Maximum Tariffs on Water Supply and Sewerage Services in Sverdlovsk Oblast* (No. 1375-PP, November 26, 2002), these tariffs for all regional enterprises are regulated in compliance with the rules established at the regional level.

To implement these regulations, Sverdlovsk Oblast Ministry of Power, Transportation, Communication, Housing and Utility Services issued *Methodological Recommendations for Establishment of Tariffs on Water Supply and Sewerage Services in Sverdlovsk Oblast* (order No. 15, February 8, 2001). These Methodological Recommendations "concern activities of all economic actors that operate the entire complex of water supply and sewerage systems as well as separate facilities, irrespective of organizational and legal forms, and provide services in the territory of Sverdlovsk Oblast" (section 1, §2, Methodological Recommendations).

Based on the Methodological Recommendations, water supply and sewerage utilities calculate their tariffs independently using the rules set forth in this document. If planned estimated tariffs exceed the level of maximum tariffs established by the respective regional regulation for a certain period, the former must be approved by the oblast government. The Methodological Recommendations stipulate that the establishment of tariffs for all regulated entities should ensure profitability amounting to at least 10% of total costs (section 4, §3, Methodological Recommendations). That is, the government of Sverdlovsk Oblast thus contrives to interfere even in the property competence of municipal entities within its territory.

Article 15, §4, of the federal law *On General Principles of Local Self-Governance* designates the organization of power, heat, water supply and sewerage services, as well as provision of fuel to the population within respective settlements as issues of local significance. Given the tariff regulation system existing in Sverdlovsk Oblast, the question of how local authorities may be responsible for the development of municipal enterprises, if the prices for their products and services are established at the upper level of management, remains open.

The regulation of tariffs for water supply and sewerage utilities at the regional level could have certain advantages, such as a formalized methodology for regulation, but the aforementioned Methodological Recommendations containing uniform rules are regrettably far from being perfect.

First of all, objectionable is the division of water supply and sewerage service consumers by groups. Section 3 of the Methodological Recommendations states that "consumers of water supply and sewerage services are differentiated, based on the purpose of provided services, by the following groups:

(1) Group 1 – residents of privately owned dwellings, including private homes, houses owned by housing co-operatives or homeowner partnerships, and condominiums;

(2) Group 2 – organizations, regardless of their organizational and legal form, that are provided with water supply and sewerage services for general use by the population, except for hot water supply to residential customers registered at the place of their residence;

(3) Group 3 – organizations using water for hot water supply to residential customers registered at the place of their residence, and organizations providing water supply or sewerage services that cannot differentiate their services by consumers;

(4) Group 4 – organizations using water supply or sewerage services for their own general or technological needs".

Based on this division, it may be concluded that citizens residing in similar multifamily apartment houses and under equal conditions will have to pay for water supply services at different rates depending on whether service providers are able to differentiate their services by consumer groups, or whether a homeowner partnership was established in that particular building or not.

The grounds for the revision of tariffs according to the Methodological Recommendations may include:

- changed technological conditions;
- substantially changed expenditures for the provision of services caused by increased prices of materials, tariffs for energy supply and resources of outside organizations;
- changed normative and legal acts regulating this sphere;
- rare events that may influence or influence the above changes.

It is clear that with such a brief list of grounds the tariffs will be revised by no means always when there is an urgent economic need.

The Methodological Recommendations also contain a list of documents to be submitted by water supply and sewerage utilities for the revision of tariffs:

(1) rate making forms for water supply (sewerage) services by consumer groups;

(2) production indicators, in one copy (appendices 1 and 2 to these Methodological Recommendations);

(3) calculations, including those of costs by each item and justification for the change in standard indicators, in one copy;

(4) a note with a rationale for the increase in applied tariffs and a description of one water supply or sewerage technological cycle, in one copy;

(5) a list of service consumers with a breakdown by groups, in one copy.

A decision on a change in tariffs is made based on submitted materials. At the same time, the establishment of tariffs for the next period is based primarily on the enterprise's financial

indicators that are the only criterion for changing the tariff. The financial capacities of municipal entities, consumers, etc. are not considered at that.

As a result of such approach, the budget and tariff regulation processes in regional municipalities are separate from one another. This, in turn, leads to a situation when tariffs are adjusted, in the preparation of annual budgets, "by fact" without considering their unavoidable growth and, consequently, unplanned increase in budget spending on subsidies for the sector, or adjusted for deflation rather than planned increase, or for social standards established in this area.

In addition, the regional regulating authority is incapable of giving a timely response when enterprises do not comply with established service quality parameters. That is, a decrease in the quality of provided resources is in no way reflected on tariffs for enterprises. This, in turn, is caused by the lack of coordination between capital investment programs for future periods and the procedure for establishing current tariffs. As a consequence, enterprises are not assigned any tasks concerning the scope of services to be provided within the established tariff, nor the state in which they should maintain or develop municipally owned facilities is defined. That is, when tariffs are established, regulation has no goals, regulated enterprises are not assigned objectives or tasks that they should attain during the period of regulation, production and investment programs are not adopted for that period. As a result, there is no monitoring of enterprises' operation. Which is quite natural though, as the owners of these facilities, as well as enterprises' property, are municipalities that are responsible for the proper maintenance and development of these facilities and property. That's why the same municipalities should determine all the above conditions for the change in tariffs for the period of regulation.

In addition to the foregoing, the following should be taken into consideration when establishing tariffs:

- As regulatory practices show, the information provided by regulated enterprises should not be regarded as completely reliable. Each regulated enterprise is aware of the fact that its revenues depend on the forecasts it can make regarding its future financial needs. Therefore its concern with overestimating them is obvious, while the task of the regulating authority is to get an independent confirmation of the enterprise's financial needs. Some information on costs can be received if to compare them with those of similar enterprises. Additional information may be obtained from independent experts as well as through an audit analysis of tariffs. But having set this requirement, the Methodological Recommendations have not defined the source of funding for such analysis, imposing these costs on municipal budgets, which is unlawful from the standpoint of budget legislation, or on enterprises themselves, which entails an increase in tariffs (whose limit has been pre-established!) for ultimate consumers.
- The prime cost of products (services) of municipal enterprises is a value that has very little economic sense and does not reflect actual costs of products or services. The prime cost is in fact a subjective concept depending on changes in the regulatory framework. Thus, existing legislation does not allow to include some costs inevitably incurred by all municipal enterprises in the prime cost, such as losses from uncollected payments by residential and other consumers (consumers financed from the federal budget – military units, educational institutions, etc. – either do not pay for such services at all, or pay for them irregularly, with Sverdlovsk Oblast being no exception as regards other federal subjects), budgetary underfunding, etc.
- A constituent part of the prime cost is depreciation. The economic sense of depreciation charges is that these are the funds that should be spent to rehabilitate capital assets by the end of the reporting period to the state in which they had been by the beginning of such period. If to consider that the absolute value of depreciation charges is estimated based on the balance sheet value of capital assets and the standard rates of depreciation, it may be stated with confidence that this value will not correspond to the enterprise's actual needs for the rehabilitation of its capital assets.

Moreover, the use of depreciation charges included in the tariff is not regulated at all, and enterprises have a scope for a maneuver aimed, naturally, to increase their financial needs and the cost of products.

Thus, speaking of the tariff regulation of Yekaterinburg's water supply and sewerage utilities, it may be noted that the applied regulatory procedures have several substantial drawbacks:

- Non-transparent procedure for establishing tariffs. The lack of a formalized tariff adoption procedure creates uncertainty. The enterprise, when requesting the revision of a tariff, cannot forecast either the period of reviewing its request or the list of documents that may be required during this process. This offers an opportunity for lobbying enterprises' interests.
- The request for revision may be denied without giving any grounds, or its review may be delayed indefinitely. The level of arbitrary decisions by local authorities is high.
- There are no defined parameters to determine financial needs of enterprises, which at times results in that some spending items are disregarded.

The tariffs for all regulated municipal enterprises and the tariffs on respective services are adopted on enterprises' initiative. At the same time, the grounds for making tariff revision requests by regulated enterprises have not been specified, while the tariff itself is established for an indefinite period, which creates economic uncertainty for regulated enterprises and service consumers alike. In practice, regulated enterprises may request tariff revision but the decision will be made after the enterprise's manager proves the respective need. All these actions take a lot of time and effort from both municipal enterprises' management and the city administration's officials responsible for regulation.

The tariff is formed through adding the profitability percentage to the estimated prime cost. In some cases, enterprises can incorporate in the tariff some costs not related to their principal operations (maintenance costs for children's clubs, public self-government committees, stores or canteens for employees, etc.). The tariff-included depreciation charges and revenues have no special purpose, they are spent by enterprises without any priorities set by the property owner. In other words, enterprises have no production or investment program (capital assets rehabilitation program) that would be coordinated with the property owner.

After the adoption of tariffs, regulated enterprises make no commitments to provide services of appropriate quality, i.e. they have no work programs that would be approved by the property owner.

When the tariff is being contemplated, the interests of all parties concerned are not coordinated, and the procedure is not transparent for service consumers. The consumer has no access to the information on what necessitated exactly such tariff for a specific service, which additionally increases social tensions in the city.

The lack of the system of monitoring municipal enterprises' operation is conductive to a situation when the property owner (municipal administration) has incomplete information on the operation of housing and utility enterprises. This, in turn, may lead to a biased evaluation of the general state of the municipal housing and utility sector.

Based on the foregoing, it would be advisable to develop procedures for regulated enterprises to submit information about their work to the property owner, as well as a system of indicators to evaluate incoming information and make appropriate decisions.

3.2. Tariff Regulation of City Transportation

The list of industrial and technical products, consumer goods and services, the prices (tariffs) on which are regulated domestically by executive agencies of federal subjects was adopted by the Russian Government (decree No. 239, March 7, 1995) in pursuance of presidential decree No.

221 of February 28, 1995, *On Measures to Rationalize State Regulation of Prices (Tariffs)*. Part 5 of this List authorized executive agencies of federal subjects to regulate prices (tariffs) on passenger and baggage transportation services by all types of public city transportation, including the subway, and suburban transportation (excluding railway transport).

The Russian Supreme Court (ruling No. GKPI 00-882 of September 5, 2000) stated that "according to the representatives of the RF Government, the above decree was enacted by the Government in pursuance of President's decree No. 221 of February 28, 1995, paragraph 2 of which entrusted the Government with establishing a procedure for the state regulation of prices (tariffs) on industrial and technical products, consumer goods and services".

The chief executive of the "City of Yekaterinburg" municipality, by resolution No. 74 of January 23, 2002, that is being contested, established passenger fares in the city. Governmental decree No. 239 of March 7, 1995, did not define the meaning of "state regulation of prices (tariffs)". In practice, different approaches are applied to the regulation of prices and tariffs: adoption of compulsory rules for setting prices and tariffs; setting limit prices and tariffs; setting the size of prices and tariffs. Therefore the statement that "state regulation of prices (tariffs)" is equal to "approval (setting) of prices (tariffs)" or "establishment of passenger fares in the city" is not based on legislation. These definitions are comparable but not equal.

The reference made by the Sverdlovsk Oblast Statute Court in its decision dated October 3, 2002, to Supreme Court's ruling No. GKPI 00-882 of September 5, 2000, to confirm the legitimacy and, consequently, the obligation to implement presidential decree No. 221 of February 28, 1995, and governmental decree No. 239 of March 7, 1995, is improper. The Supreme Court made its ruling No. GKPI 00-882 (September 5, 2000) on the issue of the legality of Part 5 of "The List of industrial and technical products, consumer goods and services, the prices (tariffs) on which are regulated domestically by executive agencies of federal subjects" adopted by governmental decree No. 239 (March 7, 1995). The validity of these enactments was not disputed by the parties.

The provisions of governmental decree No. 239 (March 7, 1995) and presidential decree No. 221 (February 28, 1995) should be applied in conformity with federal laws adopted afterwards. According to article 90 (§3) of the RF Constitution, "the decrees and orders of the President of the Russian Federation may not contravene the Constitution of the Russian Federation or federal laws". According to article 115 of the Constitution, decrees and executive orders of the Government are issued "on the basis of and pursuant to the Constitution of the Russian Federation, federal laws and normative decrees of the President of the Russian Federation"[2] and remain effective until they are repealed in case they contravene the Constitution of the Russian Federation and federal laws. As stated by the Constitution, such decrees are compulsory unless they do not conflict with the Constitution or federal laws.

On August 28, 1995, federal law No. 154-FZ *On General Principles of Local Self-Governance in the Russian Federation*[3] entered into force that changed the regulation of prices and tariffs previously established by the President and the Government.

The October 3, 2002, decision of the Sverdlovsk Oblast Statute Court stated that the regulation of public transportation fares was not the issue of local importance. This statement has been overturned by judicial practices. Article 30 of the federal law *On General Principles of Local Self-Governance* provides for the right of local self-governments to establish municipal enterprises. According to article 31 of this law, local self-governments regulate prices and tariffs on products (services) of municipally owned enterprises, institutions and organizations; determine objectives, conditions and procedures for their operation; approve charters; appoint

[2] Article 23 of the federal law *On the Government of the Russian Federation* duplicates the provision of the RF Constitution.

[3] The official text of this law was published in *Rossiyskaya Gazeta* on September 1, 1995, and in *Sobraniye Zakonodatelstva Rossiyskoy Federatsii* No. 35 of August 28, 1995, p. 3506.

and dismiss managers of such enterprises, institutions and organizations; review reports on their work.

As the organization of public transportation services is a local issue (article 6, §2 (20), federal law *On General Principles of Local Self-Governance*), prices and tariffs on transportation services provided to various consumer groups, including the population, are regulated by local self-governments in accordance with article 31 of this law.

The RF Supreme Court holds it lawful for local self-governments to set prices (tariffs, costs) of products (services) of municipally owned enterprises, institutions and organizations, and considers this as vesting local self-governments with state regulation powers by law. Such approach was taken by Supreme Court Cassational Chamber's determination No. KAS 03-27 of February 11, 2003, regarding the provision of municipal services to the population: "the cassational appeal's argument that by authority of article 424, §1, of the RF Civil Code, when determining the contract price, the prices (tariffs, rates, etc.) apply that have been established by authorized governmental agencies does not prove that the Supreme Court's decision was against the law, as this provision of the Civil Code does not rule out that local self-governments may be vested with setting rates and tariffs for housing and utility services according to the procedure established by law (which is indicated in the disputed decision and this determination)".

This approach should fully apply to transportation services. Because such power of local self-government is established by federal law, any additional "state authorization" is not required in the case in question. The law contains all necessary provisions.

The Russian Constitution clearly resolves the conflict of provisions contained in the governmental and presidential decrees, on the one hand, and federal laws, on the other. According to article 4 of the Constitution, "federal laws shall have supremacy throughout the entire territory of the Russian Federation".

Therefore, the right of local self-governments to establish prices and tariffs on products (services) of municipally owned enterprises, institutions and organizations arises from the provisions of existing legislation of the Russian Federation. But such regulation does not apply to other organizations.

4. Conception of Long-Term Investment Planning

Financing capital requirements in full and in due time at a local level is a necessary condition for the effective provision of budget-financed services which fall under the jurisdiction of local authorities in accordance with Russian legislation. In this connection, the objective and clear principles of capital budgeting at the local level acquire great importance.

At present, the investment budget is prepared in accordance with the "hole patching" principle. For this reason, the structure of capital investment is usually an odd one. It evolves in accordance with the natural process of utility infrastructure depreciation. Moreover, the above approach reflects the actual absence of any proactive investment policy and economic policy priorities. Such approach to capital investment program development can hardly be called an objective one. It should also be pointed out that budget-financed capital investment decisions are often made on the basis of political decisions, without a prior assessment of possible social and economic impact. That's why the current approaches have proved their inefficiency at all levels of the budgetary system of the Russian Federation.

In many aspects, the resolution of problems relating to the provision of budget-financed services may take many years. This means that the measures that the budget-financed organizations of all levels will have to implement in order to achieve particular results can hardly be implemented within one year. This concerns, first of all, capital expenditures. The provision of budget-financed services, as well as the assessment of their effectiveness and quality, must also be carried out on the many-year (medium-term) basis. For these reasons, there is no doubt that medium-term financial and investment planning is required. Medium-term investment plans will make it possible:

- to assess the long-term impact of financial decisions;
- to optimize the debt and investment management policy in the long term in accordance with the social and economic development goals and actual budget strength;
- to provide effective decision-making mechanisms;
- to work out a consistent, unified policy of public service provision;
- to establish minimum requirements to the quality of services;
- to ensure stable financing of services at the required level;
- to guarantee economic efficiency of the service provision;
- to introduce tight limits on budget-financed capital expenditures.

The investment program financed from the budget must be worked out in accordance with the strategic urban development priorities of the city. The structure of the planned budgetary spending must reflect the social and economic development policy priorities and be assessed based on an analysis of the main factors of economic interaction between the budgetary system, the enterprises and the population at large. The main factors of such interaction include the weight of the tax burden, the amount of transfers, various tax incentives, the level of the infrastructure development, stability and practicability of the legal regulation of the economic activity. Capital investment must be planned within the framework's of the city's financial plan and its borrowing program. The long-term investment plan is an instrument for the reconciliation of medium-term investment plans, the programs of social and economic development and the borrowing programs.

The example of the developed market economies shows that the mere existence of a long-term investment plan specifying the budgetary policy priorities and conditions of the budget-enterprise and budget-population relations has a stabilizing effect on the economy and stimulates

investment. One necessary precondition of the long-term budgetary policy's stabilizing impact is its realistic character and conservatism. Another precondition is the population's and business community's confidence in the policy carried out. Thus, long-term budgetary planning is one of the necessary preconditions for further improvement of the efficiency of state and municipal administration functions (that is the improvement of welfare), promotion of economic development and satisfaction of the demand for public goods and services to the maximum possible extent in the most efficient way. In the long term, the government's goal is the development of a well-balanced economic policy agreed and reconciled between various state-administration levels, which ensures stable economic development of Russia.

Preparation of the investment budget can be subdivided into the following phases:

- Monitoring and assessment of the implementation of adopted programs.
- Determination of the priorities of the social and economic development policy.
- Budget revenue forecasting.
- Budgetary spending forecasting, including the following:
    - Forecasting demand for public services;
    - Calculation of current budgetary spending;
- Debt management policy development. Calculation of the budget's debt servicing obligations and assessment of the need for new borrowing
- Assessment of the capital expenditure budget resources in accordance with different scenarios (carried out by the city administration's economic and finance department's on the basis of the social and economic development forecast, long-term financial plan and borrowing estimates).
- Assessment of the practicability of the establishment of public-private (municipal-private) partnerships.
- Development and adoption of the social and economic development program (preparation of the capital investment program).
- Assessment of the budgetary policy impact on the main indicators of the social and economic development policy, optimization of the budgetary policy.
- Selection of the optimal economic policy implementation instruments.
- Adjustment of the adopted social and economic development programs.

It is possible that, during the development of the medium-term investment plan, the above procedure should be repeated several times if the assessment of the adopted programs' impact on the social and economic development reveals negative factors or their insufficient effectiveness, or if various programs prove to be insufficiently reconciled. Moreover, it will be necessary to adjust the programs already adopted according to the results of the monitoring of investment program implementation. Thus, ideally, the project selection process is an iteration process which must be carried out annually. Adjustments must be made on the basis of the assessment of the programs' impact on the target social and economic development parameters and actual program implementation efficiency data.

4.1. Budget revenue forecast

Budget revenues consist of tax revenues, regulating tax revenue, inter-budget transfers and non-tax revenues. Tax and shared-tax revenues are assessed on the basis of an analysis of tax revenue - tax base dependence or a statistical indicator that correlates with the tax base. The latter is simpler to calculate and may be available sooner than the tax base assessment.

To forecast tax and non-tax revenues, the following methods may be used:

- Expert estimates (experts' opinions and estimates made on the basis of their experience and intuition, as well as judgements of government ministry officials who participate in the preparation of budgets may become a valuable source material for forecasting);
- Statistical methods of evaluation of the tax base – revenue relationship (trend analysis, regression model development, imitation modeling).

The forecasting of inter-budget relations requires, first of all, an analysis of the existing legal and regulatory base and possibilities of changes in it. Upon such analysis, it will be necessary to make a forecast of inter-municipal equalization fund distribution. For this purpose, models of the main tax revenue structure for all municipal formations in a subject of the Russian Federation can be developed.

4.2. Budgetary Spending Forecasts

Budgetary spending is forecasted on the basis of the demand for budget-financed (public) services. The demand for public services is determined on the basis of the social and economic development forecast. For municipal formations' budgets, that includes, first of all, education, healthcare, utility sector, social policy and other spending. The long-term demand and infrastructure condition forecasts make it possible to draw a conclusion on the sufficiency of the existing public service infrastructure needed to meet demand for public goods and services in the long term. This information is source information for the preparation of the social and economic development program.

Assessment of budgetary spending items begins with identification of debt servicing obligations. The available budget resources are determined with account taken of debt servicing expenditures and planned new borrowing.

