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Russia
Fiscal Costs of Structural Reforms

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ACRONYMS AND ABBREVIATION

CEE	Central and Eastern Europe
CIS	Commonwealth of Independent States
CPI	Consumer Price Index
DDO	Deferred Drawdown Option
EU	European Union
FFP	Fully Funded Pillar
FFRFR	Federal Fund for Regional Fiscal Reforms
GDP	Gross Domestic Product
Gosstroi	Russian Government Committee for Construction and Housing Policy
HBS	Household Budgetary Survey
HUS	Housing and Utility Sector
IET	Institute of Economic Transition
IFIs	International Financial Institutions
IMF	International Monetary Fund
INDEM	Information for Democracy Foundation
IUE	Institute of Urban Economy
MOEDT	Ministry of Economic Development and Trade
MOF	Ministry of Finance
NDC	Notional defined contribution
NGO	Non-Government Organization
NOBUS	National survey of household budgets and participation in social programs
NPV	Net-present Value
OECD	Organization for Economic Cooperation and Development
PAYG	Pay-as-you-go
PIT	Personal income tax
RLMS	Russia Longitudinal Monitoring Survey
Rosstat	Russian State Committee for Statistics
SIGMA	Support for Improvement in Governance and Management
SOE	State Owned Enterprise
TACIS	Technical Assistance for the Commohwealth of Independent States
USA	United States of America
USAID	U.S. Agency for International Development
USE	Unitary State Exams
ST	Unified Social Tax
VAT	Value Added Tax

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EXECUTIVE SUMMARY

1. This Report discusses the challenge of budget financing of core structural reforms within a broader framework of fiscal management reforms in Russia. It argues that explicit financing of structural reforms is fully justifiable because these are the investments in the institutional infrastructure with a high rate of return. In addition, Russia currently appears to have a fiscal room for some incremental spending. However, the number of simultaneous reform initiatives should be kept limited to ensure that the accumulation of new liabilities do not undermine fiscal sustainability. In addition, the Government's commitment to explicit reform financing should be accompanied by additional steps in strengthening the fiscal management system. The adoption of formal fiscal rules could strengthen the government's ability to manage external shocks, as well as provide budget support for the reform process in a predictable and affordable way.

2. The Report develops estimates for fiscal costs of three key structural reforms (in civil service, housing and the pension system), reviews the feasibility of different reform options, and provides recommendations related to their planning and sequencing. For each of the structural reforms the Report discusses various scenarios, which altogether cover a broad range of possible options for the Government with quite different fiscal implications. The models used for the preparation of this Report represent an easily adaptable tool that government agencies can use to develop their own fiscal cost projections for alternative reform scenarios.

3. The Report treats the key structural reforms as medium-term projects/programs, thus suggesting that implementation of these and other structural reforms can be put in the context of medium-term expenditure framework (MTEF) that evolve in Russia. Thus, the proposed approach to fiscal costing of the reforms is in full concord with the recent Government's initiatives on introducing strategic planning, MTEF, and elements of performance budgeting.

Fiscal Costs of Civil Service Reforms

4. The report develops a general framework for costing-out the direct fiscal effects of various reforms in the area of public administration. It suggests that broad reforms in the core government administration and in the civilian public sector at large may be implemented within five to seven years but should be differentiated by the scope of pay adjustment in various sub-sectors of civilian employment, closely monitored for non-wage expenditure growth, and complemented by significant staffing adjustments in the civilian public sector as well as by at least some staff reductions in the core government administration.

5. Implementation of such reforms would require additional budget financing as compared to the 2003 expenditure levels, but fiscal costs could be sustained within a reasonable range. Under the most realistic set of assumptions, incremental costs for a consolidated budget would amount to 1.2–2.3 percentage points of GDP by the end of the reforms as compared to 2003. Moreover, about two-thirds of this increase has already been incorporated into the 2004 budget, reflecting the pay adjustments in the core government administration and the civilian public sector introduced in late 2003. Such additional financing would provide for a major reduction in the pay gap between the public and private sector, especially for senior government officials.

6. A more detailed analysis of the incremental fiscal costs suggests that the costs to the federal budget would amount to about 40–45 percent of the total cost increase, while the rest would become the responsibility of subnational budgets.

7. While additional spending on public administration is necessary to ensure better quality of policymaking and public service delivery in the country, it is not sufficient. Successful implementation of the budget process reform, introduction of performance budgeting, and creating incentives for better performance in the public sector would also be needed.

8. A significant adjustment in employment levels is critical to make the civil service reform sustainable. Even moderate pay adjustments undertaken without a cut in staffing would make the reform fiscally unaffordable. It is expected that by 2010 average employment in the civilian public sector would decline by about 25 percent. Making the Russian government leaner also seems to be consistent with the implications of the existing demographic trends.

Fiscal Costs of Reforms in Housing and Communal Services

9. The report analyzes the potential fiscal and social impact of advancing cost-recovery increases in the housing and utility sector (HUS) under different scenarios. It argues that in the current environment of high growth in household incomes, by 2006 it would be possible to attain 100 percent cost recovery in tariffs with the simultaneous elimination of all quasi-fiscal cross-subsidization and the adjustment in domestic energy prices. Moreover, the reforms in residential housing could be made budget neutral in the medium term and they would bring considerable savings in the long term. However, the high sensitivity of results to income dynamics suggests that the Government should establish an efficient monitoring system to track the affordability of tariff increases for the population. The Report also emphasizes the restructuring of financing mechanisms in the sector to ensure a higher degree of accountability of both municipal governments and service providers.

10. The baseline reform scenario suggests that as a result of proposed reforms the real unit cost to households in the HUS would increase by about 90 percent relative to the prevailing 2002 level. However, given the tariff adjustments that already took place in 2003-04, it is expected that future cost increases would be limited on average to about 40 percent relative to their levels at the end of 2004.

11. An increase in energy and utility tariffs would make the delivery of utility services to budget organizations more expensive by about 0.7-0.8 percent of GDP per annum. Some of these costs could be compensated through increased taxation of energy and utility providers and, later on, through rationalization of the public sector. However, in the medium term, a fiscal gap in public sector financing of 0.4 percent of GDP could emerge as a result of tariff increases in HUS and energy.

12. The analysis suggests that elimination of housing privileges could be affordable for most of the current lgoty recipients, while the housing allowance program would be capable of taking care of those who face a high housing cost burden. However, given the political sensitivity of entitlement reforms, there may be a case for reforming lgoty in a more gradual way. As a starting point, the Government should monetize the lgoty to transform them into explicit subsidies and link them directly with the system of personal social accounts. Moreover, to reduce political costs, phasing out lgoty should be coordinated with other

structural reforms, including wage increases in the public sector, and increases in pensions and child benefits.

Costs of Pension Reforms

13. Estimates of potential fiscal costs associated with various developments in Russia's pension system are based on a comprehensive actuarial model. The report points out that such fiscal costs are likely to emerge as a result of the declining relative value of old age pensions and associated political pressures for budget support to the pension system. Without additional reforms, the existing pension system, even under the most optimistic assumptions, is not capable of closing the growing gap between growth in wages and pensions. In the baseline "without the reforms" scenario, the average replacement rate declines from 33 percent in 2002 to 24.4-27.8 percent in 2030. Moreover, the proposed cuts in contribution rates would result in a further decline in the replacement rate relative to the baseline. To avoid a drastic widening in the gap between wages and pensions, a reduction in contribution rates has to be supplemented by additional reforms, including a decision on a gradual increase in the retirement age.

14. In the baseline scenarios, the annual fiscal costs to the government, associated with the need to address the problems accumulated in the pension system, amount to 0.25-0.55 percent of GDP in 2020 and to 0.55-0.90 percent of GDP in 2030. These costs are measured against a target of maintaining the replacement rate at 30 percent. However, the potential costs would increase rapidly in all scenarios with the reduced contribution rates. In the low case, the annual costs to the budget would exceed 2 percent of GDP in 2030.

15. The analysis also suggests that trends in the share of the taxable payroll in GDP play a critical role in determining the future results of the pension reform. This highlights the importance of policies aimed at stabilizing payroll and income taxation, as well as at the removal of various administrative barriers in the economy that currently hold back the reduction of shadow incomes and wages.

Conclusion

16. The current improved economic and fiscal situation in Russia provides a unique opportunity to policymakers to undertake key structural reforms, which have a high payoff in terms of future growth and economic and social stability. Structural reforms in public administration, housing and utility services, and pension system are affordable if planned properly and sequenced in the context of a rule-based fiscal management framework.

Chapter 1.
PRINCIPLES OF STRUCTURAL REFORMS FINANCING

1.1 This Chapter discusses recent fiscal trends and the challenge of budget financing of core structural reforms within a broader framework of fiscal management reforms in Russia. It argues that explicit financing of structural reforms is fully justifiable because these are the investments in the institutional infrastructure with a high rate of return. In addition, at the moment Russia appears to have a fiscal room for some incremental spending. However, the number of simultaneous reform initiatives should be kept rather limited to ensure that the accumulation of new liabilities do not undermine fiscal sustainability. In addition, government's commitment for explicit reform financing should be accompanied by additional steps in strengthening the fiscal management system. In this context, the Chapter suggests fiscal rules for Russia that could strengthen government ability to manage external shocks, as well as provide budget support for the reform process in a predictable way. In that respect, the fiscal rules may help in elaborating a mechanism for the medium-term financial planning stipulated, among other budget process reform measures, by the Government Resolution No.249 of May 22, 2004. The Chapter also summarizes the estimates for fiscal costs of reforms in civil service, housing and pension system, which are analyzed in a greater detail in the following chapters.

1.2 The World Bank has a long and extensive history of public expenditure analysis in Russia. It has been following the policy of preparing focused analytical pieces on specific priority topics in the area of expenditure management rather than trying to cover all public expenditure issues in one report. Responding to changes in the macroeconomic and fiscal environment, the Bank naturally shifted its focus from the fiscal sustainability analysis (World Bank, 1996a and 1998c) and general diagnostics of fiscal management system in Russia (World Bank, 1996b) to more narrow and more technical issues, such as quasi-fiscal subsidies and non-cash operations (World Bank, 2000) and analysis of the public investment program (World Bank, 2001). Experience showed that for the Bank this is the most productive and client-oriented way of contributing to the reforms in expenditure management in Russia. The present report continues this practice by looking at fiscal aspects of structural reform implementation in Russia.

A. RECENT FISCAL TRENDS, 1998-2003

1.3 Since the 1998 crisis, Russia's macroeconomic performance has improved considerably. The cumulative GDP growth during 1999-2003 reached 38 percent. Solid economic growth contributed to the growth in budget revenues and allowed Russia to substantially improve its fiscal performance. Starting in 2000, federal and enlarged budgets have been executed with a surplus. This brought the public debt down to 28 percent of GDP by the end of 2003 from 85 percent at the end of 1999. The problems of non-cash budget execution, pension and wage arrears in the budget sector have been successfully solved.

1.4 Revenues of general government recovered to the steady level of 36.5-37.6 percent of GDP in 2000-03 after a sharp decline to 33.6 percent in 1999 from 39.3 percent in 1997. Federal budget revenues grew markedly to 16.7-17.8 percent of GDP in 2001-03 from the pre-crisis level of 12.5 percent, helped by the centralization of tax revenues and the progressive taxation of the oil windfall. At the same time, the non-oil federal budget revenues declined to an estimated 10.5 percent of GDP in 2003 from 12.3 percent in 2001, while the oil revenues

were on the rise along with oil prices (IMF, 2003 and 2004). As a result, the federal budget's dependence on oil prices increased significantly. The share of its oil revenues grew from 45 percent of the total in 2001 to 59 percent in 2003.

1.5 Indeed, a more thorough analysis reveals that both the GDP and budget revenues were propelled largely by the high world prices of crude oil – Russia's main export commodity. It is estimated that almost 80 percent of the incremental increase in general budget revenues was oil-factor driven, including spillover effects on the gas and other sectors (Kwon, 2004). Two developments played a major role here. First, with oil prices standing high, oil and gas companies increased their sales and profits and started making relatively more tax payments to the budget. Second, the tax legislation has changed in a way that has increased the oil price elasticity of tax payments in the sector. The most important changes have included the increased progressiveness of oil export duties and the introduction of a linear relationship between oil prices and the statutory rate of the tax on the extraction of mineral resources in the oil sector. Both taxes are paid mainly to the federal budget, making it very sensitive to changes in oil prices. In the present price range, every dollar-per-barrel change in oil prices increases or decreases the enlarged budget revenues by 0.45 percent of GDP, out of which the share of federal budget is three-quarters.

1.6 Since 1998, there have also been considerable developments on the expenditure side of the budget, which point to both the large fluctuations in and the pro-cyclicality of budget expenditures (see Table 1.1). After the initial decline to 29.0 percent of GDP in 2000 from 43.7 percent in 1997, the enlarged budget non-interest expenditures recovered by 5.6 percentage points of GDP in just two years (2001-02) and reached 34.4 percent of GDP. The increase in *total* budget expenditures was less pronounced since GDP growth and the policy of budget surpluses helped to reduce both the stock of public debt and the size of annual interest payments.

1.7 The social expenditures of the enlarged budget (i.e., expenditures on education, health, and social protection) have had a clear pro-cyclical pattern in the past. They experienced the largest reduction (by more than 50 percent in real terms) during the post-1998 fiscal consolidation, which was followed by a strong increase thereafter. Within social expenditures the after-the-crisis recovery largely financed the growth of recurrent expenditures, such as wages, pensions, etc. Inter alia, this also included the financing of increased staffing levels in the civil service and budget sectors (such as health) at the subnational level (World Bank, 2003b). Apparently, recurrent expenditures on wages in the public sector and household social benefits are those which would be the most difficult to compress politically should a fiscal adjustment be required if and when budget revenues fall together with oil prices.

1.8 *Non-social* non-interest expenditures demonstrated less, but still some, pro-cyclicality. Responding to the 1998 crisis, they fell to 14.4 percent of GDP in 1999 from 19.0 percent in 1997. Expenditure rationalization made by the government resulted in their further decline to 13.9 percent of GDP in 2001 before growing to 14.7 percent in 2002, presumably on the wave of the oil windfall spending and general fiscal policy relaxation. In 2003 the government managed to reduce these spending somewhat in relative terms to 14.4 percent of GDP.

1.9 While most of the non-interest non-social expenditures behaved pro-cyclically, some of them did not. More specifically, expenditures on agriculture, liquidation of emergencies and natural calamities, and state industrial funds have declined in percent of GDP terms since 2000. In this way these expenditure cuts smoothed the pro-cyclicality of overall non-social budget expenditures.

Table 1.1: Expenditure Trends in Russia in 1997-2003, Enlarged Government Budget, (Percent of GDP)

Expenditure Category	1997	1998	1999	2000	2001	2002	2003
Total Non-Interest Expenditures	43.7	36.3	29.9	29	30.7	34.4	32.1
I. Total Social Expenditures	24.7	10.8	15.6	14.5	16.9	19.7	17.6
1. Education	4.8	3.6	3	2.8	3.1	3.9	3.6
2. Health	3.6	3.4	2.9	2.8	2.9	3.2	3.0
3. Social Protection	11.5	10.1	7.5	6.9	8.7	10.3	9.1
4. Housing and Communal Services	4.8	3.7	2.2	2.1	2.2	2.4	1.9
II. Total 'Non-Social' Expenditures	19.0	15.5	14.4	14.5	13.9	14.7	14.4
1. General Public Services	7.5	6.4	6.5	6.0	6.5	7.1	6.9
2. Public Investment/Subsidies to Industry and SMEs	2.2	0.9	0.9	0.8	1.7	2.2	2.5
3. Transport/Roads/Communications/ Informatics	1.0	0.7	0.5	0.5	0.7	0.5	0.3
4. State Road and Industrial Funds	2.7	2.9	3.1	3.8	2.1	2.1	1.9
5. Agriculture/Fishing	1.3	0.9	0.7	0.7	0.8	0.6	0.5
6. Environment/Hydromet./Geodesy	0.2	0.1	0.1	0.1	0.1	0.2	0.1
7. Culture, Arts, and Mass-Media	0.7	0.5	0.5	0.6	0.6	0.7	0.6
8. Science	0.6	0.3	0.3	0.3	0.3	0.3	0.4
9. Emergencies and Liquidation of Natural Calamities	0.3	0.3	0.2	0.2	0.1	0.1	0.1
10. Other Expenditures	2.5	2.4	1.5	1.4	0.9	0.9	1.0

Sources: MoF, Rosstat, Staff calculations.

1.10 As one would expect, among the items of functional classification, budget spending on both public investment and subsidies to industrial producers (net of subsidies to SMEs) proved to be the most pro-cyclical expenditure category. These spendings fell more than threefold in 1997-99 -- from 2.1 percent of GDP to 0.6 percent. They then increased to 2.5 percent of GDP in 2003. This was the only broad expenditure category that exceeded its relative (as a percent of GDP) pre-crisis level.

Medium-term fiscal prospects and debt sustainability

1.11 The fiscal surpluses of the general government recorded since 2000 have drastically improved Russia's debt profile and have practically eliminated the debt sustainability problem that was a major macroeconomic and fiscal problem for Russia in the 1990s (Figure 1.1). Recent analysis of Russia's debt sustainability suggests that trends in the total public debt should be easily manageable under a broad set of possible scenarios (IMF, 2003). Under the baseline scenario, it is expected that the average primary surplus of the general government would amount to 1 percent of GDP in 2007-09, while the average primary balance of the federal government would amount to 1.7 percent. This is under the assumption of average GDP growth of 5 percent, external debt interest rate of 5 percent, and a considerable slowdown in ruble real appreciation after 2006.

1.12 Even in the low-case scenario the debt would stabilize at a level below 30 percent of GDP. In addition, stress tests showed that under the most gloomy macroeconomic assumptions (such as high external interest rates, a significant fall in GDP, considerable

depreciation of the ruble) the debt dynamics, measured by the public debt-to-GDP ratio, would deteriorate only temporary, and would still remain under control in the longer term (See Table 1.2). Moreover, since early 2004, when the most recent analysis was carried out, skyrocketing oil prices have made the public debt profile in Russia even stronger, making public debt sustainability of even lesser concern.

1.13 However, Russia remains highly vulnerable to external shocks associated with oil prices. Should oil prices drop significantly and remain at the low level, a sizable adjustment in exchange rate and fiscal policy would be required. In addition, short-term liquidity crunches caused by adverse oil price shocks could lead to substantially lower GDP growth rates (IMF, 2004). Also the sustainability of the country's total external debt is of somewhat more concern, taking into account a rapid accumulation of foreign debts by the private sector. Significant ruble depreciation could lift the total external debt to an unsustainable level.

1.14 Notably, the public debt sustainability does not mean that Russia does not have any problems in the area of debt management. Many OECD countries chose their longer term debt targets at the levels that are considerably below their debt sustainability thresholds. It is assumed that even sustainable debt dynamics might be detrimental for the economic growth if the debt level is relatively high.[1] Various studies estimated that the optimal debt level for individual G7 countries falls in the range of below 20 to 50 percent of GDP.[2] Clearly, for less developed countries, such as Russia, the optimal debt level should be lower than in the G7 countries, owing to higher country risk premiums, a higher share of hard currency debts in the debt structure, and the lesser efficiency of the public sector.

Table 1.2: Public debt sustainability estimates. Debt-to-GDP ratio, percent

	1998	2000	2003	2004	2006	2009
	Actual		Preliminary	Projections		
Baseline	144.4	64.8	33.3	29.2	21.7	15.7
Stress tests:						
1. High interest rate (In 04-05: 2 stand deviations above the hist average)				37.6	37.8	30.3
2. Lower GDP growth (In 04-05: 2 stand deviations below the hist average)				34.9	37.2	24.0
3. Larger primary deficit (In 04-05: 2 stand deviations above the hist average)				42.2	44.7	36.6
4. Simultaneous shocks (joint shocks 1-3, using 1 stand deviation)				43.6	42.9	22.9
5. Ruble depreciation (one time 30% real depreciation in 2004)				44.6	35.5	28.2

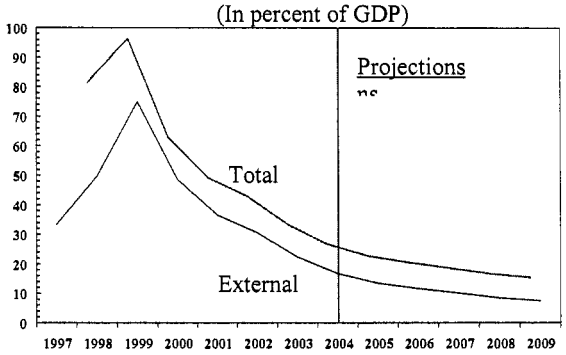
Source: IMF (2004).

[1] Balls and O'Donnell (2001, pp.174-175) offer a discussion of the concept of debt optimality as an alternative to the conventional view of debt sustainability.

[2] Ibid.

Figure 1.1. Public Debt Projections

(In percent of GDP)



Source: IMF (2004).

B. Fiscal Costs of Key Structural Reforms

1.15 In spite of the significant progress achieved in building market economy during the 1990s and early 2000s, Russia still needs to accomplish a number of structural reforms, which would advance the development of its market institutions and level up the public sector efficiency. The implementation of structural reforms usually requires budget financing and can be rather costly. Depending on the specifics of a particular reform, these costs may be of a temporary or permanent nature. From a fiscal viewpoint, launching a structural reform represents incremental, irregular spending with stronger or weaker feedback to regular expenditures. This issue is of paramount importance for Russia, which is committed to carrying out multiple structural reforms simultaneously.

1.16 All structural reforms can be divided into three groups by the fiscal costs they incur. The *first group* consists of those reforms that require only initial one-off financing for a limited time period or those that, with time, generate budget savings that offset their fiscal costs if the latter are of a permanent nature. Examples include the elements of both education reform and pension reform. In particular, a switch to the system of unitary state exams (USE) for high school graduates requires investment in the institutional infrastructure for these exams, expenditures on pilots, and the like. Once it becomes operational, the USE would replace the current system of university entry exams that is presently administered by individual universities. The annual costs of undertaking the USE would be offset by savings in the costs of university admission. In pension reform, establishing a fully funded pillar gives rise to a fiscal gap in the pay-as-you-go part of the pension system a few years down the road, which will disappear when the funded pillar starts to co-finance pension benefits. However, in the meantime, either the temporary medium-term fiscal gap in the pension system will have to be financed from the budget, or the real value of benefits to the current pensioners will be lower in real terms than for both the preceding and the following generations of pensioners.

1.17 There are two important specific sub-groups of reform initiatives that could be identified within this first group of reforms:

- ***Structural reforms to be implemented at the subnational level,*** the early implementation of which could be unattractive for regional leaders (e.g., because of their perception of additional political risks). Under the circumstances, the federal government could be interested in establishing a special support mechanism to provide fiscal and administrative incentives to regions that are ready to pilot specific regional reforms. The recent quite successful experience with the Federal

Fund for Regional Fiscal Reforms (FFRFR) provides a possible model for the organization of such a federal support mechanism. It is worth emphasizing that, even in cases where the reforms themselves may not lead to additional fiscal costs (as in the case of reforms in residential housing), some modest costs for the federal government could arise from a need to establish a proper incentive framework for launching reform pilots in the regions. This relates primarily to the sectors that are primary responsibility of subnational governments.

- ***Reforms to promote new private sector institutions,*** currently missing in Russia, which could generate considerable long-term externalities. One-time public investments in such institution building could reduce the future costs of market entry for private operators. Examples of such missing or severely under-developed institutions include entities that would provide student loans and venture fund industry. The government's co-financing of such institutional pilots could take the form of either co-investments or guarantees for private investors against non-commercial risks.

1.18 The *second group* comprises reforms that demand a permanent increase in financing, while potential budget savings are not sufficient to cover their costs, even in the long term. Civil service reform is one example of such a reform. As estimated in Chapter 2, it would cost the budget 0.9-1.3 percent of GDP annually, of which 0.5-0.7 percent would be the costs to the federal budget. These permanent additional spendings are needed to make salaries in the civil service compatible with those in the private sector, as well as to increase non-wage costs in the civil service (such as on training and retraining, office equipment and telecommunications, etc.). Without this, it would be difficult to ensure a drastic improvement in the efficiency of the civil service in Russia.

1.19 Structural reforms belonging to the *third group* are those that generate expenditure savings without any substantial fiscal costs for the budget. Housing reform appears to be an example of such a reform. Phasing out producer subsidies in the housing and communal services sectors and phasing in the targeted subsidies to poor families would generate substantial net budget savings, as experience has shown. In addition, potentially massive outflows from the budget to rehabilitate the communal infrastructure could be minimized. A system of performance management contracts, leasing, and utility concessions can make it profitable and attractive for private companies to invest in the communal infrastructure, which would remove this burden from the budget.

1.20 The financing of structural reforms belonging to the first group could come from the two possible sources: (i) general budget revenues, and (ii) government borrowing. This would give rise to a temporary deficit for a budget recalculated at the long-term average oil prices, which is discussed below in this Chapter. Structural reforms belonging to the second group should be largely financed through compensatory policies such as: (i) savings on other, less efficient, expenditures, (ii) savings achieved during the implementation of the third group of structural reforms, and (iii) revenues from additional taxes. In this case, incremental expenditures and the compensatory increase in taxes could be justified by the expected reform gains – namely, the growing efficiency of the public sector, including the provision of better quality public services. However, it is likely that the financing of these structural reforms through compensatory policies will become available with a delay, because some time will be needed for the development and implementation of such policies. Therefore, in this case an oil price adjusted budget deficit may emerge as well, but it should gradually be phased out with the help of compensatory policies.

1.21 From the institutional viewpoint, it seems appropriate to record and monitor budget resources channeled to finance the implementation of structural reforms. For that purpose, corresponding program spendings could be analytically consolidated as structural reform funding in the federal budget. Following provisions of the Concept of the Budget Process Reform, approved by the Government in May of 2004, such reform spendings would become a part of the 'new expenditure commitments' budget. This approach would enable the government to control the overall size of such a virtual 'fund' dedicated to reform financing in line with its general principles of fiscal policy (see more on this subject below in this Chapter).

1.22 It follows that the existing Federal Fund for Regional Fiscal Reforms (FFRFR) or a similar facility should become one of the components within such a broader category of reform spending, along with the resources raised as loans from the IFIs that aim at the acceleration of subnational reforms. As discussed earlier, a FFRFR-type facility would provide partial financing for subnational reforms within the first group of reforms.

1.23 The issue of costing structural reforms is not absolutely new for Russia. The government itself estimated foregone revenues or costs of some structural reforms (e.g. tax reform and pension reform). Yet, this work has never been done systematically and put in a proper fiscal framework, which would allow comparing different reform scenarios and different structural reforms and provide proper links between the costs of reforms and the overall budget process. In addition, the earlier research in this area government (including the most advanced analytical exercise to date undertaken by the Expert Institute (Yasin, 2003)) relied mostly on rough expert estimates. The present report suggests a much more rigorous multi-factor approach and models, which allow (i) tracking expenditure changes at the disaggregated level for every specific structural reform, and (ii) presenting and estimating multiple reform scenarios.

1.24 Yasin (2003) analyzed risks associated with the unfinished structural reform agenda in Russia for the country's longer-term growth prospects. He argues that low gas and energy prices, together with low salaries, are the fundamental barriers for raising competitiveness in Russian manufacturing. Depressed prices for production inputs are not conducive to the development of domestic industries as they destroy incentives to save energy and raise productivity. He develops a detailed argument to support two fundamental claims:

- acceleration of structural reforms in energy and housing sectors, as well as related measures in the areas of wage policy and social security is the core policy challenge for the Russian government;
- there reforms are closely inter-related and should be advanced in parallel within the single financial framework, where higher domestic energy prices would bring additional taxes to pay higher pensions, social benefits and wages in the public sector.

1.25 Yasin's paper also develops some aggregate estimates for the above mentioned financial framework within the 3-year time horizon, which are based on specific assumptions on expected increases in domestic energy prices, housing costs, as well as wage and pension levels. In our report we intend to advance this work further, including through a generation of more accurate set of estimates on potential costs of particular structural reforms within this single framework under different sets of assumptions.

1.26 The specific choice of the key structural reforms analyzed in this report—public administration, housing and communal services, and pensions—was determined by the

Russian Ministry of Finance in consultation with the World Bank team. This choice reflects both the importance of these particular reforms for the medium term government program, as well as perceived scale of potential fiscal implications in case if these critical reforms are mishandled.

C. Costs of Structural Reforms: Examples of Reforms in the Civil Service, Pension System, and Residential Housing

1.27 This section summarizes the results of the simulation of the individual structural reforms that were developed in this report for three specific sectors, such as the civil service, the pension system, and residential housing. The remaining Chapters of the report present a full description of the respective results, including the assumptions, data and models used in the analysis.

Reforms in the civil service

1.28 The Russian government considers the implementation of the comprehensive civil service reform as one of the key priorities in the mid-term reform agenda. The objective of Chapter 2 of the report is to help the government with the planning and sequencing of its reform effort by (i) developing a general framework for costing-out the direct fiscal effects of various reforms in the area of public administration, (ii) using this framework for generating consolidated estimates for the incremental fiscal costs of specific reform scenarios, and (iii) developing recommendations on the feasibility of different reform options.

1.29 The Chapter presents more than 40 different reform scenarios as well as the potential results of their step-by-step implementation through the period 2004–10. The scenarios differ considerably in terms of the pace and scope of relative pay increases in the public sector, the scope and pace of attrition, changes in the share of non-wage costs, etc. In addition, the Chapter analyzes the sensitivity of potential reform costs to changes in the basic macroeconomic parameters. It identifies the future growth rate in private sector wages as the most important macroeconomic factor: the higher the wage growth in the private sector is, the more expensive it would be for the government to close the existing pay gap.

1.30 Overall, the results of the simulations show that the reform may be implemented without a significant increase in overall fiscal costs. The Chapter argues that a fiscally affordable reform should be based on moderate pay adjustment and should assume significant staff reductions in the core government administration, and especially in the civilian public sector. Under the most realistic set of assumptions, the incremental costs for the consolidated budget would amount to 1.2–2.3 percentage points of GDP by the end of the reform (depending on the macroeconomic scenario) as compared to 2003. These costs do not look prohibitively high when considered in the international context. Moreover, about two-thirds of this increase has already been incorporated into the 2004 budget, reflecting the pay adjustments in the core government administration and the civilian public sector introduced in late 2003. At the same time, the remaining one-third of the total reform costs must be added to ensure full financing.

1.31 The Chapter also argues that the future reform package should not be applied to the core government administration only, but should cover the entire civilian public sector. Otherwise, politically it would be quite difficult for the government to sustain a drastic increase in the compensation gap between the civil servants and the rest of the public sector

employees. Moreover, our modeling suggests that the expected fiscal gains from more aggressive staff attrition in the civilian public sector would help to finance a portion of the costs related to the implementation of civil service reform in the core government administration. At the same time, it seems desirable to synchronize primary components of the reform, such as pay and staffing adjustments. Such synchronization would allow the stabilizing of the overall level of employment-related expenditures on the civilian public sector. On the other hand, de-linking the reform measures might create unnecessary expenditure fluctuations, which could be an additional risk to reform sustainability.

1.32 To achieve its objectives, the reform strategy has to differentiate across the sub-sectors of public employment. The pay increase should be the most significant for the headquarters-based civil servants, lower for the deconcentrated units and regional and municipal parts of the core government administration, and lowest for the rest of the civilian public sector. The last could be justified in part by the growing share of fee-based services provided by this sector, which would become an increasing source of compensation for its employees. Inside the headquarters-based federal civil service, the pay increase should emphasize a larger and faster increase in compensation for decision makers. Such a focus of the pay reform would allow addressing the key constraints of the low policymaking capacity inside the government and would help retain highly qualified public officials in key positions in the federal civil service.

1.33 The results of our simulations suggest that over the period up to 2010 it would be unlikely for the Russian budget to be able to afford a full closure of the current public-private pay gap through a radical pay adjustment in the entire public sector. It seems more realistic to expect that the average residual pay gap for core government administration would remain significant (in the 100 percent range of the public sector wage). However, recent surveys of public officials reveal that such a gap may be quite acceptable, because it seems to reflect the existing expectations of the public officials. A stronger effort to close the gap (to the average level of 50 percent) would raise the costs of the proposed reforms to about 2.2–3.3 percentage points of GDP as compared to 2003.

1.34 Still, the proposed moderate pace of pay reform suggests that the average wage in the core government administration would grow at a rate that is 25 percent higher than the growth of the average wage in the economy, while the average pay in the civilian public sector would grow at a rate that is 17 percent higher. Moreover, it is recommended to complement this average increase by a more radical pay adjustment for a small number of decision makers in the headquarters of the federal executive authorities. The recommended scenarios would result in an increase in the decompression coefficient for headquarters-based civil servants from 2.5 in 2002 to 6.8–9.0 in 2010.

1.35 A significant adjustment in employment levels is critical to making the reform sustainable. Even a moderate pay adjustment undertaken without a cut in staffing would make the reform fiscally unaffordable. It is expected that by 2010 average employment in the civilian public sector would decline by about 25 percent. Making the Russian government leaner also seems to be consistent with the implications of the existing demographic trends. The largest reductions are expected in the civilian public sector, where, in part, they could be implemented through the commercialization of some of the budget sector entities.

1.36 Implementation of the broad reform agenda in the core government administration would entail significant additional non-wage expenditures. The full-scale modernization of public service would require both significant investment costs and significant recurrent costs

for the operation and maintenance of computer systems and physical infrastructure, as well as the implementation of modern HR practices (including competitive recruitment, staff rotation, and training). However, the existing budget constraints suggest that the issue of non-wage expenditure control would be quite important in the course of reform implementation. It is expected that the non-wage expenditure share would have to go down from the current 37 percent of total costs to at least 35 percent, which would still represent a significant increase in financing in real terms.

1.37 A more detailed analysis of the incremental fiscal costs, undertaken for several median scenarios, suggests that the costs to the federal budget would amount to about 40–45 percent of the total cost increase, while the rest would become a responsibility of subnational budgets. About two-thirds of all incremental costs would be linked to the additional funding of the core government administration, while the rest of the civilian public sector would benefit from a smaller share of the expenditure increase.

1.38 Chapter 2 also recommends that additional analysis would be desirable to overcome the important limitations of this set of results. In particular, regional comparative pay and compensation surveys would be critical to better measuring both the current actual value of in-kind benefits and the overall current compensation gap in regions. Further costing of particular investments associated with the modernization of public service (such as the introduction of administrative operational manuals, etc.) would also be helpful to policy deliberations.

1.39 Overall, the Chapter suggests that broad reforms in the core government administration and in the civilian public sector at large may be implemented within five to seven years but should be differentiated by the scope of the pay adjustment in various sub-sectors of civilian employment, closely monitored for non-wage expenditure growth, and complemented by significant staffing adjustments in the civilian public sector, as well as by at least some staff reductions in the core government administration. The implementation of such reforms would require additional budget financing as compared to the 2003 expenditure levels, but fiscal costs could be sustained within a reasonable range. Sustainable public administration reform in Russia cannot be cheap, especially in the environment of rapidly growing real wages. Additional spending on public administration is the only way to ensure a better quality of policymaking and public service delivery in the country. However, this is a necessary but not a sufficient condition. The successful implementation of the budget process reform, the introduction of performance budgeting, and the creation of incentives for better performance in the public sector would also be needed.

Reforms in payment arrangements in the housing and utility sector

1.40 Chapter 3 of the report analyses the potential fiscal and social impacts of advancing cost recovery in tariffs in the housing and utility sector (HUS) in Russia under the different macroeconomic and reform scenarios. The simulations are based on the disaggregated model of the full costs of operating the country's residential housing and the allocation of the costs among the major sectoral stakeholders – households, government, and service providers. For each scenario the model estimates the expected demand in overall budget support for the HUS that cover all types of budget programs in the sector. The baseline scenario suggests that as a result of the proposed reforms the real unit cost to households in the HUS would increase by about 90 percent relative to the prevailing 2002 level. However, given the tariff adjustments

that took place in 2003-04, it is expected that future tariff increases would be limited to, on average, about 40 percent relative to their levels at the end of 2004.

1.41 This Chapter argues that, in the current environment of high growth in household incomes, it is affordable (both politically and financially) to attain 100 percent cost recovery in tariffs with the simultaneous elimination of all quasi-fiscal financing (cross-subsidization) and the adjustment in domestic energy prices. Moreover, the reforms in residential housing could be made budget neutral in the medium term, and they would bring considerable savings in the long term. However, the analysis revealed a high sensitivity of the results to income dynamics. If household income growth slows down, this may generate incremental budget costs of 0.4-0.5 percent of GDP per annum in the medium term. The high sensitivity of the results to income dynamics suggests that the government should establish an efficient monitoring system to track the affordability of tariff increases for both the population in general and specific household groups. The Chapter also emphasizes the need to restructure the financing mechanisms in the sector to ensure a higher degree of accountability for both municipal governments and service providers.

1.42 An increase in energy and utility tariffs would make the delivery of utility services to budget organizations more expensive by about 0.7-0.8 percent of GDP per annum. Some of these costs could be compensated through the increased taxation of energy and utility providers and, later on, through the rationalization of the public sector. However, we estimate that in the medium term a fiscal gap in public sector financing of 0.4 percent of GDP could emerge as a result of tariff increases in the HUS and energy sectors.

1.43 The analysis suggests that the elimination of housing privileges could be affordable for most of the current lgoty recipients, while the housing allowance program would be capable of taking care of those who face too high a housing cost burden. However, given the political sensitivity of entitlement reforms, there may be a case for reforming the lgoty in a more gradual way. As a starting point, the government should monetize the lgoty to transform them into explicit subsidies and link them directly with the system of personal accounts. Moreover, to reduce political costs, phasing out the lgoty should be coordinated with other structural reforms, including wage increases in the public sector, and increases in pensions and child benefits.

Pension reforms

1.44 The analysis in Chapter 4 aims at estimating the potential fiscal costs associated with various developments in Russia's pension system based on the comprehensive actuarial model. It finds that such fiscal costs are likely to emerge as a result of the declining relative value of old age pensions and associated political pressures for budget to support the pension system.

1.45 The Chapter is focused on the sensitivity of current trends in the pension system to changes in macroeconomic performance and various combinations of potential reform measures, such as proposed cuts in contribution rates, as well as possible increases in the retirement age. The core variables analyzed in the model are (i) the potential affordable replacement rate, and (ii) the expected ratio of the pension and subsistence minimum. Most of the simulations cover a period up to 2050. However, the analysis is focused mainly on the first half of the period (up to 2025–30), which is of larger interest to policymakers.

1.46 The structural nature of the pension reform in Russia relates primarily to the introduction of the 2nd fully funded pillar, which fundamentally changed the structure of pension financing in the country. According to the estimates in this report, by 2008 contributions to the second pillar may reach 1 percent of GDP a year, while this amount increases to 1.25 percent of GDP by 2015. Respectively, the reform reduces the amount of funds available for paying the benefits to current pensioners through the 1st pay-as-you-go pillar, thus creating temporarily financing needs in the pension system.

1.47 The Chapter concludes that without additional reforms, the existing pension system, even under the most optimistic assumptions, is not capable of closing the growing gap between growth in wages and pensions, which is reflected in the declining replacement rate. In the baseline "without the reforms" scenario the average replacement rate declines from 33 percent in 2002 to 24.4-27.8 percent in 2030. At the same time, it provides for a gradual increase in the value of the average pension relative to the subsistence minimum. This indicates that with economic growth the real incomes of pensioners will also grow steadily. However, there are two concerns regarding the patterns of this future growth: (i) in the initial period up to 2015, despite a low level of current pensions, the growth will be rather slow, and (ii) because the growth in pensions will be lagging the growth in real wages, it may become a politically sensitive issue.

1.48 In the baseline scenarios, the annual fiscal costs to the government, associated with a need to address the problems accumulated in the pension system, amount to 0.25-0.55 percent of GDP in 2020 and to 0.55-0.90 percent of GDP in 2030. These costs are measured against a target of maintaining the replacement rate at 30 percent. However, the potential costs would increase rapidly in all scenarios with the reduced contribution rates. In the low case, the annual costs to the budget would exceed 2 percent of GDP in 2030.

1.49 Overall, without additional policy changes, any significant cuts in the contribution rates would result in a further decline in the replacement rate relative to the baseline. To avoid a drastic widening of the gap between wages and pensions, a reduction in the contribution rates has to be supplemented by additional reforms, including a decision on a gradual increase in the retirement age. The scenarios with the increased retirement age do not require any budget support to provide a replacement rate of 30 percent.

1.50 It is quite likely that the cut in the contribution rates of 8 percentage points under the latest government proposal would lead to an immediate and considerable decline in the Pension Fund's collections relative to the baseline. To avoid either a decline in the real value of current pensions or an accumulation of pension arrears, such a cut would require a substantial fiscal transfer (in the magnitude of 1 percent of GDP a year) to the Pension Fund. The compensation has to be provided until considerable improvements in the revenue performance of the pension system materialize and/or policy decisions are made, which reduce the Pension Fund's financing needs.

1.51 The analysis also suggests that trends in the share of the taxable payroll in GDP play a critical role in determining the future results of the pension reform. This highlights the importance of policies aimed at stabilizing payroll and income taxation, as well as at the removal of various administrative barriers in the economy that currently hold back the reduction of shadow incomes and wages.

Cost summary for the analyzed set of structural reforms

1.52 Table 1.3 summarizes our estimates of the total potential costs of selected structural reforms analyzed in this report. We estimate that the full annual costs to the federal budget could be limited to 1.5 percent of GDP. Given the current fiscal and macroeconomic performance of Russia, this cost level appears to be affordable.

Table 1.3: Summary of Incremental Annual Fiscal Costs for the Set of Analyzed Fiscal Reforms (relative to the 2004 budget baseline) (% of GDP)

a. Pension reform (effect of the cut in contribution rate)	
a1. Cut in contribution rates - medium-term effect	1.0-1.1
a2. Cut in contribution rates plus long-term effect	2.2-2.5
a3. Increase in retirement age	0
b. Housing and utility reforms	
b1. Residential housing	0
b2. Maintenance of budget organizations	0.4-0.5
o/w: federal budget	0.15
c. Civil service	0.4-0.75
o/w: federal budget	0.18-0.25
Total (medium-term) for the selected sub-set of reforms	**1.8-2.35**
o/w: federal budget	1.33-1.50

Source: Staff estimates. See Chapters 2-4 of the report.