Upon the general assessment of budget revenues and spending, it is necessary to divide current and capital expenditures by spending items. For this purpose, it is necessary to rank all spending items according to their priority. For instance, the items of the greatest priority may include wages and payments for utility services. Upon the determination of current spending priorities, it is necessary to make a decision on the capital spending budget by each functional capital spending item. The spending division decision is made on the basis of a long-term forecast of the demand for public services, condition of the existing public service infrastructure and priorities of municipal formations, with account taken of debt servicing payments. When making a decision on the capital spending budget, it may be decided to limit insignificant current spending items. The capital spending budgeting procedure will be described below.

4.3. Debt Management Policy Development.

One key component of the multi-year investment plan is the budgetary borrowing program.

Russian cities face a deep crises caused by the insufficiency of funds in municipal budgets, which are needed to finance capital investment in the utility service sector infrastructure and other public sector facilities used to provide services to the population. One way out of such situation is financing capital investment through borrowing. Thus, the development of a borrowing program is a necessary precondition for the implementation of municipal formations' investment programs.

Municipalities' debt management policy must meet the following requirements:

- Municipal administrations must plan their borrowing policy so as to tie it to their fiscal and investment policy;

- It will be appropriate to use short-term borrowing for financing revenue-expenditure gaps, while long term borrowing should be used for financing capital investment (first of all, in infrastructure development and housing construction projects);
- Local administrations should not use borrowed funds for financing projects that fall outside their jurisdiction and commercial projects (with few exceptions);
- Optimal debt structure and management of risks associated with debt are essential;
- Ideally, the terms of borrowing must correspond the social infrastructure facility operation time;
- The schedule of interest payments must agree with the project payback schedule (that is the budgetary funds saving schedule of additional budget revenue generation schedule).

Debt management policy planning. The municipal administration must clearly formulate its debt management policy objectives and prepare a long-term plan (for a term not shorter than five years) of the repayment of its obligations and raising new funds. Since the borrowing plan of must very much conform to the financial investment plan, while the servicing and repayment is financed from the current budget revenues (and, possibly, through debt refinancing), the debt management plan must agree with the investment and fiscal plans. The administration must realize that, when borrowing funds, it significantly reduces its ability to increase other spending items, such as, for instance, wage payments.

The debt management plan must include not only unconditional obligations (bank loans, bonded loans, bills of exchange), but also conditional obligations (guarantees and commitments of government and municipal enterprises).

The debt management strategy must be based on an analysis of the prospective debt structure with a breakdown by types of debt, debt holders structure and repayment schedule for the nearest future (at least, for the term of the debt with the most distant maturity).

The debt strategy must be based on an analysis of the main debt plan targets' sensitivity to changes in interest rates on borrowed funds, amount of budget revenues and budget deficit. Municipal formations which to a great extent depend on one or several taxpayer enterprises must analyze their debt plan's sensitivity to prices for the products of those enterprises (oil, gas, mineral raw materials and metals). If such enterprises are exporters, the sensitivity analysis may be based on the international prices for respective goods and the ruble/dollar rate. Quite often, large taxpayer enterprises in the extracting industry are parts of vertically integrated companies. In this case, an analysis of the sensitivity of budget revenues to changes in the parent company's profit consolidation policy may be performed (application of the "transfer prices" lower than fair-value prices in the oil sector has a significant on municipal administrations' revenues).

Financial resources borrowed for terms shorter than twelve months must be used exclusively for financing the revenue-expenditure gaps. Such borrowing must be reduced to a minimum through an effective budget revenue and expenditure management. It is not recommended to finance long-term investment projects (with terms longer than twelve months) through short-term debt issuance. Such practices involve significant risks of debt refinancing at an unaffordable cost.

Long-term borrowing may be used for investment in social infrastructure, housing construction and, in some cases, for refinancing debt in order to optimize its structure. Long-term borrowing must be the basis of municipal administrations' debt management strategy.

The practice of financing current spending, commercial projects and financial investments through long-term borrowing involves unacceptably high risks. However, we must point out that in the case of financial investments, is possible to invest temporarily free funds into reliable financial market instruments, such as government securities. In some cases, municipal administrations' participation in commercial projects may be justified. The same may apply to cooperation with large companies and banks. who may be interested in local administrations'

participation in some projects because it can reduce political risks and, probably, provide opportunities for the use of the so-called "administrative resource".

The requirement that the term of borrowing must correspond to the useful life of the facility agrees with the accepted international practice of shifting the debt burden in the public (municipal) sectors of the economy to those who usually use public goods and services. Since the city infrastructure facilities are used for several tens of years, the most fair model of financing investment in them is long-term borrowing for terms comparable to the terms of the facilities' lifetime.

In the developed countries the practice of raising funds for financing investment in public sector facilities through bond issues or borrowing from banks is wide-spread. In present-day Russia, however, the above requirement seems to be unrealistic. From the viewpoint of the loan terms, loan terms of seven to ten years would be more realistic. However, such condition will impose tighter limitations on the project efficiency parameters.

When planning investment in public sector facilities, and, especially, in its infrastructure, the possibilities for debt refinancing should be taken into account. However, in this case care should be taken in order not to build a borrowing pyramid. This means that the payment of interest from current revenues must always be secured.

The latter remark means that short-term loans, whose terms are shorter than the period needed for construction and generation of first revenues, must not be raised to finance investment in the infrastructure and other public sector facilities. The loan refinancing goals consist in the optimization of debt servicing expenditures. For instance, in the event of a reduction of interest on loans, it is appropriate to consider possibilities for the conversion of debt instruments into those with a lower interest rate.

When preparing borrowing programs for financing investment in city infrastructure, it should be taken into account that that market is dominated mostly by monopoly enterprises. Because of it, the rate regulation issues acquire great importance, while there may be no competition at all.In most cases, the city infrastructure facilities are municipal property which is transferred under economic management of various enterprises. Municipal unitary enterprises (MUPs) receive their income from the population, other enterprises and the budget. However, the rate regulation must remain under jurisdiction of municipal administrations. This is a key condition for the preparation city infrastructure investment projects financed with borrowed funds.

When investment in the city infrastructure is maid through borrowing, two borrowed funds repayment mechanisms can be used. The investment project can help reduce utility enterprises costs in order to ensure interest payments and principal repayment. In this case, it is necessary to maintain rates for utility services at, least, a stable, in real terms, level during the term of the loan.

There are possibilities which will make it possible to improve the quality of services as a result of the implementation of the investment project. For instance, the quality of the water supplied may improve, if the water treatment system is approved, or the quality of heat supply may be improved as a result of heat supply network modernization. In this case, an increase in utility service rates should and must provide an economic basis for the loan repayment. The increase in rates must result from the investment project parameters calculated on the basis of real (market) interest rates and a long but realistic term of borrowing.

Therefore, if the municipal authorities plan to improve the quality of utility services significantly, they must, first of all, assess the paying capacity of the population and enterprises and their ability to pay higher rates. If such estimates are negative, the investment project will be too risky. Given than municipal administrations rely only on their own funds, "rich" municipalities will be able to improve the quality of utility services, while "poor" ones will not.

Special attention should be paid to municipal guarantees. The municipal authorities must strictly limit the amounts and forms of the guarantees they provide. One inadmissible practice is the one

when municipalities provide guarantees against commercial risks. Ideally, guarantees must be provided only against risks relating to changes in the legal and regulatory base during the implementation of the project. This means that guarantees must be provided only against political risks. At present, the shortcomings of the rate regulation system make it necessary to provide budgetary guarantees against particular commercial risks of investment projects in the utility service and transport sectors. As the rate regulation system is improved, that practice must be abandoned.

4.4. Monitoring of Adopted Programs

Monitoring is a project management instrument which makes it possible to assess the actual progress of the project against the plan. Monitoring is an inseparable part of the project implementation phase, which makes it possible to make necessary adjustments. The system of project implementation monitoring must be established in accordance with the following principle: the monitoring activities must provide the most accurate, objective information about the implementation of the project at the lowest possible cost. It should also be taken into account that monitoring is inefficient if its costs exceed a certain percentage of the total project costs (about 5%). The monitoring and assessment program must be prepared with the costs of monitoring in mind. This will determine the depth and level of indicator elaboration. This also means that, during the elaboration of project implementation indicators, attention should be focused only the most important aspects of the project.

Project monitoring can be subdivided into the following components:

- Monitoring of project effectiveness (that is the level of attainment of the project objective).
- Monitoring of project efficiency (that is the comparison of the amount of funds actually used against the plan).

The project monitoring data are used to compare actual project implementation results with the planned figures on the basis of a management decision analysis.

The main goals of monitoring include the following:

- Raising efficiency of project management, maintenance of funds utilization at the most efficient level.
- Higher transparency and accountability of the project implementation.
- Provision of well-structured information about the results of the project implementation the bodies of administration and the public.
- Analysis of negative experience in implementation of other projects implementation in order to increase the efficiency of project implementation at all phases.

In order to ensure effective monitoring, it will be necessary to define the following as early as the project development phase:

- Project effectiveness and efficiency indicators.
- Main goals of the project defined as narrowly as possible.
- General information about the situation in the sector before the project.
- Sources of project information.
- Methods for the collection of information about project implementation.
- Plan for the collection of project information, periodicity of data collection.
- Division of responsibilities for data collection.

- Plan for the analysis of project monitoring data.
- If necessary, a decision to collect additional information about the project should be made.

4.5. Distribution of Capital Investment Budget between Socially-Significant Sectors

Distribution of the Capital Investment Budget between the main budget-financed sectors (education, healthcare, utility services, transport and other sectors) is rather difficult to formalize. Economic theory describes decision making procedures based on public preferences. This means that decisions on capital budget distribution are made on the basis of the public choice. It is for that purpose that democratic representative institutions of power are established. Thus, the decision of the representative body of power may reflect public preferences and relative significance of social benefits of investment projects to a greater or lesser extent.

However, the process of making such decisions by a representative body of power is never free from some subjective influences. To make the process of making decisions on the capital spending structure (by the representative body of power) more objective, it will be possible to use standard capital spending structure assessment procedures.

The standard procedures are based on the assessment of the city economy sectors' relative need for capital investment. For that purpose, it will be necessary to identify the infrastructure which is vitally important for ensuring the provision of the required amount of public services of the required quality and then to carry out a comparative assessment of the need for capital investment.

It is possible to suggest several approaches to the resolution of the above problem. If there is a system of public service standards, a forecast of demand for public services, along with a forecast of the condition of the infrastructure's facilities, will enable us to determine demand for capital investment needed to maintain public services at a required level in conformity with those standards. At present, the applicability of such approach is limited, because the government's and municipal administration's obligations are not defined clearly, while the system of standards and norms is not yet in place.

Another approach is also associated with a particular system of standards. In order to apply such approach, it is necessary to evaluate the condition of infrastructure facilities, equipment and other durables without whose achievement the use of such infrastructure facilities for the purposes of the provision of budget-financed services of required quality becomes practically impossible. In a sense, this approach is based on the principle of "hole patching" described above. The main difference lies only in the degree of predictability of the capital expenditure structure and the amount of required financial resources. It is obvious that planned capital repairs of the infrastructure facilities are always much cheaper than similar actions in emergency situation. Thus, correct planning of demand for capital investments by sectors will allow to raise the efficiency and transparency of use of the capital budget resources. Besides, the additional budgetary expenditures associated with alleviation of indirect consequences of emergency situations or breakdown of infrastructure facilities may be incurred to a great degree of probability.

In order to conduct the above mentioned analyses, the following criteria may be used:

- The probability of a failure (breakdown of an infrastructure facility or a part of it)
- The consequences of such breakdown:
    - Direct consequences;
    - Indirect consequences;
    - Financial consequences;

- Consequences for the population and businesses.

The assessment of the consequences may be carried out by the main economic agents, who are the budget, the population and businesses. The amount of these consequences may be evaluated as the consequences relating to the society as a whole. Thus, the objective criterion for the capital budget structure formation is the criterion of minimization of potential negative effects on the society as a whole in case of emergency situations or breakdowns of an infrastructure facility.

4.5.1. Evaluation of Project Priority Degree in Every Sector.

Evaluation of the project priority degree in every sector may be carried out on the basis of the criteria system dealing with the project implementation results and efficiency. The main criterion of successful results associated with implementation of the project is the degree to which the goal set has been achieved in the course of the project implementation. The project efficiency indicator is the amount of financial and other resources required in order to achieve the goal set. Besides, it is necessary to pay attention to the following aspects:

1. The goals of the project. They should be maximum explicitly formulated, which makes it possible to reduce the number of possible alternatives. The goals should be directly or indirectly measurable and achievable.
2. Possible results in case of the project implementation and in case of absence of the respective project. Such approach makes it possible to evaluate the effect of the project as compared to the situation if the project is not implemented. It is also necessary to conduct the analysis of the potential effect of the project on various society groups, in particular, on businessmen. If the project will contribute to the expansion of production in the private sector or if it will only substitute for it. As a result of this analysis, the increase in expenditures and benefits may be obtained as compared to the situation if the project is not implemented and the net effect obtained as a consequence of the project implementation may be evaluated.
3. Alternative variants of achieving the project goals. These alternatives may be both pure technical ones and alternative approaches to the economic policy and its institutional support. The most efficient project is selected among the available variants.
4. The analysis of the projects with the view to separate its independent components (if possible). The economic analysis should be conducted for every component separately. Inefficient components must be removed from the project.
5. The analysis of the costs and benefits which may be directly or indirectly incurred and derived by participants of the project or the groups of persons or organizations. That is, those who will win and lose as a result of the project implementation are identified.
6. The analysis of the effect of the project implementation on the budget. What changes in the revenues and expenditures of the budget of various levels may be involved as a result of implementation of the project? Will the expenditures on the project do not lead to an increase in the demand for the services or benefits which are planned to be produced in the course of the project implementation (to an increase in the budgetary spending, in particular)?
7. Check of the financial stability of the project. It is necessary to show that all the expenditures on the project will be covered in due time. In this connection, it is necessary to have a clear idea of the fact who will finance the project and if the appropriate financial resources are available.
8. The influence of the project on the environment. The influence on the environment must be expressed, where possible, in terms of money and taken into account among other expenditures on or benefits of the project.

9. Calculation of the efficiency integral evaluation for every project. Based on the calculated indicators, it is necessary to take the decision concerning the expediency of the given project implementation. In order to evaluate the project efficiency, several indicators are applied depending on the characteristics of the expenditures and benefits. These indicators will be described below.
10. The final stage includes the analysis of the risks associated with implementation of this project. These risks may comprise change of general economic conditions, changes in prices for goods or services necessary for implementation of the project as well as changes in the demand for the goods or services being results of the project, etc.

The evaluation of the project for its ranking in the investment program should be carried out on the basis of the criteria described above in conformity with the assigned weights. The weights of the criterion are evaluated on the grounds of its significance for the city. For example, 60% - means achievement of the goal with minimum expenditures (the cost efficiency criterion), financial stability of the project (20%), etc. At the same time, the documents submitted for the project efficiency analysis not containing all the sections described above must be revised in order to be admitted for evaluation.

4.5.2. Principles of Project Economic and Social Effect Evaluation

One of the most important aspect when making evaluation of a concrete project is consideration of alternative variants of achieving goals set in the project. Several alternative variants may exist. Some of such variants may be easier to implement from the technical viewpoint but they may be less efficient from the point of view of economic effect. However, the main criterion when choosing between various variants is the general economic effect on the society. The project is acceptable from the economic viewpoint if, according to the estimates given, the net benefits (excess of the benefits over the expenditures) with respect to the society as a whole obtained after implementation of such project are greater than the similar indicator associated with all known alternative projects.

First of all, it is necessary to compare the situations that evolve as a result of the project implementation and those evolving if no such project has been implemented. Such comparison, actually, answers the question about existence in principal of positive effect on the society as a result of the project implementation. Such approach makes it possible to evaluate growth in the net public benefit if the project has been implemented. This proper is the criterion of the project results evaluation. For example, when evaluating the project of a new hospital construction it is necessary to compare the expenditures incurred in connection with and the benefits derived from such construction, commissioning, purchases of appropriate equipment, payment for work, etc. with those incurred and derived in the situation when the medical infrastructure and appropriate financing remain without any changes.

In order to take into account only the expenditures and results of the project, it is necessary to exclude the expenditures and the results in case the project absence from consideration. Otherwise, assessments of the project results will be overestimated. In order to present the results of the project implementation more obviously, we may construct dependencies of the net benefits derived in cases of the project implementation and the project absence on the time factor. In principle, there may be any slopes of the curves reflecting the net benefits in case of the project absence and in case of the project implementation. The main thing is that the curve reflecting the net benefits derived from the project implementation lies higher than the curve of the net benefits derived in case of the project absence, which means the existence of the positive effect as a result of the project implementation. Fig. 4.1. shows the net benefits in case of the project implementation and those in case of the project absence as a straight lines. In the case

under consideration we may see the increase in the net benefits both in case of the project implementation and the project absence. The difference between the situation of existence and absence of the project is not great at the initial stage, however, it becomes essential in due course. The increase in the net benefit as a result of the project implementation is shown in fig. 4.1. with black color.

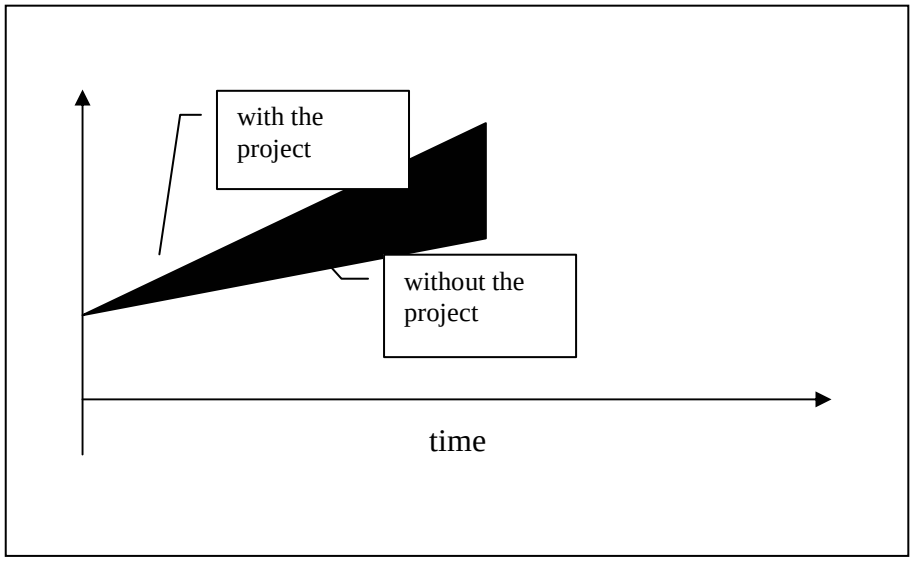


Fig. 4.1. Analysis of the net benefit from the implementation of the project

When comparing various projects, the indicator showing growth of the net public benefit is used, first of all, in comparison with the case of such project absence for every alternative variants of the project. The volume of the resources necessary for implementation of the project, production technologies, location of the project, succession of the project components are also taken into account.

Another important aspect when considering the economic effect obtained from implementation of the project is its influence on the private sector of the economy. It is important to think if this project may be implemented without participation of the state or such participation is necessary. It also necessary to determine if the activity of the state associated with implementation of the project is competitive with that of the private sector.

Analysis of expenditures and benefits from the implementation of the projec.

The next stage of the evaluation is the analysis of the expenditures and results obtained from implementation of the project. It is useful to begin this analysis with identification of the financial flows associated with the project, that is, the evaluation of the financial expenditures and earnings from the project. The financial analysis represents the point of view of the company engaged in implementation of the project. Such analysis makes it possible to evaluate the ability of this company to fulfil its obligations and to finance the stipulated investments in the required amount.

After financial analysis, the economic analysis is performed. Unlike the financial analysis, the economic analysis provides for evaluation of the assessment of the project's impact on the society as a whole. If, for example, the project uses the voluntary labor, such labor should be taken into account on the basis of the assessed value assessment of appropriate expenditures. Thus, the main difference of the economic analysis from the financial one consists in evaluation of the expenditures and benefits obtained from implementation of the given for the society as a whole, which means that all possible expenditures and benefits, including dotations and

subsidies, are analyzed. It is also possible that implementation of the project will bring additional expenditures or benefits to other parties that are not associated with implementation of the project. For example, environmental pollution involves measurable expenditures on the part of the society though it is included in financial expenditures on the project.

Actual expenditures or benefits are born or derived by final consumers of the state (municipal) project. They reflects the net benefits or expenditures derived or incurred by the society in case of implementation of the project. The monetary expenditures or benefits are associated with possible changes in relative prices resulting from implementation of the project (for example, when implementing the agriculture support project the prices for agricultural equipment may be raised in consequence of the increase in demand). The monetary expenditures do not reflect the net effect from implementation of the project for the society as a whole because they are mainly conditioned by the resources relocation effect obtained as a result of implementation of the project. That is why the monetary expenditures and benefits shall not be taken into account when considering the net benefit from implementation of the project for the society as a whole.

At the same time the actual expenditures or benefits in their turn may be divided into:

Direct and indirect expenditures and benefits. The direct expenditures or benefits are associated with the main goal of the project, while the indirect ones are associated with secondary goals of the project which are achieved simultaneously with the main goal. For example, when implementing a project in the sphere of the military forces the secondary goals are scientific developments the results of which may be used in other spheres.

Those that have or have no market value. (Tangible or intangible). It is necessary to point out that the main part of the benefits obtained from social benefits not always have the market value. For example, the public health and education. Some expenditures and benefits are hardly may be evaluated in terms of money. Besides, the price structure has been strongly distorted in conditions of the market system imperfection, which requires introducing some adjustments when evaluating expenditures and benefits.

Final or interim expenditures and benefits. The final expenditures and benefits are associated with final benefits provided for in a particular project, while interim ones relate to other benefits obtaining benefits from contracts made with the final participant.

Those interregional or off-regional. The interregional expenditures and benefits are associated with the effect of the project within the framework of a particular region, while off-regional ones are associated with the effect produced outside a particular region.

Peculiarities of evaluation of noncommercial projects the benefits from which are mainly of non-monetary nature

If it is impossible to measure the expenditures and results of the project in terms of money using market prices, it does not mean that it is in principle impossible to apply the economic analysis to evaluate the efficiency of the projects falling within this type. In this case, it is necessary to apply principally other evaluation methods in order to evaluate the project efficiency. In this case, the efficiency is understood as the degree to which the goal set in the project has been reached. At the same time, two parameters (they are interrelated in principle) may serve as the selection criterion: either achievement of a certain effect with the minimum expenditures, or achievement of the maximum effect in condition of fixed expenditures.

Three following evaluation methods are singled out: the cost efficiency analysis, the expenditures-benefits analysis and the cost efficiency weighted analysis.

The cost efficiency analysis is applied when the project has the only goal which can not be expressed in terms of money. In the sphere of the public health, for example, the goal may consist in improvement of the population’s health.

Several variants of the project in the sphere of the public health, that is vaccination of the population may be considered as a hypothetical example. The goal of the projects is reduction of the mortality. When carrying out vaccination of the population 3 variants are possible: (1) KDS vaccine (whooping-cough, diphtheria, tetanus), (2) anti-tuberculosis vaccine and (3) combination of the two first ones (full vaccination).

The project effect may be measured by the indicator of the number of deaths in consequence of the above mentioned diseases that will be prevented as a result of the project implementation. The number of the deaths that will be prevented owing to implementation of the project may be evaluated on the basis of the statistical model which forecasts the mortality in consequence of the above mentioned diseases. In table 4.1., hypothetical data are given describing three variants of carrying out immunization as well as the expenditures associated with implementing every variant. It is necessary to point out that the expenditures include all the expenditures associated with implementation of the project, namely: buildings, transport, payment for housing and communal services, equipment and materials, payment for the work of the medical staff, etc. It is obvious that the variant of full vaccination is the most expensive one in terms of finances. At the same time, the effect obtained on the basis of the full vaccination is the greatest. In order to choose the most efficient method in terms of the cost efficiency, it is necessary to calculate the expenditures/effect ratio. Actually it gives us the cost of increase in the efficiency effect per one unit, that is the cost of one human life protection. As can be seen from table 4.1., the full vaccination method is the most efficient in terms of the assessment of the efficiency of expenditures because the costs per one saved life are minimal.

Table 4.1. Analysis of the efficiency of expenditures for the vaccination of the population

	Full vaccination	**KDS**	**tuberculosis**
Effect (number of prevented deaths)	275,000	240,000	40,000
Total expenditures (million $.)	125	115	70
Expenditures/effect ratio	454.5	479	1,750

The method of expenditure and benefit analysis is applied if the project the goals can be measured in terms of money. For example, the retraining project goal may be the decrease in the unemployment level. The direct measurement of the target indicator in terms of money in this particular case is impossible. However, it is possible to obtain the indirect evaluation of the project results in terms of money in the form of the students' earnings after they have studied the retraining program. In this case, the increase in the students' earnings as a result of the retraining is the target parameter which may be expressed in terms of money.

In this case, the following indicators are used in the efficiency analysis – the Net Present Value (NPV) and the Internal Rate of Return (IRR).

First of all, it is necessary to associate all expenditures and benefits with one period of time. The initial period of the project is the one used most often. In this connection, the Net Present Value is determined as:

$$NPV = \sum_{i=0}^{N} \frac{B - C}{(1 + r_i)^i}, \qquad (1)$$

where B is the benefits in terms of money (in this case, they express increase in the earnings of the graduating students of the retraining courses); C is the expenditures (all the expenditures

associated with the project); r is the discount rate; and N is the duration of the project (it may be measured by years or quarters).

Thus, the NPV represents the summary value of the net benefits (B-C) for all periods of the project implementation. The project may be recognized as acceptable if NPV>0. It is obvious that the more NPV of the project, the more profitable is the project.

In formula (1), the discount rate is written down in the most general form with the objective discount rate. For simplicity, we may consider it as the constant value during the period of the project implementation (ri = r for all i). In this case, the NPV is simply associated with the discount rate (if the complicated investment projects requiring additional investments in the middle of the project implementation are not considered). In this case, another characteristic of the project efficiency may be introduced – the internal rate of return (IRR). It is determined as the discount rate at which the net present value of the project vanishes:

$$0 = \sum_{i=0}^{N} \frac{B - C}{(1 + r_i)^{IRR}} \qquad (2)$$

It is obvious that the higher IRR, the more profitable is the project.

The weighted method of the cost efficiency analysis is applied when the project have several goals not measured in terms of money. For example, the project goal in the sphere of the public health may be simultaneous reduction of mortality and invalidity. In this case, in order to apply the economic analysis, the goals must be ranked by the experts taking into account peculiarities of a particular project and significance of the goals. In connection with implementation of the projects in the public health the sphere, it is necessary to mention one more target indicator which may be rather effectively used for evaluation of efficiency of the projects having several goals – the number of years of healthy life protected as a result of implementation of the project.

4.6. Selection of Projects for Inclusion in Investment Program.

Selection of the projects in order to include them in the city capital investment program is one of the key elements of formation of the long-term investment policy. The project selection should reflect the priorities of the medium-term economic policy. The project selection process begins after determining the amount of the capital budget. The project selection process may be divided into the following stages:

- Evaluation of the capital budget resources distribution between the main directions (it is carried out by the experts of the economic department or the high ranking officials of a municipal body or with participation of a representative body).
- Selection of the most priority directions in every sector of the social sphere (it is carried out by experts of the sector departments of the administration and with the help of scientific and research institutions as well).
- Accounting for projects being actually implemented.
- Identification of potential projects (short feasibility study - TEO) which it is expedient to implement in the medium-term by each direction (it is carried out by experts of the sector departments).

- Selection of short feasibility study projects providing for a large volume of civil engineering and installation work for conducting a detailed analysis and allocating additional funds for these purposes.
- Preparation of feasibility studies containing the evaluations described above regarding the projects which do not exceed the budgetary restriction with optimistic scenario variant (it is carried out by experts of the sector departments).
- Selection of the projects in order to include them in the capital investment program for a medium-term outlook (it is carried out on the basis of a conservative or realistic scenario as to the amount of the capital budget). The selection is based of the principles described above.
- A detailed analysis of the social and economic consequences relating to the program as a whole (it is carried out on the basis of a separate budgetary financing by the sector departments and other specialized organizations).
- Optimization of resources allocation between the expenditure directions with the purpose of achieving a maximum harmony between the purposes of social and economic development and planned results of the project implementation.

4.6.1. Evaluation of Capital Budget Resources

The evaluation of the capital budget resources is carried out on the basis of social and economic forecasts and the long-term finance plans. The following trends determining the revenue base of the budget are considered by main social and economic development indicators:

- Inflation rate.
- Demographic forecast.
- Changes in the population's personal incomes.
- Economic growth.

The forecast is prepared in the form of scenario. First of all, the scenario conditions of the city development in the medium-term outlook determining the main external parameters of the social and economic development are worked out.

They must contain at least three types of scenarios: pessimistic, realistic and optimistic. Finance plans for every scenario containing the forecast of revenues and current budget expenditures are worked out based on the scenario conditions. The difference between the revenues, current expenditures and expenditures on repayment of the principal of loan provides the internal funds available for carrying out capital investments and repaying the principal of loan.

Additional funds for the capital investments may be received by way of attracting borrowed financial resources. The amount of these resources is evaluated proceeding from the actual budgetary possibilities relating to debt servicing (debt servicing and repayment of the principal of loan must not exceed a certain part of the budgetary revenues and in order to obtain effective loans at acceptable rates, this part must not be less than that required by the Budget Code of the Russian Federation).

The amount of the capital budget is determined as the difference between the planned budgetary revenues and planned current budgetary expenditures and expenditures on repayment of the principal of loan.

Thus, evaluation of the resources includes:

- revenues forecast;
- current expenditures forecast;

- calculation of the capital budget (revenues – current expenditures – repayments of the principal of loan).

4.6.2. Evaluation of Capital Budget Resources Allocation between Main Directions

Evaluation of the capital budget resources may be carried out either using procedures of the facility potential breakdown rate evaluation or relying on expert opinion.

In order to carry out evaluation of an infrastructure facility potential breakdown rate one may analyze the available statistical information relating to breakdowns of infrastructure facilities. It is necessary to have the information presented in table 4.2. for these purposes.

Table 4.2. Information necessary for potential breakdown rate evaluation.

Type of facility	Number of facilities in the city (or the indicator characterizing the size of a facility)	Average number of breakdowns per year (or the average number of breakdowns per unit of the size of a facility)	Average value of salvage and restoration work	Average value of compensation for damage paid to other facilities and natural persons in connection with a breakdown (including the payments effected in payment of claims)	Losses suffered owing to impossibility of providing budgetary service	Average value of planned repairs

The difference between the average value of salvage and restoration work in the amount with the average value of compensation for damage paid to other sectors and the average value of planned repairs ensures potential economy of the budgetary resources. One of the criterion used for calculating the capital budget portion for the direction is the maximum possible economizing of the budgetary resources. After determining the potential negative effect owing to absence of the project one may apply the method of hierarchical analysis described below. In this connection, when making pairwise comparison of the sectors the relative significance must be calculated as the ratio between potential losses in the absence of the program implementation (the difference between the planned expenditures and the expenditures incurred in emergency conditions plus the losses suffered owing to the impossibility to provide the budgetary service). This approach is difficult to implement because it is difficult to express the losses resulting from impossibility to provide the budgetary service in terms of money.

In order to allocate the capital budget resources using expert estimations, it is possible to suggest the following procedure called the method of hierarchical analysis. It requires from experts to carry out the pairwise comparison of the social sphere sectors significance.

The method of hierarchical analysis (MAI) is the procedure for hierarchical presentation of the elements determining the essence of a problem. The method consists in decomposition of the problem into more simple components and subsequent processing of successive expert judgements concerning pairwise comparisons. As a result, it is possible to express the relative

degree (intensity) of interaction between the elements in the hierarchy. Then these judgements are expressed numerically.

One or several experts fill in the table 4.3. in which every sector of the social sphere has one line and one column:

Table 4.3. Method of Hierarchical Analysis

Criteria		Education	Public health	Housing and communal services	Other sectors
		1	2	3	n
Education	1	1	…	…	…
Public health	2		1	…	…
Housing and communal services	3			1	…
Other sectors	n				1

Note: the cells marked by the «…» sign are filled in. Every criterion (in lines) is successively compared with all other criteria according to the degree of significance. The coefficients from 0,1 to 10 reflecting the degree of superiority of one criterion over another are written down in the cells.

The set of criteria for evaluating the relative significance

The values of the coefficients are determined by way of expertise in conformity with Table 4.4.

Table 4.4. Table of coefficients according to the hierarchical analysis method

1 – compared criteria are equivalent	
3 – insignificant superiority of the first criterion over the second one	1/3 – insignificant superiority of the second criterion over the first one
5 – moderate superiority of the first criterion over the second one	1/5 – moderate superiority of the second criterion over the first one
7 – essential superiority of the first criterion over the second one	1/7 – essential superiority of the second criterion over the first one
10 – maximum superiority of the first criterion over the second one	1/10 – maximum superiority of the second criterion over the first on
2; 4; 6; 8; 9 – corresponding interim values	1/2; 1/4; 1/6; 1/8; 1/9 – corresponding interim values

After the experts have made their evaluations, the specific weights of separate criteria are calculated. The calculation is made as shown in Table 4.5.

Table 4.5. Calculation of specific weights of criteria

Criteria		X1	X2	X…	Xn	Arithmetic mean	Specific weight of the criterion
		1	2	…	n		

X1	1	1	k1/k2	k1/k…	k1/kn	$\overline{x_1} = \sqrt[n]{1 \cdot \left(k_1/k_2\right) \cdot \left(k_1/k_{...}\right) \cdot \left(k_1/k_n\right)}$	$X_1 = \overline{x_1} / \sum \overline{x_n}$
X2	2	k2/k1	1	k2/k…	k2/kn	$\overline{x_2} = \sqrt[n]{\left(k_2/k_1\right) \cdot 1 \cdot \left(k_2/k_{...}\right) \cdot \left(k_2/k_n\right)}$	$X_2 = \overline{x_2} / \sum \overline{x_n}$
X…	…	k…/k1	k…/k2	1	k…/kn	…	…
Xn	n	kn/k1	kn/k2	kn/k…	1	…	…
Sum						$\sum \overline{x_n}$	100%

Matrix «k1:kn» is inversely symmetric (i. e. $\left(k_1/k_2\right) = \frac{1}{\left(k_2/k_1\right)}$).

In the column 'Geometric mean', based on the evaluations written down in every line of the evaluations the geometric mean is calculated according to the following formula: $\overline{x_1} = \sqrt[n]{1 \cdot \left(k_1/k_2\right) \cdot \left(k_1/k_{...}\right) \cdot \left(k_1/k_n\right)}$. Then the sum of all geometric means is calculated ($\sum \overline{x_n}$). The specific weight of every criterion is determined by division of the geometric mean by the sum of the geometric means ($X_1 = \overline{x_1} / \sum \overline{x_n}$).

Example 1.

Table 4.6. shows the example of comparison of various criteria:

Table 4.6. Example of calculation of criteria weights.

Criteria		Education	Public health	Housing and communal services	Geometrical mean of all evaluations	Specific weight of the criterion
		1	2	3		
Education	1	1	2	4	$2 = \sqrt[3]{1 \cdot 2 \cdot 4}$	57%=2/3.5
Public health	2	½	1	2	$1 = \sqrt[3]{0{,}5 \cdot 1 \cdot 2}$	29%=1/3.5
Housing and communal services	3	¼	½	1	$0{,}5 = \sqrt[3]{0{,}25 \cdot 0{,}5 \cdot 1}$	14%=0,5/3.5
Sum					3.5=2+1+0.5	100%

Experts fill in the cells the values of which are italicized. The coefficients written down in the table mean that:

- criterion "1" (Significance of the capital expenditures for the education) is insignificantly superior to criterion "2" (Significance of capital expenditures for the public health) and is more obviously superior to criterion "3" as far as the significance is concerned (Significance of capital expenditures for the housing and communal services);
- criterion "2" (Significance of capital expenditures for the public health), as far as it significance is concerned, is insignificantly superior to criterion "3" (Significance of capital expenditures for the housing and communal services).

If several experts take part in estimating the specific weights of the criteria, every expert fills in such table. The aggregate specific weight of the criteria is estimated as the arithmetic mean.

As a result, preliminary quotas of the capital budget expenditures allocated for every budget-financed direction should be evaluated.

If it turns out, as a consequence of the resources distribution between the directions, that the received quota of the budgetary resources provided for in the budget for a particular direction is less than the demand for the current financing of adopted projects, then the amount of the capital budget of the direction must be increased up to the full conformance with the demand. The budgets of other directions must respectively be reduced by the amount of increase in the budget of the direction. In this connection, the structure of other expenditures must remain in conformity with certain priorities.

4.6.3. Selection of the Most Priority Directions in Every Sector of Social Sphere and Preliminary Selection of Projects

Evaluation of the most priority directions in every sector of the social sphere must be carried out in relation to newly approved projects. The main goal of this procedure is selection of the most significant projects not exceeding the budgetary restriction – the amount of the sector capital budget. Selection of the projects is carried out in several steps.

1. Adjustment of the direction budget available for new projects by way of taking into account the projects being at the stage of implementation (if the decision to suspend the project owing to objective causes has not been taken, the project must be financed from the capital budget that has been provided for the direction in the first turn). Thus, the capital budget amount is adjusted by the sum necessary to continue implementing the approved projects).

2. Evaluation of the relative significance of the goals within every direction. Evaluation of the relative significance of subprograms must be carried out within every program of every direction of the strategic development plan of the city.

The experts of the sector departments must carry out relative evaluation of significance of every subprogram included in the respective program. Such evaluation is based on the method of the cost efficiency weighted analysis described above. Every expert of any direction fills in the following table (for example, in order to evaluate the modern public utilities development program for every direction, it is necessary to take the respective section of Ekaterinburg strategic plan) (Table 4.7.)

TableT 4.7. Evaluation of the relative significance of the goals.

Criteria		Development of heat sources and heating systems	Development of the water system	Development of the heat supply system	Development of the electric power supply system
		1	2	3	n
Development of heat sources and heating systems	1	1	…	…	…
Development of the water system	2		1	…	…
Development of the heat supply system	3			1	…
Development of the electric power supply system	n				1

It is necessary to give the evaluation of the relative significance of the problem for the city according to the 10 point scale in every column over the matrix diagonal, where 1 – means the equivalence of the criterion and 10 – means the maximum degree of superiority of one criterion over the other. The matrix is filled in automatically according to the formula element 2-1= 1/(element 1-2) below the diagonal. The geometric mean is calculated in every line

$$\overline{X_i} = \sqrt[n]{x_{i1} * x_{i2} * ... * x_{in}}$$

and the sum of geometrical means

$$SUM = \sum_{i=1}^{n} X_i ,$$

where xij- is the respective element of the constructed matrix of the criteria pairwise comparison. The relative significance of the program may be calculated according to the following formula:

$$Значимость = X_i / SUM$$

Significance

The final evaluation of the subprogram significance is obtained as the arithmetic mean of the subprogram significance evaluations given by every expert. When calculating the mean the maximum and minimum evaluations of the significance should not be taken into account.

It is necessary to make the list of potential projects for every subprogram which will be necessary to implement in the medium-term outlook. Every project at the preliminary stage should contain the following information:

- Goal of the project.
- Planned measures.
- Indicators of efficiency evaluation.
- Planned results.
- Necessary amount of resources.

3. Development of the project feasibility study (short feasibility study - TEO)

In order to carry out evaluation, every project must be submitted in the following form:

Name of the project

1. Sector of implementation of the project.
2. Goal of the project. The goal should reflect not the contents of the work but the effect which will be produced on the consumers of the budgetary service upon implementation of the project. The formulations of the goals should be maximum concrete, which makes it possible to reduce the number of possible alternatives.
3. Main project measures (description of the main work necessary to execute in order to implement the project).
4. Indicators of evaluation which may characterize the fact that the project goal has been achieved (target indicators) and their value in case of absence of the project.
5. Period of implementation of the project.
6. District of the city where the project is implemented.

7. Planned amount of the financial resources necessary for implementation of the project (the breakdown according to appropriate measures). Demand for project financing for every year of the project implementation.
8. The part of the population receiving benefits upon implementation of the project.
9. Share of borrowed off-budget resources (For the projects where off-budget resources will be attracted).
10. Budget effect on current revenues (Evaluation of additional current expenditures associated with implementation of the project).
11. Budgetary economizing: reduction in expenditures/increase in the budget revenues associated with implementation of the project (this item is not obligatory for the most part of sectors).

It is necessary to formulate the project goal in the form allowing to evaluate the result using target indicators and to substantiate the selection of the most efficient project for its achievement. It is desirable that the goal is formulated in the form allowing numerical estimate (for some projects it is impossible in principle).

The planned measures are the measures necessary to be taken in order to achieve the set goal.

Efficiency evaluation indicators represent the efficiency evaluation system developed for every project, that is the indicators characterizing the extent to which the set goal has been achieved.

The list of projects must be prepared taking into account the planned effect that will be obtained as a result of implementation of the project in the budget-financed sector under consideration. In this connection, the target criterion for every project must be adjusted with account taken of the planned effect that will be obtained as a result of implementation of approved projects. Annex 1 presents the description of investment projects in the sphere of the public health and the housing and communal services. The list of the projects should be prepared with regard for the planned effect.

It is necessary to roughly estimate for every potential project the extent to which the set goal has been achieved and the necessary amount of the financial resources required for implementation of the project (estimated value of the project costs and results ratio).

The total volume of the resources necessary for implementation of the projects should not, according to preliminary estimates, exceed in the aggregate with financing of the project being implemented 1,5 capital budgets of the direction according to an optimistic scenario forecast.

4. Identification of the projects requiring additional studying.

The information presented in a short feasibility study will be enough for evaluating the most part of the project. At the same time a number of the projects require additional studying in order to take a decision concerning its priority degree. The projects providing for a large volume of civil engineering and installation work may be referred to such group. In this case, the analysis of financial demand for implementation of such project as well as of consequences of the project implementation should be conducted.

It is suggested that a fixed portion of the capital budget resources should be allocated for a detailed elaboration of the design documentation and estimation of the potential effect of the projects providing for a large volume of planned civil engineering and installation work. The mentioned portion should depend on the sector where the project will be implemented and the project type but shall not exceed 10% of the available resources.