D. THE CHALLENGE OF FINANCING STRUCTURAL REFORMS: CAN FISCAL RULES HELP?

1.53 As mentioned above, Russia, as a country in transition, faces the challenge of catching up with the developed economies in many areas simultaneously. This creates a demand for an active government structural policy aimed at the acceleration of a broad range of structural reforms. Such reforms in many cases require incremental financing, which may add too many extra claims on the budget envelope. Without financing, the implementation of many structural reforms cannot be effective. But funding the reforms without proper fiscal discipline and prioritization could be fiscally distractive. This presents a challenge for a fiscal policy in Russia.

1.54 In our analysis we consider government spending on implementation of core structural reforms to be a sort of public investments in Russia's institutional infrastructure that ultimately have rather a high rate of economic return. Delaying or under-financing such spending could be a sub-optimal longer term fiscal policy because it may affect longer term growth prospects of the economy. In this sense, budget financing of structural reforms could be treated as public investment in conventional infrastructure. As shown by Easterly and Serven (2003), under-investing in infrastructure too often creates an illusion of the sustainable fiscal policies. While it may help to reduce the current budget deficits, it often brings too high costs in terms of lower future growth, which undermines longer term fiscal sustainability. At the same time, there is sufficient evidence that successful infrastructure investments have rates of return that are higher than prevailing costs of borrowing in the middle income economies, such as in Latin America. From this perspective, a certain level of funding of infrastructure

investments through public borrowing is fully justifiable because it improves, not damages longer term sustainability of public finance.

1.55 Therefore, we believe that earmarked well-planned and accountable budget financing of core structural reforms is justifiable in principle because these are the investments with high rate of return. In addition, Russia's strong fiscal position suggests that the government could afford some incremental spending without generating significant risks for macroeconomic stability. In other words, we do not consider an affordability argument as a reason to postpone key reforms. However, the number of simultaneous reform initiatives should be kept rather limited to ensure that the accumulation of new commitments do not undermine fiscal sustainability. Besides, the government capacity limitations also suggest a need for a strict prioritization of the reform process.

1.56 In addition, as argued in this report, government's commitment for explicit reform financing should be accompanied by additional steps in strengthening the fiscal management system. The challenges of structural reforms are too numerous and most of them create considerable longer-term and sometimes overlapping government commitments. This raises requirements to the quality of the fiscal framework, within which various reform strategies could be analyzed, compared and eventually prioritized.

1.57 Moreover, fiscal challenges in Russia are not limited to the financing of structural reforms. As past Russian experience has demonstrated, world oil price volatility, not subdued by the proper macro policies, has translated into significant economic and fiscal volatility in Russia, which has brought high economic and social costs to the country. In fact, oil price volatility is the second and largest fiscal challenge that Russia (like any large oil exporter) faces.

1.58 Additionally, the Russian economy is subject to conventional cyclical ups and downs that are common to market economies. In Russia these changes in business conditions are closely correlated with the movements of oil prices. It is agreed in principle and is actually followed by some countries (for example, in the EU) that it is desirable to make fiscal policy countercyclical (that is, expansionary during recessions and contractive during growth phases). This makes it possible to maintain the real value of expenditures during bad times and to smooth fluctuations in economy. Yet without proper fiscal discipline, the introduction of countercyclical budget instruments could easily become a burden for the fiscal system.

1.59 While deciding on the implementation and financing of structural reforms, the Russian government should place these decisions in the broader context of other macroeconomic and fiscal challenges that the country faces. Otherwise, macroeconomic stability and sustainable economic development could be jeopardized.

1.60 In order to deal with fiscal challenges and foster economic stability, it has become common in many countries to develop and apply fiscal rules (OECD, 2002; Kopits, 2004). These rules are usually fixed in legislation and represent a permanent constraint on fiscal policy. They applied to budget deficit or expenditures, or both, and may be expressed in actual or cyclically adjusted terms. Kopits and Symansky (1998) argue that the strongest case for fiscal rules is based on political economy arguments -- the rules correct the bias of short-sighted governments to accumulate public debt at the expense of future generations and that avoiding time-inconsistency issues results in significant credibility gains.

1.61 The experience of other countries shows that proper fiscal rules help in carrying out sound fiscal policy. They establish benchmarks for fiscal performance that help to discipline policymakers and subdue political pressures. For example, the United Kingdom uses two fiscal rules since 1997: (i) the "golden rule," which stipulates that over the economic cycle, the government will borrow only to invest and not to fund current spendings, and (ii) the 'sustainable investment rule', which stipulates that the net public sector debt to GDP ratio will be held over the economic cycle at a stable and prudent level. A fiscal rule introduced in Switzerland in 2003 sets a ceiling for government expenditures, which cannot exceed cyclically-adjusted revenues (OECD, 2002).

1.62 The Russian Budget Code (para. 3, Article 92) also contains a kind of fiscal rule stipulating that the annual budget deficit of the federal budget cannot exceed the sum of budget investment and interest expenditures. It means that government borrowing cannot be used to finance current outlays, except for interest expenditures. Although, at the first glance, this rule looks similar to the British 'golden rule', it does not provide for sufficient fiscal rigidity. In fact, the economy could be moving to a debt trap, while be in full compliance with this rule -- new borrowing would be made to finance interest expenditures, which would increase both a stock of debt and future interest spending, thus creating a need for even larger borrowing in the following budget cycle.

1.63 Nonetheless, this legislated fiscal rule has been an important positive development. If it had been adopted a few years earlier, the rule could have been helpful as a tool of fiscal adjustment during the period of high budget deficits in the 1990s. However, in its current form the rule is not sufficient to address the present fiscal challenges that Russia confronts. There is a need for the further development of fiscal rules for Russia, which would enable the government to successfully deal with the above-mentioned major fiscal challenges: oil price volatility, the financing of structural reforms, and economic cyclicality. Each of the three fiscal challenges requires a special risk-mitigating strategy. The adoption of fiscal rules could be considered a part of such mitigation arrangements.

1.64 The rest of this section suggests three possible specific fiscal rules for Russia, which could be introduced as a part of the overall government efforts to strengthen its budget management system. Such rules could be ultimately incorporated into the Budget Code (Article 92) and become a part of Russia's regular budget process.[3]

1.65 ***Rule #1:*** Fiscal sustainability rule. ***The debt stock of the federal government may not exceed 30 percent of GDP.***

Like the United Kingdom, Russia could benefit from having a formal fiscal rule related to the debt stock of the federal government. For the purpose of simplicity, the debt-to-GDP ratio could be suggested as an indicator preferable to more sophisticated ones that allow measuring debt on a net basis and in net-present value (NPV) terms. Given Russia's country risk profile and a high share of foreign currency debt in its debt structure, it appears that for sustainability

[3] Hereafter, proposals on fiscal rules are referred to Russia's federal budget. Subnational governments in Russia have there own, more binding, fiscal rules written in the Budget Code, which limit the size of both subnational debt and debt service spending.

reason Russia should maintain a fairly low limit for its government debt. In particular, we believe that the federal debt stock level in Russia should be limited to 30 percent of GDP.[4]

1.66 At the same time, following the best OECD practice, we believe that the rational longer term targeted debt level for Russia should be lower than is allowed by sustainability constraints, and it may be advisable to set such a target at 20 percent of GDP or lower. The government debt-to-GDP ratio is already below 30 percent of GDP and is heading towards a 20 percent level. Thus, the current government policy is de facto well in line with the proposed rule (i.e. in the short to medium terms this rule will not be binding for fiscal policy in Russia). However, the problem of high debt levels may re-emerge when oil prices fall and the fiscal balance deteriorates markedly. The fiscal rule that limits future debt accumulation, adopted as a separate law or as an amendment to the Budget Code, would help the government to prevent this problem.

1.67 ***Rule #2***: Oil price rule. ***An oil price adjusted Federal budget is allowed to be in deficit only temporarily to finance earmarked expenditures that are related to the implementation of specific structural reforms. The size of such a temporary deficit shall not exceed 2 percent of GDP.***

World oil prices are highly volatile. This volatility is driven by a number of economic and political factors on both the supply and demand sides. More or less accurate long-term forecasting of oil prices is virtually impossible and inaccuracies in forecasts are huge.[5] However, the long-term moving average oil price, around which actual oil prices tend to fluctuate, demonstrates stability.

1.68 This makes it possible to design a fiscal rule based on the long-term average price of oil.[6] Such an oil price adjusted budget could be recalculated using the counterfactual oil price of 20 US$/bbl for crude Russian oil. While the actual budget outcome may turn out to be in deficit or in surplus, the oil price adjusted budget (or budget in the long-term) needs to be balanced.

1.69 However, given the above-discussed needs for financing structural reforms in Russia, we believe it is important to include a special covenant in the fiscal rule which would permit accommodation of reform-related fiscal costs in the budget.[7]

1.70 The first group of structural reforms, discussed above, requires just temporary budget financing for their implementation. Thus, the fiscal rule #2 would provide a binding fiscal framework for financing these reforms. In addition, the rule could help bridge the financing of the second group of structural reforms that result in permanent additional government spending. Specifically, budget financing for each selected reform belonging to the second group could be provided on a decreasing basis. This financing should be program-based and provided under and within the broader budget allocation designated for new expenditure

[4] Let us note that, before the 1998 crisis, the debt-to-GDP ratio for the general government was below 50 percent, which is substantially less than the debt ratio stipulated by the Maastricht criteria. As Kopits (2004) emphasizes, markets have far lower tolerance for relatively high public debt-to-GDP ratios in emerging markets than in advanced economies.

[5] Pinto (1987) estimated a standard forecast deviation for off price at US$10.7 per barrel.

[6] The latter is estimated at $18-20 per barrel for the Russian Urals after accounting for the ongoing price boom.

[7] Beetsma and Debrun (2004) find -- in the context of the Euro area's Stability and Growth Pact -- that fiscal rules sometimes may need to be relaxed for countries that are actively pursuing much-needed structural reforms.

commitments. For instance, it could cover 100 percent of incremental costs during the first year of implementation, 50 percent during the second year, and 0 percent during the third year. Such an approach would give the government time to identify and implement measures necessary to create fiscal room in the regular budget for new liabilities that would emerge as a result of the reforms. Controlling the overall size of program spending on structural reforms would allow the monitoring of whether the second fiscal rule is adhered to.[8] Besides, this approach would be fully consistent with the ongoing transition to performance-based budgeting principles.

1.71 The proposed oil price rule should be applicable for the federal budget, as it demonstrates the much higher oil price sensitivity of its revenues than subnational budgets. The reason behind it is that almost all tax revenues, which are directly dependent on oil prices (oil export duties, mineral resource extraction tax on oil), accrue to the federal budget.

1.72 ***Rule #3***: Structural fiscal balance rule. ***The structural budget should be kept in balance.***

It happens quite often that countries enjoying rapid economic growth boost their budget expenditures, which gives an additional (albeit temporary) impetus to their GDP growth. At the same time, such a pro-cyclical fiscal policy makes the public sector compete for resources with the private sector and pushes up interest rates. When the growth phase of an economic cycle comes to an end, then it becomes very difficult to cut back the inflated government expenditures and restructure them in order to expand the counter-cyclical spending components.

1.73 This is why, for example, the countries in the euro area have been discussing a modification of their budget rules to allow for a cyclical adjustment.[9] The budget adjusted for the impact of economic cycles is called a *structural* budget. The same approach, in principle, could be applied in Russia in order to prevent pro-cyclical budgetary expansion during booms (e.g., when GDP growth rate is above 5 percent) and to allow for countercyclical budgeting during recessions (e.g., when GDP growth rate is less than one percent).[10]

1.74 This rule would require that during booms, which in Russia are highly correlated with the periods of high oil prices, the government should adhere to the budget surplus of 1-2 percent of GDP to avoid the pro-cyclicality in non-oil expenditure. Similarly, during recessions the government could allow the budget deficit of 1-2 percent of GDP. Meanwhile, the structural budget would be balanced in both cases.

1.75 However, it appears that the formal or informal adoption of the oil price fiscal rule precedes the adoption of the third fiscal rule. The fiscal management of oil shocks and structural reforms should be given the highest priority in the Russian case. Moreover, Russia has not yet gone through a completed economic cycle. Therefore, at this stage it appears that the establishment of rule #3 could not be done quickly because the reliable estimation of the

[8] As discussed, the third group of structural reforms is fiscally neutral in terms of their costs.

[9] This approach was made explicit in the revised 2001 Code of Conduct of the European Union.

[10] Perry (2004) argues that Latin American economies, which are subject to high macroeconomic volatility, ought to follow a rule that incorporates a countercyclical stance through a structural balance target or a stabilization fund.

structural budget would require additional time. Instead, a proper development of this rule should be considered as part of the longer term efforts to upgrade the fiscal management system in Russia.

E. IMPLICATIONS FOR FISCAL POLICY

1.76 In this section we discuss some implications of the proposed fiscal rules, especially the oil price rule (rule #2), for fiscal policy. The oil price rule is largely a modification of and a potential legal basis for a de facto fiscal policy carried out by the Russian government. Indeed in drafting the 2004 budget the government used the price of 20 US$/bbl and the budget became law with the 0.5 percent of GDP surplus at this counterfactual price. Still, the government's current fiscal strategy could be strengthened in a number of aspects.

1.77 ***Stabilization Fund settings.*** The regime of a financial reserve (before 2004) and a stabilization fund (since 2004) does not allow for saving all extra revenues associated with oil prices exceeding 20 US$/bbl. Overall, the enlarged budget has been saving only about 50 percent of the extra oil revenues that it receives (World Bank, 2004a). Moreover, taxes on gas, which price is strongly correlated with the oil price with a six-month lag, as well as general taxes on goods and services that also tend to grow in response to oil price increases, are not accruable to the stabilization fund in the course of the fiscal year. Because the government saves too little of the available oil windfall, this makes its budget policy too pro-cyclical. In particular, the government used a part of the oil windfall to expand the financing of its public investment program by 1.4 percent of GDP by 2002 (see Table 1.1, above).

1.78 Stabilization fund regulations need further strengthening to broaden the revenue base for within the year transfers to the fund beyond taxes paid by oil companies, to include additional non-oil tax revenues actually received by the federal budget compared to the expected amount of tax revenues budgeted at the counterfactual oil price of 20 US$/bbl.

1.79 This safeguard policy would sterilize the part of the revenue windfall which is an indirect result of high oil prices, and would limit spending expansion taking place in the course of budget execution in cases when oil prices and tax revenues turn out to be higher than assumed in the budget law. Presently, the Ministry of Finance makes quarterly projections of expected tax revenues. Therefore, it appears to be quite possible to use these projections as benchmarks for assessing the amounts of the general tax revenue windfall to be transferred to the stabilization fund on a quarterly basis. Such quarterly transfers should replace the current practice of a single annual transfer to stabilization fund made in February of the following year.[11]

1.80 Notably, besides playing the role of fiscal stabilizer, the stabilization fund should also perform an important function of a macroeconomic stabilizer by sterilizing the oil revenue windfall. Increasing the share of the actual windfall accumulated in the stabilization fund would help the authorities to maintain the policy aimed at the relative stability of the real exchange rate to prevent the development of Dutch Disease.

[11] Technically, the amount of the quarterly transfer would be equal to the positive balance between the actual and counter-factual tax revenues for that quarter net of transfers of oil export duty and tax on the extraction of mineral resources that have already been transferred to the stabilization fund during that quarter.

1.81 Moreover, the current cap on the size of the stabilization fund in the amount of Rb 500 billion (which is 3.8 percent of 2003 GDP), imposed by the Budget Code, is too small. It may become a serious constraint to an efficient long term fiscal policy. This cap has to be either revised or eliminated as early as 2005, when it is expected that the accumulated reserves in the stabilization fund will exceed Rb 500 billion.

1.82 ***Expenditure control.*** At oil prices standing above 20 US$/bbl, the second rule would help in maintaining overall fiscal discipline, especially with respect to control over expenditure levels. During the previous years, when actual oil prices turned higher than stipulated in the budget laws, the government demonstrated little resistance to pressures on expenditure increases in the course of the budget execution. In both 2002 and 2003, amendments to the budget laws considerably increased the expenditure amounts relative to the original budgets. It means that a considerable portion of the total oil revenue windfalls was actually spent on the basis of within-the-year decisions and without proper strategic prioritization. As a result, at a counterfactual oil price of 20 US$/bbl the general budget would have been executed with a deficit of 1.25 percent of GDP in 2003 (IMF, 2004). Our estimates show that in 2004, for the same reason, the budget outcome at this oil price was in deficit of 1.7 percent of GDP and in 2005 it is expected to well exceed 2 percent of GDP because of unplanned spendings on benefit monetization in 2005.

1.83 Thus, as follows from the analysis of recent developments, the adoption of the fiscal rules would require tightening of the government's fiscal policy, as well as speeding up the development of budget programs that support structural reforms. This is also because at the moment a very little portion of government expenditures represent program spendings on structural reforms.

1.84 ***Tax policy.*** A recent government initiative to lower the social tax rates in 2005, compensating for foregone revenues of the Pension Fund from the general revenues of the federal budget, represents a suboptimal solution. In essence, this decision means that instead of accumulating a higher proportion of the oil revenue windfall in the stabilization fund, the government returns a part of the windfall to the private sector through lower taxes. To date, the private sector in Russia has demonstrated quite prudent financial behavior – it has saved almost its entire share of the windfall and invested a good chunk of it in net foreign assets stretching its use in time (World Bank, 2004b). Therefore, for the time being this suboptimal solution could indeed generate serious potential macroeconomic benefits.

1.85 Yet for the government the flipside of this policy is that, when oil prices eventually fall, the foregone revenues will sooner or later have to be raised. This implies that the government should have an up front commitment to raise taxes in the future, and, (either increase tax rates or broaden tax bases) in the future. Respectively, the government should not make the commitment that all of the tax cuts it suggests in times of oil windfalls will be permanent. Given the present high level of the marginal social tax rate and the problems with administrating this tax, it would appear more appropriate to raise the rates on other taxes when time comes.

1.86 ***Public investment programs.*** Using the commodity price windfall to finance public investment has been quite a common practice for large commodity exporters around the

world. However, only a few countries have succeeded in doing this in a non-distorting way.[12] A few factors led to poor results. First, the investment usually went to build structures rather than to purchase equipment, implying a lower rate of return (both financial and economic) on the investment. Second, the investment contributed to economic overheating by provoking higher inflation in the construction sector. This additionally reduced the efficiency of public investment. Third, the typically weak institutional capacity of the governments resulted in poor prioritization and in implementation inefficiencies that led to considerable waste and misuse of public funds.

1.87 This is another reason why Russia should pursue an opposite, countercyclical, policy in the area of public investment – being rather conservative during booms, while protecting the levels of public investments (including reform-related spending) during "bad times" by investing a part of the saved windfall. This would allow for better selection of public investment projects and improved predictability of their financing and it would help to smooth the fluctuations of activities in the construction sector. Moreover, such investment policies would be consistent with the lessons learned from earlier fiscal adjustments to external shocks (Easterly and Serven, 2003).

1.88 ***Managing external shocks.*** In the oil price range of US$16-20 per barrel, the proposed second fiscal rule would imply that the actual budget would be executed with a deficit of up to 4 percent of GDP. This deficit would have to be financed by a reverse transfer from the stabilization fund, which would be sufficient to maintain the level of budget expenditures stable in real terms.

1.89 Should oil prices temporary fall below 16 US$/bbl, the government could employ the same mechanism of financing budget expenditures from the stabilization fund in order to maintain the constant level of expenditures in real terms.[13] If the government faces an extended period of depressed oil prices, it should trigger additional adjustments in its fiscal policies by raising general taxation, cutting the least efficient expenditures, and borrowing. The cut-off time for switching to such a supplemental policy package would depend on the amount of resources accumulated in the stabilization fund -- the more reserves that are accumulated, the later the policy would have to be launched.

1.90 Specifically, a temporary increase in taxes should (i) be accruable to the federal budget, and (ii) target taxes that have a stable and broad base and those that have the least distorting effect on the real sector, such as VAT and excises.

1.91 The cuts in expenditures should target (i) white elephant expenditures with the least transparency (and, most likely, the least efficiency), such as, the current federal targeted programs, and (ii) spending under the line "other expenditures." The real expenditure cut could also be achieved by freezing specific expenditures in nominal terms. As opposed to the method of achieving fiscal consolidation after the 1998 crisis, social expenditures should be marginally affected at the time of future fiscal adjustments in Russia.

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[12] In the 1970s-80s Senegal and Botswana managed to avoid inflating relative prices on investment goods while increasing public investment during the periods of positive trade shocks. The reason was that in both countries investment booms were heavily concentrated in purchases of machinery and equipment, i.e., *tradable* capital (Collier and Gunning, 1999).

[13] Depending on the amount of resources accumulated in the stabilization fund, this policy could be sustained for 6-12 months.

1.92 An efficient way of reactivating public borrowing could be through using the deferred drawdown option (DDO) offered by IFIs. The benefit of this option is that it can be agreed on well ahead of time at low cost. At the same time, borrowing commercially on capital markets in the period of low oil prices would be much more expensive for Russia, which is an unavoidable reflection of the increased country risks during bad times.

1.93 When the rule #3 is adopted, it would have an additional impact on the management of fiscal flows. During booms the structural fiscal surplus would have to be transferred to the stabilization fund as another funding source. Similar to that, during recessions the reversed transfers from the stabilization fund would prevent expenditures from falling in real terms. In addition, recessions usually bring about incremental expenditures (e.g., on benefits and retraining for the unemployed, capital investment projects and public works). This is why running a countercyclical policy during recessions usually leads to an increase in government borrowing (if the stabilization fund quickly diminishes). At the same time, recessions are the best times from a political economy viewpoint for identifying and eliminating inefficient expenditures. When an economy prospers, this is much more difficult to do.

1.94 ***Managing market expectations.*** As far as the policy of maintaining a strong fiscal balance is not fixed in the law, it remains unclear how strongly the government is committed to continuing this policy in the future. Making the fiscal rule into law could be helpful in terms of improving the perceptions of various market players, including potential investors.

1.95 As far as the third fiscal rule is concerned, if and when the government decides to follow it, it would be very important to adopt this rule while the economy is in a growth phase. This step would send a strong signal demonstrating government's commitment to smoothing the influence of economic cycles on the economy. In this case, market participants would have stronger confidence in overall government fiscal discipline despite the government's expansionary, countercyclical fiscal policy during a period of recession.

1.96 ***The role for the IFIs.*** The fiscal framework for structural reforms, which is analyzed in this Chapter, suggests considerable variation in budget expenditures (i.e. their fluctuation in response to various challenges and shocks). However, to ensure that these expenditure interventions are timely and efficient, there should be appropriate institutional capacity within the public sector for strategic management of financing of both public investment programs and structural reforms. In this area the World Bank and other donors could offer their expertise and project management experience. For instance, joint investment projects with the World Bank in support of various structural reforms and infrastructure upgrades could be designed in such a way that the Bank would provide only the start-up and pilot financing and would help to set up project implementation mechanisms. Scaling-up the projects would become entirely the government's responsibility. For this purpose, the government could use the same project preparation and implementation mechanisms that would be jointly established under the initial World Bank projects. Such a project framework may significantly increase the efficiency of government spending on investment and structural reforms if relatively large volumes of government co-financing would leverage the World Bank funds. In addition, the Bank and other IFIs, and the donor community in general, might provide direct technical assistance to public sector institutions to address the binding capacity constraints.

1.97 The government could keep the amount of tied borrowing from IFIs stable, but at the same time could vary its contribution to joint investment projects by reducing co-financing of structural reforms during recessions. Thus, the government's share in IFI projects could be lower during recessions and higher during high growth phases. This would help when

necessary to free the money for maintaining the stability of vital current expenditures in real terms. Operationally, this could be done, for example, by varying the number of regions in which original pilot projects are replicated.

F. CONCLUSION

1.98 The outcomes of the proposed second and third fiscal rules can be summarized in Table 1.4.

Table 1.4: Matrix of the Proposed Fiscal Rules for Russia

	oil price, US$/bbl		
Budget balances under different fiscal rules, % of GDP	*20+*	*16-20*	*12-16*
1. Oil price adjusted budget balance	balanced	balanced	Balanced
2. Oil price adjusted budget balance with the ceiling for structural reforms costs (2nd fiscal rule), not more than	-1-2	-1-2	-1-2
3. Savings/expenditures from counter-cyclical policy (3rd fiscal rule), not more than	+1+2	0	-1-2
4. Baseline budget balance estimated at actual oil price (excluding spending on both structural reforms and counter-cyclical policy), % of GDP	surplus	-0-2	-2-4
Overall actual budget outcome (= 2+3+4)	surplus	-1-4	-1-8

Source: World Bank staff estimates.

1.99 It follows from the last column of Table 1.4 that the combination of all three fiscal rules may give rise to an actual budget deficit of up to 8 percent of GDP if the period of very low oil prices and output fall coincides with the implementation of structural reforms. Specifically, fiscal sustainability rule would generate a budget deficit of up to 4 percent of GDP. Oil price rule would add to the deficit up to 2 percent of GDP, and structural balance rule would add another 2 percent of GDP. However, in the terms of structural budget balance, the deficit would not exceed 4 percent of GDP - 2 percentage points stemming from financing structural reforms under oil price rule and another 2 percentage points stemming from countercyclical policy (structural balance rule). It should be recognized though that during the periods of low oil prices the authorities could draw from the oil stabilization fund and, in this sense, a portion of respective deficits would be self-financed. Following the same fiscal rules during a period of high oil prices exceeding 24 US$/bbl requires that the federal budget is executed with a surplus.[14]

1.100 In terms of sequencing, the first two fiscal rules address the most crucial fiscal risks that the Russian fiscal policy faces, and therefore they have to be adopted first. The third fiscal rule is somewhat supplementary and could be adopted thereafter.

1.101 Overall, following the proposed fiscal rules would allow the government to maintain the fiscal stability and yet adequately address the emerging structural and cyclical challenges

[14] At oil prices in the range of 20-24 US$/bbl the overall budget outcome is ambiguous. It would depend on the extent to which the government would finance structural reforms and/or conduct countercyclical policy.

through the embedded flexibility. This fiscal framework would make the budget policy more predictable and sustainable, thereby facilitating the development of the private sector.

1.102 In addition, the adoption of the proposed fiscal rules would contribute to the successful attainment of objectives of the government's Concept of Budget Reform in two program areas -- introduction of medium-term budget planning and division of budget spending into the existing commitments and new expenditure commitments.

1.103 The World Bank as well as other international financial institutions may help the government to overcome its institutional weaknesses in managing the implementation of reform and public investment programs. This appears to be the way to increase the efficiency of public spending, so that it fully complies with the proposed fiscal rules.

Chapter 2.
FISCAL COSTS OF CIVIL SERVICE REFORM

2.1 This Chapter provides recommendations on the planning and sequencing of civil service reform in Russia based on (i) estimates for direct fiscal effects of various reforms in the area of public administration, and (ii) analysis of feasibility of different reform options. The Chapter suggests that broad reforms in the core government administration and in the civilian public sector at large may be implemented within five to seven years but should be differentiated by the scope of pay adjustment in various sub-sectors of civilian employment, closely monitored for non-wage expenditure growth, and complemented by significant staffing adjustments in the civilian public sector as well as by at least some staff reductions in the core government administration. Implementation of such reforms would require additional budget financing as compared to 2003 expenditure levels, but fiscal costs could be sustained within a reasonable range.

A. EMPLOYMENT AND FINANCING OF CORE GOVERNMENT ADMINISTRATION AND THE CIVILIAN PUBLIC SECTOR

2.2 Overall core government administration and civilian public sector employment accounts for a significant part of the Russian population: in 2002, employment in these sectors was about 11 million people or about 7.7 percent of the country's total population. The structure of civil employment in Russia is presented in Table 2.1.

Table 2.1: Structure of Core Government Administration and Civilian Public Sector Employment in 2002

Sector	Employment ('000 persons)	Employment (% of total)
Total: Core government administration and civilian public sector (A+B)	11,062.2	100.0
A. Core government administration employment	*1,252.3*	*11.3*
Civil service and local self-government	*919.5*	*8.3*
– Federal civil service	463.7	4.2
– Subnational civil service (incl. local self-government)	455.8	4.1
Other core government administration employment	*332.8*	*3.0*
B. Civilian public sector employment	*9,809.9*	*88.7*
Health, physical culture and sports, social services	3,356.1	30.3
Education	5,282.3	47.8
Culture and Arts	915.4	8.3
Research and Development*	256.1	2.3

*Data are for 2001.

Source: Rosstat.

2.3 In 2002, core government administration employment accounted for 1.25 million people (or roughly 0.9 percent of the total population) with about 47 percent employed by the federal authorities and 53 percent employed at the regional and municipal levels of the government. Employment in executive authorities (including local self-government with

executive functions) accounts for more than 86 percent of core government administration employment.

2.4 Over the past eight years, the core government administration employment has increased by almost a quarter with the most drastic increases in legislative, judiciary and other government bodies. Employment growth in the executive branch of core government administration was slower, but still since 1994 there have been significant increases in absolute staffing levels (Table 2.2).

Table 2.2: Core Government Administration Employment in Russia in 1994–2002 (in thousands)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total core government administration employment	1004.3	1061.8	1093.0	1108.9	1102.8	1133.7	1163.3	1140.6	1252.3
as % of the 1994 employment	100	105.7	108.8	110.4	109.8	112.9	115.8	113.6	124.7
A. Legislative authorities	7.1	8.8	10.5	11.1	11.0	14.5	15.5	19.1	20.4
as % in 1994	100	123.9	147.9	156.3	154.9	204.2	218.3	269.0	287.3
B. Executive authorities	894.4	945.1	971.3	984.4	983.9	1006.5	1029.5	983.7	1072.6
as % in 1994	100	105.7	108.6	110.1	110.0	112.5	115.1	110.0	119.9
B1. Federal executive	*379.9*	*416.2*	*433.0*	*442.5*	*409.9*	*412.8*	*404.7*	*377.1*	*446.8*
as % in 1994	*100*	*109.6*	*114.0*	*116.5*	*107.9*	*108.7*	*106.5*	*99.3*	*117.6*
– HQ-based	33.8	33.8	31.2	30.4	28.9	30.9	30.3	28.8	28.8
as % in 1994	100	100	92.3	89.9	85.5	91.4	89.6	85.2	85.2
– Deconcentrated	346.1	382.4	401.8	412.1	381.0	381.9	374.4	348.3	418.0
as % in 1994	100	110.5	116.1	119.1	110.1	110.3	108.2	100.6	120.8
B2. Subnational executive (incl. Local self-government)	*514.5*	*529.0*	*538.3*	*542.0*	*574.0*	*593.4*	*624.8*	*606.6*	*625.8*
as % in 1994	*100*	*102.8*	*104.6*	*105.3*	*111.6*	*115.3*	*121.4*	*117.9*	*121.6*
C. Judiciary authorities	102.7	107.3	110.1	111.5	105.6	110.1	115.2	134.3	153.9
as % in 1994	100	104.5	107.2	108.6	102.8	107.2	112.2	130.8	149.9
D. Other authorities	0.1	0.6	1.2	1.8	2.3	2.6	3.1	3.5	5.5
as % in 1994	100	600	1200	1800	2300	2600	3100	3500	5500

Source: Gimpelson (2002) and Rosstat (2002).

2.5 It is notable, that the only category of core government administration employment that has been declining over this period was employment in HQ-based federal executive authorities, while the employment in deconcentrated federal executive bodies and particularly in the subnational executive branch has been steadily growing. This disproportional growth in part may be explained by the changes in government functions from central planning to regulation of economic activities during the period of transition. These functional changes led to growing numbers of core government administration employees working for federal deconcentrated units (treasury, tax administration, customs, employment service, anti-trust agencies and property management units). Decentralization and transfer of some of the government functions from the federal to sub-federal levels may also explain part of the employment growth at the subnational level (see Gimpelson, 2002), while some of the increases may have resulted from a lack of control of staffing levels in the regional administrations and local self-government. Moreover, the recent World Bank report points to excessive employment generation in the public sector at the regional level due to insufficient job creation in the private sector. As a result, budget employment started to function as a quasi social safety net (see World Bank, 2004b).

2.6 Federal and subnational *civil service* in 2001 accounted for about 75 percent of total core government administration employment. The structure of the federal and subnational civil service is presented in Table 2.3.

Table 2.3: Structure of Civil Service Employment in 2001

Category	Federal civil servants					Subnational civil servants			Total
	Legislative	Executive	Judiciary	Others	Total	Subjects of RF	Municipal	Total	
Total core government administration employment, ('000 persons)	4.5	377.1	122.0	1.3	504.9	N/A	N/A	635.8	1140.6
O/w total civil service employment, ('000 persons)	3.8	322.5	95.2	1.3	422.8	153.3	283.6	436.9	859.7
As % of total civil service *employment*									
Total civil service	100	100	100	100	100	100	100	100	100
Category A	11.7	0	20.4	2.2	4.7	3.6	4.3	4	4.3
Category B	26	0	1.7	3.2	0.6	3.7	4	3.9	2.3
Category C	62.3	99.9	46.6	94.6	87.5	92.7	91.7	92.1	89.8
Top	1.9	0.4	0.1	8.4	0.4	2.2	3.3	3	1.7
Chief	16.3	1.4	0.2	28.4	1.3	9.7	12.4	11.4	6.4
Lead	27.6	24.9	2.1	45.1	19.9	23.2	14.9	17.8	18.8
Senior	11.7	53.6	10.5	10.7	43.4	35.9	30.9	32.6	37.9
Junior	4.8	19.7	33.8	2	22.7	21.7	30.2	27.2	25.0
Prosecutors			31.3		7				3.4

Source: Rosstat (2002).

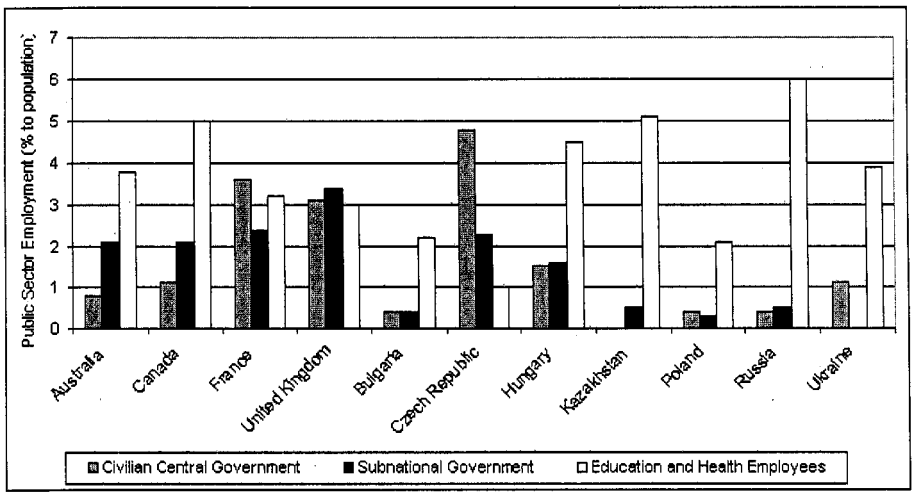
2.7 The remaining 25 percent of the core government administration personnel do not have a status of civil servants and their employment contracts are regulated by the Labor Code. Most of these employees perform supporting or logistical functions (secretaries, drivers, etc.).

2.8 Comparison of cross-country data on public sector employment (see Figure 2.1. below and Annex 2.4 to this Chapter for more information) confirms: first, that the total employment in core government administration and the civilian public sector in Russia is quite large as compared to other countries; but, second, the composition of this employment is rather distorted. It is characterized by fairly tiny federal HQ-based government authorities, as opposed to much better staffed federal deconcentrated units, to even more numerous regional and municipal administrations, and to a clearly overstaffed civilian public sector. Some of these imbalances were inherited from the central planning era, while others (especially an expansion in subnational administrative employment) have emerged over the years of transition.

2.9 The core government administration in Russia is rather small as compared to high-income OECD economies as well as many transition economies. In fact, only Poland and

Kazakhstan have smaller core government administrations, while all federative countries presented in the sample, especially those with comparable population numbers, have significantly higher core government administration employment, particularly at the sub-national level, as illustrated by the Figure 2.1 below. At the same time, the number of education and health employees in Russia is significantly higher than in all other countries in the sample, including transition economies that historically also had high employment in the health and education sectors.

Figure 2.1: Public Sector Employment in Selected OECD Countries and Transition Economies (as a percentage of population)



Note: For some countries not all types of employment data are available, hence there are some gaps in the figure above.

Source: WB Database.

2.10 Overall, public sector employment is rather high, and its financing is not adequate vis-à-vis the employment level. This coexistence of high employment and low funding represents at the moment a major disproportion in the Russian public sector.

2.11 Based on the 2002 baseline data, the current status of financing core government administration and civilian public sector employment could be summarized as the following. As Table 2.4 shows, in 2002 the total budget expenditures on cash compensation in core government administration and the civilian public sector accounted for about **6.6 percent** of GDP. Cash compensation in core government administration was only 1.7 percent of GDP out of which only about 0.7 percent of GDP was spent on the federal government's wage bill (or 1.4 percent of GDP including cash compensation of the armed forces). This is quite a low ratio by international standards. In the 1990s, the central government wage bill (including armed forces) in large developed economies with a federal structure varied from 1 percent to GDP in Germany to 2.1 percent in Australia. Some sources quote OECD averages for the early 1990s as being equal to 4.5 percent of GDP, while Latin America and the Caribbean (LAC) as 4.9 percent (see Annex 2.4). In addition, there is a view that while the expenditures on core government administration (specifically, on federal executive civil service) in Russia are lower than in other countries, the functions of the federal executive authorities in Russia are broader than in comparable countries with the federal structure of the government (see Higher School of Economics (HSE), 2004, for more information).

Table 2.4: Cash Compensation and Non-Wage Expenditures on Core Government Administration and Civilian Public Employment in 2002 (% of GDP)

	Cash Compensation, % of 2002 GDP			Non-Wage Expenditures, % of 2002 GDP*		
	Total	Federal Budget	Sub-federal Budgets	Total	Federal Budget	Sub-federal Budgets
Core Government Administration	1.7	0.7	1.0	1.0	0.4	0.6
Civilian Public Employment	4.9	1.1	3.8	3.2	0.2**	3.0**
Total	**6.6**	**1.8**	**4.8**	**4.2**	**0.6**	**3.6**

* Estimated.
** Non-wage expenditures in civilian public sector employment do not include budget transfers to extra-budgetary funds and government transfers to population.

Source: Rosstat, Ministry of Finance, and staff calculations.

2.12 The 2002 ratio of the average cash compensation in the federal core government administration to per capita GDP accounted for 1.21, which was lower than in other middle-income countries as well as in Europe and Central Asia (ECA) and OECD economies. For example, the ECA average is 1.3, OECD average is 1.6 while in LAC countries the indicator accounts for 2.5.

2.13 Hence, although core government administration pay and employment figures vary from country to country and are highly dependent on the structure and functions of the government as well as on the methodology used for national public sector statistics, the cross-country comparison shows that in terms of spending Russia's core government administration is quite small. Both wage bill in the core government administration (as a percentage of GDP) and the average cash compensation (as a ratio to GDP per capita) are considerably lower than is common internationally.

B. Civil Service Reform Priorities and Progress to Date

2.14 The need to increase productivity and transparency of the public administration and improve quality of public services has been widely recognized in Russia both inside and outside the Government as a necessary condition for ensuring implementation of other reforms and sustainable development of the country. Hence, implementation of the civil service reform (including administrative reform) is one of the Government's key priorities in the mid-term reform agenda.

2.15 The priorities for civil service reform were defined in the Presidential Decree No. 1336, dated November 19, 2002: On Federal Program, *"Reform of the Civil Service of the Russian Federation (2003-2005)"*, containing a set of measures aimed at improving legal, organizational, financial, and methodological framework of the public service[15] in the Russian Federation. The main areas of reform include the following:

- creating a comprehensive normative and legal framework governing the public service of the Russian Federation;
- developing efficient mechanisms for implementing a personnel policy for the purpose of optimizing the structure of public service personnel;

[15] The term "public service" is used in this section to denote civil service, police service and armed forces.

- developing measures aimed at improving compensation of public servants and financial, economic, and logistic support of the public service of the Russian Federation, and at using advanced information technology in the public service system in a rational manner;
- implementing staff training programs for the public service of the Russian Federation and professional development programs for public servants; and
- forming a system of management of the public service of the Russian Federation.

2.16 The specific objectives are described in the Federal Program as following:

- creating conditions for optimal organizational and legal support of the public service;
- defining roles, powers, and responsibilities of public servants on the basis of job (service) descriptions;
- implementing new techniques for planning, financing, stimulating, and assessing public servants' activities, and using public service system resources in a rational manner;
- ensuring openness of the public service for the benefit of civic society development and strengthening of the state;
- applying efficient methods for selecting qualified personnel for the public service and for assessing professional performance of public servants, as well as creating conditions for their job (service) promotion;
- implementing staff training programs for the public service and professional development programs for public servants;
- implementing mechanisms for identifying and solving public service-related conflicts of interest, as well as introducing a legal regulation of professional ethics of public servants;
- creating an optimal material and technical environment for efficient functioning of the federal public service and for performance by public servants of their official (service) duties; and
- ensuring the development of a public service administration system.

2.17 During 2002–2003, significant progress has been achieved in conceptualization of the reform approaches and preparation of the legislation that is to provide a basis for reform measures implementation. A framework Federal Law No. 58-FZ dated May 28, 2003 *"On State Service System of the Russian Federation"*, established a two-level system of public service in Russia: federal public service (administered by the Federal Government); and civilian public service of a subject of federation. Federal public service is subdivided into civilian, military and law enforcement service. Rule of law, pre-eminence of human and civil rights and freedoms, equal access to public service for all citizens, integrity of the public service, interconnection of civil and municipal service, openness and accountability, professionalism and protection from undue interference in public service activity by private individuals or legal entities are declared as guiding principles for public service system in the country. The law introduces a notion of a consolidated register of public servants positions as well as class, diplomatic, military, and special ranks that are to substitute the professional grades that existed under the previous legislation.

2.18 The framework law requires separate laws to be enacted for each type of public service (civilian, military, and law enforcement). To this end, a draft Federal Law No. 79-FZ dated July 27, 2004, *"On State Civil Service of the Russian Federation,"* was enacted in February 2005. This law defines rights and obligations of civil servants; limitations and prohibitions of the state service requirement to the conduct of the civil servants; regulation of the conflict of interests; and obligations to annually submit information on income, property, and related obligations. The law provides for a classification of civil service positions in accordance with categories and groups of appointments (see Table A2.2 in Annex 2.2). The law contains a number of important innovations, including competitive recruitment for civil service positions; introduction of job descriptions that should, *inter alia*, contain performance indicators for each position; and changes in remuneration related to introduction of performance-oriented incentives.[16]

2.19 In the framework of the civil service reform based on functional reviews several experiments related to introduction of performance budgeting and performance management have been launched in five pilot regions participating in the Program.

2.20 Significant attention is also given to the administrative reform agenda that, in the narrow sense, includes inventory of functions of the federal executive bodies and restructuring and right-sizing of the government. Priority areas for implementation of administrative reforms for 2003-2004, defined in the Presidential Decree No. 824 dated July 23, 2003, *"On Measures of Implementation of Administrative Reform in 2003-2004,"* are the following:

- restriction of the state interference in economic activity of entrepreneurs, including restriction of state over-regulation of the business;
- elimination of duplication of functions and authorities of organs of the Federal Executive powers;
- development of the system of self-regulating organizations in the economy;
- organizational separation of functions related to the regulation of economic activity, control and supervision, management of state property and provision of service to the citizens and legal entities by the state structures; and
- completion of the process of separation of functions between structures of executive power at federal and regional levels, optimization of the activity of the territorial structures of the federal executive power.

2.21 In February 2004 a specially created Government Commission chaired by the Vice Prime Minister completed the review of all 5,600 functions of the federal executive bodies and it was expected that about half of the functions would be revised or abandoned. This would require significant changes in the legal and regulatory framework to be implemented by the end of 2004. The results of this inventory of functions[17] became the basis for a major

[16] According to some analysis, however, the provisions for linkages between pay and performance in the law are still not sufficient since about 84 percent of pay would not depend on performance (HSE, 2003).

[17] It should be noted that the review looked at the functions as they are set up in the existing legal and regulatory framework, without any analysis of whether these functions have been actually implemented or whether the functions have been actually performed but are not reflected in the regulatory framework. More detailed agency-specific reviews would be needed later to increase the efficiency of executive bodies. These future reviews should be also linked with the introduction of administrative operations manuals and automation of government business processes (see HSE, 2004).

reform in the federal executive government structure launched by the President in early March 2004. As opposed to the previous structure of the federal government, the new one introduces a clear mechanism for division of authority and responsibility between the three tiers of the executive power: federal ministries responsible for policy development, federal services for exercising control and supervisory functions, and federal agencies in charge of public service delivery. The number of federal ministries was drastically cut from 23 to 14 (later the number of ministries was increased to 16).

2.22 As of March 2004 some work on a number of issues related to administrative and civil service reform, including development of concepts and legal framework providing for introduction of administrative operations manuals, quality, and accessibility standards for public services, e-government architecture, and deregulation issues as well as access to information and development of the pre-court appeals system, had been started. Some achievements have been made in introducing performance-oriented budgeting at the federal level[18] and initial steps have been taken to strengthen anticorruption activities. This demonstrates the comprehensive nature of public sector reform that is being prepared in Russia with most of the implementation still planned for the future.

C. A Framework for the Assessment of Reform Impact

2.23 As described in Section B civil service reform includes a variety of measures that, for the purpose of estimating the fiscal implications of the reform, could be grouped into the following key components.

- **Pay reform** intended to reduce the existing gap between the compensation in the public and private sectors (these efforts refer specifically to salary adjustments in core government administration employment). Implementation of this component of reform would have direct fiscal implications caused by an increased wage bill.
- **HR management reform** involving the changes in recruitment, promotion, rotation of staff, training, performance appraisal, disciplinary procedures, career paths, retirement procedures, etc. Implementation of this component would lead to increased expenditures on human resource management and training.[19]
- **Modernization of public service** that would entail development and introduction of new business processes and procedures based on modern information technologies and e-government approaches. The direct fiscal implications of this component include additional spending on equipment, use of infrastructure and support services (such as telecommunications), and other overhead costs of core

[18] In accordance with the Concept for *Reforming the Budget Process* (2004-2006) approved by the Government of the Russian Federation in May 2004, as a part of 2005 budget cycle all ministries and agencies reporting directly to the Government of the Russian Federation were required to prepare *Reports on Results and Main Areas of Activity*, which have to contain objectives, tasks, and performance targets for the relevant ministries (including their subordinate agencies) and present a budget breakdown by programs and tasks to be implemented by the ministries.

[19] Another possible fiscal implication of the HR reform would be an increase in intensity of inter-regional staff rotation. Currently the scope of rotation inside the civil service is limited because of the fiscal constraints (i.e. provision of housing, relocation benefits, etc.), and usually it is HQ-directed. Since to the knowledge of the authors, there have been no estimates yet for the desirable intensity of rotation, this aspect of reforms is not taken into account for the purpose of the Note.

government administration. The costs of modernizing the public service would entail both significant investments and recurrent expenditures on operation and maintenance of the investments made. Estimating the requirements for investments needed for public service modernization is a separate significant task that itself would suggest a number of reform scenarios. Hence, in this Chapter we will be focusing exclusively on current expenditures.[20] For the purposes of this analysis, it is assumed that though automation of some functions within the government may lead to reduction in staffing, this effect is not analyzed separately for this reform component. All expected reductions in staff levels in the model are associated with administrative changes and are accounted for under the public administration reform component[21].

- **Public administration reform**[22] includes decreasing the scope of government interference in economic processes, eliminating duplication in functions and authorities of different federal executive bodies, development of self-regulating organizations, differentiation between regulatory, supervisory, property management, and service provision functions of the government, as well as separation of responsibilities between federal and regional executive bodies. It is expected that the reform process would involve restructuring and right-sizing of the core government administration, better allocation of functions between various government agencies, out-sourcing of non-essential functions to the private sector, etc. This component of reforms would mostly affect the executive branch of the core government administration[23]. The reform would result in budget savings from the reduced number of core government administration employees, as well as in significant efficiency gains[24].

2.24 The ongoing debates on civil service reform are mostly focused on salary increases and other improvements in the civil service (both federal and subnational), especially in the executive branch of the federal civil service[25]. However, the political economy of the reform suggests that a significant pay adjustment in the civil service is likely to become a trigger for corresponding increases in compensation in the whole core government administration[26], as

[20] Fiscal costs of implementation of some HR management reform components (for example, introducing competitive recruitment for civil service positions) have been estimated by HSE (2004).

[21] Some alternative estimates of the costs of public service modernization related specifically to implementation of electronic administrative manuals are presented in the recent HSE (2004) report.

[22] Formally, the administrative reform in Russia is not seen as a part of the civil service reform. It is considered to be a complementary reform with the priorities defined in Presidential Decree No. 824 of July 23, 2003 *On Measures of Implementation of Administrative Reform in 2003 – 2004.*

[23] Civil servants employed by other branches of the core government administration may be affected by other planned/on-going reform efforts (such as a judicial reform). However, for the purposes of this Chapter it is assumed that these other branches remain unaffected by the administration reform.

[24] In the framework of public administrative reform, it is envisaged that some of the functions of the government entities would be abolished, while some of these functions would be transferred to "quasi-government" entities. For the purpose of this Note, by "a reduced number of core government employees" we mean absolute reduction in a number of civil servants/public employees as a result of abolishing some of the existing functions.

[25] The most recent discussions related to possible scenarios of the pay reform are presented in the HSE (2004) report.

[26] Rationale for inclusion of non-civil servants into the analysis of fiscal implications of the pay reform may be illustrated by the example of the State Customs Committee that currently has three types of personnel: (i) civil servants; (ii) uniformed personnel (that includes staff performing intelligence functions, as well as all staff at the positions of Division Chief and above); and (iii) staff with employment regulated by the Labor Code. In this

well as in the public sector at large (in the general government), even if the current legislation provides no formal links between the wages levels of civil servants' and those of other civilian public sector employees. Otherwise, it would be quite difficult politically for the Government to sustain a drastic increase in the salary gap between the civil servants and the rest of the public sector employees. The importance of this link was highlighted once again by the recent government decision regarding salary increases in the public sector, including a 30 percent pay increase in the entire public sector in October 2003 and the proposed similar all-inclusive 50 percent increase for 2004. Hence, the approach followed in this Chapter is that the fiscal implications of the proposed reforms in civil service should be simultaneously assessed in two different frameworks:

- *"narrow approach"* covering fiscal costs of reforms in core government administration; and
- *"broad approach"* assessing fiscal implications of a comprehensive reform package and salary adjustment in the entire civilian public sector employment.

2.25 It is recognized that in fact the proposed "broad approach" may be expanded even further to include the fiscal costs associated with the increased pay in police service and armed forces. These spheres were not included in this Chapter because of the lack of data readily available for simulations. Moreover, inclusion of the armed forces into the analysis would call for additional analysis of military reform options, which is a large task in itself[27]. Also, it is recognized that implementation of civil service reform would create additional pressures on the pension system, since keeping a decent proportion between the pensions and wages is another important policy constraint. In particular, reducing positions that are to become vacant due to staff retirement presents a relatively soft option for adjusting staffing levels. In accordance with Rosstat data, in 2003 19.3 percent of civil servants and 29.2 percent of municipal servants were over 50 years old. However, the increase in pension age proposed as part of pension reform in Chapter 3 reduces potential benefits of such scenario. Proper consideration of this area would require separate research and would have to be analyzed in the context of the pension reform. Fiscal implications of the pension reform are presented in a companion Chapter prepared jointly by the Bank and the Institute for Economy in Transition.

2.26 It should be noted that the implementation of civil service reforms would bring about not only fiscal costs but also result in noticeable fiscal and economic benefits associated with a stronger productivity growth, better resource allocation (achieved through granting more autonomy to government agencies in reallocation of budgeted funds, adoption of more transparent procurement practices and wider application of competitive procurement methods, etc.), automation of business processes, increased efficiency in the use of public property, and better quality of public services. However, it is difficult to estimate most of these benefits in quantitative terms and it will take time for most of these benefits to materialize. Hence, they have not been taken into account for the purposes of this analysis.

2.27 The earlier attempts to estimate fiscal implications of the on-going civil service reform in Russia have been limited and were focused on particular components of the overall reform costs. In 2003–04, the Higher School of Economics published some estimates related to fiscal

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case, should it be decided to adjust the pay scale for civil servants, it clearly has to be adjusted at least for the category (ii), but also probably for the category (iii).

[27] Some analysis of possible military reform options is presented in the IET (2002) report.

effects of targeted pay increase for federal headquarter-based civil servants, as well as investment costs associated with the introduction of new technologies in the federal civil service. The later were further refined in the framework of drafting a Federal Program *Administrative Reform (2005–10).* The Presidential Program *Reforming the Civil Service (2003–05)* also presented some estimates for investment costs related to drafting new civil service legislation and developing new methodologies and instructions needed to carry out both pay and HR management reforms. However, there have been neither attempts to estimate the full fiscal costs of all the above components, nor any assessments of a systemic fiscal effect of the on-going reform on the entire costs of financing the civilian public sector.

D. Data Sources and Key Assumptions

2.28 ***Data Sources.*** The data used for calculating the fiscal implications of civil service reform includes October 2002 public sector statistics published by *Rosstat in* 2002; data on pay and employment in core government administration for 2001 and 2002 (*Rosstat* 2002 and 2003); results of pay and public officials surveys conducted in 2002–2003 and sponsored by DFID (HSE, 2003, forthcoming); international statistics on the education and health sectors (including WHO and Bank data); international pay and employment database maintained by the Bank (World Bank database); as well as data obtained from other sources (a complete list of sources is presented at the end of the Chapter).

2.29 Because of the lack of up-to-date comprehensive pay and employment data in Russia, the following assumptions were applied to calculations of the pay and employment baseline:

- *For Core Government Administration*
  - Because of the lack of data on employment breakdown by groups/categories for 2002, we assumed that the 2001 employment structure remained unchanged and applied the 2001 shares to the 2002 employment levels.
  - Because of the lack of data on compensation by groups/civil service categories for 2002, we applied the actual average compensation increases in relevant branches and levels of the government to all 2001 categories/groups proportionally assuming that the compression ratio remained unchanged.
- *For Civilian Public Sector Employment*
  - We assumed that the compensation level as of October 2002 is equal to the average compensation level in 2002.
  - *Rosstat* (2002) data contained average compensation levels with breakdown per four major civilian public sector branches (see Figure A2.1 in Annex 2.1) and per level of government (i.e., federal, regional and municipal). These compensation levels were applied to all sub-sectors within each branch.
  - It was assumed that organizations classified as being federal property are financed from the federal budget, while the entities in regional and municipal property are financed from sub-federal budgets.
  - *Rosstat* (2002) data cover all organizations in the civilian public sector that are partly or fully financed from the budget. For the purposes of this Chapter it is assumed that the reported wage bill and social charges of civilian public sector employees were fully financed from the respective budgets.

2.30 ***Key Macroeconomic Assumptions.*** Macroeconomic assumptions for our simulations were developed jointly with the experts from the Institute of Economy in Transition. The basic principles of the macroeconomic framework used in our work for costing out various structural reforms are presented in Annex 3.1. In sum, we took the Government's baseline macroeconomic projections for the period 2004-2006 and used them as a basis to build a set of four macroeconomic scenarios, each of which reflects a specific combination of two primary determinants of Russia's future macroeconomic performance—average oil price and expected speed of structural reforms. Our initial plan was to use the four macroeconomic scenarios as a basis on which we would design and elaborate further more detailed *sub*-scenarios of specific structural reforms[28].

2.31 However, in the case of reforms in public administration we came to the conclusion that it would be appropriate to modify our original plan and follow a simplified set of macroeconomic assumptions. The reason for such simplification derived from our early observation that the simulation results (presented in GDP p.p. [29]) are not sensitive to GDP growth rate. The simulations are also not sensitive to inflation, since the model assumes full annual indexation of wages in both core government employment and the civilian public sector. Therefore, we decided that it would be appropriate to develop cost estimates within the single macroeconomic scenario.

2.32 What significant for the outcomes of our costing exercise is the differences in growth rates, primarily the difference between the expected growth rate in private sector wages and GDP growth rates. The higher future wage growth in the private sector, the more expensive is the government's task of closing the existing pay gap. Overall, we concluded that the key macroeconomic parameter in the model is the ratio between real wage growth rate and real GDP growth rate. Currently, the share of payroll (including hidden wages) in the Russian GDP is quite low, but in the medium term we expect that in response to structural reforms it will be growing quite rapidly to approach the levels prevailing in other economies in transition. This would occur owing to increased competition, reduced share of the informal sector, and therefore improved wage/profit ratio in the economy. However, the costs of the proposed reform in civil service depend fundamentally upon the speed of this future catch up.

2.33 Based on the above considerations, we decided to base our simulations on the single macroeconomic scenario, but to consider three sub-scenarios that have different growth rates for the payroll share in GDP (Table 2.5). From our original four macroeconomic scenarios we selected the most optimistic one as our single macroeconomic framework. This scenario is described as a scenario with the advanced reforms and high oil prices in Annex 3.1.

[28] This initial plan with multiple macroeconomic scenarios was fully implemented, however, for analysis of fiscal implications for two other structural reforms – in the pension system and in housing/utilities. The results for these two reforms are reflected in Chapters 3 and 4 of this paper.

[29] Costs reflected in absolute values, e.g., in constant 2002 rubles, would be different.

Table 2.5: Key Macroeconomic Assumptions (in constant 2002 rubles)

	2003	2004	2005	2006	2007	2008	2009	2010
GDP growth, %	7.3	5.5	5.0	4.5	4.0	3.5	3.0	2.5
GDP, trln. RUR	10.0	10.5	11.1	11.6	12.0	12.4	12.8	13.1
GDP per capita, '000 RUR	69.9	74.1	78.2	82.0	85.7	89.1	92.2	94.9
Inflation, annual, %		10.0	10.0	10.0	10.0	10.0	10.0	10.0
Real investment growth, %		9	7.5	6.5	5.5	4.5	4	4
Real household incomes growth, %		7.5	7	6.5	6	5.5	5	4.5
Population (million people)	142.8	142.1	141.5	140.9	140.3	139.7	139.0	138.4
Scenario 1 (real wage growth rate exceeds GDP growth rate by 2 p.p.)								
Real Wage Growth, %	8.1	7.5	7.0	6.5	6.0	5.5	5.0	4.5
Scenario 2 (real wage growth rate exceeds GDP growth rate by 1 p.p.)								
Real Wage Growth, %	8.1	6.5	6.0	5.5	5.0	4.5	4.0	3.5
Scenario 3 (real wage growth rate is equal to GDP growth rate)								
Real Wage Growth, %	8.1	5.5	5.0	4.5	4.0	3.5	3.0	2.5

Source: Rosstat, MoEDT, and staff calculations.

2.34 We selected the most optimistic scenario in order to highlight both the costs and risks of implementing the proposed reform package. At the same time it is quite clear that in the scenarios with low oil prices and respectively with much higher fiscal pressures, the same reform task would become much more challenging politically. In the case of a tight budget it would be much more difficult for the government to justify the need for a radical pay increase in public administration and convince society that a considerable budget restructuring that favors government employees is indeed urgently needed. In the discussion below we do not consider these additional and non-quantifiable policy risks could be derived from the overall deterioration in the macroeconomic situation, and which most likely would initiate additional pressures towards slower rates of reforms.

2.35 The selected macroeconomic framework is based on the assumption of an average growth rate of 5 percent for 2004–06[30] and 4 percent for 2004–2010. It is worth noting that these growth rates are lower than those assumed in the corresponding government projections. Overall, we expect that growth rates will decline after 2006. Better utilization of existing reserves in the economy, which was a critical growth factor in 1999–2003, cannot support the future growth in the same way as before because the reserves are to a large extent exhausted. At the same time, we admit that this may be considered as a "conservatively-optimistic" scenario.

2.36 ***Private Sector Benchmarks for Net Cash Compensation Increase.*** The primary objective of the pay reform is to narrow the existing compensation gap between the core government administration and the private sector. However, so far the overall scope of the civil service pay reform remains undecided. Although some proposals on increasing the compensation only to a limited number of senior civil servants (or those holding "strategically

[30] The current consensus estimate for Russia's growth in 2004-05 is rather favorable and is close to about 5.2 percent a year.

important positions") have been formulated (HSE, 2003 and 2004) and have recently been implemented through a Presidential Decree, drastically increasing the cash compensation for some HQ-based federal civil servants[31], the sustainability of such an approach remains unclear and no further policy decisions related to deconcentrated units of federal bodies, as well as to core government administration in general, let alone the civilian public sector, have been taken so far.

2.37 For the purpose of this Chapter, the data from a comparative pay and benefits survey of the public and private sector (HSE, 2003) were utilized as a basis for the estimates for HQ-based federal authorities employees, and then was adjusted to account for the regional wage differential, which was estimated based on the actual 2001 information about the pay differences between Moscow and other regions (*Denisova, 2001*). The specific figures applied are presented in Table 2.6.

2.38 These available data have important shortcomings related to a limited sample of the participating Russian private sector companies in Moscow. Also, while the employees in the public sector especially in the top grades have access to a considerable amount of in-kind benefits, the available information on such benefits is still limited and could be not statistically representative. Also, the survey did not allow for measuring the existing gap in remuneration for the top employment categories (Categories A and B) of the civil service. For the purposes of our analysis, it was assumed that the pay of Category B employees should be at least 20 percent higher than that for Category C–top, and for Category A—20 percent higher than that for Category B, while estimated non-cash benefits are assumed to be the same for all top civil servants (Category C–top and Categories A and B) and their private sector comparators.

2.39 To estimate the increase in net compensation of the core government administration employees that do not have the status of civil/municipal servants (i.e., core government administration employees that are regulated by the Labor Code), an assumption was used that the compensation increase for these employees is equal to a simple average increase for Category C Senior and Junior positions in the appropriate branch/level of the government administration. This assumption was used because most of these employees are technical and support staff.

2.40 The survey showed, *inter alia,* significant variance in both the pay and total compensation gap, especially for the top grades. Hence, to estimate the existing pay gap correctly, some in-kind benefits provided to civil servants are assumed significant and proposed to be retained (medical benefits, car, and driver), while others (sanatoria, apartments, dachas) are proposed to be discontinued (but their value is to be reflected indirectly through a proposed pay increase). Due to a limited number of recipients of the latter type of benefits, the direct fiscal savings from their discontinuation are negligible—estimated savings for the HQ-based federal executive service in 2002 accounted for about 550 million rubles or about 0.01 percent of 2002 GDP. However, in case the government chooses to commercialize all related infrastructure, potential one-off revenues from disposal of these assets at market prices would be much more significant. It should also be noted that the available data on benefits cover only federal HQ executive civil service, hence, the adoption

[31] Presidential Decree No. 519 On Improving the Compensation to Public Servants Holding Specific Positions of the Russian Federation and Specific Positions in the Federal Civil Service of the Russian Federation dated April 10, 2004.

of a similar policy for federal deconcentrated and subnational core government administration employees would probably yield additional fiscal savings.

2.41 Our results suggest that in 2002 the public-private gap in cash compensation varied between 2.4 and 8.6 times (Column 1, Table 2.6). However, the estimated gap in total (gross) compensation (Column 2) while still significant is much smaller - between 1.7 and 4.3 times. This is because of considerable amount of in-kind benefits is available to the top public servants, which in these employment groups exceeds their cash compensation by 3-5 times. The proposed reform strategy suggests elimination of most of these benefits, which would require a major increase in their cash salaries to compensate for lost benefits, make their overall compensation competitive and facilitate the establishment of the environment supportive of the government anti-corruption efforts. This increase would be partly accommodated by decreased financing of the in-kind benefits for civil servants.

2.42 Columns 3 and 4 in Table 2.6 present our estimates for the public-private net compensation gap, which is the gap in current cash compensation adjusted for in-kind benefits to be retained. The net compensation gap is a critical parameter in our model - it defines the benchmark for necessary pay adjustment in the public sector to make salaries there fully comparable with the pay in the private sector. At the moment, the net compensation gap varies between 2.3 and 7.8 times for HQ-based staff and 1.2–3.9 times for federal deconcentrated and subnational service. However, based on the data available, we cannot estimate variances in the compensation gap among individual positions and specialties.

Table 2.6: Estimated Public-Private Pay and Compensation Gaps, 2002 Measured as a Ratio of Pay (Compensation) in the Private Sector to Pay (Compensation) in Federal and Subnational Civil Service

	Federal Civil Service			Subnational Civil Service
Category/ Group	**Public-Private Pay Gap, times[a/]**	**Public-Private Gross Compensation Gap, times[b/]**	**Public-Private Net Compensation Gap, times[c/]**	**Public-Private Net Compensation Gap, times**
	1	**2**	**3**	**4**
Category A	8.6	2.2	**7.8**	3.9
Category B	7.1	1.9	**6.3**	3.2
Category C				
Top	8.5	1.7	**7.8**	3.9
Chief	5.8	4.2	**5.7**	2.8
Lead	5.2	4.3	**5.1**	2.5
Senior	3.7	3.4	**3.6**	1.8
Junior	2.4	2.2	**2.3**	1.2

Notes: The estimated gaps are not adjusted for 30 percent compensation increase in core government administration and civilian public sector implemented in October 2003.

[a/] reflects the estimated gap in cash compensation only.

[b/] reflects estimated differences in cash compensation combined with value of all in-kind benefits currently received.

[c/] reflects estimated differences in cash compensation combined with value of in-kind benefits to be retained.

Source: HSE (2003) and staff calculations.

2.43 Based on the understanding that some of the in-kind benefits will be discontinued, for the purpose of this Chapter it is assumed that the total amount of expenditures on in-kind

benefits in core government administration would not exceed the current level. Hence, the expenditures associated with in-kind benefits are not included in net increases of fiscal expenditures on core government administration.

2.44 Given the large current compensation gap with the private sector it is highly unlikely that in the medium-term Russia could close most of it and reach the level of OECD countries where the common remuneration gap with the private sector is on average of about 10 percent[32], while it varies for particular positions/professions. Thus, even in the medium-term, the proposed scenarios aim only at a partial closure of the gap. In our simulations below even the "radical" scenario of the pay reform assumes a relatively high residual compensation gap of 50 percent.

2.45 The results of the survey of the public servants' pay expectations (see Table 2.7) undertaken in 2002 (INDEM) also seem to confirm the feasibility of a relatively high residual compensation gap for federal civil service. The comparison of pay expectations and the existing compensation gap shows that the surveyed officials either underestimate their existing pay differences with the private sector or they are prepared to accept lower pay levels (at least at Department/Division Chief levels). While the estimated pay gap accounts for a 5.0–7.5 increase, public officials would consider a 2.5–4.0 pay increase to be adequate. This difference between the actual pay gap and pay expectations could be explained by a number of factors, including: (i) insufficient awareness of public servants of the comparative pay levels in the private sector; (ii) the extent to which the public servants surveyed have access to and value various non-cash benefits provided; and (iii) higher job security and lower intensity associated with a public sector employment as compared to the private sector positions. The results of the public officials surveys may also reveal the fact that some of the civil servants in Russia may not perceive their official pay as the only (and the primary) source of income. This argument is confirmed by the recent research on ownership structure in Russia. In fact, there is little, if any, separation between the authorities and business community in the country[33].

Table 2.7: Civil Servants' Perceptions: Expected Pay and Compensation Levels for Benchmark Positions in the Federal Civil Service (based on Public Officials Survey)

Benchmark Position	Category C Group	Expected Pay (with all in-kind benefits retained), US$	Pay Increase (with retained in-kind benefits), times	Expected Pay (in case all in-kind benefits are discontinued), US$	Pay Increase (without in-kind benefits), times
Deputy Minister	top	2,182	**4.0**	3,733	**6.9**
Department Head	top	864	**1.9**	1,223	**2.6**
Division Head	lead	672	**2.2**	887	**2.9**
Chief Specialist	senior	448	**2.6**	634	**3.7**

Sources: INDEM (2002), HSE (2003), and staff calculations.

[32] Schiavo-Campo et al. (1997), p.10.

[33] For more information on this issue, see the recent Russia Country Economic Memorandum (World Bank, 2004).

2.46 The analysis of both Tables 2.6 and 2.7 points out that both the existing net public-private compensation gap (Table 2.6) and the pay increases, which would meet the current expectations of the civil servants (Table 2.7), vary greatly between the different grades and positions and tend to be lower for more junior servants and higher for more senior public officials. This suggests that the compression ratio in the core government administration is significantly lower than the one in the private sector. Indeed, in 2002 the compression ratio for federal executive HQ-based civil service accounted for only 2.5. A compression ratio for federal executive civil service was slightly higher (3.7), but still quite low by international standards. Internationally, the compression ratio varies widely from highs of 30:1 to lows of 2:1 with the mode of around 6 or 7 to one[34]. What follows from this analysis is that the decompression of the existing pay scale in Russia by at least 2.0–2.5 times would be quite desirable in the medium term.

2.47 Low compression ratios in Russia suggest that the pay increases in core government administration should be focused more on the managerial (higher level staff) than on junior staff. It should be noted, however, that the proposed reform strategy to close the same percentage of the existing pay gap for all employee categories would automatically generate considerable pay decompression (because the net compensation gap is so much higher today for the higher grades).

2.48 At the same time, it is worth noting that selective increases that do not cover all of the core government administration employees, at least to some extent, may create additional distortions in the staff grading process. Recent public officials surveys pointed out that there are quite a number of federal and subnational civil servants that though formally employed at senior positions, in fact perform the responsibilities of junior staff (see HSE, 2003, for more information). To improve the incentives for proper grading in the core government administration and sustain the employment structure under the conditions of significant pay adjustments for higher level staff, a *"minimum wage increase for all grades"* rule should be made a part of any pay adjustment strategy. In our simulations such minimum adjustment amounts to a 20–30 percent increase in real wage relative to its 2003 level depending on the reform scenario.

2.49 Substantial cash compensation increases in core government administration, if not expanded to other categories of general government employment, would significantly affect the balance between remuneration of the core government administration and the rest of the public sector. It is assumed that this imbalance would be politically unsustainable and the Government would ultimately have to adjust pay in the entire public sector regardless of the fact whether there is or not at the moment a legally explicit link between compensation of these two categories. For the purpose of this Chapter, an average cash compensation increase in core government administration is used as a trigger for estimating a corresponding pay adjustment in the civilian government employment. Given the current number of civilian employees, it is unlikely that it would be possible to sustain the current cash compensation ratio between the core government administration and the civilian public sector. It is also expected that the ratio of non-budgetary sources of civilian public sector employees' wage bill would be increasing owing to the growing share of commercial services provided by the entities in this sector for additional pay. Hence, in our scenarios we assumed that the pay

[34] Schiavo-Campo et al. (1997), p. 44.

adjustment in civilian public service would be equal to 70 percent of the average increase in cash compensation in the core government administration.

2.50 **Payroll Taxes.** All the estimates of cash compensation include payroll taxes—personal income tax (PIT) and Unified Social Tax (UST)—i.e., we estimated gross compensation aggregates. The existing regressive scale of UST has been explicitly taken into account with tax brackets adjusted for real wages growth. No possible future changes in the UST tax rates have been accounted for[35]. Increase in PIT collection because of higher cash compensation in core government administration and civilian public sector employment was accounted for as a fiscal gain to the sub-federal budget.

2.51 **Verification.** Although there is no "best international practice" related to the relative pay levels in the public sector, a ratio of average federal government administration wage to GDP per capita could be used as a monitoring indicator to verify the viability of the analyzed reform scenarios. In OECD countries, this indicator on average is 1.6[36], while in Russia in 2002 it was 1.2, which is quite low, especially when compared to either the global average (3.0) or an average for LAC countries (2.5) that could be used as a proxy for middle-income countries level[37].

2.52 **Relative Pay Adjustment: HQ-based Employees and Deconcentrated Staff.** The estimated compensation gap is higher for federal HQ-based core government administration employees than for deconcentrated federal civil servants and for subnational civil servants. This is partially a reflection of the existing imbalance in remuneration among the federal HQ-based civil servants, civil servants working in deconcentrated units of federal bodies, and subnational civil servants. Currently, in 60 percent of regions, salaries of regional servants are higher than those of federal deconcentrated units; in 45 percent of regions, salaries of regional servants are higher than the salaries of HQ-based federal civil servants (see HSE, 2004, for more information). Hence, the ratio of the compensation between these categories (currently favoring subnational employees) should be reversed to reflect relative labor market prices[38]. This policy may also be considered as part of the proposed decompression agenda, since it suggests that as a result of the reform the compression ratio in the federal executive branch (including deconcentrated units) would become significantly higher.

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[35] The on-going debates on tax reform in Russia also include some proposals on decreasing the rate for Unified Social Tax up to 10 p.p. but no final decision had been taken on this issue by the time simulations were performed.

[36] The relatively low levels of this ratio in the OECD countries are due to smaller skill differentials between the central government employees and the rest of working population. Hence, for Russia a higher ratio than the one for OECD (probably the one approaching the level of middle-income LAC countries) could be expected. Cross country comparisons should, however, be used with caution since e.g. in many countries paramilitary personnel is considered as a part of the central government, while this report separates police service from the core government administration.

[37] Source: Schiavo-Campo et al. (1997). An International Statistical Survey of Government Employment and Wages, p. 7; staff calculations for Russia (based on the Rosstat data).

[38] This assumption suggests a completely different approach to compensation for the deconcentrated federal executive bodies that in effect creates a significant pay gap between HQ-based staff and those employed in the territorial branches of the same government entity. Implementation of this approach would call for (i) continuous monitoring of regional labor market prices throughout the country, and (ii) imposing strict limitations on employment growth in the Headquarters of federal executive bodies.

2.53 It is worth noting that the future nominal levels of cash compensation in the civilian public sector should vary from region to region, depending on the local price level as well as on some other factors, while our scenarios suggest only the national average estimates for a potential cash compensation for different employment categories.

2.54 **Attrition.** Scenarios entailing implementation of the administrative reform component assume some reduction in both core government administration employment, as well as in employment in the civilian public sector.

2.55 As far as the core government administration employment is concerned, for the purpose of this Chapter it is assumed that attrition would take place only in the executive branch of the core government administration. Since the detailed structure of management bodies within the core government administration has not been determined yet, it is especially difficult to make projections for a possible attrition rate. Moreover, the Wagner Law claiming that public administration employment tends to grow with economic growth also may play a role in determining future trends in staffing levels in the core government administration in Russia. The attrition rates proposed in the Chapter are more conservative than the latest announcement made by the top government officials on the expected 30 percent cuts in the number of civil servants because it is not clear whether these expected reductions refer to HQ-based federal executive civil servants or to the whole federal executive civil service. Moreover, given the low current staffing levels in the HQ part of the executive service, we are concerned that a 30 percent cut for this component of the public administration may be excessive. Our analysis of the dynamics of core government administration employment in 1994-2002 (see Section A) also suggests that subnational executive civil service and local self-government may accommodate higher attrition than federal executive authorities. These attrition rates are used here only as preliminary benchmarks for the analysis. More accurate forecasting of future attrition rates would require much more detailed research of the current employment rates, costing out the separate executive functions and analyzing broad statistical data on regional variations in actual employment.

2.56 The specific attrition rates that have been used for simulations are presented in Annex 2.5 and briefly summarized below. Employment adjustments for the education sector were calculated based on the difference between the students/teacher ratio in Russia and in middle-income OECD countries. The target level was either estimated as an average between middle-income and OECD countries levels or as the one approaching the OECD countries level, depending on the current indicators for Russia and the feasibility of the quick changes in the staffing levels. Depending on the sub-sector, possible attrition rates in the education sector were estimated in the range of 10.5–26.9 percent of the 2001 employment levels (see Table 2.8). For later years, demographic projections on the number of students were also taken into account.

Table 2.8: Attrition Rates Expected in the Education Sector, 2001

Sub-Sector*	Current ratio of students/teacher	Benchmark ratio of students/teachers	Expected Attrition Rate (%)
Higher Education	11.4	15.6	26.9
General Education	11.5	15	23.3
Vocational Education	10.2	11.4	10.5

* For other sub-sectors of the education sector a general 10 percent reduction rate used for all "other civilian public sector employment" was applied.

Source: Poletaev et al., (2003), and staff calculations.

2.57 Future employment adjustments for the health sector were estimated based on the ratio of doctors and paramedical staff per 100,000 of population in Russia as compared to the same indicator in OECD countries. Given considerable cross-country variance of this indicator as well as the comparatively high ratio in Russia, it is assumed that in the medium to long term the number of health sector employees can be reduced by 20 percent.

2.58 There is little if any information on a potential for staff reduction in the rest of the civilian public service. For the purposes of this Chapter it was assumed that this reduction would account for 10 percent.

2.59 At the same time, for the scenarios that do not assume any administrative reform actions, it was assumed that the actual employment in core government administration may in fact grow, given that in 2001 about 5.6 percent of positions in the government administration were vacant and some of these are likely to be filled in after the salary increase. In 2001 the difference between the share of vacant positions in subnational service (which is considered relatively more attractive given local market opportunities) and federal civil service accounts for about 2 percentage points. At the same time, in the process of reforms the requirement of public servants' qualifications will increase significantly, and as a result some of the positions may remain vacant. Hence, for the purpose of simulations, it was assumed that the salary increases would lead to an increase in employment of 2 percent, if not accompanied by a separate effort to cut staffing. The same assumption was applied to the civilian public sector employment.

2.60 **Expenditures Related to Staff Attrition.** For scenarios that assume employment cuts, additional expenditures related to one-time separation costs in core government administration have been calculated based on the current legislation (i.e., Labor Code, legislation on civil service). These costs were estimated under the assumption that the redundant civil and municipal servants are paid an equivalent of their four-month pay, while the other civilian sector employees are paid an equivalent of their two-month pay.

2.61 **Verification.** Even a superficial cross-country comparison shows significant variation of the employment numbers in different layers of the core government administration and civilian public sector at large. Although there are significant methodological limitations to the actual application of international comparative data, it was helpful to use cross-country comparisons of various employment ratios, such as shares of core government administration employment, civilian public sector employment, and employment in health and education sectors in the total population, as monitoring indicators for reform progress.

2.62 **Non-Wage Expenditures on Core Government Administration.** Modernization of public service and implementation of the full-scale HR management reform would call for increased financing of non-wage expenditures on core government administration, especially those on equipment, communication and other services, and training. The UK data for running costs (used as a benchmark) shows that the average ratio of non-wage expenditures accounts for 33–40 percent of total expenditures on government administration, while in Russia in 2001 this ratio (for federal budget only) accounted for about 38 percent (36 percent in 2003). This shows that the current share of non-wage expenditures in Russia appears to be in line with international practice. It is anticipated that a full-scale implementation of the comprehensive civil service reform package would sustain this ratio at the level of 25–36 percent (depending on the reform scenario). In other words, we assume that the share of non-wage costs in total budget expenditures on core government administration would be either sustained or would somewhat decline primarily owing to an opportunity for considerable savings associated with

more efficient use of existing office space (and associated decline in maintenance and utility costs). In addition, the possibility of reallocating some of the core government administration staff and subsequent renting of government real estate could bring about additional fiscal gains.

2.63 It should be noted that non-wage expenditures in civilian public sector employment are highly sector-specific. Identification of appropriate benchmarks would require a separate research of the current status of civilian public sector financing and the need for further development. This research goes beyond the scope of this analysis although we acknowledge the importance of non-wage expenditures in the civilian public sector as a parameter of civil service reform in Russia.

E. Civil Service Reform Scenarios

2.64 Fiscal implications of the civil service reform depend upon a large number of factors. For the purpose of this Chapter, the following parameters were used to identify the possible reform scenarios and estimate their fiscal implications:

- **Macroeconomic** scenarios (three sets of indicators based on the change in the share of real wages in GDP);
- **Extent** of **pay reform** implementation, measured as the amount of the residual public-private compensation gap:
  - **Radical** pay reform (by the end of the reform period, i.e., by 2010, the residual public-private compensation gap would not exceed 50 percent, i.e., average compensation in core government administration would amount to two thirds (66 percent) of the average compensation in the private sector. Minimum pay increase in core government administration is 30 percent.
  - **Moderate** pay reform (by the end of the reform, the residual public-private compensation gap would not exceed 100 percent, i.e., average compensation in core government administration would amount to half (50 percent) of the average compensation in the private sector). Minimum pay increase in core government administration is 20 percent.
- **Pay reform pace.** Three variants were used for simulation: high, medium, and low. The differences in pace across pay reform scenarios are presented in Table 2.9 below. For consistency, it was assumed that the pace of administrative reform (measured as the share of number of staff cuts in the total attrition planned within the specific scenario) is identical to the pace of pay reform (measured as the share of the public-private compensation gap closed since the beginning of the reform in the total gap to be closed within the specific scenario).

Table 2.9: Assumption on Pay Reform Pace, Measured as a Share of the Overall Planned Gap Covered, %

	2004	2005	2006	2007	2008	2009	2010
Low-paced reforms (1)	15	30	45	60	75	90	100
Medium-paced reforms (2)	20	40	60	80	100	100	100
High-paced reforms (3)	35	70	100	100	100	100	100

- **Administrative reform** implementation and the extent of results in attrition as keys of fiscally measurable impact. Specific attrition rates for core government administration are presented in Annex 2.5. Given the political sensitivity of the issue, as well as the comparatively low share of core government administration in the total population of the country, the following scenarios have been proposed:
  - **No administrative reform,** which would lead to increased employment in core government administration and the civilian public sector at large. This scenario **assumes** significant expenditure growth without any fiscal gains from staff attrition. As a result, it is likely to lead to fiscal pressures, which would prevent any substantial progress in implementation of both HR management and public service modernization reform components. Thus, the share of non-wage expenditures in total expenditures on core government administration is assumed to be at the lower end (25 percent) of a broader interval.
  - **Fair administrative reform** with moderate achievements in both HR management and public service modernization components. This would provide for cuts in staffing by 7–10 percent in federal authorities and 17–20 percent in **regional** administrations and local self-government and bring the share of non-wage expenditures in total expenditures on core government administration to about 32 percent.
  - **Significant administrative reform** with significant progress in HR management and public service modernization. This would provide for cuts in staffing by 15–20 percent in federal authorities and 25–30 percent at the regional and municipal levels and sustain the share of non-wage expenditures in total expenditures on core government administration at the level of 36 percent.

2.65 Possible combinations of scenarios with different pay and administrative reform scope are summarized in Table 2.10.

2.66 Based on the factors listed above, we developed a matrix containing 54 potential scenarios (all possible combinations of selected variables). After a brief analysis of the matrix, the scenarios that have inherent inconsistencies and are unlikely to be implemented (i.e., radical pay reforms implemented at a low pace, moderate pay reforms implemented at high speed, slow-paced reforms combined with significant administrative changes) have been removed from the list. The matrix with the description of 36 remaining scenarios that were selected for actual costing-out and analysis is presented in Table 2.11. The basic results (cost estimates) of the simulations for these 36 scenarios are summarized in Table 2.12.