From a set of the ranked project applications, it is necessary to select the projects as to which it is expedient to carry out detailed evaluations of the effect that will be obtained as a result of

implementation as well as the financial expenditures and other parameters characterizing the project efficiency and results.

When carrying out a detailed studying of the project the influence of the project on main economic agents (interested parties) should be additionally analyzed and a more detailed analysis of the problem which should be solved within the framework of the project should be also conducted. The influence of the main economic agents may be studied both on the quality level where the appropriate influence of the project on a particular department or a sector or the population group is merely declared and on the quantity level. In this case, it is necessary to fill in the following table (Table 4.8.).

Table 4.8. Quantitative analysis of main economic assets.

	Budgets	**Sectors of economy**	**Population**	**Total**
Budgets				
Sectors of economy				
Population				
Total				Net effect on the society as a whole

It is necessary to express in every matrix column the net movement of resources from one economic agent to another one when implementing the project (benefits minus expenditures). If the project goal does not formulated in terms of money, the table shows only expenditures on the project which are correlated with achievement of the project goal.

The net effect on the society as a whole should also be a criterion of the project selection in order to include it in the investment program. At the same time, it is necessary to point out that it is desirable to conduct a detailed analysis according to the mentioned scheme only for large-scale projects owing to the complexity of calculations.

A detailed analysis of the problem should contain the analysis of the reasons owing to which the problem arose and their interdependence, the analysis of consequences which the singled out problems may entail and their interdependence and the analysis of possible ways of solution of the set problems.

A detailed project implementation risk analysis and the project implementation evaluation results sensitivity analysis as to the assumptions made in the course of the project effect evaluation should also be conducted.

5. Evaluation of the project priority degree.

In order to prepare the capital investment program, it is necessary to assess the priority degree of every project. It is suggested that the following criteria with certain weights should be used to select the projects having the most important priorities:

- Goal priority.
- Portion of the city population for whom the project results will be significant.
- Project results (the extent to which the goal has been achieved).
- Cost of the project.
- Budgetary effect of the project on the budgets of all levels (increase in revenues).

- Reduction in breakdown costs.
- Period of project implementation.
- Possibility of full or partial payments for services on the part of the consumers upon implementation of the project.
- Possibility of drawing off-budgetary resources for implementing the project.
- City district where the project is implemented.

Every criterion should obtain a certain weight. The weights are also determined by experts with the use of the described method of hierarchical analysis.

A respective rank is assigned to every project according to the following formula:

$$Ранг = \sum_i \alpha_i V_i \quad , \qquad Rank \qquad (1)$$

where άi- weight of i criterion

Vi- the project evaluation expressed in points according to i criterion

Every project should be evaluated in points according to the 10 point scale, where 1- means a minimum significance of the criterion and 10- means a maximum significance of the criterion. If the evaluations according to every criterion are given in another form, they should be brought to the ten point form. For example, the goal priority evaluation described at the beginning of the section is given within the scale from 0 to 1. It is necessary to respectively multiply the calculated evaluations by 10 in order to bring them to the ten point scale.

Evaluations of suggested criteria

The city population portion: the project covers the whole population - 10 points
The project covers 10% of the population or less- 1 point

Cost of the project. Taking into account the extremely limited volume of the budgetary resources the priority should be given to the projects requiring less resources for their implementation. If the cost of the project exceeds the volume of the resources allocated from the budget for a current year, the evaluation should be – 1. Respectively, if the portion does not exceed 10%, the evaluation will be 10. If the cost of the project falls within these values, the evaluation is determined proceeding from the proportion:

Evaluation = (portion of the capital budget) *10

Project results (the extent to which the goal has been achieved),
To evaluate the project results, it is necessary to compare the expected results of project implementation with the target indicators fixed in the social and economic development program. If the target indicator evaluation (for example, the mortality in the public health project) agrees with the target indicators or exceeds them, the result indicator is assigned the value equal to 10. If the target indicator is equal to the forecasted value in case the project is absent (absolute absence of the effect), the evaluation is equal to 0. If the target indicator value falls within the specified values, the evaluation shall be given according to the following formula:

$$Оценка = \frac{П_{план} - П_0}{П_{цел} - П_0} * 10$$

Evaluation ,

where Pplan - is the value of the target indicator planned upon implementation of the project

Ptarget – is the value of the target indicator fixed in the social and economic development program

P0- is the value of the target indicator in case the project is not implemented (under other equal conditions)

Budgetary effect of the project (according to increase in revenues). If, in case of implementation of the project, the revenues collected for the city budget (or beyond all the levels) within 5 years directly or indirectly associated with the project implementation reimburse in full for the incurred expenditures on the project or exceed them, the evaluation should be equal to 10. If the budgetary effect is absent, the evaluation is equal to 0. If additional earnings received owing to the project implementation falls within the specified values, the evaluation shall be calculated according to the following formula:

$$Оценка = \frac{Э_{план}}{V} * 10$$

Evaluation , where

Eplan is a planned increase in the budget revenues associated with implementation of the project.
V is the cost of the project for the budget.

Reduction in breakdown costs
If, in case of absence of the project, the potential breakdown costs are equal to the cost of the project or exceed it - 10 points. Absence of the forecasted breakdown costs - 0 points. If, in case of absence of the project, the potential breakdown costs falls within the specified values, the following formula is applied:

$$Оценка = \frac{P_{план}}{V} * 10$$

Evaluation , where
Eplan is the planned breakdown costs in case of the non-implementation of the project.
V is the cost of the project for the budget.

Period of the project implementation. Taking into account a substantial degree of uncertainty in the budgetary process existing at present the long-term projects are open to the risks of decrease in efficiency taking place as a consequence of change in the external conditions. As a result of such changes, it is suggested that the following evaluations should be introduced: 5 years and more – 1 point. 1 year or less – 10 points. If the period comprises from one to 5 years, the evaluation is determined as follows:

$$Оценка = \frac{T}{4} * 10$$

Evaluation , where
T is the time period of the implementation of the project.

Possibilities of full or partial payment for services on the part of the population. The criterion may be used only for separate sectors where it is expedient to introduce a full or partial payment for the services on the part of the population, for example, the payment for transport. Its use in such spheres as the education or the public health requires a separate substantiation but at present it is not inexpedient, which is associated with the imperfect definition of the notion of the budgetary services volume and contents in the mentioned spheres. The offered evaluation system is as follows: the full payment – 10 points, the impossibility of payment – 0 points. In order to

evaluate a partial payment for the services on the part of the population, the following formula may be used:

Evaluation $Оценка = Д * 10$, where

D is the portion of payment for the services paid by the population (from 0 to 1).

Possibilities of drawing off-budgetary resources for implementing the project. The criterion may be used only in separate sectors of the budget-financed sphere. The offered evaluation system is as follows: 100% borrowed off-budgetary resources – 10 points. Absence of borrowing resources – 0 points. If the portion of borrowed resources is planned from 0 to 100%, the evaluation is determined according to the following formula:

$Оценка = Д / 10$
Evaluation
D- the portion of borrowed resources in percent.

City district.
The criterion should reflect the position of the city administration concerning the social and economic development of the city and the priority of investments into that very district infrastructure, respectively.

The evaluation may be given according to the following scheme: 1 – the minimum priority; 10 – the maximum priority.

Thus, a preliminary set of the projects ranked according to their priority degree comes into existence in every sector of the budget-financed sphere.

It is necessary to carry out an additional evaluation of the effect obtained from the project implementation with the use of the budgetary resources within the framework of 10% of the available capital budget as to the most efficient projects providing for a large volume of the civil engineering and installation work the demand for financing of which does not exceed the amount of the available capital budget for three years taking into account the projects being implemented.

6. Adoption of the program

The main task at this stage is to select the projects which most effectively lead to achievement of the goals set by the social and economic policy.

It is also necessary to accurately evaluate the necessary amount of financial resources. The evaluations may be carried out, for example, based on the data relating to the expenditures on similar facilities. The projects may be selected for a detailed studying on the grounds of the priority degree the evaluation of which is described in the previous section.

When the occasion requires, the resources allocated for evaluation of the projects (but not more than 10% of the mentioned resources) may be forwarded for effecting the procedure of preliminary ranking of the project.

The municipal administration should take a political decision concerning the acceptable degree of the financial risk when adopting the capital investment program. If the administration adheres to the conservative strategy, the capital budget amount should agree with the pessimistic scenario of development. In case additional risks are accepted, the capital budget amount may be

increased but it should not exceed the capital budget amount in conformity with the realistic scenario. In this connection, it is necessary to bear in mind the necessity of priority financing of the adopted projects even in case of absence of the required amount of the budgetary resources.

Based on thoroughly elaborated projects as well as the projects thoroughly elaborated within the previous years but not approved on the grounds of absence of resources, it is necessary to select the projects which will be included in the budget financing. Within the framework of every sector, it is necessary for this purpose to select the projects having the maximum evaluation of their significance in every direction the total amount of financing of which agrees with the framework of the approved capital budget.

The algorithm for the procedure of taking the decision on selecting the projects is presented in fig. 4.2.

7. Evaluation of the program influence on the social and economic development.

After preparation of the program (a set of programs) in every sector, it is necessary to evaluate their general influence on the city social and economic development. In this connection, the social and economic development forecast is made provided that the appropriate adjustments will be introduced in the social and economic policy and provided that the capital investment program prepared according to the described above technique will be adopted. The main forecast parameters are compared with the forecast made initially (without changes in the social and economic policy and approval of additional capital investment projects). In this connection, it is necessary to check the fact that the target indicators have achieved the fixed values. If the forecast with regard for the approved program does not lead to satisfactory values of the target indicators, it is expedient to revise the social and economic policy by way of making change in the priorities between the sectors.

Then it is necessary to execute the procedure of the project selection (from the list of those thoroughly evaluated) once again.

Based on the elaborated technique, the practical assignments have been prepared aimed at evaluating criteria and selection of projects intended for inclusion in the investment program which have been tested at the seminars conducted for the officers of Ekaterinburg administration.

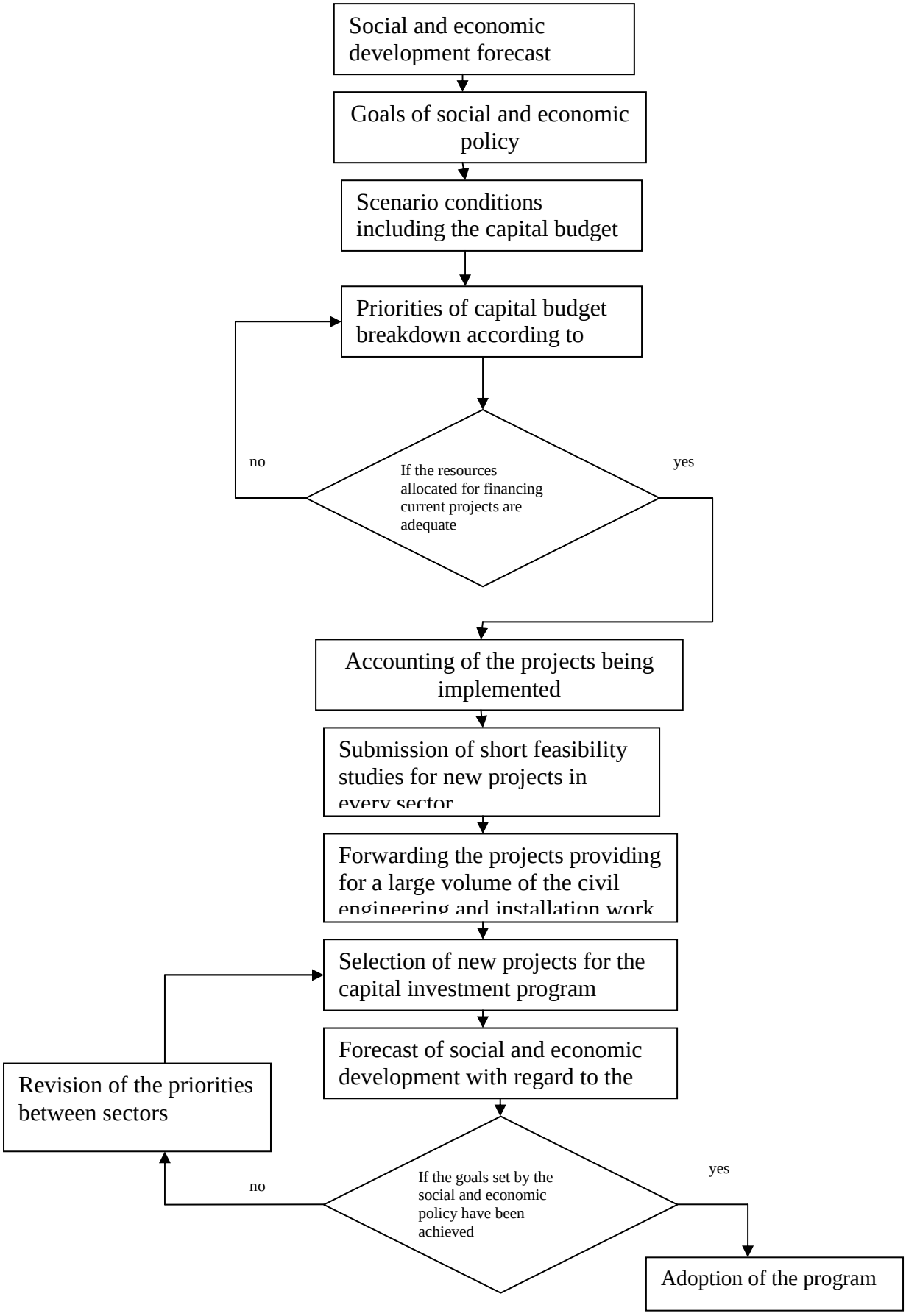


Fig. 4.2. Algorithm of decision taking associated with selection of projects for the investment program.

5. Funding of Investment Projects in the Utility Service Infrastructure

The main principle of the Utility Service Infrastructure investment projects is the full recoupment of all the invested funds. This principle should apply not only to the projects of the Utility Service Infrastructure, but to all business investment projects in the area of public services provision. Commitment to this principle will promote the private investments inflow into the utility service field. At present in Ekaterinburg the necessity to keep up with this principle is determined by the political reasons. For instance, on the one hand, the cost of modern garbage trucks, purchased by the Spetsavtobaza enterprise, was included into the rate for household waste removal, this allowed to repay in full the investments. On the other hand, the rate for drainage system utilization for the individuals was cut down due to the forthcoming Ekaterinburg mayor election and the election of the governor of Ekaterinburg region, in spite of the fact, that 'Vodokanal', Municipal Unitary Enterprise is currently building a new complex of sewage disposal plants, which will allow to develop a new area of the city. The decrease of the rate caused the decrease of the work scope, shift of the construction dates, and, consequently, additional costs, which, in the long run are covered out of the consumers money.

For successful funding of the investment projects, regardless the investment project sources of finance, the principle of full recoupment of all the invested funds should be carried out not only at the stage of preliminary assessment, but during the entire period of investment.

The current practice of investment project financing in the area of housing and communal services in Ekaterinburg is mainly supported by three sources of funds: enterprise-owned funds, raised through the increase of the service rates, direct budgetary investments and issuance of municipal bonds. The major portion of funding is made by direct budgetary investments. The practice of budgetary investment distribution is analyzed in Chapter 2. The rate increase in many cases is complicated by the fact that municipality either has no authority to set up rates for municipal enterprises, or by political reasons. The further analysis will prove that enterprises and the city authorities do not use in full all the available sources of funds. In some cases the reason is the imperfection of the existing laws, in other cases- insufficient motivation of the plants' management etc.

There exist three major sources of investment project funds in the utility service infrastructure: enterprise-owned funds, borrowed funds and budgetary financing. Each of these major sources is broken down by several individual flows of funds, which are grouped based on the common characteristic. Further on, each of the major sources and the component flows will be reviewed in more detail.

5.1 Enterprise-Owned Funds

For the purposes of this analysis we shall define Enterprise-Owned Funds as the total amount of revenues received by enterprises for the services provided. The portion of revenue directed to the fixed assets recovery, the enterprise employees wages payment etc. applies to the net cost of production and services provision. All the expenses for the fixed assets upgrade and development are the expenses incurred from the profit. Housing and Communal Services enterprises can utilize their own funds to finance investment projects by three ways:

1. Inclusion of investment expenses into the rate
2. Utilization of savings achieved due to reduction of costs under the constant rate
3. Charge costs for the connection from the new service consumers (in case of enterprises controlling the networks - water supply and sewerage system and heating system).

Investment expenses are included into the rate

Currently in Ekaterinburg the first method of investment project financing is used. Investment expenses are included into the rate as an investment component or as depreciation charges. Thus, the rate is increased at the amount of the investment included there. As all the investment expenses in connection with the fixed assets modernization must be paid from the profit amount, the amount of the rate increase should account for the profit tax amount levied on the investment component.

The rate increase caused by the investment increase is the easiest, but at the same time the most hard-hitting source of finance. It is the easiest source, as the enterprise does need to search for an alternative source of finance and the burden of expenses in connection with the investments is laid on the consumers. However, it is also a hard-hitting source, as it appears to be almost impossible to ground to the politically biased regulating authority the requirement for inclusion of all the investment expenses into the rate amount, and the current system of setting up the rate uses the normative profitability, which may significantly restrict the investment capabilities. .

In order to adhere to the principle of full payback of all the invested funds, the enterprise which carry out the investments should well in advance develop a detailed investment program. This program must include a description of all the planned activities, their schedule and performance dates, costs to fulfill these activities etc. A correctly prepared investment program will enable the enterprise to justify clearly and explicitly the rates increase. Currently the development of such programs is not a common practice of the Utility Service enterprises in Ekaterinburg. The 'header lists', provided by the enterprises, do not contain full information. .

In Ekaterinburg the enterprises are prevented from the inclusion of all the investment expenses within the service rate amounts based on one more reason – inefficient regulation of profitability standard. The established profitability standard is not supported by economic analysis and does not account for each enterprise demand in investments. In international practice the established profitability standard results out of the enterprise interaction with the regulating authority.

The decrease of the political influence on the rate regulation procedure is only possible through tough control of the rate regulation procedure. The situation in Ekaterinburg is also complicated by the fact that regulation of a number of services rendered by municipal enterprises is performed at the level of the regional authorities. The regional regulation of the municipal enterprises is in direct contradiction with the Federal Law on the local government, does not take into account the goals of the municipal property owner and is a tool in a political struggle between the regional and city authorities.
The inclusion of the investment expenses within the amount of the enterprise services rate also increases the risks in connection with the rates regulation. Under the existing regulation system enterprises are not able to forecast the rates growth even for the nearest future. Therefore, the inclusion of all the investment expenses within the amount of the rate increases the risk of getting refusal in revision of the rates and in approval of the required rate.

Utilization of savings achieved due to reduction of costs under the constant rate

Another method of investment funding using the enterprise-owned funds is the use of the enterprise-owned funds savings for the investment goals. Thus, if an enterprise was able to materially cut the expenses as a result of this or that investment program, it can use the savings not only to recover the already invested funds, but also as a source of new investments. Currently a similar situation has been formed in many cities of Russia in the field of heat supply. Enterprises implement more efficient methods of heat production and use the savings to recoup the investments. At the same time, the heat supply rate does not change. In order to deprive the enterprises of their excess profit, regulating authorities can use this situation to a better advantage, than simple reduction of the rates. Regulating authority can force the enterprises to carry out additional investments at the expense of the savings received without the rate increase.

In contrast to the inclusion of the investment component into the rate, this source of finance does not mean the rate growth, but the change of the rate structure with the reduction of the net cost portion and the increase of the investment component.

Connection payment

Enterprises, which control utility service networks, such as water supply enterprises, drainage systems and heat supply, can raise funds for financing investment projects initiated due to new consumers appearance through introduction of the connection fee. At present, in Ekaterinburg, as in the majority of other Russian municipal structures, the infrastructure development for new building plots is not the task for local authorities or utility enterprises, but for builders. The builders are provided with technical specifications to connect to the utility service infrastructure objects (water supply systems, drainage systems, central heating, electricity supply networks, gas networks), which bear additional obligations on construction and/or modernization of engineering infrastructure objects.

As a rule, networks and other utility service infrastructure objects, included into technical specifications, a builder constructs at its own expense, and initially these objects are considered to be the builder's property. The constructed utility service infrastructure objects are frequently designed to provide services not only at the customer's sites, but also for servicing other buildings and constructions. The builder tries, as a rule, to deliver these objects without compensation to the utility enterprises. However, in many cases the latter refuse to accept such objects (for example, based on the reason that the funds for their servicing are not included into the rates), this way, the utility service infrastructure objects remain the builder's property and they are forced to service the objects at their own expense.

Additionally, the builder bears the so-called voluntary-forced expenses in connection with the existing utility service infrastructure modernization and pays the costs for connection of the newly constructed (by the builder) objects to the current system. The amount of the first payment is not usually grounded. The second payment is not big and is not connected with the investment costs.