Table 2.10: Possible Scope of Pay and Administrative Reforms

	No Administrative Reform	Fair Administrative Reform	Significant Administrative Reform
Radical Pay Reform	♦ Employment in core government administration and civilian public sector is increased by 2 percent ♦ Share of non-wage expenditures in total expenditures on core government administration is 25 percent ♦ Residual public-private compensation gap is 50 percent ♦ Minimum pay increase is 30% *Note: this group of scenarios was found unrealistic and was not included in simulations*	♦ Employment in executive branch of core government administration and civilian public sector is cut by 7-20 percent ♦ Attrition rates for civilian public sector are applied in accordance with sectoral assumptions ♦ Share of non-wage expenditures in total expenditures on core government administration is 32 percent ♦ Residual public-private compensation gap is 50 percent ♦ Minimum pay increase is 30 percent	♦ Employment in executive branch of core government administration and civilian public sector is cut by 15-35 percent ♦ Attrition rates for civilian public sector are applied in accordance with sectoral assumptions ♦ Share of non-wage expenditures in total expenditures on core government administration is 36 percent ♦ Residual public-private compensation gap is 50% ♦ Minimum pay increase is 30 percent
Moderate Pay Reform	♦ Employment in core government administration and civilian public sector is increased by 2 percent ♦ Share of non-wage expenditures in total expenditures on core government administration is 25 percent ♦ Residual public-private compensation gap is 100 percent ♦ Minimum pay increase is 20 percent	♦ Employment in executive branch of core government administration and civilian public sector is cut by 7-20 percent; ♦ Attrition rates for civilian public sector are applied in accordance with sectoral assumptions ♦ Share of non-wage expenditures in total expenditures on core government administration is 32 percent ♦ Residual public-private compensation gap is 100 percent ♦ Minimum pay increase is 20 percent	♦ Employment in executive branch of core government administration and civilian public sector is cut by 15-35 percent; ♦ Attrition rates for civilian public sector are applied in accordance with sectoral assumptions ♦ Share of non-wage expenditures in total expenditures on core government administration is 36 percent ♦ Residual public-private compensation gap is 100 percent ♦ Minimum pay increase is 20 percent

Table 2.11: Description of the Civil Service Reform Scenarios Included in Simulations

No.	Scenario Code	Macro (share of wages in GDP)	Pay Reform Extent	Pay Reform Pace	Admin Reform
1	1.1.2.2.	Scenario 1 (high)	Radical	Medium	Fair
2	1.1.2.3.	Scenario 1 (high)	Radical	Medium	Significant
3	1.1.3.2.	Scenario 1 (high)	Radical	High	Fair
4	1.1.3.3.	Scenario 1 (high)	Radical	High	Significant
5	1.2.1.1.	Scenario 1 (high)	Moderate	Low	No
6	1.2.1.2.	Scenario 1 (high)	Moderate	Low	Fair
7	1.2.2.1.	Scenario 1 (high)	Moderate	Medium	No
8	1.2.2.2.	Scenario 1 (high)	Moderate	Medium	Fair
9	1.2.2.3.	Scenario 1 (high)	Moderate	Medium	Significant
10	1.2.3.1.	Scenario 1 (high)	Moderate	High	No
11	1.2.3.2.	Scenario 1 (high)	Moderate	High	Fair
12	1.2.3.3.	Scenario 1 (high)	Moderate	High	Significant
13	2.1.2.2.	Scenario 2 (med)	Radical	Medium	Fair
14	2.1.2.3.	Scenario 2 (med)	Radical	Medium	Significant
15	2.1.3.2.	Scenario 2 (med)	Radical	High	Fair
16	2.1.3.3.	Scenario 2 (med)	Radical	High	Significant
17	2.2.1.1.	Scenario 2 (med)	Moderate	Low	No
18	2.2.1.2.	Scenario 2 (med)	Moderate	Low	Fair
19	2.2.2.1.	Scenario 2 (med)	Moderate	Medium	No
20	2.2.2.2.	Scenario 2 (med)	Moderate	Medium	Fair
21	2.2.2.3.	Scenario 2 (med)	Moderate	Medium	Significant
22	2.2.3.1.	Scenario 2 (med)	Moderate	High	No
23	2.2.3.2.	Scenario 2 (med)	Moderate	High	Fair
24	2.2.3.3.	Scenario 2 (med)	Moderate	High	Significant
25	3.1.2.2.	Scenario 3 (low)	Radical	Medium	Fair
26	3.1.2.3.	Scenario 3 (low)	Radical	Medium	Significant
27	3.1.3.2.	Scenario 3 (low)	Radical	High	Fair
28	3.1.3.3.	Scenario 3 (low)	Radical	High	Significant
29	3.2.1.1.	Scenario 3 (low)	Moderate	Low	No
30	3.2.1.2.	Scenario 3 (low)	Moderate	Low	Fair
31	3.2.2.1.	Scenario 3 (low)	Moderate	Medium	No
32	3.2.2.2.	Scenario 3 (low)	Moderate	Medium	Fair
33	3.2.2.3.	Scenario 3 (low)	Moderate	Medium	Significant
34	3.2.3.1.	Scenario 3 (low)	Moderate	High	No
35	3.2.3.2.	Scenario 3 (low)	Moderate	High	Fair
36	3.2.3.3.	Scenario 3 (low)	Moderate	High	Significant

Table 2.12: Fiscal Implications of Civil Service Reform: Summary Results (Increase in Expenditures GDP, p.p. as compared to 2003)

Scenario	2004			2006			2010		
	Core Government Administration	Civilian Public Sector	TOTAL COSTS	Core Government Administration	Civilian Public Sector	TOTAL COSTS	Core Government Administration	Civilian Public Sector	TOTAL COSTS
1	0.6	1.1	**1.7**	1.1	1.4	**2.5**	1.8	1.4	**3.3**
2	0.8	1.1	**1.9**	1.3	1.4	**2.7**	1.9	1.4	**3.3**
3	0.7	1.3	**2.0**	1.5	1.4	**2.8**	1.8	1.4	**3.3**
4	0.9	1.3	**2.1**	1.5	1.4	**2.8**	1.9	1.4	**3.3**
5	0.4	1.3	**1.7**	0.7	1.8	**2.4**	1.3	2.9	**4.2**
6	0.5	1.0	**1.5**	0.8	1.1	**1.9**	1.4	0.9	**2.3**
7	0.5	1.4	**1.8**	0.7	1.9	**2.7**	1.3	2.9	**4.2**
8	0.5	1.0	**1.5**	0.9	1.0	**1.9**	1.4	0.9	**2.3**
9	0.7	1.0	**1.7**	1.0	1.0	**2.0**	1.4	0.9	**2.3**
10	0.5	1.4	**2.0**	1.0	2.4	**3.3**	1.3	2.9	**4.2**
11	0.6	1.0	**1.6**	1.0	0.8	**1.8**	1.4	0.9	**2.3**
12	0.7	1.0	**1.7**	1.0	0.8	**1.9**	1.4	0.9	**2.3**
13	0.6	1.1	**1.7**	1.0	1.2	**2.3**	1.6	1.1	**2.7**
14	0.8	1.1	**1.9**	1.2	1.2	**2.5**	1.8	1.1	**2.9**
15	0.7	1.2	**1.9**	1.3	1.2	**2.5**	1.6	1.1	**2.7**
16	0.9	1.2	**2.1**	1.5	1.2	**2.7**	1.8	1.1	**2.9**
17	0.4	1.3	**1.6**	0.6	1.6	**1.7**	1.1	2.3	**3.5**
18	0.5	0.9	**1.4**	0.7	0.9	**1.7**	1.1	0.5	**1.7**
19	0.4	1.3	**1.7**	0.7	1.7	**2.4**	1.1	2.3	**3.5**
20	0.5	0.9	**1.4**	0.8	0.8	**1.7**	1.1	0.5	**1.7**
21	0.7	0.9	**1.6**	0.9	0.8	**1.8**	1.2	0.5	**1.7**
22	0.5	1.5	**1.9**	0.9	2.2	**3.0**	1.1	2.3	**3.5**
23	0.5	1.0	**1.5**	0.9	0.7	**1.6**	1.1	0.5	**1.7**
24	0.7	1.0	**1.6**	1.0	0.7	**1.6**	1.2	0.5	**1.7**
25	0.5	1.0	**1.6**	1.0	1.0	**2.0**	1.3	0.7	**2.1**
26	0.7	1.0	**1.8**	1.1	1.0	**2.2**	1.5	0.7	**2.2**
27	0.7	1.2	**1.8**	1.2	1.1	**2.3**	1.3	0.7	**2.1**
28	0.9	1.2	**2.0**	1.4	1.1	**2.5**	1.5	0.7	**2.2**
29	0.4	1.2	**1.6**	0.5	1.4	**2.0**	0.9	2.0	**2.8**
30	0.4	0.9	**1.4**	0.6	0.7	**1.4**	0.9	0.3	**1.2**
31	0.4	1.2	**1.6**	0.6	1.6	**2.2**	0.9	2.0	**2.8**
32	0.5	0.9	**1.4**	0.7	0.7	**1.4**	0.9	0.3	**1.2**
33	0.6	0.9	**1.5**	0.8	0.7	**1.5**	0.9	0.3	**1.2**
34	0.5	1.4	**1.8**	0.8	2.0	**2.7**	0.9	2.0	**2.8**
35	0.5	0.9	**1.4**	0.8	0.6	**1.3**	0.9	0.3	**1.2**
36	0.7	0.9	**1.6**	0.9	0.6	**1.4**	0.9	0.3	**1.2**

Note: Figures may not sum up due to rounding.

2.67 The main findings from the base set of simulations could be summarized as follows:

- Potential fiscal costs of civil service reform are quite sensitive to relative growth rate of private sector wages. A decrease in real wages growth by 1 p.p. leads to about 0.5–0.7 p.p. of GDP in annual budget saving.
- The radical pay reform aimed at a 50 percent residual public-private compensation gap is on average about 1.5 times as expensive as the moderate pay reform that allows for 100 percent public-private compensation gap at the end of the reform process. In addition, the more ambitious the pay reform, the more volatile are its fiscal costs, i.e., they are more sensitive to the changes in other factors.
- Sub-federal budgets would have to carry a much larger share of the overall fiscal burden, associated with the reforms. About two thirds of the total incremental costs would become responsibility of subnational authorities.
- The scenarios with both radical and moderate pay adjustments result in significant pay decompression in HQ-based civil service, from the current ratio between average wages in Top and Junior Groups of 2.5 to 5.2–8.3 in 2006 and to 6.8–8.3 in 2010.
- The sensitivity of fiscal costs to the pace of pay reform implementation is relatively low.
- Both radical and moderate pay reforms would not be affordable for the budget system if they are not complemented by administrative adjustments.

F. Outcomes of Civil Service Reform in Light of Cross-Country Comparisons

2.68 In this section we intend to validate various reform options using several monitoring indicators, which allow placing some expected reform outcomes in a broader comparative framework.

2.69 Section D of this Chapter suggested several indicators based on international public sector statistics that may be used as tentative guidance in analyzing and evaluating the results of our estimates. One of these indicators was a *ratio of average federal government administration wage to GDP per capita.* The results of simulations suggest that this indicator falls within the interval between 1.8 (moderate pay reform in case of unchanged share of real wages in GDP—scenarios 29-36) and 2.4 (radical pay reform in case the real wages growth rate is 2 p.p. higher than the GDP growth rate—scenarios 1–4). These are more or less in line with the indicators for LAC (2.5), lower than the world average (3.0), and higher than the average ratio for OECD (1.6), and ECA (1.3) (see table in Annex 2.4). The results suggest significant increase in this indicator as compared to the baseline of 2002 (1.2).

2.70 Another relevant indicator is *the number of core government administration employees as a percentage to population,* which in our simulations varies from 0.8 percent to 0.9 percent, which is quite close to the baseline value (0.87 percent of population in 2002). This indicator is in line with the numbers for civilian employment in central and subnational government in Poland (0.7 percent), Bulgaria (0.8 percent), Ukraine (1.1 percent), and India (0.9 percent), but it is significantly lower than in Mexico (1.4 percent) and Brazil (1.6 percent), let alone the high-income OECD countries where government employment varies between 2.9 percent of population in Australia to 6.9 percent in the United States. The only country in our sample where the ratio is significantly lower than in Russia is Kazakhstan (0.5 percent).

2.71 A similar ratio for the *number of health and education employees* suggests that by the end of the proposed reforms the number of these employees may vary between 6.0 percent of population (in case no administrative reform is implemented) or 4.2 percent (in case the administrative reform takes place), while the 2002 baseline is 5.6 percent. The cross-country data vary greatly, but it is clear that implementation of administrative reform will bring Russia closer to OECD averages (3.4 percent) with the closest comparators in transition economies group being Hungary (4.5 percent), Kazakhstan (5.1 percent), and Ukraine (3.9 percent). By international standards, employment in health and education sectors will still remain quite high, but, on the other hand, the specifics of Russia (i.e., vast territory most of which has low density of population) may justify a higher employment in public services. Indeed, in Canada the indicator appears to be 5.0 percent, in Australia and the US–3.8 percent.

2.72 Generally, the brief comparison of the simulation results with international statistics suggests that the reform scenarios implying administrative reform would bring about considerable general improvements to the structural characteristics of both Russian civilian public sector and core government administration employment as compared with the current status.

G. Summary of Simulations: Analysis of Selected Reform Scenarios

2.73 The analysis presented in Section F and Annex 2.6 allows narrowing down the number of reform scenarios that could be potentially implemented within the middle to long-term time frame. In this Section we would: first, discuss these potential policy constraints, and second, concentrate on the analysis of the relatively viable reform options.

2.74 Our simulations show that it is unlikely that by 2010 the budget would be able to afford a radical decrease in the public-private compensation gap for the entire core government administration employment and civilian public sector. In case when the residual public-private gap amounts to 50 percent, the additional budget expenditures caused by the reform would account for about 2.1 to 3.3 p.p. of GDP in annual extra costs, as compared to 2003 expenditure levels, depending upon a future wage growth rate in the private sector. These figures, although not very high in the international context, are still unlikely to be affordable for the Russian budget, especially for sub-federal budgets that would have to accommodate most of the necessary increase in budget expenditures. In fact, these estimates do not capture other important costs, such as the need for a parallel and similar in magnitude increase in financing of the police and armed forces, which will result in even higher fiscal pressures. Hence, in our view, the scenarios assuming radical pay adjustment for the entire civilian public sector employment (scenarios 1-4, 13-16, and 25-28) should be excluded from further consideration.

2.75 Secondly, implementation of the administrative reform component and, more specifically, employment adjustment in the civilian public sector is critical to the success of the broad civil service reform agenda. Pay adjustments not complemented by administrative reform efforts, even in case of moderate pay adjustment, would result in unaffordable growth of budget expenditures (by 2.8–4.2 p.p. GDP as compared to the 2002 baseline). This leads us to exclude scenarios with no administrative reform actions (scenarios 5, 7, 10, 17, 19, 22, 29, 31, and 34).

2.76 The results presented in Annex 2.6 also highlight a need to control for non-wage expenditure growth while implementing the administrative reform and modernizing public service in the country. Although the administrative reforms and associated attrition calls for an increase in non-wage expenditures, Russia is unlikely to sustain the current share of non-

wage expenditures in total core government administration costs (37 percent). It seems that this share would have to go down to at least 35 percent, which would represent a significant increase in financing in real terms.

2.77 It is notable that the conclusions made above significantly limit the range of civil service reform scenarios that appear affordable. In fact, only five groups of reform scenarios that satisfy the constraints described above as the following:

(i) moderate pay reform implemented at a low pace with a fair administrative reform effort (scenarios 6, 18, and 30);

(ii) moderate pay reform implemented at a medium pace with a fair administrative reform effort (scenarios 8, 20, and 32);

(iii) moderate pay reform implemented at a medium pace with a significant administrative reform effort (adjusted scenarios 9, 21, and 33);

(iv) moderate pay reform implemented at a high pace with a fair administrative reform effort (scenarios 11, 23, and 35); and

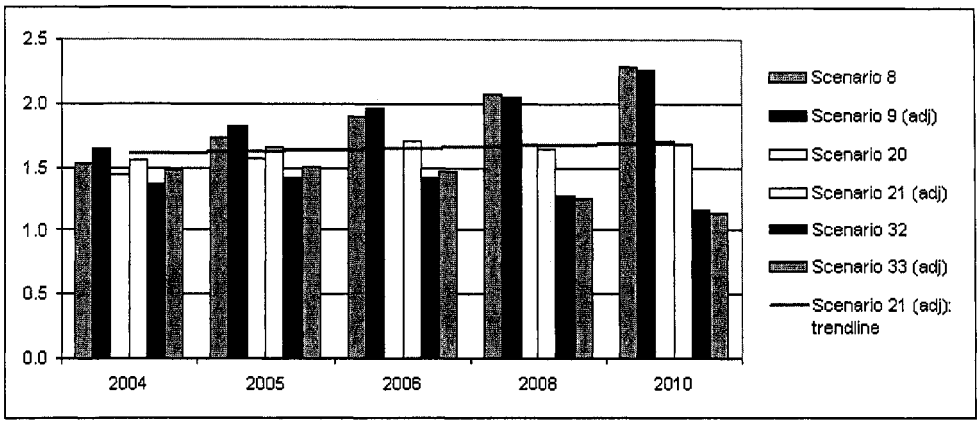
(v) moderate pay reform implemented at a high pace with a significant administrative reform effort (scenarios 12, 24, and 36).

2.78 In summary, a realistic reform strategy should provide for a moderate pay reform targets and be supported either by significant or fair administrative reform effort.

2.79 As shown in Table 2.12, the total fiscal costs of these reform scenarios in 2010 vary between 1.2 p.p. GDP and 2.3 p.p. GDP. Figure 2.2 illustrates the range of fiscal implications simulated for the selected groups of scenarios. To simplify further analysis and because the variation in pace of pay reform does not have a major impact on fiscal costs of reforms (as discussed in Annex 2.6), hereinafter we concentrate on analyzing the two groups of above mentioned scenarios, namely, (ii) and (iii) that represent a median of the reform options that we consider practical. To reflect the earlier finding with respect to a need for limiting the share of non-wage costs in the total core government administration costs, we undertook further adjustment of scenarios in the group (iii) (scenarios 9, 21, and 33) to reduce a share of non-wage expenditures to 35 percent.

Figure 2.2: Total Fiscal Costs of Selected Scenarios

(p.p. of GDP as compared to 2003)[39]



Source: Staff estimates.

2.80 As shown in Figure 2.2, the fiscal implications of the selected reform scenarios highly depend on the share of real wages in GDP. In fact, if the real wage growth is 1 p.p. higher than GDP growth (as in the scenarios 20 and 21), the fiscal costs of the reform implementation are conveniently stable and account for about 1.6–1.7 p.p. of GDP in additional spending as compared to 2003. This stability is partly related to the substantial increase in cash compensation implemented in October 2003 for the entire civilian public sector[40]. The fiscal implications of this policy measure have already been incorporated into the 2004 budget, and hence in fact a significant portion (more than two thirds) of the overall reform-related additional costs has already been accommodated by the government. Overall, the analysis suggests that the reform strategy that provides for a *moderate pay increase in core government administration combined with significant attrition (though differentiated by employment groups) and considerable increase in financing of non-wage costs could be implemented within (or almost within) the currently established fiscal constraints, i.e. relatively little of additional financing may be needed compared to 2004 budget. However, some redistribution of funding between the various expenditure categories within the consolidated budget would be required.*

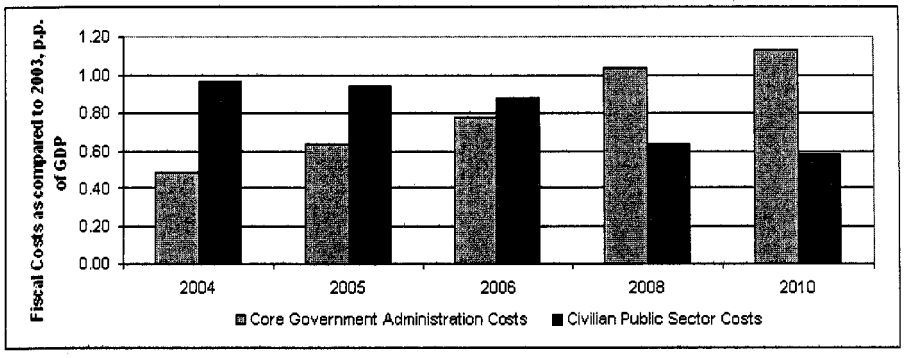
2.81 Such an outcome of low reform costs is possible, however, only if a broad approach to civil service reform is followed. Figure 2.3 presents a breakdown of the total reform costs between two parts of the public sector employment. It shows that in fact even moderate pay increase in core government administration (complemented by some attrition) would bring about an increase in budget expenditures on this part of public employment. However, this increase may be compensated by a decline in overall costs of financing the civilian public

[39] See the text of this section for the description of the selected scenarios.

[40] It is noteworthy that significant attrition may also cause additional expenses, since some of the benefits provided to civil servants do not cease after the termination of their employment. The situation may already change with the adoption of the new laws *On State Civilian Service* and *On Municipal Service*. Assessing the impact of such additional costs would require substantial analysis related to age profile of the civil/municipal service and evaluating the opportunity costs for running parallel medical care structures, etc. Such analysis is beyond the scope of this Report.

sector, which becomes possible because of lower salary increases and higher attrition rates proposed for this sector as compared to core government administration.

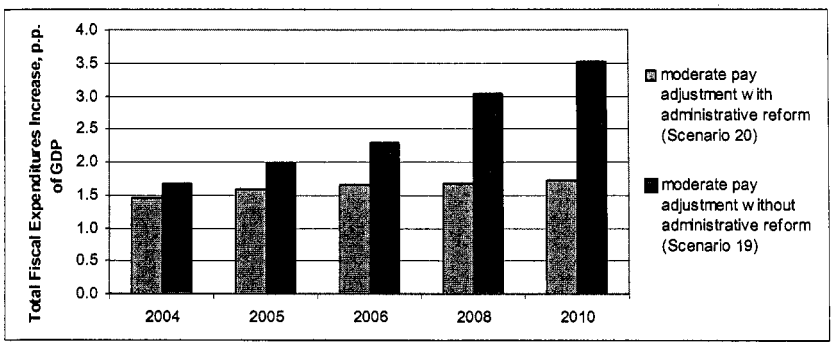
Figure 2.3: Fiscal Implications of Scenario 20[41]: Core Government Administration and Civilian Public Sector
(p.p. of GDP as compared to 2003)



Source: Staff estimates.

2.82 This pattern, however, changes drastically if the civil service reforms are not complemented by any administrative effort to reduce overstaffing (especially in the civilian public sector). Should moderate pay reforms be implemented without any employment reductions, the fiscal costs of reforms would be almost twice higher and reach about 3.5 p.p. of GDP by 2010 (in case of medium growth of the real wages). Figure 2.4 illustrates this drastic expenditure growth.

Figure 2.4: Fiscal Implications of Civil Service Reform: Role of Administrative Adjustments
(p.p. of GDP as compared to 2003)



Source: Staff estimates.

2.83 The detailed structure of additional fiscal costs resulting from the reform implementation (for the year 2010) is illustrated in Table 2.13, for which we selected two scenarios with a medium growth rate of wages, namely 20 and adjusted 21. As demonstrated in Table 2.13, the broad structure of expenditure increase under the selected scenarios is very similar.

[41] Scenario 20: Moderate pay reform implemented at a medium pace with a fair administrative reform effort and medium growth in private wages.

Table 2.13: Structure of Expenditure Increase in Year 2010 for Selected Scenarios (in p.p. of GDP)

	Medium-Paced Moderate Pay Reform with Fair Administrative Adjustment (Scenario 20)	Medium-Paced Moderate Pay Reform with Significant Administrative Adjustment (Scenario 21, adjusted)*
A. Core Government Administration	**1.13**	**1.11**
o/w: costs to Federal Budget	***0.58***	***0.58***
Costs to Sub-Federal Budgets	***0.55***	***0.53***
a. Cash Compensation	*0.77*	*0.64*
Federal Budget	0.38	0.33
Sub-Federal Budgets	0.39	0.31
b. Non-Wage Expenditures	*0.44*	*0.53*
Federal Budget	0.20	0.25
Sub-Federal Budgets	0.23	0.28
c. Staff Attrition	*0.00*	*0.00*
Federal Budget	0.00	0.00
Sub-Federal Budgets	0.00	0.00
Increased Collection of PIT (sub-federal budgets)	*-0.08*	*-0.07*
B. Civilian Public Sector Employment	**0.60**	**0.60**
o/w: costs to Federal Budget	***0.23***	***0.23***
Costs to Sub-Federal Budgets	***0.37***	***0.37***
a. Cash Compensation	*0.63*	*0.63*
Federal Budget	0.23	0.23
Sub-Federal Budgets	0.42	0.42
b. Staff Attrition	*0.01*	*0.01*
Federal Budget	0.00	0.00
Sub-Federal Budgets	0.01	0.01
c. Increased Collection of PIT (sub-federal budgets)	*-0.06*	*-0.06*
Total Expenditure Increase (A+B)	**1.71**	**1.69**
o/w: costs to Federal Budget	***0.82***	***0.81***
Costs to Sub-Federal Budgets	***0.91***	***0.89***

* Assumption related to the share of non-wage expenditures in total costs of core government administration was adjusted to 35 percent as compared with the original share of 36 percent.

Source: Staff estimates.

2.84 As discussed above, significant portion of these fiscal costs has already been incorporated into the consolidated budgets. Based on our simulations, fiscal implications of civil service reform in core government administration account for almost two thirds of the total additional costs and require increased financing of about 1.1 p.p. of GDP, distributed almost equally between the federal budget and sub-federal budgets. Most of these additional costs would be required for financing the executive branch of the core government administration.

Table 2.14: Detailed Breakdown of the Increase in Fiscal Costs of Civil Service Reform in Core Government Administration as of 2010 (in constant 2002 billion rubles)

Net Expenditure Increase	Medium-Paced Moderate Pay Reform with Fair Administrative Adjustment (Scenario 20)	Medium-Paced Moderate Pay Reform with Significant Administrative Adjustment (Scenario 21, adjusted)*
A. Cash Compensation	**156.59**	**139.06**
A1. Federal Authorities	*71.88*	*65.50*
legislative authorities	3.09	3.09
executive authorities	43.64	37.27
o/w HQ-based	*6.62*	*5.71*
judiciary authorities	24.26	24.26
other authorities	0.88	0.88
A2. Regional and Municipal Authorities	*84.71*	*73.56*
legislative authorities	3.74	3.74
executive authorities	77.74	66.59
judiciary authorities	2.24	2.24
other authorities	0.99	0.99
B. Non-Wage Expenditures	**57.92**	**70.63**
B1. Federal Authorities	*27.10*	*33.11*
legislative authorities	1.37	1.64
executive authorities	15.82	18.39
judiciary authorities	9.52	12.61
other authorities	0.39	0.47
B2. Regional and Municipal Authorities	*30.82*	*37.52*
legislative authorities	1.47	1.95
executive authorities	28.09	33.89
judiciary authorities	0.87	1.16
other authorities	0.39	0.52
C. Increased PIT Collection	**(15.91)**	**(14.17)**
Total Costs (A+B+C)	**198.60**	**195.52**
o/w: costs to Federal Budget	**98.98**	**98.61**
costs to Sub-Federal Budgets	**99.62**	**96.91**
Total Costs (as a % of GDP)	**1.13**	**1.11**

Note: Figures may not sum up due to rounding.

** Assumption related to the share of non-wage expenditures in total costs of core government administration was adjusted to 35 percent as compared with the original share of 36 percent.*

Source: Staff estimates.

2.85 Table 2.14 presents additional breakdown of the expected expenditure increase under the scenarios 20 and 21 (adjusted) if the reforms are limited only to core government administration. It shows that most of the expected fiscal gains from more significant administrative actions in scenario 21 are likely to be spent on additional non-wage expenditures.

2.86 The recent debates on the pay reform in Russia suggest that the pay adjustments should have a stronger focus on the middle and top management of the civil service ("decision-makers") employed in headquarters of the federal executive authorities. This would allow retaining the most qualified managers within the executive bodies and would result in better government performance, including improved policy making (for more deliberations on this scenario see HSE, 2004, report).

2.87 To take into account this policy option, we introduced additional modifications to the selected moderate pay reform scenarios, namely: scenario 20, assuming fair administrative changes; and scenario 21, assuming significant administrative reform. These modifications

decreased the residual public-private pay gap for HQ-based federal executive civil servants of Categories A, B, and part of the Category C (Top and Chief Groups) from 100 percent (default value for all scenarios with moderate pay adjustment, such as e.g. scenarios 20 and 21) to 50 percent. As of 2002, the share of these civil servants in the total number of civil servants employed in HQ of federal executive bodies accounted for about 14.1 percent. It is expected that administrative reform efforts would not significantly affect this share (in 2010, the share of officials in these Categories would account for 14.2 percent of HQ-based executive civil service in case of fair administrative reform and for about 13.9 percent in case of significant attrition, respectively).

Table 2.15: Fiscal Implications of More Radical Pay Adjustments for "Decision Makers" in Federal Executive Civil Service Headquarters as of 2010

	Cash Compensation for Federal Executive HQ-Based Officials			
	Medium-Paced Moderate Pay Reform with Fair Administrative Adjustment (Scenario 20)		Medium-Paced Moderate Pay Reform with Significant Administrative Adjustment (Scenario 21 adjusted)	
	Constant 2002 billion rubles	% of 2010 GDP	Constant 2002 billion rubles	% of 2010 GDP
Costs of the base case, with No additional measures	10.66	0.080	9.76	0.073
Costs of additional pay adjustment for "decision makers"	11.30	0.085	10.34	0.078

Source: Staff estimates.

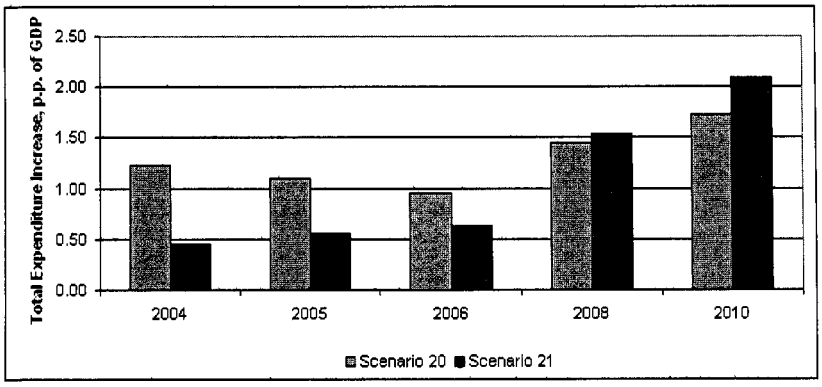
2.88 Table 2.15 shows that the extra pay increase for the "decision making" group of HQ-based federal executive authorities would not bring about significant additional fiscal pressures: the costs of such an extra step would account for about 0.6 billion rubles in 2002 prices (less than 0.005 percent of 2010 GDP). Such a policy measure would result in both better external competitiveness of the civil service in the labor market and in greater internal decompression: by the end of the reform, the compression ratio for HQ-based federal executive civil service would increase to 9.0, which is 0.8 higher than in the base case with moderate pay reform.

2.89 Another suggestion often made in the debates on implementation of civil service and administrative reforms relates to a possible separation of administrative reform from the pay reform in core government employment and from the corresponding adjustment in the civilian public sector at large. To simulate potential effects of this reform strategy, we made further modifications to the above scenarios 20 and 21 based on the following additional assumptions:

- Administrative reform measures in core government administration and civilian public sector would be implemented within 2004–2006, i.e., under the compressed schedule;
- Pay adjustment in core government administration would be implemented in 2004–2008; and
- Pay adjustment in the civilian public sector would be implemented in 2004–2010, i.e., at a slower pace.

Figure 2.5: Total Fiscal Implications for Scenarios[42] with the De-Linked Implementation of Pay and Administrative Reform Components

(p.p. of GDP)



Source: Staff estimates.

2.90 Although de-linking the reform measures may be more attractive to the budget during the first three reform years (see Figure 2.5), a consequent rapid growth of public expenditures in 2006–2010 may make it difficult to sustain the pace of the reform agenda, which may in turn compromise the reform achievements. Overall, it seems as a less desirable strategy than the one that assumes a more steady reform effort and should be used with caution since it yields a less predictable fiscal implications pattern.

H. Overview of Risks Associated with Reform Implementation

2.91 Implementation of the broad civil service reform that would affect more than a million of employees in core government administration and about ten million of those employed in the civilian public sector, let alone the implications of the reform in non-civilian parts of the general government, is by definition a complex and risky task. Detailed analysis of all possible risks associated with the reform implementation process calls for a self-standing piece of research. Therefore, in this section we try to briefly overview only some key risks that should be taken into account during the reform implementation and that are directly linked to the fiscal implications of the reform process.

2.92 Firstly, a balanced relationship between different components of the public sector reform, especially between the reforms in core government administration and the rest of the public sector has to be established. The absence of such a relationship may lead to accumulation of disproportions in the public sector. In particular, it could trigger a *non-sustainable wage differential* between the core government administration and the public sector at large, which could cause either a slowdown in wage adjustment in the public administration or may result in excessive in creases in budget costs because of the need to adjust the remuneration in the highly overstaffed civilian public sector. As confirmed by our simulations, attempt to increase the real wages for *the current level of employment in the civilian public sector would require additional financing of about two percent of GDP by*

[42] Scenario 20: Moderate pay reform with a fair administrative reform effort and medium growth in private wages. Scenario 21(adj): Moderate pay reform with a significant administrative reform effort and medium growth in private wages (share of non-wage costs is 35 percent).

2010. Analysis of the current government plans for advancing the civil service reform suggests that this risk is not taken into account yet in the existing pay reform design.

2.93 Secondly, successful implementation of public administration reforms calls for a close coordination between the civil service and budget reforms. Slow delegation of authority for budget spending to budget units would undermine the overall efficiency of the reforms and would *reduce incentives for implementing significant staff cuts* both in core government administration and in the civilian public sector. Introduction of performance budgeting mechanisms that require a combination of more flexible rules for budget spending and higher degree of accountability for the results is a necessary precondition for implementation of many components of civil service reform, including HR management reforms, modernization of public service, as well as administrative reform. The failure to ensure such coordination may result in top-down mechanical cuts in staffing levels that would not be sufficiently concerned that adjustment in staffing was driven the considerations about quality of public service delivery. The recently approved *Concept for Reforming the Budget Process (2004-06)* provides a basis for integrating performance budgeting principles and the performance management agenda advocated in the framework of civil service reform. However, the risk of possible disconnect between the two should be fully accounted for and controlled throughout the reform process.

2.94 Thirdly, the ultimate success of civil service reform depends largely on the incentives of subnational governments to pursue a similar agenda across the country. This is especially crucial because most of the public service delivery is taking place at the subnational level, hence the failure to demonstrate some tangible improvements in these parts of the public sector would undermine overall credibility of the reform process. Hence, the reform agenda should encompass both the activities related to building the capacity to implement public administration reforms at the regional and local levels (these issues are partly covered by the Presidential Program *Civil Service Reform 2003-2005* that provides financing to undertake pilots and reform experiments in the regions) and, more importantly, building the *incentives of the regional and local administrations to engage in the reform process.* These incentives are associated with both getting additional authority in resource allocation and increased transparency and accountability of subnational administrations. One of the relevant policy measures that could strengthen the subnational incentive framework is currently proposed abolishment of a Unified Salary Scale in the public sector, which would be accompanied by the delegating to the regions the authority to determine the pay levels in the civilian branches of the public sector, taken into account the regional fiscal situation and local labor market prices.

2.95 Finally, successful implementation of the reforms in *deconcentrated units of the federal civil service* would also require a proper accounting for cross-regional variation in staffing needs and remuneration levels is also crucial for. Insufficiently differentiated pay adjustments for HQ-based staff and deconcentrated employees would create major disproportions in the regional labor markets and may also trigger significant additional budget expenditures (up to about 0.5 percent of GDP in 2010). Hence, identification and establishment of the pay levels for federal deconcentrated employees that are based on local market realities is one of the key preconditions for successful and sustainable pay adjustment in core government administration in Russia.

I. CONCLUSIONS AND RECOMMENDATIONS

2.96 Increasing efficiency of the government machinery and improving the quality of governance and service delivery in the country are prerequisites for successful implementation

of the structural reforms in Russia. At the same time, implementation of these reforms would create additional fiscal pressures on the budget system of the country. Fiscal implications of public administration reforms depend on a large number of variables and are sensitive to changes in macroeconomic conditions. The model described in this Chapter does not capture all variables involved. However, the analysis of the incremental costs of civil service reform estimated for more than 40 reform scenarios allows for some preliminary conclusions.

2.97 Clearly, the reform approaches to different sub-sectors of the civilian part of general government would need to vary both in terms of pay adjustment and in terms of attrition measures. To achieve the reform objectives, the *pay adjustment* should be the most significant for the HQ-based portion of the core government administration, lower for deconcentrated units and regional and municipal parts of the core government administration, and the lowest for the civilian public sector. The latter could be justified in part by the growing share of fee-based services provided by this sector, which would become a growing source of compensation of its employees. Inside the federal HQ-based executive service, the pay adjustment should be focused on managerial levels, which currently are affected by the highest pay gap with the private sector. Such a focus of the pay reform would allow addressing the key issues of low policymaking capacity inside the government and would help retain highly qualified public officials at key positions in the federal civil service.

2.98 Our simulations suggest that over the period till 2010 the budget is unlikely to accommodate a full closure of the current pay gap through a radical pay adjustment in the entire core government administration and civilian public sector. As a result, the average residual net public-private pay gap for core government administration would still remain significant (in the 100 percent range). However, the recent surveys of public officials reveal that such a gap may be quite acceptable and in general it reflects the existing expectations of the public officials.

2.99 In fact, implementation of moderate pay reform suggests that average wages in core government administration would grow 1.25 times faster than the average wages in the economy, while the average pay in civilian public sector would grow 1.17 times faster than the average wages in the economy respectively. Our simulations also show that by 2010 the average real wages in core government administration would be 1.7 times higher than current wages (average real wages in the civilian public sector would be respectively 1.6 times higher).

2.100 If such pay adjustment is complemented by more radical adjustments for a small number of "decision makers" in the headquarters of federal executive authorities, it is likely that the pay reform would achieve its objectives through both increasing external competitiveness of employment in the public sector (especially in core government administration) and significant internal decompression that would facilitate the introduction of a performance oriented system in the Russian civil service. The selected scenarios assume a substantial decompression: the compression ratio for the federal HQ-based executive civil service would increase from 2.5 in 2002 to 6.8–9.0 in 2010, while the compression ratio for the federal executive branch as a whole would by 2010 grow up to 9.9–13.2 from 3.7 in 2002. The proposed pay reform would allow retaining a highly qualified cadre, which ultimately would result in better quality of policy making and public service delivery, as well as support the government anti-corruption effort.

2.101 The results of our estimates confirm that implementation of the administrative reform component and, more specifically, *employment adjustment* in core government administration and civilian public sector is critical to the success of the broad civil service reform efforts.

Even moderate pay adjustments not complemented by significant employment changes would result in unjustified growth of annual consolidated budget expenditures (2.8 to 4.2 p.p. of GDP in 2010). The expected employment dynamics in the core government administration and civilian public sector, as well as cross-country comparisons justify higher rates of attrition in the civilian public sector and in sub-national core government administration, but smaller cuts for the federal portion of core government employment. It is expected that by 2010 employment in the civilian public sector would decline by about 25 percent on average as compared to the 2002 baseline, while the overall employment cuts in core government administration would account for about 9–13 percent and attrition in the executive branch reaching 15 percent on average (with 13 percent attrition rate in the federal executive branch and 17 percent in subnational executive bodies). Similar adjustments would also be required in the non-civilian public sector that is reportedly overstaffed and for which cash remuneration is directly linked to the pay levels in the civil service.

2.102 Implementation of the broad reform agenda in the core government administration would entail significant additional non-wage expenditures. Full-scale modernization of public service would require both significant investment costs[43] and significant recurrent costs for operation and maintenance of computer systems and physical infrastructure, as well as implementation of modern HR practices (including competitive recruitment, staff rotation, and training). However, our simulations show that Russia is unlikely to sustain the current share of non-wage expenditures in total costs of supporting the core government administration (37 percent). It is more likely that this share would have to go down to at least 35 percent, which would represent a significant increase in financing in real terms. Similar issues of non-wage expenditure control are also likely to arise in the civilian public sector at large, but specific estimates related to fiscal implications of growing non-wage expenditures in this sector go beyond the scope of this Chapter because these are highly dependable on specific situations in each particular sector (i.e., education, health, etc.).

2.103 Overall, the results of our simulations show that successful implementation of civil service reform calls for *a broad approach to the reform, i.e. simultaneous reform measures in core government administration and civilian public sector at large*[44]. Political economy of reform also suggests that civil service reform should not be applied to core government administration only. In fact, a significant pay adjustment in core government administration is likely to become a trigger for corresponding increases in civilian public sector and general government at large. Otherwise, it would be quite difficult for the government to sustain a drastic increase in the compensation gap between those in core government administration and the rest of the public sector employees.

2.104 Moreover, significant adjustments in the civilian public sector employment within five to seven year timeframe would yield the savings needed to keep overall fiscal costs of public administration reform more or less within the current limits. Although the fiscal implications of a moderate pay reform complemented by administrative efforts would account for about 1.2–2.3 p.p. of GDP as compared to 2003 levels, it is assumed that a substantial part of these costs (about two thirds) has been already included into the 2004 budget as a result of the October 2003 salary increase. Implementation of civil service reform complemented by

[43] OECD/SIGMA (1997), p.52.

[44] In fact, these reforms should be closely linked with parallel adjustments in military and law enforcement parts of public service. Such integral approach seems to be shared by the government: representatives of both armed forces and law enforcement agencies have been involved in the preparation of civil service reform, and administrative restructuring of all non-civilian parts of public service has been recently announced by the Russian President.

significant reform efforts in civilian public sector would call for some redistribution of funds across expenditure categories within the consolidated budget: apportion of savings from staff attrition in the civilian public sector may be used for providing additional funds to support core government administration.

2.105 Our simulations also suggest that it is desirable for both components of the reform - pay adjustment and administrative changes - to be synchronized. Although de-linking the reform components with employment adjustment implemented before the completion of pay increase would cut the expenditures associated with the reform in the earlier years, completion of the pay adjustment would call for an accelerated increase in consolidated budget expenditures that may be politically and fiscally difficult to afford. As a result, the sustainability of the reform achievements would be at risk.

2.106 It should be noted that, although the estimated budget costs of the civil service reform implementation are very significant if compared to the 2002-03 levels of financing of respective expenditures, the expected fiscal outcomes do not look prohibitively high when considered in the international context. This Chapter argues once again that public administration reform in Russia cannot be cheap, especially in the environment of a rapidly growing economy and real wages. Otherwise the objectives of reform could not be achieved and sustained.

2.107 The estimated fiscal costs depend significantly on the private sector real wage dynamics, and more specifically on the change of the share of real wages in GDP. The higher is the growth rate of real wages as compared to GDP growth, the higher is the additional fiscal pressure on the budget system. This introduces a significant factor of uncertainty in the costing out future reforms, because future growth in private sector wages is largely outside of the government control. Moreover, given the low share of wages in GDP at the moment, there are reasons to believe that in the medium term growth in real wages would be higher than GDP, which would push the reforms costs towards the higher end of the estimated range.

2.108 Because of the magnitude of core government administration and civilian public sector restructuring required, this Chapter argues that such reforms are not likely to be implemented within a mid-term time frame (i.e., 2004–06) and would require a longer period of time - five to seven years. This is especially important given the fact that the success of the civil service reform would significantly depend on its coordination with budget management reforms aimed at introduction of performance budgeting principles, including delegation of greater expenditure autonomy to spending units and significant increase in their accountability for the results. Thus, advancing budget management reforms would create additional incentives for reforms in the public administration.

2.109 Implementation of civil service reform is a complex task entailing multiple risks which, if not controlled for, may result in significant fiscal implications. For instance, a failure to synchronize civil service reform in core government administration with similar reforms in the civilian public sector may result in significant growth of budget expenditures (about 2 percent of GDP a year in 2010). A failure to account properly for regional labor market conditions when determining future pay increases for federal deconcentrated employees may also cause significant extra costs (up to 0.5 percent of GDP in 2010).

2.110 The results of our simulations should be interpreted and applied with caution. For instance, the estimates of net public-private compensation gap used for the simulations are quite rough and could be improved based on the results of regional comparative pay and compensation surveys. These surveys would also allow to better measure the actual value of

in-kind benefits received by the core government employees of federal deconcentrated units, as well as regional and municipal servants.

2.111 It should be also noted that some of the financial resources needed for reform implementation could be derived from other reform actions that have not been cost out in our simulations. Given the market prices for real estate in the largest Russian cities, more efficient use of federal, regional and municipal property may provide additional funding (however, it is unlikely that these gains would be sufficient to cover the total reform costs)[45]. There may also be important productivity gains from the introduction of more efficient business processes and automation of routine procedures, adoption of more transparent procurement practices, etc.

2.112 Overall, the above arguments suggest that broad reforms in the core government administration and in the civilian public sector at large may be implemented within five to seven years but should be differentiated by the scope of pay adjustment in various sub-sectors of civilian employment, closely monitored for non-wage expenditure growth, and complemented by significant employment adjustments in the civilian public sector as well as by at least some staff reductions in the core government administration. However, even under the most optimistic assumptions, the residual pay gap between public and private sectors may remain considerable.

[45] We agree that, based on introduction of new budgeting mechanisms and improved incentives, a more efficient utilization of publicly-owned real estate indeed could bring substantial fiscal benefits. However, it is difficult to estimate the magnitude of these savings in advance. Moreover, it seems that most of these savings are likely to be concentrated in Moscow (with some of them representing one-time gains). As a result, these savings could be considerable if compared to the initial costs of reforming the federal executive part of the core government administration, but it is unlikely that those could be a longer-term source of funding for reforms in the entire system of the core government administration. Overall, we do not find it appropriate to reflect these savings in the model in addition to the above mentioned effect of a possibly lower share of non-wage expenditures in the total expenditures on core government administration.

Chapter 3.
FISCAL COSTS OF REFORMS IN THE HOUSING AND UTILITY SECTOR

3.1 This Chapter analyses potential fiscal and social impact of advancing housing and utility sector reforms in Russia under the different scenarios. It argues that in the current environment of high growth in household incomes, it is affordable by 2006 to attain 100 percent cost recovery in tariff with simultaneous elimination of all quasi-fiscal cross-subsidization and the adjustment in domestic energy prices. Moreover, the reforms in residential housing could be made budget neutral in the medium term, and they would bring considerable savings in the long term. However, high sensitivity of results to income dynamics suggests that the government should establish an efficient monitoring system to track the affordability of tariff increases for population. At the same time, it is estimated that adjustment in domestic energy and utility prices could trigger a fiscal gap of 0.4 percent of GDP due to increased utility costs in the public sector.

A. BACKGROUND

3.2 The Russian government has been pursuing reforms in the housing and utility sector (HUS) since the early 1990s. To date, these reforms have been only partially successful, and the sector remains one of the major parts of the economy that still operates on predominantly non-market principles. The share of the government's involvement in both ownership and management of the sectoral entities is excessive, while the institutional framework to support market-based development is rather weak. As a result, the housing stock is deteriorating, the quality of utility services is low, and the sector is the single largest recipient of government subsidies.

3.3 In 2003 the government made a new commitment to accelerate reforms in the housing and utility sector aimed at its market transformation, the phasing out of budget subsidies, and the mitigation of social risks. This policy priority has been driven by the multiplicity of problems that have accumulated in the sector as well as by the demands coming from parallel reform efforts in public administration and the energy sector that call for both the rationalization of budget spending and an increase in domestic energy prices.

3.4 There are several channels through which reforms in the energy and utility sectors, which are expected to take place as a part of the government's medium term reform strategy, would have a major impact on the costs of operating the housing stock and thus would affect both household and government budgets. These channels include the following:

- A direct increase in utility and housing maintenance tariffs, aimed at increasing cost recovery under the existing cost patterns
- A substantial increase in domestic energy prices, which would affect the costs of services both directly (direct electricity and gas consumption) and indirectly (use of electricity and gas for heat generation and water supply)
- An additional increase in utility tariffs to incorporate a capital repair component
- The phasing-out of the existing cross-subsidization in utility tariffs.

3.5 Overall, the reforms are expected to change considerably the current proportions in the financing of the existing housing stock: the share of the consolidated budget is expected to decline, the share of the population would increase, while the current financing by the enterprise sector through cross-subsidization is intended to be fully phased out. In addition,

the budgets should be able to collect additional taxes from the energy sector, primarily the gas industry. However, while budget subsidies and total government spending on housing would decline, budget expenditures on social support to the poor are likely to increase, at least in the initial period that would follow the tariff increases.

Objectives of the Chapter

3.6 The overall objective of the Chapter is to estimate the potential fiscal impact of the expected changes in energy prices and utility tariffs, based on the series of simulations of different reform scenarios. The reform scenarios aim to reflect changes in the government's fiscal and social policies intended to reduce budget subsidies to the sector, increase the overall efficiency of government expenditures in housing and utilities, and, at the same time, help to mitigate the impact of tariff increases on vulnerable groups of households. The reform analysis follows the approach suggested by Yasin (2003), which emphasizes a reform strategy that closely links future tariff increases in the energy and housing sectors with structural reforms in these sectors, as well as with adjustments in both public sector wages and pensions.

3.7 Important factors to be reflected in simulations of the various reform scenarios include:

- Existing cross-regional variations in the main underlying factors, such as actual utility costs, access to utility services, and household incomes
- Projections for future dynamics in domestic energy prices and their likely impact on utility prices
- Expected trends in the real dynamics of household incomes
- Elimination (phasing out) of cross-subsidization in the utility sector
- Elimination (phasing out) of privileges (lgoty) in housing and utilities
- Actual participation rate of households eligible for housing allowances.

3.8 More specific objectives of the Chapter include:

a. Costing out potential medium term reform scenarios in the housing and utility sector.

b. Estimating an overall demand for budget financing related to the reforms in the sector that would cover (i) residual subsidies during the transitional stage (for the periods when the full cost recovery will remain below 100 percent), (ii) the costs of social mitigation programs, and (iii) additional utility costs of budget sector entities (in health, education, etc.), caused by the increased utility tariffs.

c. Developing estimates of budget revenue impact associated with an increase in housing and utility tariffs and improved tax yield.

3.9 The projections developed in this Chapter are based on a flexible imitational model, which could be used for the simulation of different reform scenarios in Russia's housing and utility sector. An improved government capability to analyze and forecast the consequences of the respective sectoral reforms is critical to designing adequate mitigation policies, reducing the risks of social tensions, and avoiding an excessive budget burden in the course of reforms. To become a practical tool for policy analysis, the model explicitly takes into account several features of the housing situation that are Russia-specific, such as the

considerable cross-regional variation in the main parameters and specific characteristics of Russia's housing allowance program.

B. SUMMARY OF THE EARLIER REFORM EFFORTS IN THE HOUSING AND UTILITY SECTOR[46]

3.10 The reforms in the housing and utility services (HUS) were identified as a major structural reform challenge fairly early in Russia's transition. Despite this, the HUS were not a part of the original Government of Russia's economic liberalization program of early 1992. Instead, the Government's decisions of 1992-93 provided for the gradual attainment of full cost recovery in the sector (supported by considerable market transformation) by 1998. However, later these reform targets were adjusted and made considerably less ambitious. In particular, in 1999 the Duma adopted an amendment to the Law on the Foundations of Federal Housing policy which set 2008 as a target for attaining full cost recovery in housing.

3.11 Overall, reforms in the HUS to date have produced three main achievements:

- Divestiture of enterprise housing (which in the early 1990s accounted for about 40 percent of the housing stock) to municipalities is practically completed.
- Cost recovery in tariffs has been radically increased, with the current federal benchmark set at the level of 90 percent, while collections remain high.
- A new system of targeted means-tested social assistance – housing allowances – has been established by almost all municipalities and has proved to be an efficient tool for protecting vulnerable households.

3.12 At the same time, the reforms to date have not succeeded in resolving the main problem – transforming the sector from an administratively managed one into a market driven one. The major remaining problems can be summarized as follows:

- The sector's operations remain heavily subsidized.
- Consumers in the HUS have quite limited opportunities to influence the performance of service providers.
- Competition in housing maintenance is highly restricted, and the sector is still dominated by municipally owned monopolies and quasi-monopolies.
- Most operators in the sector do not have real incentives to improve the efficiency of their service delivery.
- The sector does not have a market-based mechanism for investment financing. At the same time, it is affected by years of under-maintenance and under-investment, which undermines the quality and reliability of service delivery. For the time being, government budgets are the only regular source of investment financing in the HUS.
- Regulatory policies and practices in the sector are affected by administrative interventions and are neither sufficiently transparent nor stable. This makes the HUS quite unattractive/risky for the new private sector.
- The incidence of new private arrangements (such as condominiums) for managing multi-unit housing is low. While more than half of the housing units are privately owned,. practically all urban housing is still de facto managed by municipal

[46] This section is based primarily on Starodubrovskaya (2003) and IUE (2003b).

administrations. By late 2003, less than 6,000 condominiums were established in Russia.

3.13 The political economy analysis of developments in the sector suggests that the existing incentives of municipal governments are likely to be a key barrier to reform acceleration in the HUS. Municipal governments are seen as the main potential losers in future market transformation in the sector. The reforms would drastically reduce the sphere of their administrative control, while their access to a considerable cash flow in the sector would be lost. Moreover, government control over utilities at the moment creates a major political advantage for administrations during the election campaigns, because it allows for easy access to and communication with local voters.

3.14 It is not surprising that under the circumstances most municipal governments have never been keen on supporting market reforms in the HUS. Instead, considerable efforts were made to imitate market transformations but to keep the essence of administrative regulation intact. This lack of reform incentives at the municipal level was further aggravated by additional factors. First, there has been little external pressure for change -- neither from the private sector (tenants or business) nor from the federal authorities. The federal government was not consistent in its political signal to expedite HUS reform, which, owing to its political sensitivity, has never topped the list of federal policy priorities. Second, the system of inter-budgetary relations has been unstable and generally has not provided sufficient incentives for budget savings, and thus for reforms that could lead to a reduction in municipal budget subsidies. Massive redistribution of funds by regional administrations in general tends to benefit those municipalities that are not too proactive in reforming the HUS and thus could easily justify their needs for additional budget transfers.

3.15 The government adopted its new Housing and Communal Services Reform Program in November 2001. The program called for significant reforms in the sector to be implemented in steps over 2002-10. The main priorities of the government strategy include: increased cost recovery in tariffs, which should be achieved parallel with strengthening the safety net for the poor; improvements in the quality of services and in reducing the costs of services; and the expansion of private sector participation. However, the implementation progress has been modest to date. The acceleration of cost recovery increases after 2000 has been the most visible aspect of the change. While progress remains highly uneven across the regions, the reported average cost recovery in tariffs exceeded 70 percent in 2003, which is a major step forward when compared to about 30 percent in 1997-99. The Government resolution of August 26, 2004 set up an objective of attaining 100 percent cost recovery in tariffs in 2005.

3.16 The Bank analyzed the reform implementation constraints in the HUS, faced by subnational governments and other stakeholders, in the recent Policy Note, "Housing and Communal Services in Russia: Completing the Transition to a Market Economy" (World Bank, 2003a).

3.17 Based on the lessons from the earlier analytical work (see World Bank 1998 and 2003; IUE, 2003a; Starodubrovskaya, 2003a), this Chapter argues that the reform acceleration in the HUS could be sustained only through simultaneous government actions in several important directions:

- Advancing reforms in inter-budgetary relations, in particular providing a more transparent regulatory framework for fiscal redistribution among municipalities within the regional budgets and expanding a local tax base for municipalities. Recent

amendments to the Tax and Budget Codes were an important step in this direction. A future priority relates to the introduction of a local real estate tax. In addition, more active political pressure and monitoring on the part of the federal government would be required to change prevailing municipal government incentives.

- Reforming housing financing: changing disbursement mechanisms by transferring most of the budget support funds directly to customers of the HUS instead of service providers.

- Improving the regulatory framework, especially for tariff setting, as a tool to make the sector attractive to large private investors. While day-to-day regulation would remain decentralized, the federal government has to strengthen a unified national approach to HUS regulation which would define clear rules of the game for subnational regulators.

- Creating conditions for established private investors to enter the HUS. Under the circumstances, large private firms, with their ability to withstand potential local political pressures, could become a real driving force for market transformation in the sector. This would require, inter alia providing a legal framework that supports longer-term contracts between private operators and municipalities (such as a good Law on Concessions in local utility networks) and strengthening the judiciary's ability to enforce such contracts.

C. Government Involvement in Financing Residential Housing

Recent trends in housing and utility financing

3.18 At the moment, the population is still paying about half of the total housing and utility costs, with the rest coming from budgets, enterprises, accumulation of arrears and degradation of the housing stock and utilities (Table 3.1).

3.19 The total costs of government programs that explicitly relate to the financing of the HUS exceeded 1.75 percent of GDP in 2003 (about US$8 billion, see Table 3.2), while the large cities historically have been spending about a third of their budgets on housing and communal services.[47] Direct subsidization of heating and hot water services make up about 40 percent of the total budget support in the system.

Table 3.1: Structure of Housing Financing (%)

	2001	2002	2003
Population	47.4	46.8	52.7
Budget (only direct budget support)	35.8	41.4	37.7
Enterprise sector and under-financing (residual)	16.8	11.8	9.5

Source: Staff estimates based on the data from Rosstat and Gosstroi.

[47] This includes spending on operational subsidies, housing allowances, and investments in rehabilitation.

Table 3.2: Financing of the Housing Sector (% of GDP)

	COSTS/EXPECTED FINANCING			ACTUAL FINANCING		
	2001	**2002**	**2003**	**2001**	**2002**	**2003**
Total costs of services, estimated on the basis of the reported tariffs	4.03	4.73	4.67	3.35	4.17	4.22
o/w: 1. Households	2.01	2.46	2.68	1.91	2.21	2.46
2. Budget:	2.01	2.26	1.99	1.44	1.96	1.76
- direct subsidies to cover tariff gaps	1.42	1.66	1.34	1.21	1.61	1.26
- compensation of tariff benefits (lgoty)	0.54	0.46	0.42	0.19	0.24	0.30
- housing allowances	0.06	0.14	0.23	0.04	0.11	0.20
MEMO: 1. Enterprise sector, residual				0.68	0.56	0.44
2. GDP, bn	8,944	10,834	13,285			

Source: IUE.

3.20 The average cost recovery in tariffs in residential housing reached 69 percent in 2002, a major improvement relative to 53.5 percent in 2000 (Table 3.3) and 33 percent in 1993. The collection level remains relatively high, at about 90 percent. However, the actual billings are almost 20 percent lower than those that would correspond to the reported cost recovery levels because of considerable benefits (lgoty) in the system. As a result, the actual household payments amount to just 50 percent of the current housing costs.

3.21 By the end of the third quarter of 2003, the average cost recovery in tariffs increased further to 73 percent, and cost recovery in payments increased to 55 percent. However, it should be emphasized that the cost recovery levels reported in Table 3.3 are considerably upwards biased because they are estimated relative to the prevailing average level of domestic prices for energy resources, but not as a ratio to the long-term marginal costs (LRMC) of energy production and delivery. This discrepancy is especially important for gas and electricity supply. In the gas sector, for instance, assuming the average RLMC level is between US$35 and US$40 per 1000 cub m, the 2002 average gas tariffs in Russia were at about 40 percent of the RLMC. Because gas tariffs for households were below the average tariff, while the costs of gas delivery to households were above the average, the properly estimated cost recovery in tariffs for population at the time was closer to 30 percent.

Table 3.3: Cost Recovery and Collection Rates, 2000-02 (%)

	Total			Housing maintenance		
	2000	**2001**	**2002**	**2000**	**2001**	**2002**
Cost recovery in tariffs	53.5%	58.2%	69.1%	50.9%	50.0%	67.5%
Billing coeff. 1/	86.8%	84.2%	80.6%	78.5%	79.1%	76.8%
Collection ratio	86.9%	87.8%	89.8%	89.4%	89.4%	91.8%
Cost recovery by payments	40.3%	43.0%	50.0%	35.7%	35.3%	47.6%
	Water			Heating and hot water		
	2000	**2001**	**2002**	**2000**	**2001**	**2002**
Cost recovery in tariffs	53.6%	61.9%	68.8%	43.5%	52.5%	65.8%
Billing coeff. 1/	87.9%	84.1%	79.9%	84.6%	83.4%	84.1%
Collection ratio	84.2%	86.1%	88.6%	87.0%	85.2%	87.4%
Cost recovery by payments	39.6%	44.8%	48.7%	32.0%	37.3%	48.4%
	Power			Network gas		
	2000	**2001**	**2002**	**2000**	**2001**	**2002**
Cost recovery in tariffs	76.8%	81.8%	81.5%	82.5%	88.6%	85.7%
Billing coeff. 1/	85.7%	83.2%	78.3%	100.0%	90.0%	80.0%
Collection ratio	87.4%	89.6%	91.1%	82.6%	92.8%	90.9%
Cost recovery by payments	57.5%	61.0%	58.2%	68.2%	74.1%	62.3%

1/Actual billings adjusted for discounts and lgoty.

Source: Staff estimates based on the data from Rosstat and Gosstroi.

3.22 The financial performance of the housing and utility sector remains weak, which is a result of both the existing government tariff policy and the poor operational efficiency of the service providers, which primarily remain unreformed municipally owned entities. Total losses in the sector amounted to 0.8 percent of GDP in 2002 (Table 3.4), while the stock of total payables (mostly for energy) was at the level of 2.7 percent of GDP in early 2003.

Table 3.4: Financial Indicators for the Housing and Utility Sector (% of GDP)

	TOTAL			o/w Heating & Hot Water		
	2000	**2001**	**2002**	**2000**	**2001**	**2002**
Total losses in the sector	-1.03	-0.99	-0.79	-0.51	-0.49	-0.36
o/w: from services to population	-1.21	-1.26	-0.95	-0.66	-0.61	-0.41
Total receivables, stock	3.17	2.54	2.22	1.02	0.83	0.76
o/w: - from budgets	0.95	0.66	0.59	0.41	0.30	0.25
- from population	0.44	0.44	0.52	0.13	0.14	0.18
Total payables, stock	3.25	2.58	2.69	1.20	1.02	0.95
o/w: - to budgets	0.39	0.37	0.41	0.11	0.12	0.13

Source: Staff estimates based on the data from Rosstat and Gosstroi.

3.23 In 2000-01, average spending on housing and utilities amounted to only about 6-7 percent of household budget expenditures. In 2002, housing and utility prices rose by 50 percent in real terms, while real incomes increased by about 20 percent. As a result, the share of housing spending exceeded 8 percent, which historically is a relatively high level in Russia (Table 3.5).[48]

[48] This share amounted to about 2 percent in 1993 (World Bank, 1998a). In comparison, households in Poland and Hungary typically spend over 20 percent of their income on HUS (World Bank, 2003). Even in Belarus,

Table 3.5: Average Household Expenditure on Housing and Utilities (% of total household expenditures)

	1997	1998	1999	2000	2001	2002
Average	6.3	6.7	6.0	6.1	7.0	8.5
Median	4.6	4.6	4.3	4.5	5.2	6.5

Source: Staff estimates based on the HBS.

3.24 It is worth mentioning, however, that even after accounting for the lgoty, the existing statistics on utility tariffs for households continue to overestimate considerably the actual level of cost recovery. This is due to two primary factors:

- Services to the population are still cross-subsidized through higher tariffs from commercial consumers. The total annual amount of cross-subsidization may be close to 1 percent of GDP (see Table 3.7 below).
- The tariffs heavily underestimate the investment component. It is estimated that the amount of annual under-investments in rehabilitation and repair of local utilities may reach another 1 percent of GDP.

3.25 Therefore, the actual financing needs of the sector, at the current level of its efficiency, are much higher than the cost estimates based on the reported information on tariffs and cost recovery, and exceed 6.5 percent of GDP (see also Table 3.8 below). At the moment, annual household housing payments make up about 2.5 percent of GDP (i.e. they cover less than 40 percent of the total amount).

Structure of budget support in the housing and utility sector

3.26 Table 3.6 presents the structure of the main budget programs in the sector. There have been four main types of budget channels that provide regular financing to the HUS. Most of this financing is provided by the subnational budgets. The role of the federal government in HUS financing is limited to: (i) providing special central budget transfers to regions related to the financing of housing recently divested from local enterprises; and ii) providing indirect budget support to the sector by financing non-regular programs of the emergency type (Table 3.7).

Table 3.6: Structure of Budget Spending on Housing and Utility Services to the Population (main programs of direct budget support) (%)

	Expected Financing			Actual Financing		
	2001	**2002**	**2003**	**2001**	**2002**	**2003**
Total budget spending:	100	100	100	100	100	100
- direct subsidies to cover tariff gaps	70.4	73.5	67.4	83.7	82.1	71.4
- compensation of tariff benefits (lgoty)	26.7	20.4	21.2	13.2	12.3	17.1
- housing allowances	2.9	6.1	11.4	3.1	5.7	11.5
Memo: Federal transfers to regions to compensate for housing divestiture, as % of total budget spending				1.3	2.5	n.a.

Source: Staff estimates based on the data from Rosstat and Gosstroi.

where structural reforms in general have been lagging, in 2003 households spent on average 11 percent of their budget on HUS.

3.27 Main budget programs in the sector could be summarized as follows:

- Budget subsidies to service providers. This is the main budget program in the sector, which accounts for more than 70 percent of the total direct budget support. Its preservation is a direct reflection of the slow pace of reforms in the HUS. Prevailing tariffs are below actual costs and respective governments have to compensate local utilities for these tariff deficiencies. This is a traditional example of "bad subsidies," which are highly regressive: wealthier households tend to live in larger apartments, consume more services and receive more subsidies. This subsidization also undermines incentives to improve efficiency in the sector.

- Housing benefits (lgoty). Recently, more than one-third of Russian households were eligible for various discounts from the established HUS tariffs, usually as high as 50 percent. The total annual cost of this program amounted to 0.45 percent of GDP in 2002-03. Most of these programs are occupation-based, but not income-based, and many are relicts of social program priorities of the Soviet era. The analysis of their beneficiaries clearly suggests that non-poor households received most of the benefits. In addition, actual budget financing of benefits never exceeded 70 percent. In the summer of 2004, the Government of Russia adopted a radical program of reforming the lgoty starting from 2005. So far, it has announced a limited monetization of lgoty through a replacement of specific programs in health and public transportation. See a more detailed analysis of lgoty in a separate section below.

- Housing allowances. The introduction of the housing allowance program represents one of the major successes of housing reform during the 1990s. It is the first Russian program of targeted social assistance, and as such it has a major impact on defining an overall approach to the reform of social protection in the country. The program has been established practically in every municipality, and its evaluation suggests that it has been rather effective. As of September 2003, 13.8 percent of Russian households participated in the program. In several Russian regions more than 30 percent of households became recipients of housing allowances. It is expected that in the course of the reforms the share of participants would increase further, but it is believed that the existing infrastructure has the capacity to handle more applicants. A replacement of other current programs of housing financing with additional funding of housing allowances would add a major efficiency gain to the system, because it would provide for the channeling of most of the budget expenditure in the HUS for the support of low-income households and more broadly for a reallocation of subsidies from producers to consumers.

3.28 Before 2004, the current legislation on housing allowances provided for two parallel eligibility criteria as well as a formula to determine the benefit size:

a) General. Household spending on housing and utility services (within the established limits of housing size) should not exceed the threshold share in overall household income; this threshold is established by the decisions of regional governments and in most regions equals 22 percent of family income.

b) For low income households. Households with per capita incomes that are below the subsistence minimum are eligible for a housing allowance if their total housing and utility spending exceeds 50 percent of the current minimum wage.

3.29 It was believed that the second criterion was too generous, and that it led to excessive subsidization of low income households and distorted the entire process of housing assistance. This is especially problematic, given the quite low value of the Russian minimum wage. In 2004, the Government adopted the decision to eliminate the 2nd criterion.

3.30 The elimination of the second criterion, as estimated by the IUE, other factors being intact, would reduce the number of eligible participants in the program by about 75 percent, bringing the number to 7.5 percent of households. In our simulations we also assumed that the second criterion would be eliminated. Respectively, the number 7.5 percent is used as a benchmark for our analysis of potential changes in the number of allowance recipients as a result of the proposed tariff adjustments in the HUS.

3.31 In the course of recent reforms in the division of powers between different government levels in Russia, it was decided that all functions related to social policy should be concentrated at the regional level. As a result, the responsibility for financing housing allowances was moved from the municipal to the regional budgets. While this change expands the funding base for housing allowances, it also creates a potential incentive problem. Having no responsibility for financing this program themselves, municipalities may relax control over program administration, which could erode the efficiency of its targeting. The government's instrument to mitigate this risk is through an introduction of the unified system of regional housing standards that would encourage municipalities to follow a single region-specific set of eligibility criteria for housing allowances.

3.32 The earlier analysis identified two essential weaknesses in the administration of housing allowances (Hamilton, 2004). First, their availability shows too high a variation by region, which by far exceeds the variation in housing affordability. Second, the program remains predominantly urban-based, with rural households being mostly left without access to it[49].

3.33 Indirect budget programs (investment support, expenditures for liquidation of emergencies and delivery of fuel to the North). This is the least transparent and least efficient part of public financing in the HUS, and is provided mostly on an ad hoc basis. The funds spent through this channel are not reported in the conventional budget reports as spent on housing sector support. Preservation of these programs reflects primarily the failure of sectoral reforms to date to create an institutional framework for sustainable investment financing that would include efficient mechanisms for tariff regulation, competitive mechanisms for service delivery, and providers that are creditworthy and have access to regular commercial credit. The overall amount of budget funding through this channel is estimated by the IUE to amount to about 0.6 percent of GDP a year, or more than one-third of funding under the conventional budget programs in the HUS (Table 3.7).

3.34 When indirect budget financing is included, total annual government spending on the HUS is estimated to amount to 2.4 percent of GDP. If, in addition, the amount of quasi-fiscal financing through cross-subsidization is reflected, the total amount of fiscal and quasi-fiscal funding in the sector reaches 3.3 percent of GDP (Table 3.7).

[49] It is worth noting, however, that most rural households in Russia continue to benefit from much lower energy tariffs.

Table 3.7: Estimates for Total Fiscal and Quasi-fiscal Support to the Housing and Utility Sector in 2003

	bn rbl	% of GDP
Direct budget support provided	234	1.76
Indirect budget support	82	0.62
- Preparation for the winter	55	0.41
- Fuel delivery to the North	16	0.12
- Emergency rehabilitation	11	0.08
Quasi-fiscal financing: Cross-subsidies (*)	125	0.94
- heating	20	0.15
- electricity	50	0.38
- gas	55	0.41
Total fiscal and quasi-fiscal financing	441	3.32
Costs of annual under-investments (missing rehab)	135	1.02

(*) Estimates relate to services provided to both population and budget organizations.

Source: IUE

3.35 Table 3.8 presents an estimate of the total volume of actual financing in the Russian housing and utility sector through all available channels. It amounts to 5.8 percent of GDP, which is quite high, given the predominantly low quality of the existing housing. Moreover, given the available estimates of annual under-financing in proper maintenance and rehabilitation, the total annual sector needs in financing under the existing institutional arrangements may amount to as much as 6.8 percent of GDP. The latter number should be considered primarily as an indicator of the sector's inefficiencies, and not as a benchmark for future growth in tariffs and subsidies. Many sectoral experts believe that under the proper incentive regime the total costs of operation in the sector could be reduced by at least 20%. At the same time, as shown below, the sector is facing some additional cost increases associated with growth in domestic energy prices and with a need to incorporate capital costs into the tariffs.

Table 3.8: Total Volumes of Available Financing in the Sector, 2003 (% of GDP)

1. Direct financing of housing and utility services	4.2
o/w: Households	2.5
Budget	1.8
2. Indirect budget financing	0.6
3. Total cash financing, (1)+(2)	4.8
4. Quasi-fiscal financing	0.9
5. Total available financing, (3)+(4)	5.8
6. Under-financing	1.0
7. Total financing needs under the existing institutional arrangements, (5)+(6)	6.8

Source: Staff estimates, based on the data collected and estimated by the IUE.

D. RECENT TRENDS IN HOUSING AND UTILITY TARIFFS

3.36 In the period that followed the 1998 Russia crisis, the government tariff policy in the housing and utility sector was inconsistent. In 1998-2001 the tariff growth in housing and utility services lagged behind general price growth (Table 3.9). The largest gap between the

two occurred in 1998: HUS prices grew by only 12 percent[50], while annual CPI inflation was 84 percent. This led to a considerable deterioration in the financial situation in the sector. In 2002, as a reaction to this extended period of under-financing, the annual tariff increase in the HUS for the first time surpassed the rate of CPI inflation.

Table 3.9: Inflation and Price Growth in Housing and Utilities, 1998-2000

	Consumer Price Index	Annual growth of HUS tariffs	Annual growth of electricity tariffs	Annual growth of gas tariffs	Implicit growth of tariffs for a non-energy part of HUS services
1998	184.5	112.0	102.2	108.6	113.8
1999	136.5	125.0	119.7	113.6	128.7
2000	120.2	111.3	141.7	162.0	90.9
2001	118.6	110.9	137.0	129.0	99.1
2002	115.7	134.5	125.0	130.0	138.0

Source: IUE, Rosstat.

3.37 It is worth noting that in 1998-99 the tariff growth in the electricity and gas sector was even slower than in the HUS. However, the period of depressed tariffs was much shorter there. Starting from 2000, growth in electricity and gas tariffs surpassed the CPI rates and provided enterprises in these sectors with a more adequate level of cost recovery.

3.38 Overall, the HUS was used as a major "shock-absorber" during the period of high inflation and economic instability of 1998-99. By keeping housing and utility services costs low, the Government of Russia was trying to maintain social and budgetary stability at the cost of the deteriorating financial position of the HUS.

3.39 The last column in Table 3.9 provides estimates of growth in tariffs that corresponds to a non-energy component of HUS services. These indices were estimated by de-composing the total costs of housing and utility service delivery in energy (electricity and gas) and non-energy components.[51] As can be seen from Table 3.9, in 2000-01, when energy tariffs started to grow relatively rapidly, but growth in HUS tariffs remained depressed, the implicit tariffs for a non-energy part of the HUS were declining even in nominal terms.

3.40 Since the growth in HUS tariffs in the post-1998 period was kept below general inflation, the accumulated under-financing has become quite significant. In this report it is assumed that to provide the sector with conditions for financial rehabilitation at least a portion of this deferred inflation effect has to be compensated through future accelerated tariff growth.

3.41 In Table 3.10 we estimated the accumulated size of this under-financing in the non-energy part of the HUS for the period of 1997-2002 as of 126 percent relative to the CPI inflation rate. It is worth noting that this price gap declined considerably in 2002 after a major adjustment in HUS tariffs. Still, this gap indicates that the real level of non-energy housing tariffs in 2002 was less than half of their 1997 level. In our simulations, we assumed that the future growth in housing tariffs would compensate for about 25 percent of this effect of

[50] The index of HUS tariffs is estimated based on the data for a federal standard of HUS costs, annually adopted by a resolution of the Russian Government as a part of the budget preparation process.

[51] Both direct and indirect consumption of electricity and gas were taken into account. See the next section for more details.

deferred inflation. This means that in the model we assumed that for the first three years of reforms the non-energy part of the HUS costs would grow at a rate about 10 percentage points higher than the expected CPI rate, after accounting for all other factors that will influence the future HUS tariff dynamics.

Table 3.10: Estimates for the Effect of "Deferred Inflation" in the HUS (non-energy part), 1997-2002

	CPI, 1997=100	Implicit growth of tariffs for a non-energy part of HUS services, 1997=100	Deferred inflation effect (a gap between CPI and non-energy HUS tariff index)
1998	184.5	113.8	1.62
1999	251.8	146.4	1.72
2000	302.7	133.1	2.27
2001	359.0	131.8	2.72
2002	411.8	182.0	2.26

Source: IUE, Rosstat.

E. AGGREGATED COSTS STRUCTURE IN RESIDENTIAL HOUSING

3.42 In this section we review the role of energy in overall housing and utility costs. This analysis is important for further simulations of the link between expected growth in domestic prices for gas and electricity and a future increase in housing costs. For the purposes of such an analysis, it is important to account for full gas and electricity consumption in the sector, that is, both their direct and their indirect (as input for production of other utility services) consumption.

3.43 The first column in Table 3.11 presents the conventional cost structure in Russia's housing sector. It is worth noting that the share of housing maintenance in total costs is quite low, less than one-fourth. In developed economies this share often amounts to 50 percent of the total. Non-maintenance costs are much higher in Russia because of several factors: (i) climate, (ii) major energy inefficiencies in the sector, and (iii) the under-estimation of actual maintenance costs in the existing maintenance fees/tariffs, which cover operating costs (though not in the full amount) but exclude provisions for rehabilitation and major repair costs, land fees, and insurance payments. The implementation of tariff reforms would require a major increase in housing maintenance fees.

Table 3.11: Cost Structure in the Housing and Utility Sector, per 1 Square Meter of Residential Housing, as of end 2002 (%)

	Conventional cost structure	Cost structure that accounts for indirect consumption of electricity and gas
Electricity	9.4	15.8
Water and sewerage	13.6	9.5
Heating and hot water	48.6	34.9
Gas	5.8	19.2
Housing maintenance	22.6	20.3
Total	100	100

Source: IUE.

3.44 The second column in Table 3.11 presents the estimates for the full electricity and gas intensity of the Russian housing sector. While the costs of directly consumed electricity and gas make up only 15 percent of total, the costs of full consumption of these energy inputs

amount to 35 percent. This is because all main utility services are quite energy intensive. Electricity costs account for nearly 30 percent of the total costs in water and sewerage. The share of heat generated in gas-operating boilers reaches 60 percent. Gas accounts for 35 percent of the total heat costs in such boilers. Respectively, 50 percent of electricity is generated by gas-operating power plants and gas accounts for 35 percent of the generation costs of these plants.

3.45 The estimates in Table 3.11 were used directly as weights in our simulations of future housing costs, which were based on the utilization of three primary independent variables: growth in gas and in electricity prices, and growth in tariffs in the rest of the sector. The last variable reflects a need for tariff adjustment to ensure proper maintenance and rehabilitation of the housing stock and utility networks, but it is unrelated to the costs of energy inputs.

Budget spending on utility services provided to budget organizations

3.46 The Russian budget statistics do not generate consolidated estimates for federal budget expenditures on utility services consumed within the public sector. This is because utility payments are budgeted as parts of the budgets of individual ministries and agencies, and the Ministry of Finance does not provide for across-the-board consolidation of such spending. However, the budget reporting at the subnational level provides sufficiently adequate data on government utility spending.

3.47 The consolidated estimates of the budget costs of utility payments were developed by the IUE based on the detailed analysis of the budget execution for 2001. Respective expenditures made by both regional and municipal governments were extracted from individual regional consolidated reports on the annual budget execution. Respectively, estimates for the 2001 federal budget spending on utility services were developed using several assumptions on the unit costs of such services in the sectors, for which direct reports are unavailable. The latter includes expenditures under the Ministries of Defense and Interior. Annex 3.2 presents a description of the various assumptions made.

3.48 Consolidated budget expenditures on utility services for 2002 and 2003 were generated based on the simplified procedure, using the base estimates for 2001 and general trends in budget spending at all levels of the government in 2002-03, as well as the dynamics of utility prices.

3.49 Total budget expenditures on utility services have been slightly larger than 1 percent of GDP in recent years (Table 3.12). Half of these expenditures are made by municipal budgets. The analysis also suggests that at the subnational level (both regional and municipal) the largest component of the total utility spending relates to the costs of operating budget institutions in the education and health sectors, which account for about 70 percent of the total utility expenditures.

Table 3.12: Budget Expenditures on Utility Services Provided to Budget Organizations, by the Level of Government (billion RUR and %)

	In bl Rbl			In % of GDP		
	2001	**2002**	**2003**	**2001**	**2002**	**2003**
Total expenditures	89.9	130.8	152.3	1.0	1.2	1.1
- Federal budget	29.1	43	46.9	0.3	0.4	0.4
- Consolidated regional budget	60.8	87.8	105.4	0.7	0.8	0.8
including:						
- regional budgets	18	28.1	33.8	0.2	0.3	0.3
- municipal budgets	42.8	59.7	71.6	0.5	0.6	0.5
Memo: GDP	8,944	10,834	13,285			

Sources: IUE, MOF, Rosstat.

3.50 At the federal level, utility spending on education and health is considerably lower and accounts for less than 40 percent of the respective total. This is because of the completely different structure of government functions at the federal level. The specific federal items that have significant utility costs relate to defense and law enforcement, including the operation of the penal and penitentiary system. This group of government functions accounts for nearly one-third of all federal budget spending on utility services.

3.51 It is worth noting that, owing to a considerable improvement in budget discipline in Russia since the late 1990s, actual government payments for utility services have improved considerably. The level of current non-payments has become negligible. The stock of government arrears for utility payments declined to below 0.6 percent of GDP by the end of 2002 (Table 3.7, above). Most of the remaining quasi-fiscal financing takes places through cross-subsidization (Table 3.6 above): in many regions budget organizations have benefited from the same low utility tariffs as households.

3.52 As is shown below, we expect that under the reform scenarios the unit costs of HUS would increase by about 90 percent by 2006 relative to the 2002 level.[52] Even adjusting for the expected modest efficiency gains in the sector, our estimates suggest that full adjustments in energy and utility prices would result in the total HUS costs to the government reaching 1.9-2.0 percent of GDP, with half to be incurred by municipalities. This amounts to 0.8-0.9 percent of GDP in additional expenditures for Russia's consolidated budget. We estimate that about half of these incremental costs could be compensated through additional taxes paid by energy firms and utility providers that are the primary beneficiaries of the proposed tariff reform. This leaves a residual fiscal gap of about 0.4-0.5 percent of GDP. In the longer term, we expect that most of this gap would disappear as a result of the expected rationalization and consolidation of the budget sector, first of all in health and education. But public sector rationalization could become a relatively lengthy process. Meanwhile, the government has to find ways to finance the gap.

[52] This cost increase reflects some compensation for under-investments in the previous period. See below for more details on cost assumptions.

F. MODEL FOR SIMULATING BUDGET IMPLICATIONS FROM INCREASES IN HOUSING COSTS

Lessons from the earlier simulations of housing reforms in Russia

3.53 Given the long history of the government's attempts to accelerate housing reforms, which would include reforms in financing through higher cost recovery by tenants and reduced subsidies, it is not surprising that there has been some experience of quantitative analysis of the potential impact of the proposed tariff increases.[53] Most of this work has been undertaken initially by the staff of the Urban Institute, as part of the housing reform program sponsored by USAID.

3.54 The primary focus of the earlier work was related to the introduction of the housing allowances programs in particular regions and municipalities, as well as to the analysis of the actual efficiency of such programs. This required developing the procedures for: (i) estimating the variation in future reform impacts across particular types of housing and specific household groups, (ii) forecasting changes in the demand for housing allowances, and (iii) making projections for trends in the total requirements for budget financing, including costs of both conventional budget subsidies and social assistance programs, such as housing allowances. These studies have been based on various types of the survey data on household incomes, expenditures, and housing conditions, which have helped provide an important understanding regarding the comparative advantages of specific statistical sources.

3.55 The main lessons from the earlier simulations of housing reforms, which were fully incorporated in this paper, could be summarized as follows:

- Estimates of the current level of housing costs to households have to be imputed, and they should not be directly based on expenditure values self-reported in the household surveys. The conventional household surveys in Russia, including both the RLMS and the regular Household Budgetary Survey (HBS), bring an unacceptable level of distortions when they deal with the issues related to housing and utility spending. Apparently the basic question, "How much did you spend on housing and utilities last month?" was interpreted quite differently by respondents. This is because of the multiplicity of available discounts and benefits (lgoty) to households, the high incidence of arrears and late payments, and the still relatively low share of housing-related payments in total spending for many households.
- Accounting for cross-regional variations in costs and incomes is important. There is a striking cross-regional variation in all key parameters that determine a potential reform impact on both the population and the fiscal system. In particular, regional differences are high with respect to average housing costs, average income levels, and income inequality. As a result, as was shown, for example, in World Bank (1998b), while on the average the reform impact could be modest, some regions (particularly Siberia and the Far East), could be badly affected by the shift to full cost recovery in housing.
- Regional income distribution is a key determinant of a demand for housing allowances. Relatively simple models that are based on i) forecasting of average regional housing costs, and ii) the aggregated income distribution by main income groups, proved to be sufficiently accurate in generating projections for both number

[53] See specifically Housing Allowance Program (1996), Kolodeznikova and Struyk (1997), World Bank (1998b), IUE (2003b).

of future applicants and average size of their allowance. Switching to more detailed (household-level) information on incomes and housing conditions greatly complicates the analysis and does not bring significant improvements in the accuracy of projections.

Model: Estimating future HUS costs[54]

3.56 The base model for estimating future average costs of operating the residential housing stock had the following structure:

$$HUS\ (t) = (H(t)^* \text{x1} + E(t)^* \text{x2} + G(t)^* \text{x3}) * Sav(t), \qquad (1)$$

where $HUS\ (t)$ – a housing cost index that reflects an increase in full average costs of operating 1 square meter (sq. m) of the housing stock in year t relative to the base year (2002),
$H(t)$ – an increase in unit non-energy costs of operating housing in year t relative to the base year,
$E(t)$ and $G(t)$ -- increases in unit costs of electricity and gas, respectively, in year t relative to the base year,
x1, x2, and x3 – shares of main components of housing costs (non-energy, electricity and gas, respectively - see section 3 for additional information) in the total costs,
$Sav(t)$ – parameter of cost savings in year t, which reflects the expected efficiency gains (primarily energy savings) as a result of reforms, as a percent of the base 2002 costs.