The goal of the connection cost is to eliminate these shortcomings. It is supposed to cover all the utility service enterprise expenses in connection with the backbone networks and distributing networks development for the new consumers' needs. All the works to upgrade the existing infrastructure are not included into the connection cost as they improve the already existing infrastructure. The connection cost is a lump sum payment which is paid by the builder to the utility enterprise for the service of connection the builder's object to the utility services.

As this issue has long been ignored by the research centers, authorities and enterprises, it will be analyzed in Chapter 6 of this research.

5.2 Borrowed Funds

The practice of external finance involvement for investment projects in the utility service infrastructure is not widely used within the municipal structure in the Russian Federation territory. Funds are usually borrowed in the form of short-term loans for the current activities financing. In Ekaterinburg borrowed funds are also used only on a short-term basis. Thus, Ekaterinburg 'Vodokanal', a municipal unitary enterprise, uses short-term loans for financing the project of building new sewage disposal plants. The impossibility to raise long-term funds is determined by several factors. Firstly, risks in the utility service area are very high and it is difficult to evaluate them. Secondly, private investors' advancement onto this market is impeded due to the legislation structure imperfectness and the delays with the concession law adoption.

Investment projects in the utility service area have two major factors of high risk: rate management and enterprise management. Political orientation of the rate regulation procedures increases the risks level for private investors. The majority of investment projects in the utility service tend to be of a long-term nature. Therefore, getting down the level of political orientation of the rates formation is the first step to lower down risks in the utility service area and to attract private investors. As for housing and communal services enterprises, being nontransparent and inefficient structures, they are burdened with big amounts of debts and are frequently on the verge of bankruptcy. All these factors negatively impact the process of the private capital more active involvement. Adoption of more efficient management mechanisms at the utility service enterprises is another task to be solved to make this area more attractive for private investors.

Utilization of borrowed funds for investment project financing in the utility service infrastructure is generally attractive based on a number of reasons. Credits produce the so-called 'tax shield' reducing the profit amount and, consequently, the profit tax amount. Borrowed funds allow to get investment project financing without abrupt increase of the rates. Utilization of borrowed funds can also accelerate the process of the investment project implementation through the provision of a greater amount of funds at the initial stages of the project.

Utilization of borrowed funds for investment project financing in the utility service infrastructure is a preferable source of finance as compared to the incorporation of all the expenses into the rate amount or budgetary financing. Even the connection cost can be directed to pay the credits borrowed for the utility service infrastructure development.

In order to ensure a stable flow of borrowed funds at the current stage of the utility service development, the budget can reduce the risks of loans granting providing the budgetary guarantees against the credit. Budgetary guarantees can stimulate the private funds inflow into the utility service infrastructure through shifting some risks connected with the investment project financing to the budgetary financing. The credit guarantees can motivate the municipal authorities to carry out more reasonable rates policy as they risk their own money in case of failure.

5.3 Budgetary Financing

Up to the mid 1990-s of the last century the budgetary financing was the only source of investment projects in the utility service infrastructure. At present the utility service infrastructure is at such poor condition, that no budgetary financing would be sufficient to restore it, let alone to upgrade it. Besides, steep social obligations taken by the budgets at all levels and poor state of other areas in the field of the budgetary financing (health care service and education) also prevent the reallocation of the budgetary financing to the benefit of utility service enterprises. In the majority of cases the budgetary financing must be considered as the last option of the utility service infrastructure projects financing. However, in case of large-scale projects, which pursue social goals and/or urban territories development, budgetary funds are the required source of finance.

From the point of view of enterprises, budgetary financing has got only two forms: direct non-repayable investments or budgetary credits. Direct budgetary investments are the most appealing for enterprises as they do not bear any financial obligations. Budgetary credits as compared to the financial institutions credits get more advantageous crediting terms and, therefore, they are also welcomed by enterprises.

Direct budgetary financing

Traditionally, the major source of investments for housing and communal services has been the budgets of the Russian Federation objects and municipal structures. It is that source of capital investment funding that the municipal utility service enterprises consider to be the main one and most preferable. However, the experience proves that, with rare exceptions, budgets are not able to carry out their commitments on on-going utility service enterprises financing (for example, compensation of the differences in the rates or payment of damages due to the provision of benefits etc.). Budgetary financing of capital investments is rather exclusion, than a regular practice.

From the budgetary point of view there exist several ways to raise the funds for the utility service infrastructure projects financing. The most straightforward method is utilization of a portion of the development budget for financing utility service infrastructure development projects. Such method of funding is very easy and does not require utility service rates increase. However, utilization of this source of funding shrinks the development budget and limits the funds which otherwise could have been allocated for other areas of the municipal infrastructure and for financing projects of social significance.

Direct budgetary financing can be rendered in various forms. For example, in the city of Zelenograd, a German company has built a complex of sewage disposal plants and will be operating it for a specified period of time. After the end of this period, it shall hand over the plans to the municipal use. This project is financed in full from the budget. Under the contract on a monthly basis the specified amount is transferred to the German company account from the budgetary funds. A privately-owned company is engaged only in construction and operation of the sewage disposal plants. The consumers' payment collection and determination of the rate is the responsibility of the municipal authorities.

Budgetary Credits

Another source of funds for financing the utility service infrastructure development projects is the budgetary credits, provided to the utility sector enterprises. Such credits are usually granted under more preferential terms than the credits of the privately-owned financial organizations. Such practice gives rise to the biased attitude and violates the market system. Getting the credits under preferential terms the utility service enterprises gain competitive advantages which are ungrounded and not available for other players at the market.

In general getting additional revenue from the financial operations is not a prerogative of the budget. The budget is formed from the money paid by taxpayers and their funds should be directed to improve their well-being, not to enrich the municipal executives.

5.4. Choosing Investment Mechanisms

The sources of funds for financing utility service infrastructure development projects are diverse. However, for the sake of all the parties concerned it is practical for decision-making to prioritize the sources of finance in the following order:

- borrowed funds
- enterprise-owned funds
- budgetary funds

While working out the most acceptable in the Russian environment system of financing the utility service infrastructure development projects, it is necessary to account for the current requirements of the project initiators, as well as the existing capabilities of raising funds from all the available sources.

First of all, it is necessary to restrict the range of possible investment projects which are to be implemented with the help of the proposed source of finance. Further on the projects to

modernize housing and communal services will mean investment projects in the utility service area, namely, projects on household sewage purification, improvement of the drinking water quality, removal and processing (utilization) of the household garbage, more efficient utilization of the heat supply in the city systems of the heat supply. These projects have the same economic nature and involve investment risks of the same type; this fact allows working out similar mechanisms of their financing and a common approach to their assessment.

The main principle of the financing system being created is the fact that the projects of this type should be financed out of the borrowed funds raised at the market rates. Additionally, there must be a possibility of individual voluntary support of the projects. At this, voluntary (budgetary) financing should not be considered as an alternative, but as an addition to the borrowed funds. Consequently, the project initiators should have enough motivation to provide funds for financing these projects, primarily out of the borrowed funds.

As a rule, projects of this type can not be currently implemented with the help of the existing market possibilities to raise funds. In particular, high percentage rates and short terms of the credits being granted by Russian commercial banks are unacceptable to meet the above projects demands. Accordingly, non-provision of long-term loans by Russian commercial banks is explained by the fact that they have no long-term financing basis.

As a rule, these projects initiators are currently municipal water-supply, drainage and heat supply enterprises, as well as enterprises for household garbage collection and utilization. Besides, an option is possible when the above projects initiator or a debtor can be corresponding local or region authorities. The provision of the borrowed funds to the municipality has a number of shortcomings:

- duration of the loan processing procedure for the municipality which should be accounted for in the budget revenue portion, this means getting approval of the municipal structure representative authorities ;
- complex multi-step system of the project financing;
- difficulties in ensuring the funds efficient utilization, as financial support of the projects implementation requires constant on-going effort for the management and analysis of the financial flow and work quality;
- low responsibility of the utility service enterprises for the efficient expenditure of the funds received out of the budget;
- a current problem of the utility service financial flows transparency and those of municipality in general, this fact allows for non-targeted utilization of the credit funds, when the money is used to cover on-going expenses of the local offices and to solve urgent problems of the city;
- a problem to secure repayment of the loan (the housing infrastructure objects are almost non-liquid assets, the procedure of getting the city government guarantee is rather complicated).

At present an effort to improve the budgeting procedure and to reconstruct the housing and communal services is already under way, this effort is supposed to bring in more openness and transparency into all the municipalities' activities, into their financial dealings, to improve the system of payment for the housing and communal services. Successful implementation of these activities will attract more lending agencies to make business with municipalities.

The strategic line of the municipal services reconstruction is a transformation of the utility service activities on the market base. In view of this transformation the scheme of granting the loans directly to utility service enterprises appears to be the best option. The following facts speak in favor of this option:

- the methods to assess the credibility of the companies and the full procedure of the credit granting have already been worked out ;
- more efficient crediting procedure;
- on-going control of the project implementation progress;
- capability to secure the credit with the liquid equipment being in the ownership of the enterprise; a claim can be put forward against this credit security if the loan has not been timely reimbursed.

The peculiarity of the housing and communal services is the fact that their service rates are set up by the owner of their property, i.e. a corresponding institution of local governing. In case these enterprises are in private ownership, the rates for their services are set up at the level of the Russian Federation agencies, i.e. in any case these enterprises are held under control. It is the procedure of the rate control both at the level of municipality, and at the region level that is the main factor which creates the solvency of the enterprises, and in the majority of cases it causes high investment risks. At the same time, a peculiarity of the projects in the area of municipal services is the fact, that the owner of the municipal enterprises has all the required authority to carry out reconstruction which would result in lowering the investment risks for these enterprises.

Reviewing all possible options for creation of the investment project financing system in the area of municipal services, it must be taken into consideration, that the main source of revenue for these enterprises are consumers payments (including individual consumers) for the utility services which involve the enterprise - project initiator [4]. Evidently, in this case the amount of the debt, which the enterprise will be able to service, will be restricted by the paying capacity of the enterprise consumers[5]. In case if the implementation of the project requires a greater amount of funds than the highest acceptable amount of the debt load for the enterprise, the system of financing should provide for the capability to finance the project without any compensation (purpose-oriented budgetary financing) to the extent the proposed projects meet the budgetary financing criteria.

Therefore, the first primary source of finance should be borrowed funds. Utilization of borrowed funds enables the enterprise to implement the projects more quickly and efficiently, provides better grounds to explain the rates increase, and, on the other hand, makes it possible to do without rates drastic growth during the first years of the project implementation. For cases when it appears to be impossible to involve external financing, or when the amount of external financing is not sufficient, the enterprise-owned funds are required. In this case the most efficient source is utilization of the funds raised as a result of carrying out measures to cut the expenses. This will allow to implement the project and to avoid the rates increase. In case when the total amount of external and internal funds is not sufficient to implement the project, it is necessary to consider the opportunity of budgetary funds utilization. Budgetary funds should the considered the last possible source of finance, as they can be directed to implement alternative projects in other areas of municipal economy and to implement social projects.

Thus, the choice of source of finance is not only determined by the needs of each specific project, but by the interests of all the parties concerned: utility service enterprise, municipality, private investors and utility service end consumers. And, finally, no matter which source of finance has been chosen, a principle of full repayment of all the funds raised must be met.

Appendix 2 contains a business plan of the reconstruction of Ekaterinburg Northern Aeration Station, developed in the scope of this research draft. This business plan illustrates the opportunity to raise the non-budgetary funds (as the investment component included in the rate) to implement the investment projects in the utility service area.

[4] A lot of things depend on the existing scheme of these enterprises control and their contract terms with consumers.
[5] The maximum debt amount is determined by the highest acceptable amount of the credit risk (a chance of the default of the enterprise – project initiator).

6. Proposals on Minimizing Risks Involved in Commercial Investment in Utility Sector

Investments in utility sector infrastructure in developed countries in the West are deemed one of the least risky ways of capital investment. Steady demand for utility services from all categories of consumers generates permanent financial flows, which make investments in the sector recoverable at a minimum risk. Private companies that invest funds in the utility sector or organize management of public utility companies have been present on world markets for more than a hundred years. Russia's private sector began considering utilities as a potential sphere for investment only recently. In turn, municipalities are interested in private investments due to a shortage of the budgetary funds they need to maintain the utility sector infrastructure in a working order. However, unlike the developed industrialized countries, investments in the utility sector in Russia are fraught with high risks. Assessment of the risks involved in investment projects in the utility sector is the key to drawing private capital for the sector. Three main types of risks, involved in practically any project in the utility sector, may be singled out:

1. Contractual relations
2. Rate regulation
3. Budgetary financing

Minimizing these risks will make it possible to make the utility sector more attractive for private capital. The text below contains the analysis of each of the risks and the possible ways of their minimization.

6.1. Contractual Relations Between Utility Enterprises and Local Government Bodies (Owners of Property)

The overwhelming majority of public utility companies stand out in that they were established as unitary enterprises. The authorized body of a local government owns their property while utilities themselves use that property by the right of economic management.

The right of economic management is the legacy of a centrally planned economy and is not envisioned in the legislation of countries with developed market economies. Much attention should therefore be paid to clarifying the existing relations between a utility enterprise and the owner of property at its disposal.

An analysis should be made of the documents authorizing an enterprise to use and manage municipal property and of the current decision-making practices in the sector. On numerous occasions, their exists an agreement between a local government body and a utility enterprise on the transfer of property to the latter company for economic management. Sometimes, property is handed over to a municipal enterprise under a resolution issued by the head of a local government. Undetermined mutual relations between a property's owner and a municipal enterprise is a factor that negatively affects the creditworthiness of a utility enterprise.

Typically, directors of utility enterprises conclude labor contracts with city administrations. On a number of occasions, such agreements contain terms (directives) for municipal property management by an enterprise, specify each party's liability and stipulate a procedure for the termination of a contract. The analysis of a labor contract with the director of a utility enterprise may clear up the nature of relations between the enterprise and a local government body. The absence of a labor contract should be viewed negatively while assessing a public utility company's creditworthiness, as, in this case, the local government is practically unrestricted in its activities.

A local government body establishes utility enterprises for achieving the goals set forth in legislation. In accordance with Article 6 of the law On General Principles of Organizing Local Government in the Russian Federation, municipalities are in charge of arranging, managing and

streamlining electricity, gas, heat and water supply and sewage disposal in urban areas. Article 31 of the same law assigns local government bodies the task of setting goals and conditions for the operation of municipal enterprises and organizations and of regulating their prices and rates.

It is evident that the goals pursued by utility enterprises may not coincide with those of a local government body. Article 50 of the Civil Code of the Russian Federation defines a municipal unitary enterprise as a commercial organization, whose main aim is to make profit. Although Article 295 of the Civil Code grants the owner of property (in this case, it is a local government body) the right to part of the profit gained from utilization of that property by a municipal enterprise, deriving profit in itself is not the main goal of a municipality.

It is therefore necessary for a local government body to set the main tasks and goals of utilities. With the legal form of utility enterprises preserved, it is wise to set them tasks and goals within the framework of a production program, which must notably contain key production targets and an investment program aimed at renovating their fixed assets. The absence of established goals for an enterprise within production and investment programs should be deemed a factor that worsens its creditworthiness.

The legal definition of the right of economic management, on the basis of which utility enterprises use municipal property is at odds with the existing market relations. The main reason is that unitary enterprises secure their debts against the property they do not own while commercial enterprises participating in market relations assume certain obligations and thus risk losing their property. Involvement of legal entities that are not property owners in business relations runs counter to established business practices.

Given the reasons mentioned above a conclusion may be drawn that the existence of utility enterprises with the status of a municipal unitary enterprise is a factor that negatively affects their creditworthiness. A more preferable legal form would be that of an economic organization, 100% owned by a local government body. A regulatory base for economic organizations' activities is more effective as it clearly defines the rights and obligations of the owners and managers of an enterprise.

Another option for the existence of utility enterprises is a private management company, which, on the basis of a respective agreement, manages the municipal property needed for the provision of utility services. This option is also preferable to that of a unitary enterprise.

If municipal property is managed by a specialized company under a contract with a local government body, it is necessary to analyze this contract to clear up the nature and distinctive features of the legal implementation of the relationship.

6.2. Mutual Relations Between Utility Enterprises and Customers

Typically, consumers of resources (services) provided by utility enterprises are divided into several groups, namely, a population, budgetary organizations and commercial consumers. Rates under which utility enterprises provide resources (services) to various categories of consumers are normally differentiated. Certain distinctions also exist in the registration of mutual relations between utility enterprises and consumers in each group.

Several options may be exercised to establish a system of contractual relations between utility enterprises and their consumers. When analyzing the creditworthiness of a utility enterprise, those factors are important that influence that enterprise's ability to receive payment for the resources and services provided on time and in full.

The objective of these concepts is to assess how much the prevalent system of contractual relations between an enterprise, a project's initiator, and consumers affects the timeliness and fullness of payments for utility services. Contractual relations between utilities and their customers have resulted from the existing managerial system in the housing and utility sector.

A utility enterprise may receive pay for housing and utility services in the following ways:

- From the end users of housing and utility services (households) under a contract concluded by a housing stock management company on behalf of the end users (households) and at their expense (a mediation pattern);
- From all categories of consumers of housing and utility services in case direct agreements have been reached between a utility enterprise and the end users of its services. The list of such consumers may also include housing stock management companies, provided they have agreements with utility enterprises on the purchase and sale of resources and provision of services (a resale system).

In addition to the above variants, situations are also possible whereby a utility enterprise has no agreements with consumers.

A type of contractual relations matters when determining which party assumes monetary obligation * to pay for utility services (or resources and services) and how cash assets move from a consumer to a utility enterprise. A number of requirements may be set for the contents of agreements between the parties involved, fulfillment of which is necessary for lowering the credit risks of utility enterprises, the main condition being timely and full payments to a utility enterprise for the resources or services provided.

It is obvious that the lack of contractual relations with consumers is a negative factor affecting the creditworthiness of a project's initiator, making it impossible to specify the rights and obligations of parties already involved in legal relationship. In these circumstances, a utility enterprise has no lawful levers of pressure on its debtors, which is inadmissible. This variant is unacceptable.

While evaluating all the systems for establishing a contractual relationship, it is necessary to verify information on the existence of debates held before the conclusion of agreements. The debates may be about the price terms of a contract, a settlement procedure and liability for the violation of monetary obligations; about the current practices to fulfill monetary obligations and apply sanctions and about the disputes that may be settled in courts.

6.2.1 Contractual Relations with Commercial and Budgetary Consumers

Industrial and service enterprises in private ownership make up the bulk of consumers that fit into a category of commercial customers. Typically, rates charged on this category of customers are the highest compared to those for other groups of consumers.

* Monetary obligation is the obligation of a debtor to pay a creditor a certain sum in cash under a civil contract or on other grounds envisioned in the Civil Code of the Russian Federation (Article 2 of the Federal Law No. 6-FZ of January 8, 1998, entitled On Insolvency (Bankruptcy).

Demand for the products (services) of utility enterprises from this-category of customers is the most flexible as large industrial enterprises may easily give up the services of utilities by building their own boiler houses, water intakes and sewage disposal plants. At the same time, in relation to this category of customers, utility enterprises have the best leverage.

The category of budgetary organizations includes consumers financed from budgets on all levels. These include educational and cultural institutions, hospitals, the Defence and Interior ministries and the Federal Security Service. As a rule, these institutions have a loose payment discipline. To add to this, utility enterprises have no actual levers of pressure on this category of customers, some of which fit into the category of customers that can be cut off from supplies under no circumstances. In addition to legislative restrictions on the implementation of the measures of pressure on this category of customers in case of untimely payment or non-payment for utility services, there exist numerous informal limitations.

As a general rule, Paragraph 6 of Chapter 30 of the Civil Code of the Russian Federation stipulates that heat and hot water supplies may be disrupted, cut off or restricted only under an agreement between the parties concerned, with the exception of two cases.
Firstly, if a consumer's power installations, due to their unsatisfactory condition, endanger the life and health of citizens (supplies may be halted with the preliminarily notification of the customer). This condition must be certified by a state power-supply supervision body.

Secondly, if the need arises to take urgent measures aimed at preventing or clearing the fault in the power-supply system of a utility itself (in this case, supplies may be cut off without warning, but on condition a customer is immediately informed). A unilateral refusal to fulfill a power supply agreement is allowed only with respect to legal entities on the grounds envisaged in Article 523 of the Russian Civil Code (as applied to heat supply, the grounds may be the repeated violation of payment terms and the repeated consumption of thermal power in volumes lower than those agreed on between the parties).

The list of the said grounds is exhaustive. The possibility of disrupting, cutting off or restricting heat and hot water supplies under an agreement between the parties does not mean that the agreement may be supplemented with new grounds for disruptions in supplies. This only means the possibility for the parties to agree on the term of power consumption regulation (either limiting the consumption or cutting off power supply) in each particular case. The new terms of agreements must therefore be defined in accordance with legislation

The terms of contracts on water supply and drainage as regards the grounds for cutting off or restricting water supply or sewage intake must correspond to Paragraphs 81 – 86 of the Rules for the Use of Public Water Supply and Sewer Systems in the Russian Federation, endorsed by Russian Government Resolution No. 167 of February 12, 1999, in which the list of grounds is defined as exhaustive.