3.57 All costs are estimated in constant 2002 prices. Regional average costs $HUS(r, t)$ are determined based on actual cross-regional variations in unit costs in the base year 2002:

$HUS(r, t) = HUS(t)^*cost(r)$
Where $cost\ (r)$ - the coefficient of regional costs that reflects the 2002 ratio between unit costs in region r and average costs for Russia.

3.58 Future growth in electricity and gas tariffs, $E(t)$ and $G(t)$, is determined by two factors:

- $e1/g1$ – expected average real growth in domestic energy prices,
- $e2/g2$ – expected effect of elimination of cross-subsidization that would provide for a higher growth in residential tariffs relative to their average growth.

3.59 Future growth in non-energy unit costs $H(t)$ is determined by:

- $h1$ – expected real growth in tariffs for non-energy services in the sector, mostly related to a partial compensation for earlier under-financing in the sector; h1 was selected at the level of 1.32 (i.e., for the period 2004-06 non-energy costs in the sector would be growing at a rate that is 32 percentage points higher than general inflation), which would compensate for about a quarter of earlier deferred inflation.
- $h2$ -- expected effect of the elimination of cross-subsidization in non-energy services (primarily water) that would provide for a higher growth in residential tariffs relative to their average growth.

Therefore:

[54] A detailed description of the model is provided in IUE (2003a).

$E(t) = e1(t) * e2(t)$
$G(t) = g1(t) * g2(t)$
$H(t) = h1(t) * h2(t)$

3.60 Projections for costs of housing and utility services for budget organizations are also based on the above *HUS(t)* index (i.e., it is expected that future costs of HUS for budget institutions would grow at a similar rate as those for households).

Estimating the demand for housing allowances

3.61 Estimates for a potential demand for housing allowances were developed on a region-by-region basis, using region-specific information on (i) average unit housing costs, (ii) average household incomes, and (iii) income differentiation among eight main income groups.

3.62 The core variable for this bloc of the model is the future average housing costs per capita in region *r*, *CC(r, t)*. It was estimated using the data on average regional housing costs *HUS (r, t)* and the aggregated distribution of the Russian population by available housing space. A standard assumption on housing distribution was used: 10 percent of the population use 33 sq m per capita, 15 percent use 21 sq m, and 75 percent use 18 sq m. It is worth noting that housing space in excess of these amounts is not eligible for subsidizing through the housing allowance program.

3.63 For each region and income group, average household incomes *I (r, j, t)* were compared with the regional per capita unit housing costs *CC(r, t)* to determine if this income group is eligible for budget support through housing allowances.

3.64 If $I(r, j, t) * q > CC(r, t)$, then members of income group j are ineligible for housing allowances, where *q* – is a maximum share of household income that could be spent on housing.

3.65 Only household housing costs that exceed *q* are eligible for full budget compensation through housing allowances. According to the current legislation, in most regions q=22 percent. Thus we assume that subnational governments would largely follow federal guidelines on the eligibility threshold. In our simulations, we also considered alternative values of parameter *q* such as 10 percent and 15 percent.

3.66 The average allowance for a member of income group *j* in region *r* in year *t*, *Allow* (*r*, *j*, *t*) is estimated as:

$$Allow(r, j, t) = CC(r, t) - I(r, j, t) * q \quad (2)$$

3.67 Aggregation by income groups and regions allows for estimating the total number of recipients of housing allowances and the total costs of this program for each scenario.

3.68 In the scenarios, which did not provide for the elimination of lgoty, the size of each income group was proportionally reduced to reflect the number of lgoty beneficiaries in this group. This would reduce an overall demand for housing allowances.

3.69 It is assumed that the future participation rate in the housing allowance program will be 75 percent (i.e., three-quarters of eligible households would apply for a benefit). The IUE field research suggests that at the moment the participation rate in the program is about 60

percent. It is expected to increase in the medium term in response to the growth in real housing costs.

G. Reform Scenarios Identified for Simulations

Macroeconomic scenarios

3.70 Macroeconomic assumptions for our simulations were developed jointly with the experts from the Institute of Economy in Transition. The basic principles and parameters of the macroeconomic framework used for costing out various structural reforms are presented in Annex 3.1. In sum, we took the government's baseline macroeconomic projections for the period 2004-06 and used them as a basis to build a set of four longer-term macroeconomic scenarios, each of which reflects a specific combination of two primary determinants of Russia's future macroeconomic performance – the average world market oil price and the expected speed of structural reforms in the country (Table 3.13). Then we used these four macroeconomic scenarios as a basis on which we have designed and elaborated further, more detailed, *sub*-scenarios that reflect specific reform packages in the housing and utility sector.

Table 3.13: Macroeconomic Assumptions: Average GDP and Real Household Income Growth for 2004-06 (%)

	Slow reforms	Advanced reforms
Moderate oil prices ($18.5), low growth	Scenario 1 GDP growth – 2.0 Income growth – 8.4	Scenario 2 GDP growth – 1.5 Income growth – 6.4
High oil prices ($22.5 and higher), high growth	Scenario 3 GDP growth – 4.0 Income growth – 8.4	Scenario 4 GDP growth – 3.5 Income growth – 6.4

3.71 Overall, we based the analysis on a rather conservative macroeconomic framework. It is worth noting that GDP growth rates assumed in our scenarios for the period 2004-06 are *lower* than those assumed in the corresponding government projections. We believe that without advancing reforms growth rates will decline: better utilization of existing reserves in the economy, which was a critical growth factor in 1999-2003, cannot support future growth in the same way as before because the reserves are to a large extent exhausted. At the same time, the "advance reforms" scenario implies that reforms are likely to temporarily slow down GDP growth compared to the "no reform" scenario, other things being equal. Therefore, in this case, growth rates are also likely to be lower for the next few years than those assumed by the government.

3.72 The four baseline scenarios could be summarized as follows.

I. Moderate oil prices and slow reforms. This scenario presents the most difficult macroeconomic environment, with low budget revenues, a relatively high expenditure burden, and a deteriorating balance of payments that triggers inflation and exchange rate pressures and damages investment expectations. This is the scenario with low growth in both investments and household incomes. Lack of reforms would mean that cross-subsidization of households would remain intact.

II. Moderate oil prices and advanced reforms. Under this scenario the macroeconomic environment for reforms remains rather difficult, with low government revenues and depressed earnings in the real sector. However, real devaluation of the Russian ruble implies some protection of domestic producers from international competition. This in combination with the reform momentum could be favorable for investments and

growth in sectors with a high degree of processing. The reform of natural monopolies and tariff reforms would lead to a gradual increase in electricity and gas tariffs for commercial consumers and a sharp increase in tariffs for households.

III. High oil prices and slow reforms. This is an inertial scenario, under which the existing structure of the economy remains basically intact with the energy and other primary sectors generating most of the investments, taxes, and exports. As with the first scenario, cross-subsidization of households is preserved.

IV. High oil prices and advanced reforms. This is the most optimistic scenario. It implies a deep economic restructuring and would be more sustainable in a longer term economic growth backed by vigorous structural and institutional reforms. This scenario provides for the highest annual growth rates of GDP, investments, and household incomes. However, given the required level of restructuring in the real sector, unemployment would remain relatively high, which would preserve a strong demand for government spending on social protection.

3.73 One of the core variables in the model relates to the real growth in household incomes. In our base case simulations, we assume that the current high growth in real incomes would continue, while the income differentiation would remain unchanged. In particular, in line with the latest projections of the Ministry of Economy, the real income growth for 2005-06 in all scenarios is assumed to be 8 percent per annum. This is equivalent to an average growth of 10 percent a year for the entire period 2003-06. At the same time, we did a sensitivity analysis with respect to income growth: an alternative set of estimates was obtained for the scenario, in which real incomes grow at a rate of 5 percent a year for the period 2003-06.

Scenarios for the housing and utility sector

3.74 Two baseline scenarios for reforming payment arrangements the housing and utility sector were developed for 2004-06 along the similar lines:

- Slow reforms, mostly inertial development
- Implementation of the reform package that would include, inter alia, the elimination of the cross-subsidization in tariffs, additional growth in housing tariffs to compensate for earlier under-financing, and encouragement of investments in energy efficiency

3.75 The first scenario implies that housing and utility tariffs would grow only in line with the changes in the overall level of inflation, and electricity and gas tariffs. In other words, there is no autonomous growth in utility/housing tariffs to compensate for earlier under-financing ("depressed inflation") and to create more favorable conditions for rehabilitation in the sector.

3.76 The second scenario provides for higher rates of tariff growth in the sector, through which it would be compensated for a de facto tariff freeze during the period of high inflation in 1998-99. We assume that about a quarter of lost revenues during that tariff freeze would be compensated through an additional growth in housing and utility tariffs in 2004-06. Moreover, cross-subsidization would be eliminated through the introduction of a single tariff for all categories of consumers in all relevant sectors (power, gas, and local utilities). In addition, some efficiency gains are expected in the utility sector, first of all through a reduction in heat and water losses. (See the next section for additional details on potential efficiency effects).

Scenarios for the tariff policy

3.77 For each of the four baseline scenarios, we have also developed a set of possible policy options with respect to future changes in tariffs and cost recovery. These options for the tariff policy derive from different combinations of the two key policy parameters:

1) Level of cost recovery in tariffs for household – three alternatives were considered:

   - Tariffs are set to cover 90 percent of the total running housing and utility costs, while the remaining 10 percent is still financed from the budget as a direct subsidy to providers of housing and utility services
   - Tariffs cover 100 percent of the total running housing and utility costs
   - Tariffs cover 100 percent of the total running housing and utility costs, and, in addition, expenditures on major repairs/rehabilitation of the housing stock are also included in tariffs (these rehab-related costs are estimated to amount to 20 percent of the current running costs).

2) Maximum share of housing and utility expenditures in household incomes, above which households would be eligible for social assistance through the housing allowance – three alternatives were considered: 10 percent, 15 percent, and 22 percent.

3.78 Ultimately, our simulations covered 36 scenarios (4 initial baseline scenarios * 3 options for the level of cost recovery in tariffs * 3 options for the share of housing expenditures in household income). Table 3.14 summarizes our sectoral reform scenarios.

Table 3.14: Scenarios for Housing and Utility Reforms, Selected for Simulations

Parameters of the tariff policy		Moderate oil prices		High oil prices	
The maximum share of housing expenditures in household income	Cost recovery in tariffs	Slow reforms	Accelerated reforms	Slow reforms	Accelerated reforms
10%	90%	Option 1-1-1	Option 1-2-1	Option 2-1-1	Option 2-2-1
	100%	Option 1-1-2	Option 1-2-2	Option 2-1-2	Option 2-2-2
	100% + costs of capital repairs	Option 1-1-3	Option 1-2-3	Option 2-1-3	Option 2-2-3
15%	90%	Option 1-1-4	Option 1-2-4	Option 2-1-4	Option 2-2-4
	100%	Option 1-1-5	Option 1-2-5	Option 2-1-5	Option 2-2-5
	100% + costs of capital repairs	Option 1-1-6	Option 1-2-6	Option 2-1-6	Option 2-2-6
22%	90%	Option 1-1-7	Option 1-2-7	Option 2-1-7	Option 2-2-7
	100%	Option 1-1-8	Option 1-2-8	Option 2-1-8	Option 2-2-8
	100% + costs of capital repairs	Option 1-1-9	Option 1-2-9	Option 2-1-9	Option 2-2-9

3.79 In the process of the simulations of each scenario, the following parameters were estimated for each administrative region of Russia for the period 2004-06:

1. Total costs of housing and utility services supplied to households
2. Number of households eligible for housing allowances
3. Share of allowance recipients in the population
4. Budget expenditures on financing housing allowances
5. Budget expenditures on financing housing privileges (lgoty)
6. Budget expenditures on financing housing subsidies to cover costs not covered by housing tariffs (under the options with 90 percent cost recovery in tariffs)
7. Budget expenditures on financing the repair and rehabilitation of the housing stock
8. Total budget expenditures related to operations on residential housing
9. Share of budget spending in financing the total costs of housing and utility services supplied to households
10. Average share of housing and utility expenditures in household incomes
11. Share of housing allowances in household incomes in the lowest income groups.

3.80 In addition, for a limited set of selected scenarios, we undertook complementary simulations to estimate the impact of elimination of housing privileges.

H. ASSUMPTIONS ON FUTURE UTILITY COSTS

Adjustment in domestic energy prices

3.81 The scenarios for reforms in Russian domestic energy pricing remain at the center of heated political debates. Still, in the gas sector there is a growing consensus that the longer-term marginal costs of Russian gas are in the interval of US$36-40, and the domestic gas price, which on average amounted to US$22.7 per 1,000 cubic meters in 2003, should ultimately reach this level. The latest draft of the government reform program suggests a US$36 target (VAT excluded) in 2006 (through both annual price hikes and an expected ruble appreciation), but similar plans in the past have failed to be fully implemented.

3.82 In the power sector, however, serious disagreements remain even about the direction for a future trend in the electricity price. A number of analysts believe that, given the existing over-capacity, liberalization in the sector is likely to lead to a decline in the average real electricity price. The current draft reform program envisions an increase of 16-21 percent in real ruble terms in 2004-06, and no need for additional increases in later years when the effects of sectoral reforms are fully utilized.

3.83 Table 3.15 summarizes the assumptions in this Chapter on the expected tariff growth for gas and electricity. In the most radical scenario, the real gas tariff would be 25 percent higher than in 2002, while the electricity tariff would be increased by one-third. It is worth noting that our macro assumptions provide for a considerable real ruble appreciation (in excess of 40 percent) for the period 2003-04. This means that dollar energy tariffs would almost double. In particular, the gas tariff would be higher than US$33 per 1,000 cub m, while in 2002 it was less than US$19.

Table 3.15: Real Growth in Energy Tariffs for Households in 2006 Relative to 2002, Depending on Scenario

	In rbl terms	In US$ terms

	Power	gas	power	gas
Scenario 1 – slow reforms, low oil prices	1.02	1.10	1.45	1.57
Scenario 2 – advanced reforms, low oil prices	1.19	1.16	1.70	1.65
Scenario 3 – slow reforms, high oil prices	1.05	1.16	1.49	1.65
Scenario 4 – advanced reforms, high oil prices	1.34	1.25	1.91	1.78

Assumptions on the elimination of cross-subsidization

3.84 Given the considerable volume of cross-subsidization, merely increasing the average HUS tariffs to achieve full cost recovery would be insufficient. In addition, a considerable tariff rebalancing is needed to ensure that tariffs reflect the costs of service delivery for particular consumer groups. Such tariff restructuring would result in a considerable additional growth in residential tariffs relative to their average expected growth for the economy (see Table 3.16).

Table 3.16: Additional Growth in Residential Tariffs to Ensure the Elimination of Cross-Subsidization

	Additional growth in residential tariffs
Electricity	1.23
Gas	1.14
Water	1.45
Heating	1.13
Housing maintenance	1.00
Average for the sector	**1.15**

Sources: IUE, staff estimates.

Assumptions on potential efficiency gains

3.85 The Russian housing stock is quite inefficient and there is considerable room for energy savings. For instance, the water consumption of Russian urban households is estimated to be more than 70 percent above the Western European level (World Bank, 2003a). However, the realization of most of these efficiency gains requires fundamental institutional changes in the sector, which could not be achieved in the short to medium term.[55] In the period up to 2006, under the most optimistic assumptions about the pace of sectoral reforms, only a small portion of these gains could be realized. This is due to the existing institutional and technological constraints that would hamper the introduction of energy and resource saving technologies, especially at the household level. The situations regarding heating, water, and electricity are discussed immediately below.

3.86 Heating. Considerable savings in heating are technically possible but would require a major change in how Russian multi-apartment housing units are managed. In short, most savings could be achieved at the building level but not at the apartment-level. To realize these savings, apartment owners must (i) transform the current means of housing management into condominiums or similar, (ii) be capable of contracting and supervising efficient managing companies for their multi-unit buildings, and (iii) invest in the proper metering of delivered heat. The experience of the past 10 years suggests that the introduction of new management arrangements has been quite slow.

3.87 Water. The situation with water metering, which is a pre-condition for incentives to save water, is even less advanced than that for heating. And, because of technical constraints, water metering at the apartment level is not cost efficient. The efficient solution for metering has to be at the building level, which has the same limitation related to the need to introduce a collective form of housing management such as condominiums. In addition, water utilities in most cases are not interested in the installation of meters, because the current billing is based on norms that usually exceed actual household consumption. The introduction of meters would reduce the revenues of water utilities.

3.88 Electricity. In contrast to water and heating, households have better opportunities for savings in electricity. Most housing units have power meters and it is much easier for households to save electricity than to save heat or water. Thus, the price elasticity of

[55] See also Eismont et al. (2003).

electricity demand is higher than that for other utilities. Still, at the household level we do not expect substantial electricity savings for the period up to 2006. This is due to the following:

- Expected growth in the ownership of household appliances, driven by the continuation of a fairly strong growth in real household incomes
- Growth in the installation of electrical ovens, especially in new apartments
- Improved quality of the maintenance of the housing stock (better lighting, etc.)

3.89 Overall, a combination of two opposite factors – energy savings due to increased tariffs and growth in demand due to higher real incomes – would keep the absolute level of electricity consumption in the residential sector basically constant.

3.90 Therefore, it is assumed in the scenarios with advanced reforms that most efficiency gains in the HUS would be realized not within the household sector but by service providers in heating and water supply. In particular, it is expected that by 2006 it would be realistic to achieve the following main improvements:

- As a result of investment in network modernization and improved management, the current level of water losses could be reduced by 25 percent
- Investments in energy savings could reduce unit electricity consumption in water supply by 12 percent
- The reduction in heat losses in heating distribution could reach 10 percent
- Improved energy efficiency in heat generation (mostly through replacement/modernization of boilers) could amount to 10 percent

3.91 Overall, we assumed that owing to efficiency gains in the reform scenarios, by 2006 the total unit costs in the HUS could be reduced by 10-12 percent. In the non-reform scenarios, however, it is assumed that no reduction in unit costs would take place because of the efficiency gains.

Table 3.17: Effect on Costs of Efficiency Gains in Reform Scenarios

	Percent in decline in real unit costs due to energy savings
Scenario 2 – advanced reforms, low oil prices	10
Scenario 4 – advanced reforms, high oil prices	12

Source: IUE.

Assumptions on the effect of delayed inflation (under-financing)

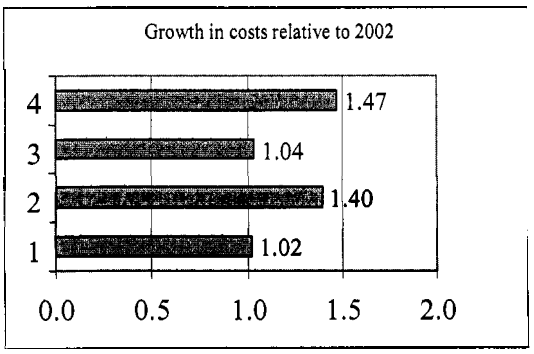
3.92 In our simulations we also assume that the non-energy part of housing costs should be adjusted upwards additionally to compensate for the period of the de facto tariff freeze in the late 1990s. It is assumed that this compensation would amount to a quarter of the gap between CPI growth and HUS tariff growth in 1998-2002.

Summary of the assumptions for HUS costs

3.93 Based on the above, we quantified four scenarios for the different cost dynamics of service delivery in the Russian housing sector, reflected as changes in the real costs of maintaining and servicing an average 1 sq. m of residential housing. Figure 3.1 presents a

comparison of housing and utility cost increases under the different scenarios. It suggests that by 2006 in the most advanced scenario--scenario 4—costs to residents would increase by almost 50 percent. It is worth noting that even in the inertial scenarios without reforms (scenarios 1 and 3), housing costs would also be growing in real terms, reflecting the continuation of the (although slow) domestic energy price adjustment.

Figure 3.1: Housing and Utility Costs to Consumers under Different Scenarios in 2006 (real growth relative to 2002)



Scenario 1 – slow reforms, low oil prices
Scenario 2 – advanced reforms, low oil prices
Scenario 3 – slow reforms, high oil prices
Scenario 4 – advanced reforms, high oil prices

3.94 This expected growth in HUS costs is a combined effect of the following four core factors (Table 3.18): (i) an increase in domestic energy prices (gas and electricity), (ii) an increase in non-energy costs related to the need to compensate the sector for a period of suppressed information, (iii) the elimination of cross-subsidization, and (iv) the realization of some efficiency gains.

Table 3.18: Various Factors of Growth in Unit Housing Costs, Accumulated Growth for the Period Relative to 2002

Scenarios	Total costs	Power	Gas	Non-energy	Cross-subsidization	Savings
1	1.02	1.00	1.03	1.00	1.00	1.00
2	1.40	1.17	1.08	1.32	1.15	0.90
3	1.04	1.03	1.08	1.00	1.00	1.00
4	1.47	1.32	1.17	1.32	1.15	0.88

Source: Staff estimates.

3.95 In addition to accounting for these four factors, the implementation of housing and utility reforms implies that the existing tariff structure should be further adjusted to incorporate an adequate level of investment costs in the sector. Based on the analysis undertaken by the IUE, this would require an additional increase in average tariffs by 30

percent. This would increase our estimate for the overall future growth in tariffs to cover all economic HUS costs in scenario 4 to 90 percent.

3.96 The latter estimate suggests that if the full reform package is implemented the total costs to consumers of the HUS (including budgets as a source of residual subsidies) of the HUS would increase from 4.8 percent of GDP in 2002 to about 9 percent of GDP in 2006. Such a change would produce not only a major tariff increase but also a considerable change in the cost structure in the sector, in which maintenance fees and capital charges would play a more prominent role than they now play.

3.97 The important caveat to the above estimates derives from the fact that they do not reflect actual changes in HUS tariffs that have taken place in Russia since 2002. Meanwhile, according to Rosstat, in the last two years actual tariff adjustment has been considerable -- real growth in HUS tariffs was 23 percent in 2003 and is estimated to reach at least 13 percent in 2004. Overall, the tariff growth in 2003-04 amounted to almost 40 percent (i.e. it made up half of the tariff adjustment that is claimed necessary to complete the reforms in the sector in 2006).

3.98 While the recent pace of tariff adjustments appears to be consistent with the medium term objectives of HUS reforms, there is a risk that recent tariff growth was not accompanied by adequate institutional changes in the sector. Without complementary institutional reforms, tariff and cost increases in the sector could become excessive. In this respect, the current weaknesses of municipal regulators are of special concern. If not addressed, these weaknesses may lead to a non-justified growth in the tariffs of local utilities, especially water and district heating providers. In addition, without institutional reforms, it would be difficult to expect that sectoral players may become capable of realizing any non-trivial efficiency gains.

I. MAIN SIMULATION RESULTS

Scenarios for the continuation of the current policies

3.99 Table 3.19 presents the results of the simulations of the group of status quo scenarios that do not provide for any significant acceleration of tariff reforms in the housing and energy sectors. In particular, they assume the preserving of cross-subsidization in tariffs and a relatively low pace of adjusting domestic energy prices.

3.100 Among 12 different scenarios, the one in Column 10 is the closest approximation of the current government policies and ongoing macroeconomic trends: this is the scenario with high rates of economic growth and with an unchanged level of cost recovery in tariffs of 90 percent.

3.101 Under such assumptions, the total explicit costs (excluding cross-subsidization) of HUS will grow by about 30 percent, to 6.2 percent of GDP from 4.8 percent in 2002. Households will have to absorb practically all of these incremental costs. As a result, in 2006 households would pay 60 percent more in real terms for HUS (about 4 percent of GDP), while in 2002 they paid about 2.5 percent of GDP. Given the high growth of household real incomes in 2002-06 (45 percent for the period), this would increase the average share of housing costs in total population spending only slightly, from 8.5 percent to 11 percent. Overall, the number of recipients of housing allowances would decline considerably, from the 7.5 percent benchmark to 3.7 percent.

3.102 Budget spending on HUS would basically remain at the 2002 level and would amount to 2.3 percent of GDP. However, the share of the budget in total HUS financing would decline from almost half in 2002 to less than 40 percent. The largest portion of these costs would be related to the continuation of budget investment support (capital rehabilitation).

3.103 However, the above estimates hide considerable longer-term implicit budget costs and liabilities that the sector would continue to accumulate in such a no-reform scenario. First, the volumes of quasi-fiscal financing (cross-subsidization) would remain significant (1.25 percent of GDP). Second, the incomplete tariff reform would delay changes in incentives in the sector, which would prevent the reduction of current inefficiencies, while the government would continue to accumulate considerable contingent liabilities associated with the deterioration of the municipal housing stock and the urban infrastructure.

3.104 In this group of scenarios, a further increase in cost recovery in tariffs to 100 percent (column 11) would shift additional costs in the amount of 0.5 percent of GDP from the government to the population. The share of budget spending in total sector financing would fall below 30 percent. The share of households that receive allowances would grow by 30 percent but would still remain low (less than 5 percent).

3.105 Incorporating the capital repair charges into tariffs (column 12) would produce a major additional reduction in the budget financing of the sector: total budget costs would decline to 1 percent of GDP or to 16 percent of the total financing. In this case, the population would be expected to pay more than 5 percent of GDP in HUS charges (i.e. more than twice as much as in 2002). The number of housing allowance recipients would increase to 7.4 percent of the population.

3.106 The main conclusions drawn from simulating the continuation of the current policies could be summarized as follows:

- The continuation of the current policies provides for only a gradual shift of responsibility for housing financing from the government to households, while keeping budget liabilities in the sector at the current level of about 2.3 percent of GDP.
- This fact, however, considerably underestimates the longer term costs of the current policies related to the preservation of non-transparency in financing and be distorted incentives of sector players.
- Such inertial policies seem fully affordable to the population, and they do, for example, a reduction in the eligibility threshold for housing allowances).
- The sensitivity of these results is high relative to the modest changes in the level of residential tariffs (e.g., all other factors being the same, the transition from 90 to 100 percent in cost recovery could increase the number of recipients of housing allowances by 30 percent.
- The sensitivity of the results is low relative to the variation in rates of economic growth: in our scenarios with lower economic growth (columns 1-6), we assumed a lower level of domestic energy prices and housing costs, but this effect is largely compensated by lower household incomes in these scenarios.

Table 3.19: Results of Simulations for the Third Year of Reforms: Status Quo Scenarios -- Slow Reforms in Housing and Utility Tariffs, No Elimination of lgoty

	Low growth						High growth					
Maximum household spending on housing	15%			22%			15%			22%		
Cost recovery in tariffs	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair
Total housing costs, % of GDP	6.5						6.2					
	1	2	3	4	5	6	7	8	9	10	11	12
Budget spending on allowances	0.13	0.18	0.32	0.05	0.07	0.14	0.13	0.18	0.31	0.05	0.07	0.13
Budget subsidies on tariffs	0.54	0	0	0.54	0	0	0.54	0	0	0.54	0	0
Budget compensation for lgoty	0.66	0.74	0.89	0.66	0.74	0.89	0.63	0.71	0.85	0.63	0.71	0.85
Budget spending on capital repair	1.09	1.09	0	1.09	1.09	0	1.04	1.04	0	1.04	1.04	0
Total budget costs	2.42	2.01	1.21	2.34	1.9	1.03	2.34	1.93	1.16	2.26	1.82	0.98
as % of total housing costs	37.2%	30.9%	18.6%	36.0%	29.2%	15.8%	37.7%	31.1%	18.7%	36.5%	29.4%	15.8%
Max number of hhs that are recipients of allowances, mn	4,207	5,206	7,202	1,683	2,209	3,416	4,284	5,294	7,304	1,721	2,257	3,483
as % of population	9.0	11.1	15.4	3.6	4.7	7.3	9.1	11.3	15.6	3.7	4.8	7.4
Number of regions with the share of recipients > 25%	3	5	13	0	0	1	3	5	13	0	0	1
Share of population that resides in these regions, %	3.7	5.0	10.3	0	0	0.3	3.7	5.0	10.3	0	0	0.3

Scenarios for the acceleration of housing and utility reforms

3.107 Table 3.20 presents the results for simulations of the group of scenarios that provide for a significant acceleration of tariff reforms in the housing and energy sectors, including the elimination of cross-subsidization and a much more aggressive pace of adjustment in domestic energy prices. However, these scenarios do not assume an elimination of the housing lgoty (privileges).

3.108 We again use as a base case the scenario reflected in Column 10, which assumes that the key current parameters of housing policy remain unchanged: an eligibility threshold for allowances of 22 percent and a 90 percent cost recovery in tariffs. This simulation suggests that the overall costs of the housing sector's operations would increase to 9 percent of GDP (i.e., a growth of almost 90 percent relative to 2002). However, these are the full costs that assume the full elimination of quasi-fiscal financing.

3.109 In this scenario, the budget would be responsible for 37 percent of the total costs (3.3 percent of GDP), while households would have to pay the remaining 5.7 percent of GDP, which is an increase of 130 percent relative to 2002. This would bring the share of housing spending in household budgets to 16 percent. About 9 percent of households would become recipients of housing allowances. In only 1 out of 88 regions the share of allowance recipients would exceed 25 percent.

3.110 In this scenario the total costs of housing lgoty, which grow in line with growth in unit housing costs, would reach 0.9 percent of GDP. This would amount to 30 percent of total budget spending in the sector.

3.111 A further shift of the housing cost burden to the population (as reflected in Column 11) seems to be fully affordable as well. Under the 100 percent cost recovery, the share of the government in total housing financing declines to 30 percent (2.7 percent of GDP, namely, 0.3 percent more than in 2002). The share of allowance recipients reaches 11 percent, which does not sound as prohibitively high.

3.112 In the most advanced scenario (column 12), which assumes the full incorporation of capital repair charges in tariffs, the share of the government would fall to 18 percent of total financing (1.65 percent of GDP, namely, 30 percent below the 2002 level). Households would face out-of-pocket housing expenditures of 7.35 percent of GDP (an increase of almost 300 percent relative to 2002). More than 15 percent of the population would become recipients of allowances, while in 10 regions the share of recipients would exceed 25 percent. The average share of total housing spending in household budgets would be close to 20 percent. This is 2.5 times higher than the 2002 level, but still somewhat below the levels currently common in CEE countries.

3.113 Thus, in the most advanced scenario, the households' out-of-pocket expenditures on HUS would be by almost five percent of GDP above its 2002 level. This is a very large increase indeed. How affordable is such a burden? In the view of the authors of this report, it could be broadly affordable, assuming the latest trends of high real income growth are sustained. As discussed in Chapter 4, it is expected that in the medium term the real average wage growth in Russia will remain above the rate of GDP growth. This in part will be driven, as shown in Chapter 2, by the reforms in civil sector employment that should result in a considerable increase in public sector wages. Annual budget spending on (non-military) wages may increase by 1 percent of GDP under the advanced reform scenarios. Overall, preliminary estimates suggest that about 60 percent of the future out-of-pocket housing

spending could be funded through a parallel growth in real household incomes. More accurate estimates could be obtained when the full information for 2003-04 is available. Those were the years, during which real housing costs have been increasing at a relatively high for Russia pace, but this was mitigated by a high and broad-based income growth.

3.114 Our further interpretation of these results is that a practical policy option for the government for the next two to three years would be some combination of scenarios reflected in columns 11 and 12 of Table 3.20. That is, regions with higher incomes should follow scenario 12 (with the incorporation of capital repairs charges in tariffs), while those with lower incomes may follow scenario 11 (100 percent cost recovery, but no household responsibility for capital repairs). Such a combination of policies would keep the government spending in the sector at roughly its current level of about 2.2 percent of GDP. On average, households would be spending about 18-19 percent of their budget on HUS.

3.115 An important conclusion from our analysis is that the acceleration of energy and housing reforms in the current macroeconomic conditions should not bring any incremental costs to the consolidated government budget. In the worst case, the reforms should be budget neutral in the medium term, and they should bring considerable savings in the long term.

3.116 At the same time, it is worth noting that in the analyzed scenarios while the total budget outlays on the sector would decline, their structure of budget spending would remain rather inefficient. This is because, without the elimination of lgoty, their costs would expand drastically in line with progress on the tariff reforms. In scenario 12, the costs of lgoty would amount to 1.2 percent of GDP, and they amount to three-fourths of the total budget spending in the sector. This means that phasing out lgoty is critical for any significant improvement in the efficiency of budgetary spending in the sector.

3.117 The low income regions, where the population cannot afford capital repair charges as yet, should be partially supported by the federal government. It is recommended that the federal government should develop a separate program for investment grants to support the rehabilitation of the housing stock in such regions on a co-financing basis. Funding for such a program could be obtained by phasing out the existing non-transparent programs of housing sector financing as described above.

3.118 The analysis identified two groups of regions that are likely to be most affected by the proposed cost increases in the HUS, as follows:

- Regions located in the south of Eastern Siberia and in the Far East. These are the regions with high unit housing costs due to their remoteness and climate conditions. At the same time, these are relatively poor regions, which are significantly dependent upon federal budget transfers.
- Autonomous (internal national) republics in various parts of the country. These are predominantly the rural, least developed regions with a relatively low share of urban housing that has full access to subsidized and expensive network utilities. Thus, these regions spend relatively little on housing, but their policy in the sector has been traditionally the least reformed and they have had among the lowest levels of cost recovery in tariffs. As a result, the future costs of residual adjustment to reach full cost recovery in these regions could be quite high. Moreover, these regions are the most transfer-dependent entities in Russia, and this reduces their fiscal room for adjustment to additional policy and price shocks.

Additional sensitivity analysis

3.119 Additional analysis was undertaken to check the sensitivity of the above results to changes in what are seen as the most important parameters in the model: i) the dynamic of household incomes, and ii) the level of housing costs.

3.120 Sensitivity to changes in incomes. A set of simulations was undertaken with significantly lower rates of real income growth, which would result in 2006 household incomes being 20 percent below the level assumed in the base case scenario above. The simulation showed rather high sensitivity: in the scenario with 100 percent cost recovery (column 11) a 20 percent decline in incomes increases the number of recipients on housing allowances by about 80 percent (to 20 percent of the population). The total budget spending on housing allowances would increase by 140 percent (to 0.57 percent of GDP). In such an environment an aggressive policy of tariff adjustments may be much more difficult to implement.

3.121 The high sensitivity of the results to income dynamics suggests that the government should establish an efficient monitoring system to track the affordability of tariff increases for the population in general and for specific household groups. While within the current favorable macroeconomic environment the government should make a strong push toward the necessary adjustments in domestic energy prices, the elimination of cross-subsidization, and the achievement of full cost recovery in tariffs, this policy may be modified in cases where the economy faces a major slowdown in household income growth. Some low income regions could be allowed to move with the reforms at a slower pace than the rest of the country.

3.122 If, in the environment with high growth in household incomes, the advancement of housing reforms could be easily made budget neutral, this is not case when income growth slows down. The latter may generate incremental budget costs of 0.4-0.5 percent of GDP per annum in the medium term, which would be mostly related to the additional financing of housing allowances.

3.123 Sensitivity to changes in housing costs. Additional simulations assumed are approximately 20 percent higher level of housing costs. These simulations revealed a relatively high sensitivity (although lower than in the case of household incomes) - the number of recipients of housing allowances increases by 27-31 percent depending on the level of cost recovery.

Table 3.20: Results of Simulations for the Third Year of Reforms: Scenarios with Advanced Reforms in Housing and Utility Tariffs, but without Elimination of lgoty (as % of GDP)

	Low growth						High growth					
Maximum household spending on housing	15%			22%			15%			22%		
Cost recovery in tariffs	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair
Total housing costs, % of GDP	9.1						9.0					
	1	2	3	4	5	6	7	8	9	10	11	12
Budget spending on allowances	0.35	0.48	0.79	0.15	0.22	0.39	0.39	0.52	0.85	0.17	0.24	0.43
Budget subsidies on tariffs	0.76	0	0	0.76	0	0	0.75	0	0	0.75	0	0
Budget compensation for lgoty	0.92	1.02	1.23	0.92	1.02	1.23	0.91	1.02	1.22	0.91	1.02	1.22
Budget spending on capital repair	1.51	1.51	0	1.51	1.51	0	1.50	1.50	0	1.50	1.50	0
Total budget costs	3.54	3.01	2.02	3.34	2.75	1.62	3.55	3.04	2.07	3.33	2.76	1.65
as % of total housing costs	38.9%	33.1%	22.2%	36.7%	30.2%	17.8%	39.0%	33.4%	22.7%	36.6%	30.3%	18.1%
Max number of hhs that are recipients of allowances, mn	7,758	9,096	11,609	3,790	4,730	6,640	8,296	9,678	12,209	4,161	5,154	7,140
as % of population	16.6	19.4	24.8	8.1	10.1	14.2	17.7	20.6	26.0	8.9	11.0	15.2
Number of regions with the share of recipients > 25%	15	23	46	2	4	12	13	20	42	1	3	10
Share of population that resides in these regions, %	11.7	18.7	46	1.8	3.9	9.1	10.3	16.3	41.5	0.3	3.7	8.9

J. SIMULATIONS FOR PHASING OUT HOUSING PRIVILEGES (LGOTY)

Incidence of lgoty

3.124 Various non-cash housing privileges (lgoty) represent one of the major deficiencies of Russia's housing policy. Lgoty provide their beneficiaries with considerable discounts (usually 50 percent) against their housing and utility bills. Lgoty are category-based benefits, and as such they are an inefficient policy instrument of social assistance that tends to channel most support to middle-income and high-income groups (World Bank, 2004c).

3.125 Moreover, lgoty is a fairly non-transparent policy instrument. At the federal government level, there is no single regulatory and legal framework to govern its allocation and financing. The existing system of lgoty is quite complicated because of the dozens of government resolutions (some of them more than 60 years old) that have introduced different eligibility criteria for potential beneficiaries.[56] As a result, there are no reliable statistics on the actual budget and overall costs of providing lgoty. The most commonly used source of information on lgoty (deriving from Rosstat's Form 26-ZhKH) is believed to be somewhat unreliable because it is filed not by lgoty recipients but by providers of HUS (see Annex 3.2 on other issues related to the availability of the data).

3.126 On the basis of the 2000 Rosstat's data for six regions Misikhina (2002) estimated that about 40 percent of Russian households benefit from various housing payment privileges. Pensioners and budget sector employees have been the primary beneficiaries. Posarac and Rashid (2002), on the basis of the 2000 RLMS data, also show that low income households receive a much smaller share than higher income households of having privileges.

3.127 The conventional Rosstat report, based on Form 26-ZhKH, suggests that in 2003 about 43.4 million persons (29.9 percent of the entire population) benefited from different housing payment privileges. This is a 13 percent decline since 2002, which was a result of the decision made in May 2002 to monetize housing lgoty for military servicemen. About half of all current beneficiaries receive their lgoty on the basis of the Law on Veterans, which grants considerable non-cash benefits to most Russian individuals with an extended employment history. An additional 30 percent of beneficiaries claim their lgoty on the basis of the Law on Social Protection of People with Disabilities.

3.128 As reported by Rosstat, the total costs of lgoty in 2003 amounted to about 0.4 percent of GDP (see Table 3.2, above). The average per capita value of the monthly benefit amounted to Rbl 93.8 or about US$3. However, as was shown in the earlier section, traditionally, lgoty have been under-financed. In 2002-03 the average level of their actual financing was about 70 percent. Thus, the lgoty operate as an implicit tax on sector providers (World Bank, 2003a).

3.129 This Chapter uses newly available information on lgoty from the NOBUS survey, undertaken in the spring of 2003. NOBUS is believed to be a more reliable source of both the incidence and the costs of lgoty (see Annex 3.2 on different sources of data). According to NOBUS the share of individuals benefiting from lgoty was 33.3 percent of the population (i.e., their overall number was 11 percent higher than in Rosstat reports). Moreover, the share of households that benefit from lgoty is even higher – 41 percent. This is because the number of beneficiaries is higher among smaller families, such as pensioners.

[56] The analysis by the IUE identified the list of government decisions that had established various housing privileges, which is more than 30 pages long.

3.130 More important, the region-by-region comparison of the results from the two sources shows a systemic bias in the Rosstat data set: this set gives much higher shares of lgoty recipients for poor regions (such as various Russian national republics) and underestimates the number of recipients in wealthier regions (regions of the European center). This is an important bias from the perspective of the impact analysis of reforming the system to phase out the lgoty and provide cash compensation to vulnerable households: simulations that are based on the Rosstat data would produce a much higher demand for cash compensation for the existing lgoty recipients. This is the reason why this report employs the NOBUS data for the simulation of the fiscal and social effects related to the elimination of lgoty.

3.131 The Russian Government has initiated reforms in the lgoty system in 2004. It intends to define more precisely the sources of financing of the privileges, and it intends to shift the responsibility for financing a relatively large part of them to the regional administrations. Moreover, the regional governments would be allowed to terminate specific privileges if they could not afford their funding. However, to date the government has made only those decisions that provide for the phasing out and partial monetization of privileges in public transportation and medical services. There is no agreed timetable as yet for the reforms of existing lgoty in the HUS.

Reform scenarios that assume the elimination of non-cash housing privileges[57]

3.132 Table 3.21 presents the results of simulations of reform scenarios that combine policies reflected in the scenarios in Table 3.20 with the elimination of housing lgoty (privileges). The results suggest that the elimination of lgoty would have a very modest impact on the vulnerable group of households. This reflects the fact that lgoty are concentrated in middle-income and high-income groups, and that, therefore, phasing out lgoty would not make housing unaffordable for too many of their current beneficiaries.

3.133 In the base case (column 10), the elimination of lgoty increases the number of allowance recipients by one-third, bringing their total number to 12 percent of the population. In other words, only every tenth beneficiary out of the current lgoty beneficiaries (the number of which is close to 30 percent) would become eligible for housing assistance through allowances. This would provide the budget with considerable savings through the elimination of lgoty: the costs of additional housing allowances (0.06 percent of GDP) amount to only 8 percent of the costs of eliminated lgoty.

3.134 In the case of 100 percent cost recovery (column 11), the above-mentioned proportions hold: the elimination of lgoty increases both the number of allowance recipients and the total cost of the allowance program by about one-third, while generating considerable budget savings. Overall, the scenario for the 100 percent cost recovery and fully removed housing lgoty in 2006 sounds quite affordable: the share of the population that would receive

[57] The alternative set of simulations to assess the potential impact of the elimination of privileges was undertaken for the Russia Poverty Assessment (World Bank, 2004). Our modeling reflects two important differences relative to this earlier work. First, it uses 2002 (not 2000) as a base year for the analysis. As a result, our estimates reflect a major recovery in household incomes that took place in 2001-02. Second, we stimulate the phased-in reforms with tariff increases being expanded through three years, which provides household incomes with additional room to catch up with incremental costs. Overall, our estimates suggest that the elimination of the lgoty would generate an even smaller increase in the demand for housing allowances than was reported in the Poverty Assessment.

allowances is only 15 percent, and the average household pays about 14.5 percent of its income for HUS.