Typically, the said categories of consumers have metering devices and it is therefore essential that agreements with them envisage the possibility of making settlements on the basis of meterage data. In addition to analyzing the procedures set out in an agreement, there is also a need to explore the existing relations with these categories of customers.

Agreements must specify the possible activities of a utility enterprise in the event of untimely payment for the resources or services provided. The possible levers of pressure on defaulters include imposing penalties and other measures. Furthermore, the agreement must contain a detailed list of grounds on which a public utility company may restrict or cut-off supplies to consumers, as well as a procedure for carrying out these restrictions and cut-offs.

6.2.2. Contractual Relations with Housing Stock Management Companies

If a housing stock management company acts in its relations with utility enterprises on its own behalf and pays for the work done with its own money, it is this company that acts as a party to legal relationship. Regardless of its sources of income, the management company pays off utility services with its own cash.

Under this financing option, consumers (both tenants and the owners of apartments) reach deals with a management company on the provision of housing and utility services. In turn, a management company, acting on its own behalf and its own expense, concludes agreements with utility enterprises for the provision of utility services.

The rights and obligations under an agreement between a management company and a utility enterprise rest with the management company and the utility enterprise. In this case, the management company acts as a party to be charged. The management company provides all housing and utility services, including water supply and drainage services, on its own behalf and its own expense.

It is evident that, under this contractual relationship, the chances of a utility enterprise getting paid for its services will hinge both on how accurately consumers pay for utility services and how conscientiously the management company fulfills its obligations under an agreement with the utility enterprise. Requirements for contractual relations between a management company and a utility enterprise are rather standard. The contract must define the rights and obligations of the parties and their possible activities if the obligations assumed have been broken. The agreement must also stipulate the activities of the parties if the end users install metering devices.

6.2.3. Relationships with Consumers (Population)

From a legal point of view, the population may act as a party in legal relations with a utility enterprise if households and the enterprise have concluded direct contracts for the provision of resources and services or if a housing stock management company acts on behalf of tenants, ordering utility services on behalf of the population and at its expense.

A system of direct contractual relationship between households and a utility enterprise has the right to existence if a specialized company for housing stock management is unavailable or if agreements between a management company and households for some reason contain no obligations for the provision (organization of the provision) of certain types of utility services on the part of the company. This scheme may also be applied in the event of existence of multiple-discipline utility enterprises in rural areas and small cities. Sometimes, this scheme is also used in cities where specialized companies for housing stock management operate. The main reason utility enterprises favor exactly this type of contractual relations lies in untimely payments for resources and utility services on the part of a management company or housing organizations.

It should also be noted that if a housing stock management company has the status of a municipal enterprise or the function of an intermediary is performed by a subdivision of a local government body, and it appears that the company has not received the funds it needs to repay its debts from the regional budget, while having taken all the necessary measures to get these funds, that will mean the company is not guilty. Under Article 401 of the Civil Code of the Russian Federation, a juridical person, which has not fulfilled its obligations or fulfilled them improperly, but has taken all the possible measures required of it to fulfill its obligations in the proper way, is declared not guilty. The management company is an institution, is financed from a municipal budget and does not have sources of financing other than payments by households and budgetary financing. In this case, local government bodies, represented by the related financing bodies*, must incur secondary liability. However, it is unlikely that a utility enterprise will be able to recover the debts from local government bodies in courts.

In a system of contractual relations, where a management company acts as an intermediary between consumers (tenants and the owners of apartments) and a public utility company, consumers reach agreements with a management company, in which they authorize the company to make an agreement, either on their on its own behalf, on the servicing and revamp of housing stock and the provision of utility services at their expense and under the rates set for the category of consumers they belong to. This agreement will be concluded between a management company and a utility enterprise, which acts as a project initiator.

The rights and obligations under an agreement between a management company and a utility enterprise rest with a consumer (Article 182, Paragraph 1, Page 971 of the Civil Code). Under the agreement, a management company is neither an authorized party nor a party to be charged. However, on the instructions from consumers, the management company may not just conclude agreements but also engage in other activities (for example, collect payments for utility services). Under the agreement with a utility enterprise, the population acts as the buyer of resources (for example, water) and the utility enterprise as the seller (provider) of resources.

In addition to obligation to render utility services to consumers, a utility enterprise enters into a monetary obligation agreement with a consumer, whereby a debtor pledges to pay a creditor cash assets. In the agreement, a creditor is referred to as a person to whom a debtor is obliged to pay money and which is entitled to demand the fulfillment of obligations from the debtor. (Article 307 of the Civil Code).

Debtors may pay their debts via payment collection points (postal offices, branch banks, other lending institutions, settlement centers, etc.).

In this system of contractual relationship, the obligation to pay for utility services is laid upon the end user of these services, i.e., the population. As the practice shows, the population is a conscientious payer and actual payment collection depends on how well a system of presenting bills for payment operates and work with defaulters is organized. From this viewpoint, this system of contractual relations is less risky than the one where a management company acts as a reseller.

6.3. Rate Regulation.

Since municipal utility enterprises are regulated entities and their rates are approved by the authorized body of a local government (the owner of municipal property), the system of rate regulation on a municipal level carries the highest credit risks. But the system also affords the best opportunities to lower these risks. In fact, the regulation determines an environment in which a utility enterprise operates and has a strong impact on its financial and economic performance.

Rate regulation should be considered in association with the goals and tasks set for utility enterprises by the property's owner, for which it draws up (coordinates) and endorses production and investment programs. As conceived of, the rates approved by a local government must be a sufficient source of the financial resources a utility enterprise needs to fulfill its programs (provided, the enterprise is not financed from the budget).

* This approach is adopted in the law-enforcement policy, reflected in Presidium of Russian Supreme Arbitration Court Resolutions No. 4948/97 of May 24, 1998 and No 6030/96 of May 13, 1997; in Paragraph 7 of Presidium of Russian Supreme Court Informational Letter No. 17 of July 14, 1997, entitled "Survey of the Practical Application of Article 333 of the Russian Civil Code by Arbitration Courts"; in Russian Supreme Arbitration Court Letter No. S1-3/0P-10 and other documents.

If an enterprise has production and investment programs approved by the property's owner, it is essential to adhere to several fundamental principles while setting the rates.

6.3.1. Basic Principles of Rate Regulation

Principle of Full Compensation for Expenditures

In economic terms, this principle is rather evident. Under it, a regulated enterprise is entitled to receive full compensation for its reasonable expenses. In the meantime, a situation whereby local government bodies set the rates at a below cost level still occurs fairly often. This leads to a chronic shortage of funding for utility enterprises, the worsening quality of their services and aging municipal property. It is therefore necessary for a local government body to assume certain rate-setting obligations, adhering to the principle of full recoupment of expenditures.

The issue has another aspect. In general, rates for end consumers are calculated as the summarized price of the work done by all participants in the provision of a utility service, with some of them charging regulated prices and others free market prices. For instance, heat rate may consist of:

- Heat producer's regulated price;
- Regulated rate on transportation via trunk networks and those within residential areas;

- Market price for servicing internal installations;
- Market price on servicing meters;
- Market price on the calculation and collection of payments.

Each participant involved in the provision of services to end users is entitled to receive the pay due for the work done. It is therefore essential to include all production cost components in the rate structure to be able to pay all those involved in the process. Implementation of the principle of full compensation for expenditures is a factor contributing to a public utility company's creditworthiness.

Term of Validity of Rates (Regulation Period)

Currently, rates for municipal enterprises tend to be established for an indefinite period. This creates economic uncertainty for both providers and consumers of housing and utility services. As matters stand now, indefinite rate validity periods make the development of production and investment programs for a public utility company meaningless. It makes more sense to set a rate regulation period of one to three years.

Methods for Calculating the Financial Needs of an Enterprise

The main function of a rate regulation system is to form a financial fund that would cover the implementation costs of production and investment programs endorsed by the property's owner. However, rates on housing and utility services are now calculated according to the principle "costs plus profitability", that is, a fixed profit margin is added to the calculated cost of products (services) and hence rates for various categories of consumers are set. At that, no actual profit needs of an enterprise are taken into account. Nor the usage of the profit included in the rate is traced. The calculation of rate on the basis of production cost and standard profitability should be deemed a factor that affect the creditworthiness of a utility enterprise.

Rate-setting methods under which the financial needs of an enterprise are calculated on the basis of production and investment programs adopted for the next rate validity period should be regarded as a factor contributing to the creditworthiness of a utility enterprise.

Single or Double Rates

In most cases, single rates are set on utility services. They are charged per unit of service or on the consumption of the standard volume of services and do not include a fixed constituent. However, since consumers pay for the standard volume of services rather than the actual amount of the services consumed, the absence of a fixed constituent in the rate does not widen fluctuations in the proceeds of a utility enterprise. However, utilities may face the risk as metering devices are phased in. So, in cities where a considerable part of consumers are switching to meter-based payments, imposition of double rates, i.e. those made up of a fixed constituent (for example, it may be called Payment for Capacity or Payment for the Maintenance of Supply Networks) and payment for the services provided, should be considered a factor contributing to the creditworthiness of a utility enterprise.

Cross Subsidizing

Availability of cross subsidizing should be regarded as a factor affecting the creditworthiness of an enterprise. Typically, overstated rates lead to growing non-payments on the part of industrial consumers or they start using their own locally-based resources (for example, water), neither of which contributes to a rise in the incomes of utilities. By contrast, the population is a fairly disciplined payer and the absence of cross subsidizing or its insignificant scale is a factor contributing to the creditworthiness of a utility enterprise.

Level of Consumers' Payments for Services of Utility Enterprises

As matters stand now, households do not pay the full price of housing and utility services provided by a utility enterprise. This implies that the financing burden is shifted to other categories of consumers or the gap in the rates is compensated from the budget. The practical

experience shows that the budget does not fulfill its obligations to the budget as painstakingly as households and, therefore, the high rates for utility services for the population are a factor contributing to the creditworthiness of a utility enterprise.

Rate Regulation Procedures

A rate-setting process infringes on the interests of a great number of parties (municipality as a property owner, a regulated enterprise, consumers and investors). Their interests may be conflicting and, so, one of the main tasks of a rate regulation system is to reconcile these interests. The process of establishing rates on utility services lies in a search for a compromise between technological tasks, the financing needs of service providers and solvent demand of consumers. Procedures may vary in each particular case but several key tasks may be singled out, which, if accomplished, eventually lower the credit risks of a utility enterprise.

In a simplified form, the rate-setting procedure looks in the following way. After drawing up production and investment programs for an enterprise for the next rate regulation period, it is necessary to calculate the amount of the funding required to fulfill these programs and set the rates of rates for each category of consumers. The rates received should then be tested as to their acceptability for consumers (first and foremost households), and if consumer solvency allows it, they should be approved. If consumer solvency appears to be low, it is necessary to scale down either a production program or an investment one and recount the amount of requisite funding and the rates of rates. A further process precisely repeats the above procedure.

The rate-regulating procedure has to be made public to win the confidence of the consumers of utility services and ensure a balance of interests as rates are adjusted. Since any investment projects of utility enterprises will eventually infringe on the interests of the population, the rate-setting procedure must be made transparent to win the public approval of a particular project, which is important.

The problem is that the existing system for rate regulation is politicized. So, while assessing this system, it is wise to look into whether the decisions to revise the rates for municipal enterprises were linked to elections and other political events. The political motivation of the rate-setting procedure is a factor affecting the creditworthiness of a utility enterprise.

When assessing the current rate regulating procedures, one should pay attention to the formal aspect of relations between a controlled enterprise and a regulating body. Notably, there is a need to compile a list of conditions under which a utility enterprise may (and should) ask for the revision of the rates and determine a package of documents needed for this revision. This list is a factor contributing to a public utility company’s creditworthiness.

In a rate regulation period, utility enterprises often risk seeing their costs rise due to circumstances beyond their control. As an example, a water utility company may encounter electricity rate hikes. Unless the company revises its production and investment programs, its financing needs will grow and the only way-out will be a rise in its rate.

It is obvious that, in the majority of such cases, it makes no sense to hold a rate-setting procedure anew. At least, a controlled enterprise must not ground its financial needs again. If it is known, for example, that electricity costs made up 30% of total expenditures by the enterprise before electricity rate hikes, its rates must increase by 3% to compensate it for a 10% hike in electricity rates. The same procedure should be applied in case electricity rates go down.

Rates should be automatically indexed with regard to resources expenses on which are regulated and make a large part of the total spending by an enterprise. (such as gas, electricity, heat, etc.). Automatic indexing may also be applied in case of changes in taxes. Automatic indexing is possible to use since the cost structure of utility enterprises depends on the technology used and is immune to drastic changes. It is necessary to determine which expenses of a regulated enterprise need to be subject to an automatic indexing procedure and fix it in the relevant documents. In particular, it makes sense to do so in relation to goods, expenses on which are high (for example, over 10% of total spending by an enterprise).

The availability and application of an automatic rate indexing procedure is a factor contributing to the creditworthiness of an enterprise.

Monitoring of Municipal Utility Enterprises' Activities

Monitoring of activities by a utility enterprise is aimed at providing timely information about the progress made on its production and investment programs, as part of the assessment of its current creditworthiness. The monitoring system may be viewed as a system of control over the activities of a regulated enterprise and the availability of such a system is a factor contributing to the creditworthiness of an enterprise.

Integral Parameters of Assessment of Effectiveness of Rate Regulation System

The workability of a rate regulation system may be verified with the help of several indirect parameters, one being the share of families getting housing subsidies. If this share is low, this means that the actual solvency of households is higher than the estimate used in the establishment of rates. If the share is high, this implies that the actual solvency of households is lower than original estimation. This pattern is true if housing subsidy services work efficiently and it does not take much time and effort on the part of an applicant to receive a subsidy.

It should also be noted that a low share of families getting housing subsidies means that the population has a reserve solvency and its rates therefore can be increased to raise funding for investment projects.

Another indirect indicator of an effective rate policy is the share of expenses on the housing and utility sector in total budget spending. When making the analysis, attention should be paid to spending items of budget. For example, if a hefty chunk of budget spending goes to bridge the gap between the heat rates and a low share of budgetary outlays is spent on housing subsidies to households, this is indicative of an ineffective rate policy.

Analyzing the steadiness of the rate regulation system is important for assessing its effectiveness. In other words, it is not enough to just indicate the formal principles of rate regulation. It is important that these principles are adhered to and that changes are made to the rate regulation procedures. It is also of great importance which body of power is authorized to solve these issues. Thus, a rate regulation system on a municipal level is more resistant to changes if it is based on the normative acts of a representative body of power.

6.3.2. Payment for Connection as an Instrument for Attracting Investment in Housing Construction

A suggested economic model deals with the issues of developing and expanding utility sector infrastructure with the aim of stimulating residential housing construction and lowering costs and risks in the sector. All issues of revamping the infrastructure are considered with a view to providing real estate items, now under construction, with utility services.
The suggested economic model is aimed at:

- Planned and forward construction of supply networks on land plots slated for housing construction;
- Allocating responsibility for the construction and upgrade of utility sector infrastructure between builders, utility enterprises and local government bodies;
- Establishing a system for the imposition of conditions for connection to utility sector infrastructure installations that would create equal competitive conditions for all participants on residential housing market;
- Formulating the definition of a just and grounded pay for connection to supply pipes;

- Specifying the Sources of Financing and Financing Options for Projects to Develop and Upgrade Utility Sector Infrastructure for Housing Construction Purposes.

Basic Principles of Economic Model

To ensure the connection of newly built housing to supply systems, three groups of tasks must be fulfilled.

1. Construction of local (internal) supply networks for connection to utility sector infrastructure facilities;
2. Equipping Land Plots Slated for Residential Housing Construction with Requisite Supply Lines (construction of trunk and distributing supply networks for transportation of resources);
3. Expansion and Revamp of the Existing Supply Systems to Provide New Consumers with Resources.

These Tasks May Be Financed from the Following Sources:

- Payment by developers (the customers of housing);
- Payment by all consumers (this may be achieved by including the construction and revamp costs in rates on utility services;
- Payment from municipal budgets.

Payment may first be made with borrowed funds, which would then be repaid from the aforementioned three sources.

It is assumed that:

- Construction of local (internal) supply networks for connection to utility sector infrastructure must be carried out by each particular builder through the use of credit and other investment schemes.
- Responsibility for equipping land plots slated for housing construction with trunk and distributing supply networks rests with utility enterprises, which finance it with their own and borrowed funds. The expenses must be reimbursed by builders (new consumers) through payment for connection to supply networks, with the amount of payment depending only on declared need for particular resources.
- Expansion and upgrade of the existing supply systems with a view to providing new consumers with resources may be carried out at the expense of each of the said sources. It is wise to use the sources of financing in the following order:
  - Payment by builders through rate on connection;
  - Payment by all consumers via inclusion of the relevant expenditures in the structure of rates on utility services;
  - Payments from municipal budgets.

Tasks of developing the utility sector infrastructure and the requisite sources of financing are indicated in a table below.

The expenses of developers on the expansion and upgrade of the existing supply systems must be included in payment for connection to supply networks. The free market price of newly built housing may be a constraint. If the construction costs of newly built housing, including connection costs, approach free market prices, this may not secure the required rate of return on the invested capital, which will lead to the stagnation of the construction industry. Therefore, the expenses that go to expand the utility sector infrastructure, included in the connection cost, must be regulated. The amount of payment for connection to supply networks is established by a local government body for a fixed time period.

A similar restriction may be imposed on the inclusion of the expenses on developing the existing supply networks in the structure of rates on utility services, due to a restricted solvency of consumers.

Table 6.1. Utility Sector Infrastructure Development Tasks and Sources of Their Financing

	Financed by developers	**Financed through utility service rates**	**Financed from local budgets**
Construction of local internal supply networks	**З**		
Equipping land plots with trunk and distributing supply networks	**ТП**		
Development and modernization of existing supply systems	**ТП**	**Т**	**Б**

where: **ТП** – payment for connection, calculated as rate on connection, multiplied by the declared capacity of construction site, **З** – own expenses of a builder, **Т**- rate on utility service,

Б- budgetary investments

The presented model is primarily applicable to high-rise construction in cities and cities, where it is wise to use common supply networks.

In case of low-density cottage construction, especially in areas remote from the center of a city, it is possible to apply local supply networks, primarily consisting of heat, water and sewer pipes. In this event, the task of providing construction sites with the necessary supply pipes may be assigned to developer companies, which buy a plot, equip it with all the necessary infrastructure, including roads, gas- and power-supply networks, etc., and then sell it for cottage construction. By selling the ready plot, developers recoup their investments. The newly built roads and supply lines become the common property of the owners of private houses in proportion to their investments in the infrastructure. The need to service the infrastructure is a reason for the establishment of a house owners' association.

Description of Economic Model

Setting technological requirements for infrastructure development is the first step in calculating the cost of connecting newly built housing to a supply network. On the basis of a city development plan, the capacity requisite for the nonstop provision of utility services to the existing and newly built housing is calculated. The figure is estimated on the basis of a municipal construction plan and a forecast for private investments in construction. On the basis of the projected rise in the capacity of utility enterprises due to the construction and revamp of housing specialists from public utility companies, in cooperation with the departmental subdivisions of a city administration, determine the requisite volume and order of construction work, after which a work schedule is drawn up.

The estimated consumption of utility services by newly built housing is used as the basis to calculate the cost of connection. As a result, the required increase in the capacity for the provision of utility services is calculated for each utility service.

On the basis of estimated technological needs, an assessment is made of the funding required to develop the utility sector infrastructure. The financing needs are calculated on a yearly basis, with the volume of financing depending on the planned amount of work for expanding production capacity and expanding and upgrading the existing infrastructure. The assessment of financing needs is a forecast taking into account such factors as projected inflation growth rates, prices for basic construction materials, etc. The analysis of the financing needs for the past several years makes it possible to specify the financing requirements and ensure control over the financing and performance of construction work in the future. The full-scale financing of all the planned work should be the key criterion for the assessment of financing needs. The sources of requisite financing are determined at a later stage.

After calculating the overall volume, financing needs are split into two parts:

1. Financing required to develop a utility sector infrastructure
2. Financing required to upgrade the existing infrastructure.

Such a division makes it possible to specify the prime sources of financing for the expansion and upgrade of the utility sector infrastructure. Determining the sources of financing hinges on who is the end beneficiary of the work performed. Theoretically, a consumer must eventually bear all the costs, since infrastructure expansion has been caused by new housing construction. But infrastructure development also leads to the revamp of the existing supply network. Thus, in order to supply water to new residential areas, it is sometimes necessary to boost the carrying capacity of pipes in the old residential quarters or reduce water leakage from old pipes. Modernization thus raises the quality of water-supply services to current consumers as well. There will be fewer faults on their pipelines and the possibility of water pollution in the pipes will diminish. So, if the current consumers benefit from the upgrade, as well as new consumers in newly building housing, they must also pay for better-quality services.

So, the division of financing needs into the needs to develop the infrastructure and those to upgrade it helps to specify the sources of financing for utility enterprises.

It is essential to correctly estimate the capacity of each source of financing, since, only after making this analysis, it will be possible to determine the practical ways of financing. Let us assume that developers take on the financing of infrastructure expansion. Knowing the amount of requisite funding, its is possible to estimate the overall potential of developers to finance the costs. If it turns out that developers are in a position to compensate for the expenditures on infrastructure development, a rate is levied on connection per unit of capacity. If it appears that builders are incapable to make up for the expenses, a municipal administration must make a decision in principle on co-financing from other sources.

One way of co-financing is the inclusion of the expenses on utility sector infrastructure development in the rates on utility services for households. What is especially important is that the rate should be the same for both new consumers (who will be linked as a result of expanding the infrastructure) and the existing ones. All consumers should have access to the services on equal terms while differentiated rates would mean the violation of the public welfare principle.

This way of co-financing is acceptable if the upgrade of a utility sector infrastructure, sparked off by new construction, leads to a rise in the quality of utility services for existing consumers. Unless the upgrade costs are partially passed on to current consumers, a situation arises whereby the existing consumers begin enjoying better-quality services free of charge. The so-called “stowaway” problem” arises, which may be settled by shifting part of the upgrade costs to existing consumers via rate increases on utility services. The allocation of the financial burden between developers and existing consumers is a complicated issue and, to settle it, account must be taken of the degree of improvement in the services to existing customers, the means of developers to compensate for the upgrade costs and consumer solvency. Limited solvency of developers and existing consumers may be used as grounds for financing the infrastructure development at the expense of the budget. This holds especially true for long-term socially

targeted projects, such as the upgrade of sewage treatment plants. Financing for these projects will likely come from several sources, with the cost partially financed by a developer itself and in part by consumers, with the remainder covered with credits and from the budget. Budgetary funds should be looked up as a last resort. Development of the utility sector infrastructure should mainly be financed from extra-budgetary sources.

The specific character of expanding and upgrading the utility sector infrastructure with the aim of providing new construction sites with utility services lies in the need to make large-scale capital investments, while payments from developers and/or consumers will come only after the infrastructure is in place. In other words, a construction site must be provided with all the necessary supply systems before housing construction gets underway. As things stand now, a utility enterprise is obliged to carry out the requisite work now, while compensation will be forthcoming only after construction is complete and the site sold. The practice of deferred payment necessitates the use of borrowed funds.

Funds may be borrowed by both a public utility company and a local budget. This depends on the policy of financing the development and upgrade of the infrastructure. An option under which a utility enterprise borrows funds has numerous advantages. By securing credit or issuing securities, an enterprise receives the required funds at its disposal and, so, the rate on consumers is raised only in order to service debt obligations. Otherwise, the enterprise would be forced to substantially raise the rate to secure the requisite funding. The borrowed funds are secured against future consumer payments for utility services. There are various concession mechanisms for drawing investments, such as «a BOT scheme»[6]. The way of borrowing depends on conditions at each particular enterprise, those on financial markets, etc.

A local budget may likewise raise funds for similar projects or act as a guarantor for credits allocated to utility enterprises. Funding may be drawn via budgetary loan bond issues, as credits from banks for urban-development projects, etc.. The possibility of applying these mechanisms depends on the level of popular incomes, popular confidence in government and financial conditions in a region and the country at large. Budget may also assist utility enterprises in borrowing funds by acting as a guarantor for credits and corporate bonds.

As the result of projecting the work on expanding and modernizing utility sector infrastructure, calculating financing needs and determining the sources of financing, the rate on connection is formed in line with a declared need for particular utility service for each building. In the same manner, a constituent in the rate for consumers, representing expenses on infrastructure development and modernization, is formed and schedules for the receipt and repayment of external financing are drawn up. So are schedules for the allocation of budgetary resources for infrastructure development and expansion.

6.4. Budgetary Financing

It is necessary to clear up the purposes for which an enterprise receives budgetary financing (to finance the difference in the rates, make up for the privileges on payments for utility services or pay for housing and utility services to public-sector organizations, etc.) and whether the financing is provided on schedule. An analysis should also be made whether the enterprise is compensated for its lost income. Availability of an agreement between the enterprise and a local government body on compensation for the gap in the rates for various categories of consumers and/or compensation for the privileges awarded on payments for housing and utility services is a factor contributing to the creditworthiness of an enterprise.

Availability of outstanding debts receivable from a municipal budget reveals the extent to which a municipal budget honors its financial obligations to utility enterprises. The sum of such debt

[6] BOT – (Built-Operate-Transfer) – a concession scheme under which a private operator first builds a utility sector facility at its own expense, operates it for a specified time period and then cedes it to the state.

may sometimes be comparable to the amount of a municipal budget. The large overdue debt of a municipal budget is factor that negatively affects the creditworthiness of a municipal enterprise.

In addition to determining the availability or lack of a municipal budget debt to a utility enterprise, it is important to have procedures for determining the amount of financial obligations of a municipality to a utility enterprise and for control over the timeliness and fullness of money transfers from the budget. The existence of such procedures is factor contributing to the creditworthiness of a utility enterprise.

7. Opportunities for the public-private partnership in the utilities sector

International experience of the recent decades has proved that the public-private partnership is highly advantageous for revamp of the utility service systems of many countries. It is beneficial both for the authorities (state and municipal ones) and private business. Along with that, the experience has demonstrated that the public-private partnership cannot and should not be a panacea for all occasions secured against whatever expenses.

It would be utopian to believe that the public-private partnership may represent something like "government of equality and harmony", which its state and private participants would achieve thanks to their wisdom and experience. Nothing of the kind. Both international and Russian experience demonstrate to believers in such utopia that in fact it comes down to invention of a wheel.

However, this fact should not kill the authorities' desire to develop this type of relationship with business. The public-private partnership should be perceived as one of the most efficient mechanisms for solving various complicated problems arising in the area of utility service and building the infrastructure under financial constraints. As a rule, this effort requires resolute and consistent approach on behalf of the authorities, and significant capital investments from private business for a long period.

The term "public-private partnership" itself is nothing but a new expression to signify the totality of forms of interaction between the state/municipal authorities and private businesses in an effort to fulfil the utility service tasks. These forms can include various systems of infrastructure concessions introduced in France since the 16th century as well as the forms developed at the end of the 20th century in many countries of the world and adapted to different local conditions through to the extreme one – complete privatization.

Without plunging in unnecessary illusions, it is required to clearly conceive possible benefits the public-private partnership can provide. It is extremely important to find those common points of contact, which (due to the public-private partnership) can ensure implementation of various small- and large-scale, simple and complicated projects that are so needed now for the society.

7.1. Main Advantages of the Public-Private Partnership for Authorities

When the tasks of utility service for population are discussed, it should be remembered that according to the Russian legislation this is the area of responsibility of the local government bodies or municipal authorities, and municipal authority in Russia does not make part of the state government system. Therefore, it is more correct in the Russian conditions to speak about the municipal-private partnership. Since the "public-private partnership" term is widely used in international practice, then we shall also apply it in legal situations close to the Russian reality, keeping in mind, however, that it is conventional to some extent.

In the utility sphere, the public-private partnerships are by nature the partnerships between the municipal authorities and enterprises investing in the private sector with a view to efficient operation or construction of utility infrastructure facilities and utility systems. The public-private partnership means not only private sector involvement in financing of investment projects based on the revenues received from the utility infrastructure operations, but also attraction of knowledge and experience to the private sector management for more efficient long-term management of utility systems. Therefore, the essence of the public-private partnership contains more notion of efficient services provision that that of simply funding the infrastructure's investment requirements.

7.1.1. Financial and Budgetary Benefits

In the majority of countries worldwide, including Russia, financing of projects intended for the development and improvement of utility infrastructure performance occurs primarily at the expense of budgetary funds. Scantiness of these funds and enormous investment needs of the sector create exigency to borrow private investments. Expenses on these investments service can be in most cases shifted off to service users, this would not lead to significant payments increase due to the lengthy investment repayment period. Moreover, the utilities infrastructure allows for implementation of numerous profitable financial projects connected with the increase of service provision efficiency and reduction of non-productive outlays which do not require increase of users' payments at all the, but vice versa, are aimed at reduction of payments in the medium-term.

Consequently, involvement of private investments into the sector decreases the budget burden, the released funds may be directed to other purposes such as education or public health service.

In addition to the minimization of budgetary expenditures, utilization of efficient schemes of the public-private partnership allows to optimize project solutions and to increase the profit margin on investments as compared to the budgetary financing schemes on repayable basis. These benefits can be expressed in the following components:

- Improved integration and coordination between phases of design, construction and maintenance of the object when signing the contract for implementation of all three phases;
- up-to-date engineering solutions and efficient management;
- emphasis on the quality of service for user customers;
- the approach intended to minimize overall project expenses for the entire contract term (investments – construction or updating – operation);
- effective capital utilization and receipt of subsidiary earnings.

The public-private partnership projects in the utilities sector have almost in all cases a high risk level due to involvement of large financial amounts, uncertainty as regards to expenses on updating and operation of utility systems (particularly, because these systems, primarily networks, are located underground) and uncertainty of revenues. The partnership establishment scheme is based on balanced distribution of earlier discovered risks and allows to hand over a certain share of them to a private operator, which is capable to control them better than the authorities in charge. Therefore, within implementation of a specific agreement the authorities can significantly reduce the risks (although in the majority of cases it is expedient that the authorities assumed some of the risks).

As a result, establishment of the public-private partnership allows the authorities to better assess the real project spending. The precise and objective appraisal of project costs is needed for the private company – executor of the project – to raise funds in the form of invested capital and loans. Such appraisal allows to constrain essentially the deviations from the bottom-line cost of the project, which happen everywhere when budgetary investments are involved. Thus, binding the private partner by respective obligations allows from the very outset to avoid underestimation of real project spending and at the same time to adhere more accurately to the project costs and schedule times, as the operator and investor bear responsibility accordingly. The real project costs also sets an example for implementation of following similar projects.

7.1.2. Social and Economic Benefits

As utility services provision is usually of public nature, therefore, the state-public partnership in this sphere should inevitably have social and economic character.

The principle of the state-public partnership notion is based on the fact that the authorities are responsible for the services rendered to the citizens, however, it is not necessary that the authority directly executed the service provision process or was responsible for the investments required for rendering qualitative service. Thus, due to the state-public partnership, the authority can be released from the concerns about service provision process management and investments, and can focus on control over the quality of delivered services, while the private operator (whose profession is to execute such control) will look for ways of its performance optimization to ensure the required quality of service.

Since the state-public partnership project is assessed as socially important, this allows to accelerate its implementation, particularly as compared to budgetary investments, which often breaks the project time-scale. Accelerated implementation of such projects can provide noticeable benefit for the local community in the form of improved quality of services, and can also bring political dividends to the local authority.

By accelerating implementation of projects in the infrastructure sphere, the state-public partnership promotes updating the economy of the country in general. Increased availability and quality of infrastructure services raise investment appeal of the territories and facilitate new technologies introduction. Consequently, tremendous indirect benefits appear for the country's economic development.

Private financing involvement in the utility infrastructure area also has positive effect from the point of view of macroeconomics of developing countries. It promotes entering international financial markets, facilitates relatively inexpensive international capital flows, reinforces the country's image in these markets and promotes arrival of major operators, which have privileged access to these markets. Such partnerships also contribute to the development of local financial markets, as they form mechanisms of the long-term low-risk investing. With proper government support, they can act as development and updating catalysts for local financial markets.

Involvement of private business in utility systems management allows to recruit highly skilled specialists in this sphere – engineers, management specialists, financiers, including those who possess extensive international experience. This experience should be passed from private business to the authorities, both in the course of utilities service operations and in the form of consultation service. Technology updating and experience transfer affect local enterprises participating in the project and promote raising the level of local personnel's skill.

Private companies, having undertaking responsibility for utility systems management and development, redistribute the roles of authorities allowing them to focus their management and budgetary resources on other sectors of service provision to the population, first of all – on social tasks.

At the same time, proceeding from monitoring of the private operator's activity, the authorities can better determine the need for organization of utility service and related expenses. They can make realistic assessment of the optimum scenario for increasing the quality of utility service provision, in conjunction with economic and social consequences.

Involvement of the private sector can allow to solve ecological problems. Rapid development of utility services (first of all – sewerage and waste processing systems) improves ecological situation in a specific territory. In addition, as regards to a number of utility service sectors, involvement of large-scale companies that are capable of drawing significant investments, provides access to the most up-to-date environmentally appropriate technologies. Such companies can and should pay serious attention to ecological requirements (noise, contamination, etc.). The effort intended to establish partnership between the municipal authority and private business promotes finding solutions which agree in terms of requirements with the quality of service, with economic potential of business and users and with ecological aspects.

7.1.3. Political Benefits

Political benefits of the partnership are not that evident at first sight but they are rather significant.

The most important thing is that by shifting the municipal authority's focus of action to the domain of control, the public-private partnership allows to transform its role from the body that manages economic activity of utility enterprises to the administrative and supervisory body. That gives an opportunity to introduce market principles of management into the utility sector, to reduce costs, to react more flexibly to consumers' demands. With efficient partnership organization, the authority acquires important political benefit, as it acquires improved quality of critical services and at the same time it has the opportunity to focus resources on resolution of other important tasks. Nevertheless, this benefit cat turn underside, particularly if the authority does not work properly to determine its goals in the utility sector development, does not prepare or adapt its structures to establishing partnership and, most important, does not perform efficient control over the partnership.

It is important that organization of the public-private partnership allows to involve private management and private investors without alienating the public infrastructure to private property. **The public-private partnership is defined as delegation of the utility services provision function to the private sector for a certain period.** Authorized officials reserve to themselves the main role in defining the goals of utilities service and in providing control over its execution. And finally, the partnership process is reversible: either upon the expiration of the period stipulated in the contract or in exceptional circumstances, in case of conflict within the contract validity period the utility systems pass on to the jurisdiction of the local authorities. Application of the public-private partnership allows to preserve the "public" essence of utilities service.

The above social and economic benefits influence both economic and political stability. Contracts are signed for the terms exceeding political mandates' periods. Therefore, utility service becomes less sensitive to direct and indirect effects of election campaigns. Besides, in case of improved quality of utility service without increasing utility costs, the public-private partnerships lead to improvement of economic situation and social stability.

Figure 7.1. represents the scheme of transition to public services provision through application of the public-private partnership mechanisms.

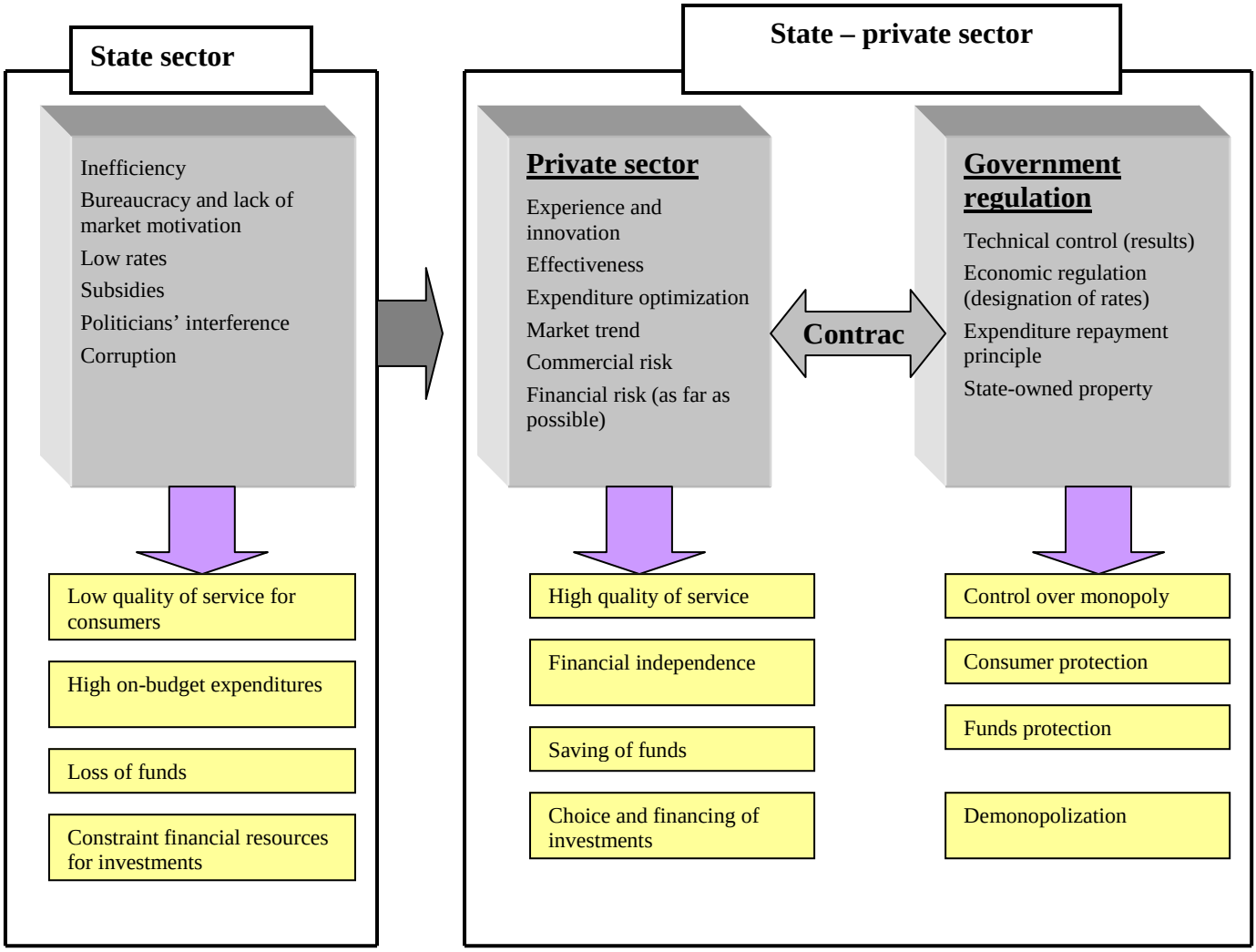


Figure 7.1. Transition to the public-private partnership

7.2. Forms of the Public-private Partnerships

The main substantial element of the public-private partnership is signing the agreement between the authorized government body and a private company. According to competent French experts' opinion, any state structures engage private companies in goods and service delivery in some form (at the least, in the form of the state structure acquisition of some production).

Like in any agreement, in the agreement between the state structure and a private enterprise, each of the partners is trying to derive benefit from the deal. The authority is trying to increase as much as possible the social and economic consequences of the project while minimizing state investments (i.e., to derive maximum benefit from the project as compared to the project costs). The aim of the private business is to increase its revenue as much as possible, i.e. to raise profitability of invested capitals.

These aims have common grounds (project success) and elements of divergence (profit distribution). Time and money are the leading factors in negotiations and decision making on establishment of partnership. These discussions become apparent in structuring of the project. The structuring is based on the "risk distribution" notion.

Risk distribution is the aspect that distinguishes the public-private partnership as compared to traditional state form of service provision. It can take a variety of forms – from a simple contractor's agreement to complete construction and commercial risk.

When considering the public-private partnership agreements, special attention should be paid to three risk factors:

- risk of failures in the infrastructure management and serviceability maintenance system;
- risk of consumers' non-payment for the services received (risk of failures in the consumer payment collection);
- investment risk (risk of rate regulation and budgetary policy).

Depending on these risks distribution, some sort of the public-private partnership agreement is signed.

Generally, to ensure the equilibrium of interests in project implementation, business has to prompt and sometimes to dictate the project per se. However, it should be kept in mind that any risk distribution requires larger or smaller compensation or indemnity. Risk sharing does not represent in this connection free surrender of public property from the state or municipal partner to the private one, it is rather a better way of risk distribution between the partners, each of them being able to better address its own risk. For example, operational or construction risk may be in its larger part controlled by the private sector. Consequently, guarantees from this risk will have low cost for the partner (the partner will do that in a concealed way, taking the risks into account in the operation or construction costs). Instead, commercial risk of complete payment for delivered services in the water supply sector is extremely high in many developing countries, and private business is not ready to assume it. The risk is often assumed by the authority, this can lead to budgetary subsidy for the services. If the project is of large social and economic importance, this can be justified. Ultimately, risk distribution is not a saving decision, it is only a mean of project optimization both in terms of technical parameters and quality of operation, and in terms of cost of protection from inherent risks.

The last decade of the 20th century was marked by global development of the public-private partnership in the utility infrastructures sphere. Only at the international level, more than 500 partnerships were established, in the framework of which private business raised more than $100 billion, mainly in the telecommunications, power engineering and water supply sectors.

In the general case, several forms of the public-private partnership are distinguished in the worldwide practice:

- service contract (contract for services);
- management agreement;
- lease;
- concession, including the arrangement known as **BOT** (building, operation, transfer);
- complete privatization, including the **BOO** (building, operation, own) arrangements.

These forms of partnership differ by the level of risk distribution between the partners. The risk is growing from the first form toward the last one, along wit that management and investment responsibility of the private sector increases accordingly (Figure 7.2).