3.135 Our interpretation of the latest set of simulations is as follows: if the current trend of high growth in household incomes continues, then the elimination of housing lgoty in about 2006 should not be a social/political problem. This is even more so if, as currently planned, the government would succeed in advancing other structural reforms, including those in public administration, pensions, and the social services, which would result in an additional growth in public sector wages, old age pensions and child benefits[58].

3.136 With respect to sequencing the necessary reforms, this report argues that, given the sensitivity of the lgoty issue, the entire set of reforms could be divided into two main groups:

1. 2004-06: Accelerate tariff and financing reforms to increase tariffs, make the financial flows in the sector more transparent, and increase the accountability of sectoral players, including municipalities and service providers. As a part of this process, the Government should make a major effort to monetize the lgoty to transform them into explicit budget subsides and link them directly with the new system of individual social accounts that would track all benefits and entitlements for which households are eligible.

2. 2006-07: Eliminate lgoty (probably with a partial cash compensation to particular categories of recipients). The specific strategy for phasing out lgoty would depend upon the actual progress in housing and other reforms, the basic proportions between the prevailing levels of household incomes and housing costs, and the capabilities of the social assistance system. Additional modeling of housing affordability would be justifiable at that stage.

[58] Yasin (2003) provides a detailed discussion of linkages between changes in public sector wages and benefits and affordability of tariff increases in the HUS.

Table 3.21: Results of Simulations for the Third Year of Reforms: Scenarios with the Advanced Reforms in Housing, Utility Tariffs, and the Elimination of lgoty (as % of GDP)

Cost recovery in tariffs	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair	90%	100%	100% + Capital Repair
	1	2	3	4	5	6	7	8	9	10	11	12
Total housing costs, % of GDP	9.1						9.0					
Budget spending on allowances	0.47	0.65	1.07	0.20	0.29	0.52	0.52	0.70	1.15	0.23	0.32	0.57
Budget subsidies on tariffs	0.76	0	0	0.76	0	0	0.75	0	0	0.75	0	0
Budget compensation for lgoty	0	0	0	0	0	0	0	0	0	0	0	0
Budget spending on capital repair	1.51	1.51	0	1.51	1.51	0	1.50	1.50	0	1.50	1.5	0
Total budget costs	2.74	2.16	1.07	2.47	1.80	0.52	2.77	2.20	1.15	2.48	1.82	0.57
as % of total housing costs	30.1%	23.7%	11.8%	27.1%	19.8%	5.7%	30.8	24.50	12.8	27.5	20.6	6.4
Max number of hhs that are recipients of allowances, mn	10,610	12,458	15,932	5,151	6,441	9,069	11,353	13,262	16,760	5,660	7,024	9,758
as % of population	22.6	26.5	33.9	11.0	13.7	19.3	24.2	28.3	35.7	12.1	15.0	20.8
Number of regions with the share of recipients > 25%	36	52	68	7	11	22	44	56	73	10	14	26
Share of population that resides in these regions, %	33.1	51.9	77.8	5.9	9.6	17.2	43.4	60.6	87.4	9.2	10.9	22.7

K. CONCLUSIONS AND POLICY RECOMMENDATIONS

3.137 Despite more than 10 years of reform efforts, the housing and utility sector remains among the least reformed segments of the Russian economy. It is increasingly becoming a bottleneck in the country's overall development strategy. The HUS is too dependent on government support, too costly to the budget, and too politicized and non-transparent, while the quality of the provided services remains low.

3.138 At the same time, when compared with the previous decade, the current economic environment in Russia is much favorable for advancing the HUS reforms. This is the case for the following reasons:

- Russia's macroeconomic performance is much stronger and it provides all major players with an additional income space for addressing the potential short-term costs of reforms.
- Recent improvements in cost recovery indicate that a significant portion of the entire task of phasing out inefficient housing subsidies has already been accomplished; what remains is a much more manageable tariff increase relative to what was a major challenge in 2000.
- Russia's federal government has a much stronger influence over subnational developments and could be more proactive in setting up proper incentives for regions and municipalities to advance the HUS reforms.
- Russia's private sector has shown for the first time a real interest in entering the housing sector.

3.139 Our analysis suggests that the acceleration of cost recovery increases and other HUS reforms in the current macroeconomic environment is not supposed to bring any significant incremental fiscal costs. From the fiscal perspective, the main immediate challenge of the reforms in housing is not about changing the current level of budget financing of the sector but is about the radical restructuring of the existing financing mechanisms in the direction of the following:

- A reduction in government involvement in the HUS operations and financing
- Improved transparency in the residual government commitments in the sector
- A strengthening of the accountability of the government for the full financing of its commitments
- Improved transparency of the financial flows in the sector
- A strengthening of the accountability of both municipalities and service providers for the use of budget funds and the quality of services
- Improved targeting of budget support to vulnerable households and depressed regions

3.140 Our estimates suggest that, as a result of tariff adjustments and other reforms, the real unit cost in the HUS would increase by about 90 percent relative to the prevailing 2002 level. This would bring the annual costs of operating residential housing to 9 percent of GDP. At the same time, given considerable tariff adjustments that already took place in 2003-04, much a smaller additional growth in tariffs (of about 40 percent) is needed to reach the levels that cover full economic costs in the sector.

3.141 This Chapter argues that in the current environment of high growth in household incomes, it is affordable (both politically and financially) to attain, by 2006, a policy target of

100 percent cost recovery in tariffs with the simultaneous elimination of all quasi-fiscal financing (cross-subsidization). In addition, in the wealthier regions it could be possible to incorporate capital repair charges in tariffs. In such a scenario, households are expected to pay 6.5 percent of GDP, a major increase relative to 2.5 percent in 2002. Government budgets would pay the residual 2.5 percent of GDP (which is roughly the same level of budget spending as in 2003).

3.142 The simulations also suggest that, in the current environment, with high growth in household incomes, advancing reforms in the residential housing could be easily made budget neutral in the medium term, and this would bring considerable savings in the long term. However, if household income growth slows down, this may generate incremental budget costs of 0.4-0.5 percent of GDP per annum in the medium term, which would be mostly related to the additional financing of housing allowances.

3.143 Overall, the analysis revealed a high sensitivity of the results to income dynamics. This suggests that the government should establish an efficient monitoring system to track the affordability of tariff increases for both the population in general and specific household groups. A policy of aggressive push toward more justifiable domestic energy prices and HUS tariffs may be modified if the economy faces a major slowdown in household income growth. Some low income regions could be allowed to move with the reforms at a slower pace than the rest of the country.

3.144 The analysis suggests that in most regions attaining the full cost recovery in tariffs and phasing out cross-subsidization in three years would be possible without a drastic expansion in the share of housing allowance recipients. The average share of households that would become allowance recipients might reach 11 percent in the reform scenarios with the 100 percent cost recovery in tariffs. In the regions with high income differentiation, an additional mitigation measure could include a reduction in eligibility requirements for housing allowances, e.g., from the current 22 percent of household income that is spent on HUS to 15-18 percent.

3.145 From the financing perspective, the following steps constitute the core policy measures necessary to support the acceleration of HUS reforms.

At the subnational level:

- An increase in tariffs to reach full cost recovery
- The phasing out of direct subsidization of service providers
- The expansion of the program of housing allowances

At the federal level:

- The phasing out of the federal programs of indirect financing of the HUS
- The establishment of a federal program of investment grants to support subnational rehabilitation projects in utilities, to be funded on the basis of co-financing
- The expansion of the scale of federal budget assistance to regions in the North and Far East (e.g., by establishing a respective federal investment program)

3.146 An increase in energy and utility tariffs would make the delivery of utility services to budget organizations more expensive. Marginal annual costs are conservatively estimated to amount to 0.7-0.8 percent of GDP. These costs would be mitigated by the ongoing reforms in the public sector, which, inter alia, would bring about some savings (e.g., through the consolidation of the existing budget institutions in health and education. In addition, the tariff increases would increase the amount of taxes to be paid by energy and utility firms. However, we estimate that in the medium term a fiscal gap in public sector financing of 0.4 percent of

GDP could emerge as a result of tariff increases in HUS and energy. In addition, to realize the expected tax gains, further strengthening of the tax administration may be required, in particular in the energy sector.

3.147 The analysis suggests that the elimination of housing privileges could also be affordable for most of the current lgoty recipients, while the housing allowance program would be capable of taking care of those who face too high a housing cost burden. This is primarily due to the fact that lgoty are concentrated in the middle income and high income groups of the population. However, given the political sensitivity of the entitlement reforms, there may be a case for postponing drastic reforms in lgoty until more basic HUS reforms are more advanced. To reduce political costs, phasing out lgoty should be coordinated with other reforms, including wage increases in the public sector, and increases in real old age pensions and child benefits. To better understand the interlinkages between the reforms, additional modeling may be needed. In parallel, the government has to strengthen the accountability mechanism for the financing of the remaining lgoty.

3.148 In addition, to support the above reforms in housing financing, additional structural reforms should be facilitated. This reform package is fairly well known and is described elsewhere. Its important components include, but are not limited to the following:

- Additional reforms in inter-governmental fiscal relations
- An improved environment for private sector participation in the HUS
- The depolitization and increased transparency of the tariff setting process
- The strengthening of federal monitoring over reform progress at the subnational level
- The dissemination of the best regional and municipal practices for HUS reforms.

3.149 It also seems appropriate to provide additional fiscal incentives for subnational governments that are ready to accelerate the HUS reforms. The experience of the Fund for Regional Fiscal Reforms, which provided federal budget transfers to regions that were leaders in reforming their fiscal systems, could be replicated to facilitate HUS reforms at the subnational level.

Chapter 4.
IMPLICIT FISCAL RISKS IN THE RUSSIAN PENSION SYSTEM

4.1 This Chapter estimates potential fiscal costs associated with various developments in Russia's pension system based on the comprehensive actuarial model. It finds that such fiscal costs are likely to emerge as a result of the declining relative value of old age pension and associated political pressures for budget support to the pension system. Without additional reforms, the existing pension system, even under the most optimistic assumptions, is not capable of closing the growing gap between growth in wages and pensions. In the baseline "without the reforms" scenario the average replacement rate declines from 33 percent in 2002 to 24.4-27.8 percent in 2030. Moreover, the proposed cuts in the contribution rates would result in a further decline in the replacement rate relative to the baseline. To avoid a drastic widening in the gap between wages and pensions, a reduction in contribution rates has to be supplemented by additional reforms, including a decision on a gradual increase in the retirement age.

A. INTRODUCTION

4.2 This Chapter is based on the findings of the earlier World Bank Report (2003c) "Pension Reform in Russia: Structure and Implementation" and it focuses on a financial trends in Russia's pension system, including the pay-as-you-go (PAYG) and funded pillars, within the framework of the reform of unified social tax.

4.3 The Chapter develops a multifactoral analysis of potential fiscal costs associated with the future developments of Russia's pension system. The analysis is based on a set of alternative formulations for the future pension reforms. It utilizes the comprehensive actuarial model as a tool of simulations of the pension system trends.[59] The analysis makes an emphasis on the sensitivity of the current trends in the pension system to changes in macroeconomic performance, to the changes in demographic trends, as well as to various combinations of potential reform measures. It provides an analysis of the potential impact of proposed cuts in the unified social tax (UST) rates and increases in the retirement age. The Chapter highlights both medium- and long-term trends in the pension replacement rate, as well as on the changes in the purchasing power of the average pension benefit.

4.4 The Chapter is using the level of the replacement rate (ratio of average pension to average salary) as a core policy variable for the pension reform analysis. This is because such a ratio reflects a basic proportion between the pension and pre-retirement income of pensioners, i.e., it characterizes income losses associated with retirement. In the OECD countries, the pension system replacement rates vary, ranging from 36 percent in the USA to 49 percent in Finland (World Bank, 2003c). However, sustaining the replacement rate above 40 percent has increasingly become a policy target in the developed countries. The World Bank experience generally indicates that in the mandatory pension system, for a typical full career worker to maintain a subsistence income in retirement, an initial target for a replacement rate is likely to be around 40 percent (Holtzmann, 2004, p. 33).

4.5 In addition to the replacement rate, the analysis in Chapter 4 pays a considerable attention to the dynamics of the ratio between average pension and subsistence minimum. It is

[59] Andrews (2001) and Anusic and Petrina (2003) provide the examples of broadly similar analysis of sustainability of the pension systems under different reform options for other CIS countries.

justified by the fact that, when the average pension is either below or close to the pensioner's living subsistence level, as it is in Russia, the value of the replacement rate can not be an informative indicator of changes in pensioners' real incomes.

4.6 The fiscal cost analysis in this Chapter is undertaken for an expanded set of macroeconomic and reform scenarios. The basic group of scenarios reviews the trends in the current pension system and analyzes their sensitivity to the core macroeconomic and demographic factors. Additional scenarios focused more specifically on the potential impact of such changes as cuts in the contribution rate, increase in the retirement age, and changes in certain pension rules, such as a reduction in the existing UST benefits for the self-employed.

4.7 This Chapter does not discuss either the issues related to the policies on social pensions, which at the moment are received by 1.5 million pensioners (3.8 percent of the total number of pensioners) who are not eligible for a regular old-age pension. Social pension is the parameter of the government's social protection policy and it has to be dealt with separately from the issues related to social insurance and reform in the old-age pension system. Respectively, financing of social pensions should be de-linked from payroll taxation and instead be included in the overall government budget expenditure on social protection policies. Overall, we agree with the view that the government has to adopt a strategy for a gradual increase in the social pension from its current low level of 55 percent of the minimum subsistence to the level of pensioners' subsistence minimum (Smirnov and Isaev, 2003).

B. BACKGROUND

4.8 Currently the Russian pension system faces the challenge of establishing a sustainable longer-term framework for a gradual increase in the level of pension benefits. To this end, as part of the comprehensive pension reform, the government introduced a multi-pillar system in early 2002. The move to a multi-pillar system in Russia follows recent similar reforms in several other economies in transition, including Hungary, Kazakhstan, Latvia, and Poland.[60]

4.9 Two out of three main components of the reformed pension benefit in Russia -- notional defined contribution (NDC) and mandatory funded -- directly depend on the size of actual pension contributions (a portion of the unified social tax). In addition, the reforms that have been introduced made a major step toward simplification of the benefit formula and more transparent eligibility criteria. This is expected to improve incentives for compliance, cut down the unreported and untaxed share of the payroll, and therefore improve the revenue performance of the pension system. However, so far the informal part of the payroll has been shrinking only slowly. This is believed to be largely a result of rather a high rate of established contributions of 28 percent. In addition, the incentives for proper payroll reporting were further weakened because only half of the paid pension contributions (14 percent of payroll) were taken into account to assess the future size of benefits, while another half was reserved for financing the basic pension, which is the same for all pensioners.[61] Annex 4.4 provides some details on the main benefit rules in the current pension system.

4.10 At the same time, the Russian Government set up a strategic objective of easing the tax burden on the economy, which would include reduction in UST rates. It is expected that

[60] Holtzman et al. (2004) presents a summary of the lessons from the early pension reforms in ECA. See also Rutkowski (2002, 2004).

[61] This was changed by the decision made earlier in 2004 (and which will become effective in 2005). These recent changes are discussed in detail below.

the tax rate reduction would help broaden the tax base for pension contributions, thus partially compensating for the direct loss from the UST rate cut. Under the circumstances, there is significant interest in the analysis of potential fiscal implications of both the current trends in the pension system, as well as the changes that would be generated by various reform proposals, such as the proposed cuts in UST rates.

4.11 The Russian Government has been considering improvements in pensioners' welfare through a growth in real pension benefits as its core longer term policy objective. It also considers a comprehensive pension reform, which provides for an introduction of the fully funded pillar, as a primary instrument of achieving this objective. At the same time, as a part of its macroeconomic and growth policy, the Government intends to reduce the average UST rate, which is likely to bring about a decline in pension contributions, at least in the short term.

4.12 Despite recent steps to reform the social insurance system, the current situation with the old-age pensions in Russia, similar to other pre-reform pension systems in countries of the former Soviet Union, is characterized by the low retirement age (60 for men and 55 for women), high contribution rates, high system dependency ratio, almost universal coverage for the current retirees, and the flat structure of benefits that are not linked to the contributions.[62] There is some evidence, however, that participation rates have been declining among employees, but in Russia this trend has been weaker so far than in some other countries in transition[63]. There is also a high number (almost 30 percent of the regular old-age pensioners) of pensioners who benefit from various early retirement schemes, determined by special laws inherited from the Soviet era which have so far remained largely unreformed[64].

4.13 Basic parameters of the current pension system in Russia are presented in Table 4.1. It shows a rapid growth in the system dependency ratio owing to the ageing population. Moreover, in the 90s the ratio between the number of pensioners and employees (60 percent in 2002) had been growing even faster than the share of pensioners in the entire population (27 percent in 2002). This is owing to an increased incidence of both unemployment and non-participation in the labor force[65]. Annual contributions to the pension system amount to approximately 6 percent of GDP.

4.14 At the same time, it is worth noting that in the short term the broader demographic structure of the Russian population has a less unfavorable impact on pension financing. This is because the recent increase of older people's share in the population was accompanied by a drop in the birth rate, and therefore the overall share of people of non-labor age (children and retirees combined) in the total population did not increase. According to the Rosstat, in 2002 60.8 percent of Russians were of labor age, while this share was 57.0 percent in 1989 and 57.3 percent in 1997. This means that in the short term sustaining a pension system in Russia may not necessarily require an immediate increase in the overall tax burden on the working population. However, some restructuring of the overall public taxation and spending may be needed to reflect the ongoing demographic changes. Still, in the longer run Russia's pension

[62] De Castello-Branco (1998) provides a general overview of the main features of pension systems in the FSU economies as they were inherited from the planned economies.

[63] In Romania, for instance, the number of contributors to the pension system declined from 8.2 million in 1990 to 4.4 million in 2003 (Plevko 2004).

[64] The new draft Law on professional pension schemes is currently under consideration in the Duma.

[65] It should be noted, however, that despite the growing pressures, the Russian pension system is still in a more favorable position relative to one e.g., in Ukraine, where the ratio of pensioners to employees reached 0.92 and overall pension spending have been approaching 10 percent of GDP (Anusic and Petrina, 2003).

system will have to deal with the same set of fiscal problems associated with the ageing population as most developed and middle income countries.

Table 4.1: Basic Parameters of the Russian Pension System, 1995 - 2002

	1995	2000	2001	2002
Number of pensioners (end year), million	37.08	38.41	38.63	38.43
o/w: old-age pensioners	29.01	28.81	28.99	29.70
Share of pensioners in population, %	25.1	26.5	26.8	26.9
Pension system load (ratio of pensioners and employed)	0.56	0.60	0.60	0.60
Average monthly pension, including compensations (1995 - '000 rubles; after 1998 – rubles)	188.1	694.3	1,024.1	1,378.5
O/w: old-age pension	258.5	894.0	1,254.9	
Minimum pension, rubles	89.6	427.8	474.1	522.4 (*)
Replacement rate (ratio of average pension to average monthly salary), %	40	31	32	32
Ratio of average pension to the pensioner's living subsistence minimum, %	101	76	90	100
Ratio of average pension to the minimum pension, %	210	162	216	264
Employed in the economy, million	66.44	64.33	64.70	65.40
Economically active, million	70.86	71.46	70.97	71.90
Economic activity rate, %	48.0	49.4	49.3	50.2
Average (reported) monthly salary (1995 - '000 rubles; after 1998 - rubles)	472.4	2,223	3,240	4,360
Taxable payroll amount, estimated (billion rubles)	377	1,716	2,516	3,422
- taxable payroll amount, as % of GDP	24.5	23.5	28.1	31.6
Total payroll amount, incl. informal wages but excluding payroll taxes (billion rubles)	n.a.	2,304	3,141	n.a.
- total payroll amount, as % of GDP	n.a.	31.5	35.1	n.a.
Total collections by the Pension Fund, as % of taxable payroll	19.6	22.1	19.7	18.7
- collections as % of GDP	4.8	5.2	5.5	5.9
Pension expenditure by the Pension Fund, as % of GDP		4.4	5.2	5.9
Pension Fund balance, as % of GDP	-0.03	1.24	0.19	-0.83
Memo: Total population (end year), million	147.60	144.80	144.00	143.10
GDP, billion rubles	1,541	7,306	8,944	10,834

(*) – Base component of the old age benefit.

Source: Rosstat, Pension Fund.

4.15 The current pension system provides for a relatively high nominal replacement rate of about 32 percent[66]. However, the purchasing power of the average pension is low, because it merely exceeds the pensioner's living subsistence minimum. According to the Pension Fund, due to a real growth in pensions in 2002-03, by August of 2003 the average pension reached 108 percent of the subsistence minimum[67] [68]. This contradiction between the high replacement

[66] Here and everywhere in this Chapter the replacement rate is estimated (according to the established tradition) on the basis of the average gross wage. A more accurate way to estimate the replacement rate would be based on the net wages (wages after personal income tax). This would result in the replacement rate estimates that are 13 percent higher.

[67] Kakwani and Sajaia (2004) argue, however, that the current official subsistence minimum in Russia is inflated and in the case of pensioners exceeds by about 25 percent the true cost of the consumer basket that covers both minimum calorie requirements and basic non-food needs.

[68] Monetarization of some non-cash benefits, introduced in early 2003, resulted in some additional increase of the replacement rate, but did not change much the ratio between average pension and subsistence minimum.

rate and low pension purchasing power is explained by a large proportion of informal wages in the economy that are not taken into account in calculations of the average reported salary size. Informal wages are not reflected in the conventional estimates of the current replacement rate that are significantly upwards biased and somewhat misleading (especially for those in higher income brackets).

4.16 Under the circumstances, in addition to the values of a nominal replacement rate, it is worth looking at the estimates of a real replacement rate (ratio of the average pension to average real salary, i.e., salary that includes both formal and informal nontaxable wages). Based on the Rosstat publications of national accounts, we estimated that the share of informal wages in 2001-02 amounted to about one-third[69] of the total labor earnings and to about a half of the taxable payroll amount (Table 4.2). Respectively, the real average replacement rate was one-third lower than the nominal one and amounted to only 22 percent.

Table 4.2: Structure of the total payroll, as % of GDP

	1997	1998	1999	2000	2001	2002
Total payroll, as % of GDP	50.0	47.2	40.6	40.2	43.2	
- payroll taxes	11.0	10.6	8.3	8.7	8.1	8.0
- all wages	39.0	36.5	32.2	31.5	35.1	
o/w: taxable wages	27.3	26.4	21.2	20.4	23.9	24.5
hidden wages	11.7	10.1	11.0	11.1	11.2	
Share of taxable wages in all wages, %	70.0	72.3	65.8	64.8	68.0	
Other non-transfer incomes, as % of GDP	14.8	14.9	14.8	12.6	12.1	

Source: Staff estimates based on Rosstat's publications on National Accounts.

4.17 The prevailing statutory contribution rate is 28 percent, which is high relative to most OECD countries but much lower than in the transition economies of Central Europe (IMF, 2002). The 2002 effective UST rate has been 18.7 percent of the reported (i.e., without informal wages) payroll amount, and it shows a steep decline relative to 22.1 percent in 2000. This is owing to two primary factors: (i) the introduction of lower UST rates for higher wages in 2001[70]; and (ii) the growing incidence of UST benefits for those employed by SMEs.

4.18 The high UST rates are usually considered among the primary reasons for a high incidence of informal wages in the economy. Indeed, World Bank experience indicates that mandated contributions in excess of 20 percent are likely to be quite detrimental for compliance in middle and high-income countries (Holtzmann, 2004, p. 34).

4.19 Since the introduction of the flat PIT rate of 13 percent in Russia in 2001, there has been a striking difference in trends between UST and PIT tax bases. Nominal growth in the PIT tax base was twice as high in 2000-03 than the one for UST – 106 versus 59 percent (Figure 1). The response to a cut in average income tax rate was quite strong, and a noticeable share of personal incomes was legalized, especially in 2002-03. While the marginal UST rates were also reduced in 2001, this cut was much smaller and apparently had a weaker incentive effect. As a result, the growth in the PIT tax base occurred primarily due to the legalization of

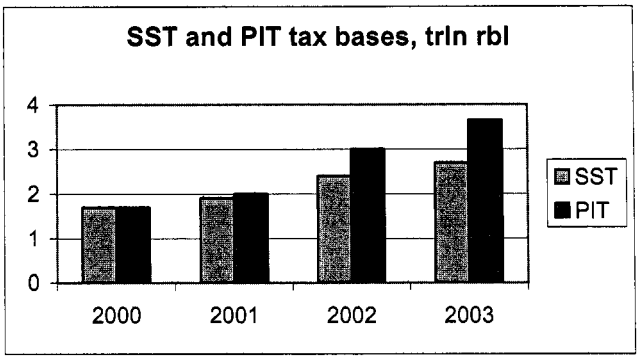
[69] It is worth noting, however, that the share of informal wages declined somewhat since the middle of the 90s as a result of the post-1998 fiscal stabilization and phasing out non-cash settlements in the economy.

[70] Since the beginning of 2001 the portions of the wages that exceed 100,000 Rbl a year (about $3,500) have been taxed at lower (steeply declining) rates. See also Annex 4.4.

non-wage incomes, especially among those in top income deciles for whom a substantial share of total income comes from non-wage sources (Sinelnikov et al., 2003). This observation provides indirect support in favor of further cutting the existing UST rates, and may give additional backing for an assumption that future cuts in UST rates could be accompanied by some expansion in the tax base.

4.20 One of the problems with the existing UST regime relates to its fragmentation, with a considerable proportion of the labor force being eligible for significantly reduced UST rates. As can be observed from Table 4.3, in 2003 the share of such employees amounted to at least 16 percent of the total number of UST taxpayers, and on average they paid three times less in their pension contributions than the "regular" employees. The actual number of beneficiaries of the special UST regimes is even higher, in particular because the data in Table 4.3 do not cover those who are eligible for a single agricultural tax. The Pension Fund staff estimates that the overall share of those who benefit from preferential UST rates amounts to 19 percent. The main beneficiaries of these tax privileges are farmers and employees in small firms, who are eligible for a 50 percent reduced UST rate (Box 4.1). These employment groups do not make any contribution to their base pension, and therefore they are implicitly cross-subsidized by regular UST payers.

Figure 4.1: Trends in tax bases for unified social and personal incomes taxes, 2000-03, trillion rubles



Box 4.1: Preferential UST regimes for employees of small business

According to the Russian Tax Code (Article 18), there are three specific tax regimes that de facto provide considerable tax benefits for specific employment categories:

- Simplified taxation for SMEs
- Single tax on imputed incomes for businesses engaged in specific types of economic activities
- Single agricultural tax for agricultural producers

In all these cases, the eligible businesses benefit from the overall lower taxation rate and simplified taxation structure, under which several major taxes are replaced by a single tax on revenues or imputed incomes. As a part of this benefit package, SMEs are eligible for lower UST rates, which include: (i) a 50 percent discount on UST tax on employee earnings (full exemption for contributions to the base pension benefit); and (ii) a very low fixed payment of 150 ruble a month for employers and self-employed. In addition, agricultural producers benefit from further reduced UST rates (10.3 percent versus 14 percent for other SMEs and 28 percent for the rest of the enterprise sector).

Source: Bolshakova (2004).

4.21 Another peculiar feature of the pension system relates to the currently effective indexation rules for both the base and NDC parts of the pension benefit. Currently, the indexation rules are broadly linked to the actual inflation rate, but the rules are insufficiently formal and provide the government with considerable discretion powers with respect to both timing and scale of indexation. In addition, the pension legislation (Federal Law No. 173, Article 17) envisions complementary indexation of NDC components in cases when growth in wages exceeds the size of basic pension indexation. However, the scale of such additional indexation can not exceed the growth rate of actual Pension Fund revenues per one current beneficiary[71]. This de facto makes the NDC component partially based on wage growth indexation, adjusted for real growth in collection rate and growth in a number of beneficiaries.

4.22 As of January 1, 2002, when the Russia's pension reform was launched, the size of the monthly base pension was 450 rubles, the minimum pension – 600 rubles, and the overall average labor pension amounted to 1241 rubles. Subsequent indexation to compensate for the inflation so far has been broadly in line with the provisions of the law. Moreover, indexation in both 2002 and 2003 of the average pension exceeded the inflation rate. The latest indexation took place in April 2004. According to the Pension Fund, at that time the base pension reached 621 rubles, the minimum pension reached 944 rubles, and the average pension - 1892 rubles per month.

Table 4.3: Main preferential regimes for social insurance contributions, 9 months of 2003

	Number of contributors to the Pension Fund	Number of firms	Average monthly contribution, ruble
1. Reduced UST tax for particular employment groups			
-- agriculture	4,052,947		154.8
-- individual entrepreneurs	2,030,569		141.4
2. Simplified tax regime for small business (*)			
-- firms	1,088,541	120,949	347.9
-- individual entrepreneurs	475,706	317,137	109.4
3. Presumptive tax on small business (*)			
-- firms	1,485,162	165,018	174.7
-- individual entrepreneurs	2,373,903	1,582,602	89.9
Total for taxpayers under the preferential schemes (**)	11,506,828		158.0
-- share in the total number of UST taxpayers	16.3%		
-- average ratio between a preferential and regular contribution			32.3%
Memo: regular UST taxation	59,270,991		489.8

(*) – Number of employees is estimated based on the average size of respective businesses.
(**) – Total does not include the number of taxpayers that pay single agricultural tax, for which no data are available.

Source: Estimates by the IET based on the data from the Taxation Ministry.

[71] The inflation-based indexation rules provide for the real values of pensions for current pensioners to be maintained at their end-2001 levels. However, historically this was a period with rather low real pensions. The real value of average old age pensions in Russia declined dramatically as a result of the 1998 crisis, and at the end of 2001 it still was below the 1997 level (Smirnov and Isaev, 2003, p.19).

4.23 The earlier World Bank Report (2003) "Pension Reform in Russia: Structure and Implementation" undertook a comprehensive review of the Russian pension reform strategy. The report identified major risks that the strategy has been facing and which relate to the following issues: (i) fiscal sustainability, (ii) deficiency in the system's design that may weaken workers' incentives to contribute to the system and work longer, (iii) weakness of the financial sector that may constrain the development of the funded pillar, and (iv) limited implementation capacity in the government.

4.24 The results from the earlier World Bank Report (2003) also demonstrate that the currently effective indexation rules are a critical determinant for the fiscal prospects of the Russian pension system. Under the current rules, if they are fully enforced, the NDC portion of the system is expected to run considerable deficits, while the base component of pension benefit would be generating surpluses that in principle would be sufficient to finance the deficits of the NDC portion and keep the entire system fiscally sustainable. However, to base the pension system's fiscal sustainability on such permanent redistribution of funds between its two components could be a risky strategy in the longer term. Given the rather informal nature of the existing indexation rules, there is a considerable risk for pressure to mount that would push toward using the surpluses in the base pension component either for additional indexation of the base pension or for other social spending.

C. Reform Scenarios Identified for Simulations

4.25 Our simulations were primarily focused on the trends in the following performance characteristics of the pension system: (i) potential (fiscally affordable and actuarially justified) average replacement rate, (ii) ratio of the average pension and pensioner's living subsistence minimum, (iii) pension system balance at the preset rules of pension indexation, and (iv) fiscal gap, estimated as a value of additional public funding needed to provide for a desirable replacement rate.

4.26 While some of the reform elements are still being defined by the government, five groups of scenarios were identified and simulated for the purposes of the current analysis. These are based on the expanded actuarial model of the Russian pension system.

4.27 Group I. Base Case: No reforms in the unified social tax (UST) – unchanged pension contribution rates.

Scenario 1 (11). Low growth and absence of structural reforms, including absence of UST reforms

Scenario 2 (12). Low growth and advanced structural reforms, but without UST reforms

Scenario 3 (13). High growth and absence of structural reforms, including absence of UST reforms

Scenario 4 (14). High growth and structural reforms, but without UST reforms

4.28 This group of scenarios primarily reflects the status quo (i.e. continuation of policies as of early 2004) and its main objectives are to (i) provide estimates for the base line, i.e., what would happen to the pension system if no reforms are undertaken, and (ii) estimate the impact of main macroeconomic factors, such as variation in GDP growth rates. In these scenarios the main parameters of the system, including the retirement age, UST rates, number

of contributors, etc., remained unchanged. However, it is worth noting that our base case scenario fully reflects the changes envisioned in the draft Law on Professional Pension Schemes that provides for a considerable reduction in implicit subsidies to early retirees. It is assumed that this Law would become effective in the near future in its present draft form.

4.29 Scenarios of Groups II-V consider various potential reforms in the pension system. For the purposes of consistency, we assume that the reforms in the pension system will be undertaken only if there is a broader across-the-sector acceleration of structural reforms in Russia, i.e., there is considerable progress in structural reforms as reflected in Scenarios 2 and 4 of Group I. Thus, in each of the Groups II-V we consider only two scenarios (both with advanced reforms) instead of four scenarios in Group I.

4.30 Group II. With the UST reform – cuts in the pension contribution rates by 4 and 8 percentage points

Scenario 5 (22). Low growth and advanced structural reforms, including UST reforms
Scenario 6 (24). High growth and advanced structural reforms, including UST reforms

4.31 Group III. UST reforms as in Group II supplemented by an increase in the retirement age by 5 years for men and 10 years for women

Scenario 7 (32). Low growth and advanced reforms, including UST reforms, and increase in the retirement age
Scenario 8 (34). High growth and advanced reforms, including UST reforms, and increase in the retirement age

4.32 Group IV. UST reforms as in Group II supplemented by an increase in the retirement age and other changes and further reduction of current UST privileges: (i) increase in contributions by self-employed and other beneficiaries from the existing tax regimes with lower UST rates; and (ii) reduction in the total number of such beneficiaries.

Scenario 9 (42). Low growth and advanced reforms, including UST reforms, increase in the retirement age and additional cuts in UST privileges
Scenario 10 (44). High growth and advanced reforms, including UST reforms, increase in the retirement age and additional cuts in UST privileges

4.33 Group V. These are the scenarios with the active migration policy, in which we looked at a potential impact of a considerable migration inflow to Russia. The question we have been asking in this part of the analysis was: to what extent immigration on its own could ease Russia's pension system problem and as such be considered as a substitute to the comprehensive pension reform? We consider two alternative options for such an extra migration inflow (relative to the baseline reflected in Group I).

Scenario 11 (52). Annual number of migrants increases by 300,000 a year
Scenario 12 (54). Annual number of migrants increases by 500,000 a year

4.34 The UST reforms in Group II were modeled through cuts in the pension contribution rate for the base portion of the old-age pension. Within the Group II we consider two alternatives for a potential effect of such a cut in the contribution rate on the tax base and collections: (i) base case – the rate cut does not lead to any expansion in the UST tax base and bring about a proportional decline in collections; and (ii) optimistic case, which assumes a

considerable expansion in the UST tax base (a share of taxable payroll in GDP)[72]. Moreover, in the latter case, it was assumed that the growth rate of taxable payroll exceeds the pace of decline in the contribution rate. These two cases represent quite extreme alternatives, which together help identify a range (low and high ends for collections), within which an actual future dynamic of the pension system is likely evolve.

4.35 The scenarios in Group III simulate the impact of increase in the retirement age. These scenarios assume a gradual increase in the retirement age for men and women up to 65 starting in 2006. These changes are fully in line with the global and regional trends - increases in retirement age have been common for the recent pension reforms worldwide (Schwarz and Demirguc-Kunt, 1999). Most transition economies managed to start similar increases over the last ten years (Holtzmann et al., 2004, p. 85). There is also a global tendency for closing the gap in retirement age between men and women. As was shown in analysis of similar multi-pillar pension systems in other countries, such as Poland, preserving an earlier retirement for women would result in significantly lower pension benefits for them because the new systems deliberately reward longer carriers and later retirement (Balcerzhak-Paradovska et al., 2003).

4.36 It was assumed in simulations that transition to the new retirement age would be completed for men by 2016 and for women by 2026. In case of the retirement age increase, the GDP growth rate was recalculated based on the assumption of maintaining the labor productivity growth rate at levels similar to the respective scenarios of Group II (with UST reforms), but with a higher number of the employed.

4.37 Additional simulations in the scenarios of Group IV analyzed somewhat more comprehensive reform strategies that assumed simultaneous undertaking of cuts in UST rates, increase in the retirement age, and a considerable reduction in the existing privileges for those who are eligible for the reduced UST rates. In particular, it was assumed that (i) the share of those who benefit from preferential UST regimes would decline from 15 to 10 percent of the employed, and (ii) contribution rates for those who remain beneficiaries of the reduced UST rates would increase by 100 percent, from 150 to 300 ruble a month in 2002 rubles.

4.38 Most of the simulations in this Chapter cover a period up to 2050. However, the analysis is mainly focused on the first half of the period (up to 2025–30), which is of greater interest for policymakers. The main simulation results are presented in Annex Tables A4.1-A4.15, and they are discussed in Sections F and G. Annex 4.2 presents the main features of the model that was used in our simulations.

D. Main Macroeconomic and Reform Assumptions

4.39 Macroeconomic assumptions for our simulations were developed jointly with experts from the Institute of Economy in Transition. The basic principles of the macroeconomic framework used for costing out various structural reforms are presented in Annex 3.1. In sum, we took the government's baseline macroeconomic projections for the period of 2004-06, and used them as a basis to build a set of four longer-term macroeconomic scenarios, each of which reflects a specific combination of two primary determinants of Russia's future macroeconomic performance – average world market oil price and expected speed of structural reforms in the country. As described in the previous section, then we used two out of four macroeconomic scenarios – scenarios with advanced reforms, 12 and 14 -- as a basis

[72] Dmitriev at al. (1999) used a similar approach to the analysis of the potential impact of UST rate cuts on Russian pension system.

on which we have designed and elaborated further more detailed *sub*-scenarios that reflect specific reform packages in the pension system.

	No reforms	Advanced reforms
Moderate oil prices (18.5), low growth	Scenario 11	Scenario 12
High oil prices (22.5 and higher), high growth	Scenario 13	Scenario 14

4.40 Overall, we based the analysis on a rather conservative macroeconomic framework. It is worth noting that GDP growth rates assumed in our scenarios for the period 2004-06 are *lower* than those assumed in the corresponding government projections. We believe that without advancing reforms growth rates will decline: better utilization of existing reserves in the economy, which was a critical growth factor in 1999-2003, cannot support future growth in the same way as before because the reserves are to a large extent exhausted. At the same time, the "advance reforms" scenario implies that reforms are likely to temporarily slow down GDP growth compared to the "no reform scenario", other things being equal. Therefore, in this case, growth rates are also likely to be lower for the next few years than the ones assumed by the government.

4.41 The key macroeconomic parameters in the model include real GDP growth rate, payroll share in GDP, population growth, economic activity, unemployment level, inflation, and interest (yield of pension savings) rate. The payroll share in GDP is an important parameter that in the model determines the dynamics of the UST tax base.[73]

4.42 Macroeconomic parameters of the base scenarios (Group I) are provided in Table 4.4. Projections for GDP growth used for all scenario groups are also presented in Figure 4.2.

Figure 4.2: GDP Growth by Scenario, Group 1

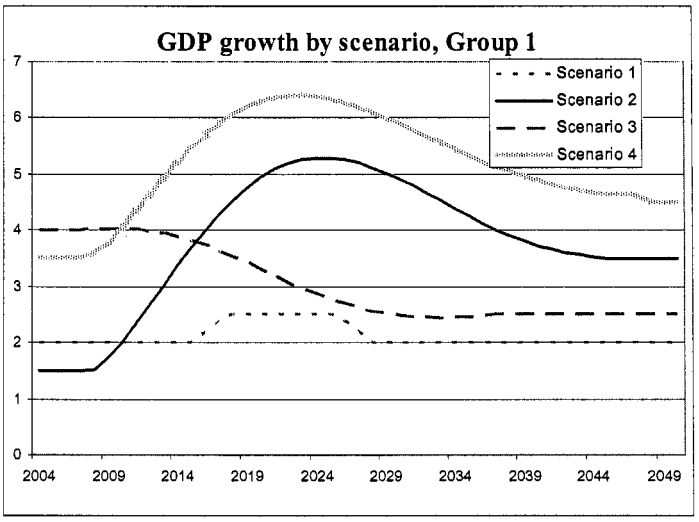


Table 4.4: Assumptions on Macroeconomic Parameters of the Base Scenarios (Group I)

	2004-2010	2011-2015	2016-2020	2021-2025	2026-2050
Real GDP growth (annual rate, %)					

[73] Roik (2003) also emphasizes a link between the growth in taxable wages in GDP and the financial position of Russia's pension system.

	2004-2010	2011-2015	2016-2020	2021-2025	2026-2050
Scenario 1 (11)	2%	2%	2.5%	2.5%	2.0%
Scenario 2 (12)	1.5%	3%	4.5%	5.5%	5.0-3.5%
Scenario 3 (13)	4%	4%	3.5%	3%	2.5%
Scenario 4 (14)	3.5%	5%	6%	6.5%	6.0-4.5%
Inflation (annual average, %)					
Scenario 1 (11)	7%	6.5%	6%	5.5%	5%
Scenario 2 (12)	10%	8%	6%	4%	3%
Scenario 3 (13)	10%	9%	8%	7%	6%
Scenario 4 (14)	20-9%	9-7%	7-5%	5-3%	3%
Taxable payroll, share in GDP					
Scenario 1 (11)	26-28%	28-29%	29-30%	30%	30-31%
Scenario 2 (12)	27-30%	30-31%	31%	31%	31%
Scenario 3 (13)	26-28%	28-29%	29-30%	30%	31%
Scenario 4 (14)	27-30%	30-31%	31%	31%	31%
Real interest rate/yield					
Scenario 1 (11)	3%	3%	3%	3%	3%
Scenario 2 (12)	5%	5%	wage r -1%	wage r -1%	wage r -1%
Scenario 3 (13)	3.5%	3.5%	3.5%	3.5%	3.5%
Scenario 4 (14)	6%	6%	wage r -1%	wage r -1%	wage r -1%
Unemployment level (%)					
Scenario 1 (11)	9%	9%	9-8%	8%	8%
Scenario 2 (12)	8-7%	7-6%	6-5%	5%	5%
Scenario 3 (13)	9%	9-8%	8-7%	7%	7%
Scenario 4 (14)	7%	7-5.5%	5.5-4%	4%	4%
Memo items that correspond to the above presented assumptions:					
Taxable payroll, growth rate (%)					
Scenario 1 (11)	3.4%	3.5%	3.8%	3.8%	3.4%
Scenario 2 (12)	3.7%	3.3%	5.2%	6.0%	5.5%
Scenario 3 (13)	6.2%	5.2%	4.8%	4.3%	3.8%
Scenario 4 (14)	6.2%	5.9%	6.6%	7.3%	6.4%
Labor productivity, growth rate (%)					
Scenario 1 (11)	1.8%	2.6%	3.3%	3.4%	3.3%
Scenario 2 (12)	0.5%	2.8%	5%	6%	5.5%
Scenario 3 (13)	3.8%	4.3%	4.4%	3.7%	3.7%
Scenario 4 (14)	2.4%	4.2%	6.3%	7.2%	6.4%

Notes: a) *wage r* stands for annual real growth rate in average wage in the economy; b) projected productivity growth rate is higher than GDP growth rate due to expected decline in both population and employment.