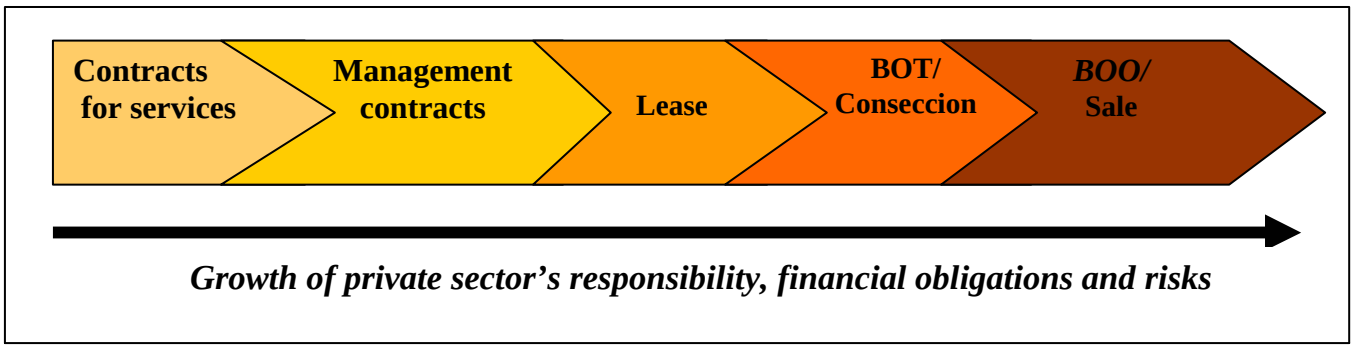


Figure7.2. Changes in private sector's role depending on the form of partnership

Below is a more detailed review of each of the above forms of public-private partnership.

7.2.1. Service Contracts

The aim of entering a service contract is to reduce the cost of services delivered by the state via a tender where enterprises and organizations of any patterns of ownership can participate.

The term of such contract is usually limited to one through three years.

Service contracts are prevalent in the sphere of utility services. In fact, all contractor's agreements are service contracts. In the practice of utility enterprises operations in Europe and a number of other countries, the share of activities executed on the contract basis exceed 50% in the service price structure. Typical contractor's work is equipment and networks overhaul, installation, maintenance and reading device data, and consumer billing. A good example is the water supply enterprise in the capital of Chile – Santiago, the enterprise has service contracts for network repair and recovery, computer services and engineering consulting. Only these contracts in the operational budget of the enterprise make more than 30%. The distinctive feature of these service contracts is the fact that the enterprise has at least two contractors per each type of the contract. This particular approach – simultaneous availability of several contractors for activities of the same type – allows to form real competitive relations and to achieve significant reduction of the contract value.

In Russia, utility enterprises are traditionally trying to perform maximum of activities on their own, the share of contractor's work does not exceed 20%. This is the evidence of underdeveloped market relations and signifies considerable reserves for reducing expenditure.

At the same time, such agreements can not be considered a form of the public-private partnership, as they are entered by two commercial structures. Service contracts in the water supply area in the United States make an interesting exception. Since in the majority of cases water supply in the United States is performed by the municipal administrations divisions – water supply departments or agencies, then by all formal signs, the agreements made with these structures comply with agreements of public-private partnership.

In Russia, various types of activities and services performed in the framework of government contractual work or municipal order can serve the examples of the public-private partnership. Payment for these activities and services is effected through budgetary funds, these contracts are normally distributed on a competitive basis. At the municipal level, these service contracts can comprise activities for improvement and planting of greenery in settlements, road repair, etc.

In general, service contracts were rather widely applied to optimize budgetary expenditures and to improve quality of state or municipal services, although a lot is still to be done in this area. However, in this case partnership between authorities and business is rather relative. Private business plays an auxiliary executive role in this instance. If we turn to the three main risk factors (risk of management, payment and investment) mentioned in the last section, we shall

easily make sure that none of these types of risk passes on to private business in case of provision of state (municipal) services with utilization of the service contract.

We consider the service contract as a very important instrument for improving the quality of budgetary services provision, but it is only a prerequisite for forming real partnership relations between the authorities and business. Therefore, the study will be focused on other types of partnership.

7.2.2. Contracts for Management

The aim of the contract for management is to improve the management of some state (municipal) assets or structures through partnership with private business.

In this case, typical control utility infrastructure system facilities (for instance, the water supply system). There are examples of sighing management contracts in the social sphere – education, public health service, and culture. In the United States, there exists a practice to hand prisons over to private management. If it comes down to social projects, then the partner to the authorities is usually private nonprofit organizations, but not business.

The private partner normally works upon the following conditions in the framework of the management agreement. The partner gets a fixed fee or its fee is determined by achievement of the objectives stipulated in the agreement. In practice, a mixed form of payment (including a fixed and variable component) is most frequently applied.

Management contracts do not include investment obligations. Responsibility for investments lies with the authorities.

Thus, in case of management contracts, the authorities pass to the private partner the responsibility for systems managing, and consequently, the risks connected with the system serviceability provision. However, the responsibility and risks for delivered service payments and investments in these systems remain with the authorities.

Management contracts are usually entered for three to five years, and they are often considered as a preliminary stage for establishing more profound forms of partnership and transition of large responsibility to private business.

Typical difficulties arising in signing management agreements are connected with determination of correct realistic management objectives.

The first problem is that reliable data, for example, on the water supply system condition is normally insufficient to determine correctness and feasibility of any management objective. Therefore, this is always a matter of some compromise between the parties.

The second problem is control and measurability of the goal achievement. Apparently, control over the goal achievement should be as simple and inexpensive as possible and comprehensible for both parties. The best way to solve this problem is to create the monitoring system to track the achievement of objectives of the management contract, in the framework of which achievement of objectives can be judged by the way certain fixed number of indicative parameters is changing.

An example of the management contract in the public health service area is the contract for hospital management in Kampuchea. The international tender for hospital management was carried out among non-governmental non-profit organizations in 12 regions of the country. The contract term was 4 years. The main goals were achieved as a result of the contract execution and that allowed to improve the situation in public health service in the country on the whole and proved that the private sector is more effective as compared to the public sector existing in Kampuchea for provision of public health service.

7.2.3. Lease

As the public-private partnership is being discussed, then the analysis of lease agreements will deal only with those agreements that are targeted at joint actions for provision of some services, the official authority for provision of which is assigned to the government or municipal power. The most typical examples of such agreements are the lease in the utility sector. At the same time, this section does not address lease of state-owned or municipal property, for example – living quarters or non-residential premises for commercial purposes, as these agreements are not partnership ones, i.e. are not aimed at solving joint tasks.

The aim of utility infrastructure facilities lease is to improve the quality of delivered utility services through involvement of private business to the infrastructure management.

A private operator (lessee) gets under the lease the property complex – utility infrastructure facilities – for management and maintenance for 15 years. It is possible to hand over to lease not only the property complex, but also a juridical person, which had been responsible for provision of services before the lease was signed. The responsibility is handed over to the lessee not only for the system management but also for collection of payments for delivered services. The authorities retain the responsibility for capital investments which can be fully or partially effected at the expense of rent.

Thus, under the lease two of the three discussed risks (risk of management, payment and investments) are handed over to a private operator – namely, the risk of infrastructure system management and the risk of service payment collection.

Since in the overwhelming majority of utility infrastructure lease cases, the local authorities have as their purpose only increase of service quality but not rise in their prices or generating their own additional revenues, the rent is often set up in the amount of depreciation charges. Moreover, the practice is rather prevalent to delegate from the leaser to the lessee the responsibility of making improvements in the utility systems within the scope of the rent, i.e. depreciation charges. Thus, the lessee can be made responsible for limited investment obligations.

Preparation of the lease agreements faces the same main difficulties as the preparation of the management contracts – i.e. correctness of the chosen objectives and the control system to track achievement. Additional difficulties are connected with the rates regulation issues. As the operating costs of a private operator should be covered by the collected consumer payments, the rates should be formed in such a way that they at least covered these operating costs. Besides, the rate policy should be established in such a way that it would form the private operator's economic interest in reduction of overhead.

In addition, if investment obligations are partially handed over to the lessee, it is very important to ensure effective coordination between the authorities and the lessee in the area of investment planning. As a rule, the following differentiation is followed in this case: the private operator is responsible for capital assets recovery, and the owner – leaser – is responsible for their updating and development.

A good example of lease can serve the ten-year leasing agreement for water supply enterprises in Guinea. The water supply systems in its capital – Conakry and in sixteen other cities were granted on lease to a private company. In this case, responsibility for capital investments remained with the state structure.

As a result of agreement execution, the quantity of connections doubled, the share of instrument accounting increased from 5% to 100% , the share of population coverage by the water supply services grew from 30% to 50%. To achieve this purpose, the rates had to be raised twice. The overall collection of funds for services increased by 10 times.

7.2.4. Concession Agreements

The aim of handing over utility infrastructure facilities to concession is to improve the quality of rendered public services through involvement of private business to infrastructure facilities management and financing. Public services in this case imply the services that due to the legislation or traditions are predominantly provided by the state or municipal sector. Most often, these types of services include:

- utility services (heat supply, water supply, drainage);
- power industry, including hydro-electric engineering;
- transport services (motor roads and railways, sea and air ports);
- garbage recycling.

It is worth noting that the key reasons for public nature of rendering these services is provision of their availability and monopolistic character of production.

Under the concession agreement, the private operator gets in ownership the state or municipal infrastructure facilities with the purpose of providing public services of the quality stipulated in the agreement. The important aspect of the concession agreement is that the concessionaire takes certain financial obligations on investing in the infrastructure systems. Thus, under the concession agreement, the private business assumes all three groups of risk discussed earlier:

- risk of infrastructure system management and provision of its serviceability;
- risk of consumers' payment for received services;
- risk of investment.

The main substantial factor which determines expediency of signing concession agreements is the necessity to involve large investment resources in the public infrastructure development, budgetary funds being limited.

Apparently, interest of business in such contracts is possible only in case if it can ensure with minimum risks the required profit rate on laid-down capital for repayment of investments. Therefore, the concession contracts should be entered for a rather lengthy period to ensure the repayment of investments. The term of concession contracts varies from 10 to 30 years and depends on multiple factors. The most important is the period of pay-back of investments put up by the concessionaire in the property handed over to concession. The terms of concession agreements applied in the international practice are shown in Table 7.1

Table: 7.1. Terms of concession agreements applied in the international practice

Property transferred to concession	**Term of concession**
Turnpikes	20-30 years
Power industry	15-20 years
Hydro-electric engineering	20-30 years
Water supply and drainage	15-30 years
Hard waste processing and disposal	10-15 years

The western countries' practice uses several types of concession agreements.

Classical and the most frequent concession is the agreement under which the state (municipal) property is handed over for management to a private company for a fixed period. Under the contract, the concessionaire assumes all investment and operational risks connected with the

infrastructure facilities management. The concessionaire is obliged to ensure a certain level of quality of public services rendered to consumers. In the course of preparing the concession contract, the parties determine the need in investments, payback period, period of validity of the agreement, rights, obligations and responsibilities of the parties, terms of financing of the contract execution and other financial conditions, conditions of indexation and revision of prices for the services provided by the concessionaire and a number of other issues. The concessionaire periodically accounts to the government (municipality) for the results of its activity within the reporting period. Upon completion of the concession term, the property returns to the owner.

As was mentioned earlier, the international practice utilizes a special type of concession **BOT**-agreements[7]. The concept of these contracts is that a private operator undertakes the obligations as regards to the infrastructure object construction, to its operations within a sufficiently long term of agreement, and to handing over this object to the state or municipal form of ownership upon completion of the concession agreement validity period.

Apparently, the main risk factor for the private business in the framework of the concession agreement is the risk of investment return. This risk can be minimized, first of all, through the maximum formalization of the rules and procedures of the private operator's rate regulations within the concession agreement validity period. That is extremely difficult to fulfil, taking into account the duration of the contract term. Therefore, the practice of French companies involved in the water supply area includes the notion of open concession agreements. The open concession agreements make provisions that within the period of contract validity, revisions are made several times (for example, once in 5 years) regarding the private operator's investment obligations, rate levels and rules of changing the rates, necessary for investments payback.

The review of the international practice for concession agreements will provide examples of concession agreements implementation in the utility services provision sphere. This section cites as an example the sea port concession in Buenos Aires (Argentina). The authorities faced the task of decentralization and disaggregation of the port activity through building up new moorage and development of harbour service system. Within the initial period of the agreement, since 1991 through 1997, the freight turnover (cargo) of the port increased by more than twice; labour productivity rose by more than three times. Duration of containers' stay in the port reduced by twice. On the whole, the project was successfully implemented.

7.2.5. Complete Privatization

All previously reviewed contracts can be considered as some stages in the public service provision area. In essence, these contracts dealt with phased privatization of the service provision process management and investing of the process. Complete service provision privatization can be also considered an instrument of the public-private partnership, in this case not only management and financial activity is handed over to private business, but also capital assets, which are technologically necessary for service provision. Such privatization can take place through complete or partial sale of property rights for the infrastructure facilities. However, the authorities can retain part of share property in the form of share holding of the joint-stock company.

Such decision can be justified when the private sector has:

- firstly, substantial experience in similar systems efficient management;
- secondly, extensive investing capabilities for the purchase of the right of property for infrastructure facilities.

[7] For details see page 10

One more obligatory condition for privatization of infrastructure systems, which are natural monopolies, is availability of efficient rates regulation system that allows to reach reasonable compromises between wishes of monopolies and capabilities of consumers.

A special case of privatization is implementation of the **BOO**-agreement[8]. Such an agreement elongates the privatization process. Under the agreement, the private operator builds up the infrastructure facilities and manages their operation, but the property right for these facilities finally passes to the private operator only upon completion of the term of contract. In case of early termination of the contract, the property can be redeemed at depreciated cost by the government bodies which concluded the agreement.

Examples of privatization in the utility area may be the sale of the controlling stock of the Tallinn water supply enterprise to a large international operator at the international contest. This sale brought more than 50 million euros to the city budget.

7.2.6. Problem of Contract Selection

Various forms of the public-private partnership distribute differently the risks and responsibility between the authority and business (Table 7.2).

Table 7.2. Forms of the public-private partnership and risk distribution

Risks / **Forms**	**Management and operation**	**Service payment**	**Investment**	**Assets ownership**
Service contract	authority	authority	authority	authority
Management contract	private operator	authority	authority	authority
Lease	private operator	private operator	authority	authority
Concession	private operator	private operator	private operator	authority
Privatization	private operator	private operator	private operator	authority / private operator

Figure7.3. shows in diagram form the parties' responsibilities changing upon the contract form change.

The major practical interest is provoked by the comparison of concession agreements with the lease and management agreements. Evident motivational advantages of the concession can be picked up from this comparison. For example, if the company assumes the risk of investments, it will be interested in saving water by fighting leakage not only for the purpose of decreasing operational expenses, *but also for decreasing of capital expenditure* (in view of scantiness of capacity). **In general, combining investment and operational activity gives additional benefits in the form of guarantee of integrity and *better coordination*, and also contributes to data exchange**.

[8] For details see page 10.

In fact, if we are discussing the *lease*, division of investment and operational activity can make it difficult to stimulate the contractor to maintain the capital assets in good condition. Should the contract lack stipulated requirements to the capital production assets to be returned at the end of the contract term, the enterprise will have no incentives for their solicitous operation[9]. Stipulation of such requirements in the contract and check-up of their observance leads to considerable difficulties.

Concession provides more powerful incentives for adequate maintenance of capital assets, as the operator is at the same time the investor. However, it should be admitted that these incentives grow much weaker with the approaching end of contractual term, this fact also causes the necessity to include in the contract minimal requirements to the capital assets to be returned at the end of the contract term.

Benefits from better coordination arise not only *at the stage of operation*, but also *at the stage of construction*. If the enterprise involved in the construction of the infrastructure is aware that it will have to deal with maintenance (and even management) later, it will not attempt to complete the work quicker or apply the cheapest solutions in the construction, for which it will have to pay expensive in the course of operation and maintenance.

It may seam that the best solution for municipality is to hand over maximum of responsibility and risks to the private sector. However, following this logic, other forms of management would not have taken pace at all. The world experience demonstrates that this hypothesis is ungrounded.

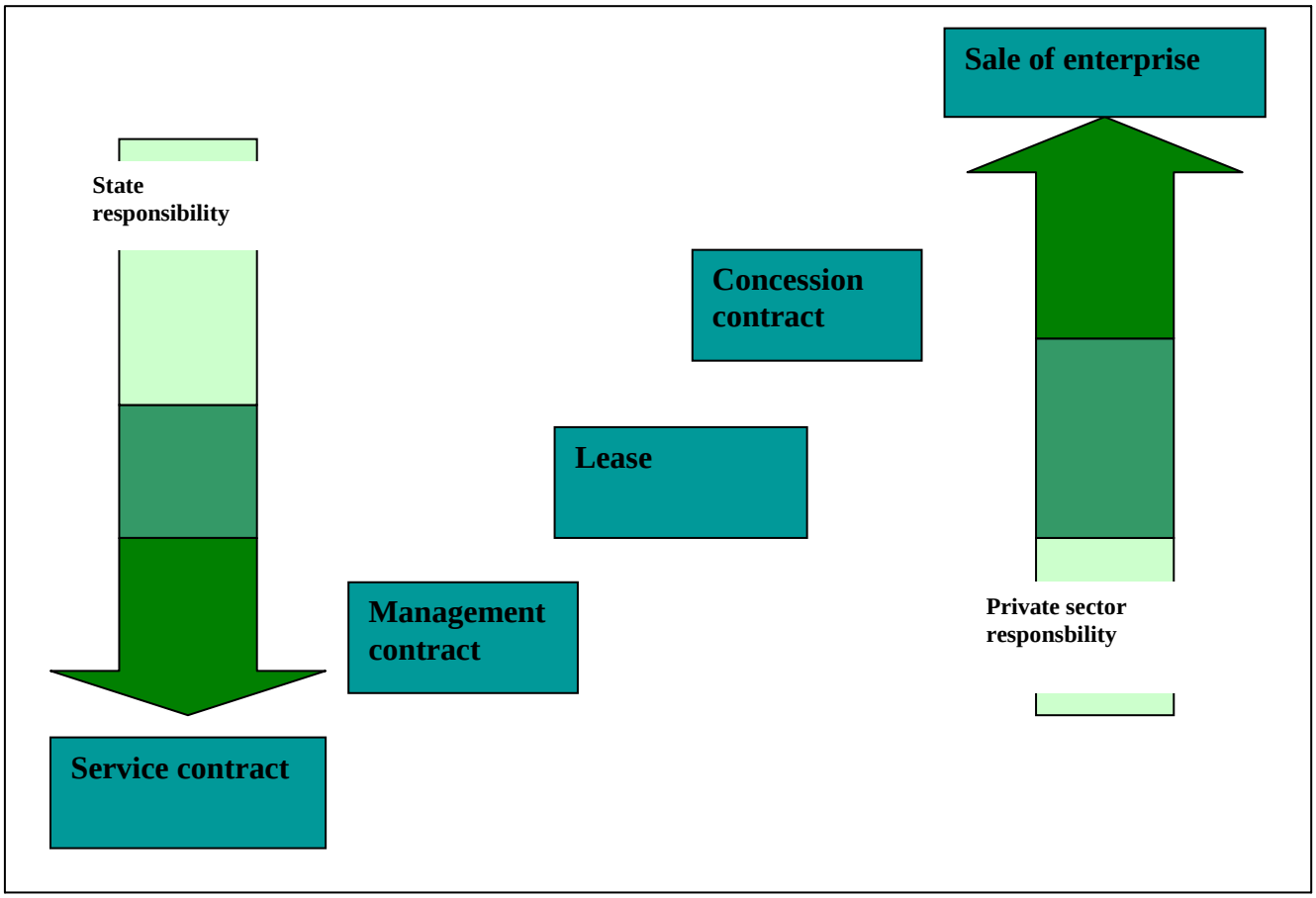


Figure 7.3. Forms of the public-private partnership and change of parties' responsibility

[9] From the efficiency point of view, it means that inadequate maintenance of capital assets reduces their useful life and will be compensated later by higher expenditure on their replacement. As was mentioned in Chapter 1, in Latin America each dollar which was not spent on adequate maintenance of basic production assets accounts for $3 to $4 of expenditure on *premature* reconstruction. All that, in turn, makes the facilities more expensive and consequently reduces service availability.

Conclusion

The report presents a methodological approach to the establishment of budgetary mechanisms for long-term investment planning and raising investment resources from non-budgetary sources, which are needed to improve quality of public services (i.e. utility services, in the first place) within the frameworks of public-private partnerships.

The implementation of the suggested approach requires further improvement of the legal and regulatory base for both the public and private sectors. In particular, further improvement of inter-budgetary relations and stabilization of municipal formations' revenue base are required to achieve these purposes.

To attract private investment into the public sector and ensure development of public-private partnerships, further development of the concession and rate-regulation legislation is required.

For this reason, rapid implementation of the methodology developed will hardly be possible. However, in principle it will be possible to implement it within the frameworks of the government policy aimed at strengthening municipal administrations and promotion of effective public-private partnerships.

Moreover, many elements of the proposed methodology can already be implemented today, as is shown in the Annex to this report. It was political aspects of the proposed methodology which were actively discussed at the Ural Cities Conference of Municipal Formations and the workshop organized for representatives of the Yekaterinburg city administration.

Unfortunately, the project's schedule made it impossible for those who implement the project to take part in the development of the investment budget for 2004. However, we believe that the content of the report will be of essential importance for specialists of the Yekaterinburg city administration and other municipal administrations.[10]

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