4.43 Our simulations assume that wage growth is proportional to labor productivity growth. At the same time, it is accepted that the taxable wage may grow faster than productivity through a decline in the share of informal wages and respective growth of the taxable payroll share in GDP (i.e., due to growth in formally registered wages and the expansion in the share of the formal sector facilitated by institutional reforms). Thus, one of the particular features of our projections is an introduction of an additional factor in the model that reflects faster growth of taxable wages (and respectively, the UST tax base) relative to labor productivity growth. Under such an approach, the share of the taxable payroll in GDP is an exogenous parameter, for which we consider a set of alternative trends depending on a scenario. The dynamics of the payroll share in GDP for the Group I ("No reforms") scenarios is shown in Figure 4.3.

4.44 In the Scenarios of Group II ("Reduced UST rates"), it is assumed that the cut in the UST rate will become effective on January 1, 2005. Parameters of the PAYG pillar have a linear dependency on the effective contribution rate. Therefore, in the base case, the direct impact of changes in the contribution rate on the pension system could be estimated by simple recalculation of the base case results.

Figure 4.3: Dynamics of the Taxable payroll share in GDP, Group 1

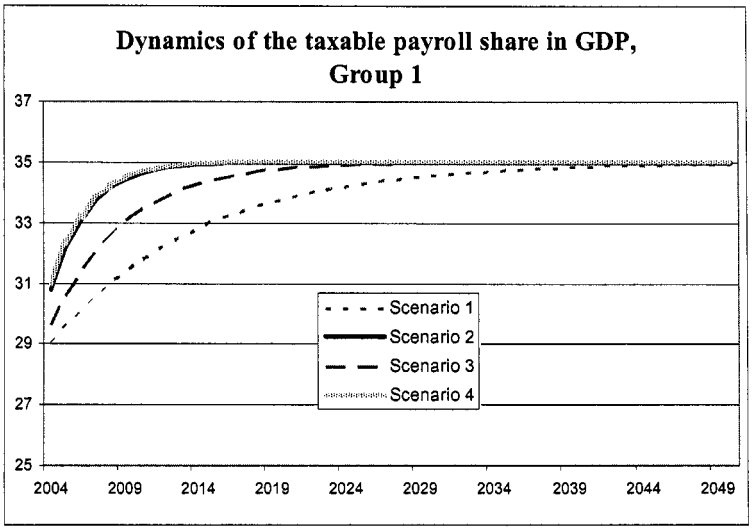


Table 4.5: Additional Assumptions in Scenarios with Reduced UST Rates, (Group II)

	2004	2005-10	2011-15	2016-20	2021-25	2026-50
Share of taxable payroll in GDP (optimistic case)						
Scenario 5 (22)	27%	29-33%	35%	35%	35%	35%
Scenario 6 (24)	27%	29-43%	35%	35%	35%	35%
Contribution rate to finance the base pension						
Scenario 5 (22)	14%	10%	10%	10%	10%	10%
Scenario 6 (24)	14%	10%	10%	10%	10%	10%

4.45 In the optimistic case of Group II, the payroll share in GDP is expected to expand (Table 4.5). Quantified estimates for such an increase were developed based on the assumption of unchanged contributors' net incomes in cases when their tax rate is reduced[74]. This assumption is similar to a hypothesis on a proportional link between the relative size of the UST rate cut and an associated additional increase in the share of taxable payroll in GDP. Under such assumptions, as a result of UST rate cuts, absolute amounts of both pension contributions and pensions remain unchanged, while taxable wages would increase (due to a declined share of shadow wages), which means a decline in the nominal average replacement rate[75].

4.46 The cross-country data suggest that indeed there is a room for Russia to increase the share of taxable payroll, but given high stability of this indicator in most countries, such changes could happen only gradually. In addition, considerable institutional reforms will be

[74] The idea behind this assumption is as follows: in response to the tax rate reduction, taxpayers will hide less of their incomes, and the share of their taxable wages will increase. It is also assumed that the size of such an increase could be conservatively estimated based on the assumption of constant net income: taxpayers, who benefit from an opportunity to reduce their hidden incomes (and, therefore reduce the size of potential penalties), will not seek additional financial benefits and will keep unchanged both the amount of paid tax and the size of their actual total incomes after taxes.

[75] Note that the real replacement rate does not change in this case, because the total payroll (including the informal part) remains intact.

needed to support this trend toward higher formalization of the economy. In 2002, the share of taxable payroll (including payroll taxes) in Russia was estimated at about 32.5 percent of GDP, which is similar to the share in Mexico and somewhat higher than the one in Turkey. Taxable payroll net of payroll taxes amounted to about 25 percent of GDP (Table 4.2 above). Table 4.6 presents the comparative dynamics of this indicator across the OECD countries.

Table 4.6: Payroll Share in GDP of Various Countries, Percent

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Australia	48.44	48.09	47.69	47.38	47.62	47.95	48.68	47.91	48.42	48.10	48.07	47.48	
Austria	53.25	53.86	54.15	54.72	54.11	54.29	53.14	52.91	52.50	52.60	51.87	51.80	51.56
Belgium	51.52	52.92	52.92	53.17	52.40	52.03	51.72	51.31	51.17	51.48	51.26	52.45	53.16
Canada	55.06	56.19	56.26	55.17	53.34	52.46	52.04	52.14	52.79	52.07	51.94	52.89	
Czech Republic			44.82	45.32	46.48	47.10	48.28	47.84	46.10	46.18	46.43	45.60	46.36
Denmark	55.54	55.22	54.92	54.68	52.80	53.02	52.93	52.92	53.91	54.22	53.35	54.33	54.60
Finland	55.55	58.36	56.54	52.77	50.68	49.85	50.15	48.64	48.03	48.88	47.86	48.93	48.96
France	52.49	52.73	52.89	52.96	52.07	52.09	52.15	51.91	51.51	51.86	51.98	52.49	52.76
Germany	56.04	56.18	56.74	56.67	55.37	55.34	54.87	53.98	53.46	53.51	54.18	54.12	53.63
Greece	35.16	32.57	31.54	31.44	31.32	32.25	31.92	32.77	33.24	33.35	33.09	33.14	32.95
Hungary						46.94	45.66	44.95	44.79	43.15	45.30		
Iceland	48.77	51.66	52.36	50.58	49.49	51.04	52.56	52.25	54.24	56.91	58.47	58.19	59.26
Ireland	46.28	47.40	47.90	47.76	47.25	45.30	44.39	42.52	41.67	40.63	40.63	41.28	
Italy	46.14	46.29	46.19	45.85	44.27	42.56	42.52	42.66	40.58	40.74	40.64	40.91	41.24
Japan	52.16	52.93	53.26	53.96	54.36	54.58	54.04	54.25	54.40	54.31	54.23	54.61	
Korea	45.87	47.01	46.90	46.70	46.61	47.65	48.85	47.20	45.23	43.59	43.99	45.50	44.99
Luxemburg	53.26	53.05	55.02	53.66	53.31	53.44	53.10	50.53	49.04	48.23	47.40	50.42	53.04
Mexico	29.53	30.88	32.88	34.75	35.34	31.08	28.86	29.63	30.60	31.23	31.25		
Netherlands	51.61	52.00	52.90	52.96	51.61	50.86	50.59	50.35	50.82	51.42	51.05	51.37	52.26
New Zealand	45.06	44.71	44.26	42.75	42.58	42.57	43.26	43.45	43.62	42.47	41.84	41.98	
Norway	49.15	48.58	49.16	47.96	47.92	47.36	46.37	46.48	50.15	49.16	43.57	44.67	47.16
Poland		41.90	47.05	44.17	42.66	42.92	44.33	45.15	45.22	44.93	43.75		
Portugal	43.83	46.12	47.05	46.86	44.76	47.71	47.97	47.93	47.81	48.22			
Slovak Republic				43.25	42.30	42.25	42.46	43.45	43.23	41.34			
Spain	49.86	51.14	51.70	52.19	50.71	49.91	49.76	49.78	49.93	50.04	50.13	50.13	49.91
Sweden	57.51	56.99	56.70	55.20	54.29	52.66	54.66	54.28	54.20	53.22	55.23	57.38	57.94
Switzerland	61.98	63.31	63.68	62.80	62.00	62.59	62.59	62.88	62.61	62.35	62.45		
Turkey	27.21	31.86	31.67	30.88	25.54	22.18	23.93	25.80	25.46	30.68	29.19	28.34	
Great Britain	56.72	57.27	56.92	55.68	54.25	53.77	53.20	53.38	54.12	54.60	55.23	56.16	55.74
USA	58.31	58.30	58.26	58.00	57.49	57.33	56.77	56.39	57.28	57.69	58.69	58.69	57.63

Source: World Bank.

4.47 In our projections for the scenarios in Group I ("No UST reforms"), it was assumed that without UST rate cuts the share of taxable payroll (net of payroll taxes) would increase gradually from the current 25 percent of GDP to 31 percent of GDP by 2025[76]. It is worth noting that after such an increase, in 2025 the payroll share in Russia will still be lower than the actual payroll share observed in such countries as Poland and the Slovak Republic in 2000. This indicates a possibility for a somewhat stronger expansion in payroll share under more favorable conditions associated with an additional reform effort and lower payroll/income taxation.

[76] Or 39-40 percent of GDP, if payroll taxes are included.

4.48 At the same time, in the optimistic case in scenarios of Group II ("Reduced UST rates") it was assumed that the payroll share may grow considerably faster than in the scenarios of Group I, and the payroll growth rate would exceed the pace of decline in contribution rates by about 20 percent.[77] Under such assumptions, the growth in the taxable payroll share would be more than 50 percent higher than the growth in similar scenarios of Group I, and the overall increase in the payroll share within the period would amount to 9.5-10 percentage points (p.p.) of GDP instead of the original 5.5-6 percent. Consequently, starting from 2020, the taxable payroll share in GDP (net of payroll taxes) in the optimistic case of Group II (Table 4.5) amounts to 35 percent ($25+6\cdot14/10\cdot1.2$)[78]. Such payroll shares are comparable to the actual current levels of this indicator in the most advanced reformers among transition economies in the CEE. In other words, under the conditions of aggressive structural reforms and with lower UST rates, within approximately 15 years additional expansion of the UST tax base could amount to 4-4.5 p.p. of GDP, from 30-31 to 35-35.5 percent. It is worth emphasizing that we consider the above assumptions to be really optimistic and we do not see much room for a further growth in the payroll share. In other words, it seems unlikely that the payroll share in Russia may expand above this 35 percent of GDP threshold, even if more radical cuts in the UST rates (in excess of 4 percentage points) are introduced.

4.49 International experience, however, suggests that there is no strong correlation between reductions in the payroll tax rates and expansion in the tax base. To attain a desired policy outcome, cuts in the UST rate in Russia have to be complemented by other policies aimed toward formalization of the labor market and improvements in expectations of market participants.[79]

4.50 In addition to a closer look at two quite different cases ("base" and "optimistic") for a potential dynamics of the tax base, we develop a broader framework for a sensitivity analysis of our simulation results (Annex 4.1). It helps to address questions such as "What may happen to the pension system if the key parameters such as UST rate and payroll share in GDP would reach particular levels?"

4.51 Our payroll growth rate assumptions are equivalent to projecting relatively high growth rates for real taxable wages. In particular, it is assumed that in the optimistic case of Group II, in 2004-10 the real average (taxable) wage will grow at an annual rate of 4.4 percent in Scenario 2, and 6.3 percent -- in Scenario 4. And this growth will remain rather high for the period 2011-20 (Figure 4.4). This is 0.5 to 1.5 percentage points higher than the growth in

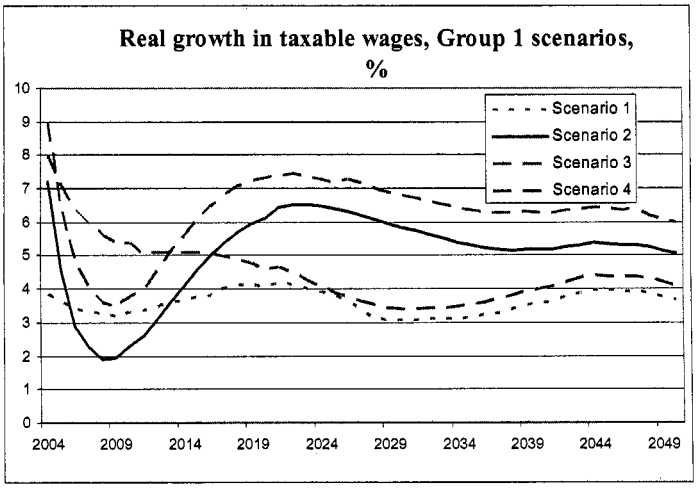
[77] Recent study of the Institute of Economy in Transition (Sinelnikov et al., 2003) has found that simultaneous reduction of income tax and UST rates in 2000 had rather a substantial effect on growth in tax bases of these taxes in the period of 2001-02. Given all existing uncertainty, these results cannot be directly applied for developing precise quantitative estimates for elasticity of the payroll tax base. However, they seem to confirm the plausibility of our assumptions.

[78] Note that we link the potential incentive effect exclusively with the reduction of the base pension contribution rate (from 14 to 10 percent), but not with the change in the total pension contribution rate (from 28 to 24 percent). This is a reflection of the current situation where the contributors are least interested in contributing to the basic portion of pensions, because this part does not have any effect on the size of their future pension benefits. Respectively, incentives for participants seem to be the most sensitive to adjustments in this component of the overall contribution rate.

[79] In Argentina, for instance, the payroll tax base did not expand despite the considerable cuts in tax rates in the course of pension reforms in the 90s (Rofman, 2002). This is believed to be related to other non-tax impediments to the formalization of the labor market (such as hiring and firing restrictions), as well as low credibility of reforms and respectively strong expectations of the employers that the tax cuts had been temporary. At the same time, several Eastern European countries, including Poland, the Slovak Republic and Czech Republic, have a relatively high payroll tax base despite preserving one of the highest payroll tax rates in the world, well above 40 percent (IMF, 2002).

labor productivity in the same period. Given that a substantial portion of this wage growth will be associated with a reduction in shadow incomes, such growth rates seem quite feasible. In comparison, the real wage grew at an annual rate of 5 percent and more in a number of CEE countries during the second half of the 90s (Table 4.7) despite the fact that the share of shadow wages in these countries at that time was significantly lower.

Figure 4.4: Real Growth in Taxable Wages, Group 1 Scenarios



4.52 Overall, the assumptions in the optimistic case provide for the share of shadow wages to decline to 20 percent of taxable wages (as compared with the current 45-50 percent). This indicates that total labor incomes (combined taxable and nontaxable wages) will be growing at a rate that is about 20 percent lower than indicated in Table 4.4.

Table 4.7: Real Wage Growth in Various CEE Countries, 1995 - 2000, Percent

Croatia	34.5
Estonia	23.2
Lithuania	38.6
Slovak Republic	62.0
Poland	24.7

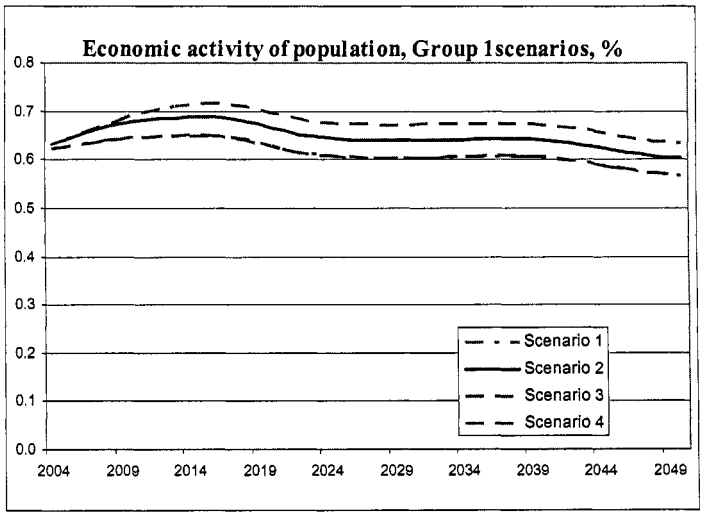
Source: World Bank.

4.53 In addition, it is assumed in the reform-advanced Scenarios 2 and 4 in all groups that the economic activity of the population would be higher, which reflects an assumption on expansion in labor demand under the conditions of sustainable growth and a favorable investment environment created by structural reforms. In Scenario 2, it is assumed that the economic activity parameter would grow at an annual rate of 0.5-1 percentage point up to 2010, and it would remain unchanged after this. In Scenario 4, economic activity would grow at a rate of 1 percentage point a year up to 2010, and additionally 0.5 percentage points a year during 2011-15. Consequently, the average level of economic activity during the period increases by 5-8 percentage points (Figure 4.5).

4.54 The share of non-payers in the pension system (delinquent contributors) was assumed unchanged at a level of 5 percent throughout the entire period. This corresponds to the assumption that most workers would continue to participate in the pension system, while the primary form of tax evasion would remain to be a underreporting of wages, but not a complete

withdrawal from the system. This relates to two specific features of Russia's pension system, which strengthen employees' incentives to participate such as, (i) low eligibility requirements for the base pension, which requires just 5 years of service and no minimum contribution, and (ii) availability of generous preferential tax rates for self-employed and other categories (such as farmers) that have a higher propensity to drop out of the system. At the same time, we estimated the elasticity of the average pension with respect to changes in the participation rate. This elasticity has a simple linear character -- a decline in participation in the pension system by 5 percent would reduce the average replacement rate by about 5 percent.

Figure 4.5: Economic Activity of Population, Group 1 Scenario

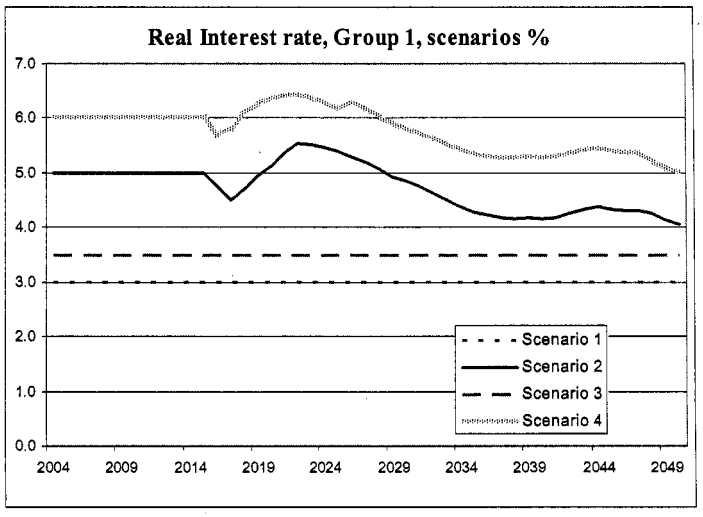


4.55 In Group IV ("Reforms to Reduce Tax Privileges") we assume a considerable change in the structure of contributors. While in all the scenarios of Groups I-III the structure of those employed in the economy was: 80 percent - regular employees, 15 percent - the self-employed and others eligible for lower UST rates, and 5 percent are UST delinquents, in the scenarios in Group IV, the share of regular employees is gradually increasing to 85 percent, while the share of those included in the privileged schemes is declining to 10 percent. It is argued that the current eligibility rules for reduced pension contributions are too soft and, moreover, they are often abused by employers who register their staff as self-employed to reduce payroll costs. In addition, it is assumed that for those who keep their UST privileges, the fixed monthly pension contribution would be doubled in real terms.

4.56 No changes are envisioned in technical parameters of the pension system, such as collection and exemption rates, and coefficient of regressivity, which respectively remain at the base levels of 0.96, 0.94, and 0.94.

4.57 The real interest rate (pension savings yield) is higher for reform-oriented scenarios 2 and 4 than in the scenarios 1 and 3. For the period till 2015, the rate amounts to 5-6 percent per annum in the former case, while it is 3-3.5 percent in the latte. For the period after 2015, in the scenarios with reforms the yield is fixed at the level of one percentage point below the real growth rate in average wages of the respective year (Figure 4.6).

Figure 4.6: Real Interest Rate, Group 1, Scenarios %



4.58 Another important assumption relates to the set of used indexation rules. In our simulations, all pension benefits are fully indexed for an actual inflation rate, and thus inflation does not have an impact on real values of pension benefits and respectively replacement rates. Moreover, in addition to full indexation for inflation, we used two alternative sets of indexation rules to assess trends in real values of the average pension benefit:

(i) The rule that corresponds to the existing legislation – the base pension is indexed with the average inflation, while the NDC portion of the benefit is indexed based on the nominal growth rate of the Pension Fund collections per beneficiary.

(ii) The rule that corresponds to estimates for the maximum affordable pension – indexation of the base pension remains the same (inflation-based), but the NDC portion is additionally indexed to distribute all available surpluses in the PAYG pillar.

4.59 In addition, a separate indexation rule is used for the subsistence minimum, which is indexed for inflation plus additional indexation equal to 30 percent of the real growth in average taxable wages.[80] Justification for the latter indexation rule derives from the fact that the baseline scenario assumes relatively high growth in real wages for the entire period forecast. If the subsistence minimum is not adjusted for this growth in labor incomes, it quickly erodes and becomes a meaningless concept. Substantively, the real growth in subsistence minimum could be interpreted as expansion in the set of minimum social needs with the growth in average income (Chen and Ravallion, 2000).

E. DEMOGRAPHIC ASSUMPTIONS

4.60 Basic demographic assumptions applied in the model are presented in Table 4.8. The key features of the baseline demographic projections for Russia provide for both a drastic

[80] For the cross-country data Chen and Ravallion (2000) estimate that elasticity of the poverty line by consumption level equals one third.

reduction in the general population (particularly after 2025)[81] and a monotonous growth of the system dependency ratio (ratio of pensioners and contributors): from the current 0.6 to 0.65 - 0.75 in 2025 and 0.9 - 1.0 in 2050 (Table 4.9).

4.61 For the simulations, we have used the demographic parameters that are mostly identical to the existing base demographic projections for Russia (Population of Russia, 2002). However, in the "advanced reform" Scenarios 2 and 4, we increased the birth rate from the conventionally projected 1.40 to 1.45 (Scenario 2) and to 1.50 (Scenario 4), i.e., as compared with the base case projections, the maximum increase of the birth rate in the model does not exceed 7 percent.

Table 4.8: Base Demographic Projections (scenarios from Group I-IV)

	2003	2004	2005	2006	2010	2015	2020	2030	2040	2050
Birth rate*	1.31	1.33	1.35	1.37	1.40	1.40	1.40	1.40	1.40	1.40
Life expectancy	66.6	66.8	67.0	67.1	67.2	67.7	68.3	69.5	70.6	71.8
- Men	60.3	60.7	60.9	61.1	61.3	61.9	62.5	63.8	65.0	66.3
- Women	73	73	73	73	73	74	74	76	77	78
General population	143	143	142	141	139	136	132	121	110	99
- Men	67	67	66	66	65	63	61	55	50	45
- Women	76	76	76	76	75	73	71	66	60	54
Elderly load coefficient for general population (60/55)	0.33	0.32	0.32	0.32	0.35	0.40	0.46	0.49	0.58	0.71
- Men (above 60)	0.20	0.19	0.18	0.18	0.19	0.22	0.26	0.29	0.32	0.43
- Women (above 55)	0.46	0.46	0.47	0.48	0.52	0.60	0.67	0.71	0.86	1.03

* Birth rates presented are those for the most conservative options that correspond to the Scenarios 1 and 3 of Group I.

Source: Demographic projections used in this Chapter were developed by Ye. M. Andreyev, the Centre for Human Demography and Ecology. See Population of Russia (2002).

4.62 In all the scenarios of Groups I-IV, net immigration was set at a conservative level of 60-100,000 persons per year. In Scenarios 1 and 3 of Group I, the net migration is close to the baseline demographic projections of 60,000 persons a year, while in Scenarios 2 and 4 it was increased approximately by 50 percent. However, this growth in immigration has an insignificant impact on the results. This is primarily owing to the fact that, in our view, the net migration inflows are (unrealistically) low in the conventional demographic projections. In a long-term perspective with a continuing population decline, one should expect that the annual net immigration to Russia will expand substantially. This is the reason why in the scenarios of Group V ("Additional immigration"), the net migration is additionally increased to 300,000 and 500,000 persons per year through the extended period[82].

[81] However, it is worth mentioning, that such sharp population reduction may lead to a much stronger expansion in net immigration, which is to some extent reflected in scenarios of Group V.

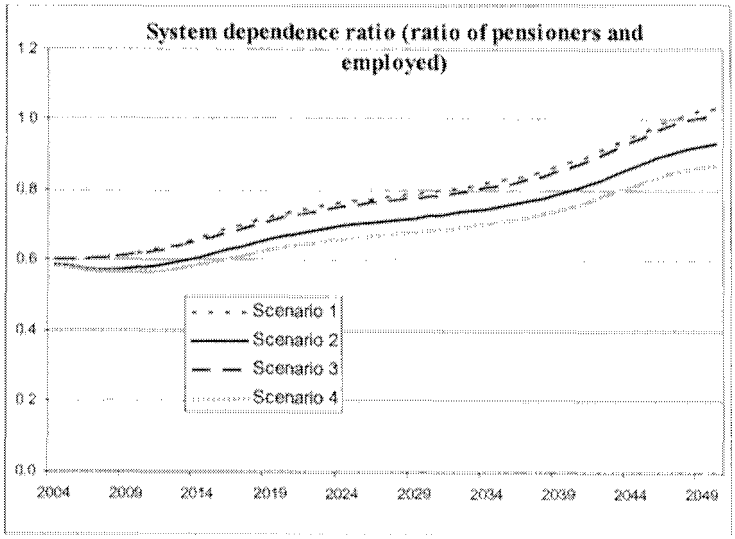
[82] According to the data provided by the Institute of Economic Forecasting, over the last 15 years the maximum level of net migration of 800,000 persons per year was observed in 1994. Since then the flow of net migration declined significantly and in 2001 it made up only 50,000 persons.

Table 4.9: System Dependency Ratio

Scenario	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios											
11	0.60	0.60	0.60	0.60	0.61	0.61	0.62	0.73	0.79	0.88	1.03
12	0.59	0.58	0.57	0.57	0.57	0.57	0.58	0.67	0.72	0.80	0.93
13	0.60	0.60	0.60	0.60	0.61	0.61	0.62	0.72	0.78	0.87	1.02
14	0.58	0.58	0.57	0.57	0.57	0.57	0.57	0.64	0.68	0.75	0.87
Group II. With the UST reform (cuts in the pension contribution rates)											
22	0.59	0.58	0.57	0.57	0.57	0.57	0.58	0.67	0.72	0.80	0.93
24	0.58	0.58	0.57	0.57	0.57	0.57	0.57	0.64	0.68	0.75	0.87
Group III. UST reform supplemented by an increase in the retirement age											
32	0.59	0.58	0.54	0.54	0.51	0.51	0.48	0.45	0.47	0.49	0.57
34	0.58	0.58	0.54	0.53	0.50	0.50	0.47	0.43	0.45	0.46	0.53
Group IV. UST reform, an increase in the retirement age and cuts in privileges											
42	0.59	0.58	0.54	0.54	0.51	0.51	0.48	0.45	0.47	0.49	0.57
44	0.58	0.58	0.54	0.53	0.50	0.50	0.47	0.43	0.45	0.46	0.53

4.63 As mentioned above, without an increase in the retirement rate, the dependency ratio has been growing steadily and under the most optimistic assumptions reaches 0.68 in 2030 and 0.87 in 2050. However, the retirement age growth by 5 years for men and by 10 years for women (scenarios of Group III) in the longer run leads to a substantial decline in the ratio to 0.43 - 0.45 in 2030 and 0.53 - 0.57 in 2050. Table 4.9 presents an average system dependency ratio calculated for Groups I-IV of scenarios as a share of the number of labor pensioners in the total number of contributors. These changes in the dependency ratio trends are also illustrated in Figure 4.7.

Figure 4.7: System dependence ratio (ratio of pensioners and employed)



F. SIMULATION RESULTS

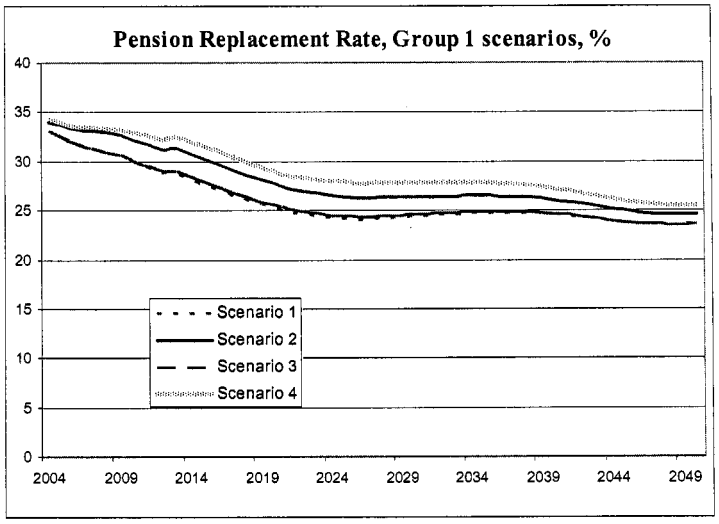
Group I. No changes in the unified social tax, no changes in the retirement age

Estimating baseline trends

4.64 As noted above, the main output indicators for the pension system in our scenarios include the overall affordable replacement rate (Figure 4.8), the contribution rate required to ensure the targeted replacement rate (Figure 4.9), and the ratio between the average pension benefit and the pensioner's living subsistence (Figure 4.10).

4.65 In the scenarios of Group I, the variation in baseline macroeconomic parameters does not lead to any tangible variation in the overall replacement rate (Figure 4.8 and Annex Table A4.3). That is, our results suggest that acceleration of economic growth, lower inflation, and reduced unemployment all have rather a modest effect on the future average size of the pension benefit (relative to the average wage). While differences in annual growth rates between Scenarios 11 and 14 are significant and amount to 3-4 p.p., they produce a modest variation in the replacement rates that in 2030 stays in the interval of 24.4-27.8 percent.[83] Even under the most favorable macroeconomic assumptions, by 2025 the replacement rate drops considerably relative to its current level and then it stays basically unchanged. It is expected that the rate of decline would be the most pronounced between 2016-25, when it would lose on average about 3.5 p.p.

Figure 4.8: Pension Replacement Rate, Group 1 Scenarios



[83] The contribution of the fully funded pillar to the overall replacement rate amounts to about 10 percent in 2030, but it reaches a quarter in 2050.

Figure 4.9: SST Rate (Contribution Rate) Needed to Ensure the Replacement Rate of 30%, Group 1 Scenarios

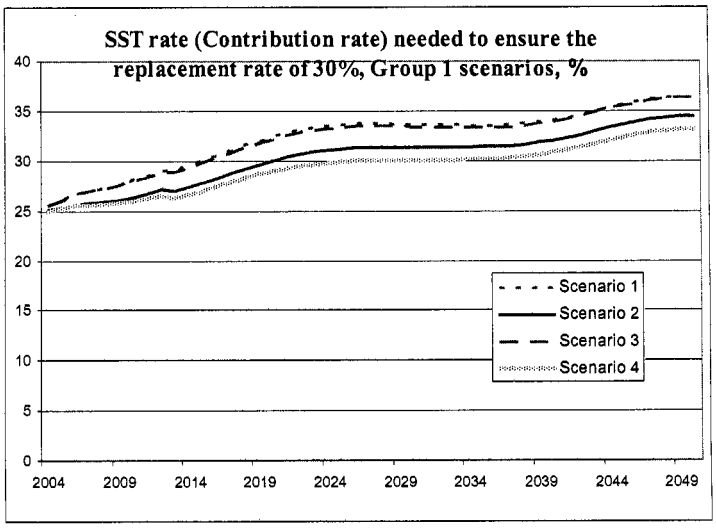
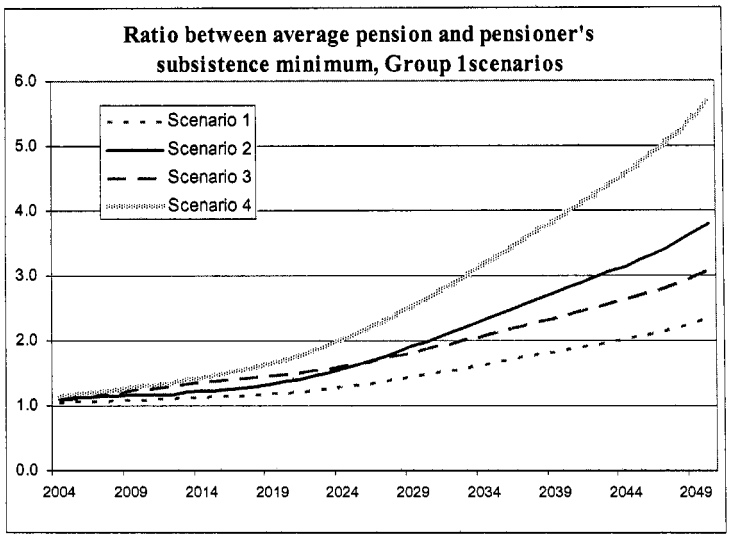


Figure 4.10: Ratio Between Average Pension and Pensioner's Subsistence Minimum, Group 1 Scenarios



4.66 None of the scenarios in Group I could bring the replacement rate to the level of 30 percent. While higher economic growth results in much higher real pensions as well as in a higher ratio between average pension and subsistence minimum (Annex Table A4.6 and Figure 4.10), it does not help to close the gap between growth in wages and pensions. It appears the existing pension system, even under the most optimistic assumptions, does not provide pensioners with a fair share of gains from economic growth (Box 4.2).

4.67 These results confirm that the current pension system does not have internal reserves to prevent a broadening of the income gap between employees and pensioners, and as such they justify the need for additional reforms in the pension system. Without the reforms, the broadening of the gap may trigger a pressure for support of the pension system through

additional budget transfers. We estimated potential fiscal costs of such budget support, based on the assumption that the government would be forced to keep the replacement rate at the level of 30 percent. In this case, annual fiscal costs of supporting non-reformed pension system would amount to 0.5-1.5 percent of GDP a year in 2030 and it increases to the level of 1.5-2.5 percent of GDP by 2050 (Table A4.7). The pension system would be able to generate the same amount of funding internally only through a considerable additional increase in the average contribution rate, from 28 percent to on average 32 percent in 2025 and to about 35-36 percent in 2050 (Figure 4.9).

Box 4.2: Drivers of the decline in the replacement rate

Separating the PAYG and fully funded pillars of the system helps to understand better the main factors behind the declining trends in the overall replacement rate. Without significant reforms in the current pension system, in the longer run the replacement rate in the PAYG pillar will inevitably decline to approximately 17-20 percent (Table A4.2). This is because the current pension system, despite all its recent positive innovations, has largely preserved its re-distributional nature[84], in which the replacement rate is inversely proportional to the system dependency ratio.

With the system dependency ratio approaching 1 (under the current retirement age), the average replacement rate in the PAYG pillar will be to a growing extent determined by the average UST rate. Taking into account also that the actual collections of the Pension Fund are lower than statutory collections due to such parameters as incidence of non-payments, exemptions, and the regressive nature of the tax rate[85], in the long run the average replacement rate in the PAYG pillar could be maintained only at a level of about 19 percent (22·0.94·0.94·0.96=18.7 percent). However, taking into account that the self-employed and other special categories pay their PAYG contributions at a much lower rate (on average approximately only 3 percent), while their number comprises 15 percent of contributors, the longer-term ceiling for the replacement rate in the PAYG system will be even lower -- 16.3 percent ((0.94·0.94·0.96)·(0.85·22+0.15·3) =16.3).

For the fully funded pillar (FFP), a rough estimate for the potential longer-term replacement rate (Table A3) may be obtained in a similar manner. Assuming that the wage growth rate is equal to the interest rate (yield) in the economy[86], the FFP replacement rate as of the date of retirement is proportional to the contribution rate and the number of years of service and inversely proportional to the average life expectancy after retirement[87]. Given the current maximum contribution rate for the funded pillar of 6 percent, prevailing values of both collection and regression factors, and working lives of 30-35 years, the FFP replacement rate will be about 8.5-10 percent (6·0.94·0.96·(30-35)/19)[88].

As a result, with the dependency ratio equal to 1, the combined (PAYG and FFP) longer-term potential replacement rate for the existing system would stay within the interval of 24-25.5 percent.

4.68 Table 4.10 provides a compressed summary of the expected trends in the replacement rate under the Group I scenarios. It suggests the following observations:

[84] The current legislation provides that only 21 percent of pension contributions (6 percent out of 28 percent of payroll) will be directed to the funded pillar.

[85] As mentioned above, the model uses the following estimates for these three parameters: 0.94, 0.94, and 0.96 respectively.

[86] This is a standard assumption for this kind of model: if the interest rate is below the wage growth, the incentives for participation in a pension system weaken notably.

[87] Currently, annuity has not yet been fixed for the funded pillar, and the model is using variable "life expectancy" with the same values as for the PAYG pillar (12-19 years depending on the year of projections).

[88] This is an upward biased estimate because it does not account for several factors, such as e.g., administrative costs in the FFP.

- Each cohort of the pensioners starts its retirement with quite a low real pension, and this relative value of pension at retirement is declining with time, i.e. each cohort is better off at the moment of retirement than those that follow.
- The real value of pension for each cohort is growing with time, however this growth is concentrated in the second part of their retirement "career".
- Practically in all cases during the first part of retirement the average pension is less than one third of the average wage at retirement.

Table 4.10: Real pension as a percentage of the average wage at the time of retirement.

Year of retirement	2002	2010	2020	2030	2040
Scenario 2 (12): Low growth					
2002	31	34	41	-	-
2010	-	26	31	48	-
2020	-	-	20	31	49
Scenario 4 (14): High growth					
2002	31	37	50	-	-
2010	-	25	34	57	-
2020	-	-	19	32	56

4.69 The dynamics of real replacement rate (Table A4.5), i.e. the replacement rate estimated as a ratio of the average pension to the full labor income (but not just to its taxable portion), shows much less variation than the conventional (nominal) replacement rate (Table A4.1). It suggests that, when one accounts for an expected decline in the share of informal wages in the total payroll, the overall trend in the relative size of the average pension is quite different. It shows modest growth for the period between 2005 and 2020 within the range of 24-27 percent, and after this it declines much more gradually that the conventional (nominal) replacement rate. Still, in none of the scenarios in Group I, the real replacement rate exceeds 26 percent in 2030.

4.70 At the same time, all scenarios in Group I show a gradual increase in the value of average pension relative to the subsistence minimum (Figure 4.10). The latter ratio is a better measure of absolute changes in pensioners' standard of living than the replacement rate. It indicates that, even within the unreformed pension system, with economic growth the real incomes of pensioners will also grow steadily. However, there are two concerns with the patterns of this future growth: a) in the initial period till 2015, despite a low level of current pensions, this growth will be rather slow, and b) as reflected in the falling replacement rate, the growth in pensions will be lagging growth in real wages, which may become a politically sensitive issue.

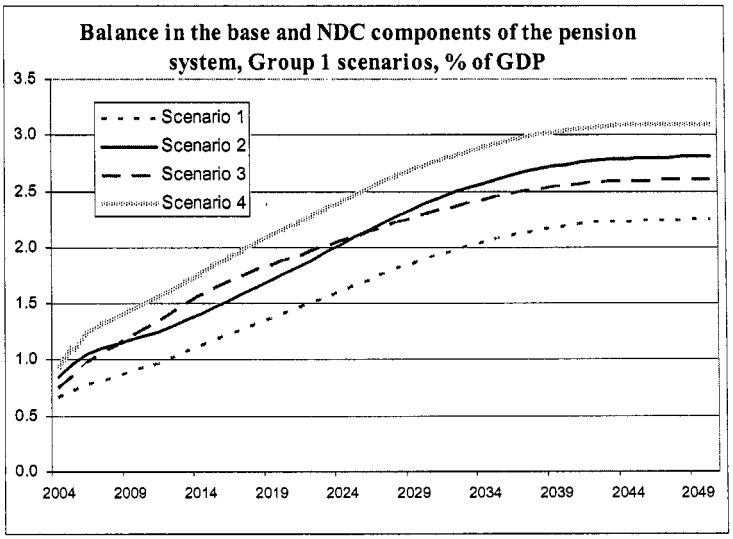
4.71 In contrast to the replacement rate, the ratio between average pension and subsistence minimum shows a considerable variability depending on the growth rate in the economy, as well as growth in real average wages. By 2030, the difference in increases of this ratio across the scenarios is about 3 times, from 50 percent in Scenario 11 to 165 percent in Scenario 14 (which is the scenario with the highest GDP growth rate).

4.72 The analysis also suggests that the existing pension indexation rules could be somewhat relaxed without compromising the stability of the pension system. In the expected environment of the high wage growth the existing indexation rules, which are primarily inflation based, are too restrictive and do not allow for utilization of the entire pension

contributions. If the PAYG pensions are adjusted only for price inflation, and do not reflect real wage growth, the future average pensions would be much lower (Table A4.8) than those that the system could afford, and the pension system would generate considerable surpluses that would reach 1.8-2.7 percent of GDP by 2030 (Table A4.11). Comparison between the average pension, estimated for the "inflation-only" indexation rules, with the average pension that could be afforded by the pension system (i.e., with the zero balance of the PAYG pillar, (Table A4.1) shows that by 2020 the difference (measured by the replacement rate) amounts to 50 percent and it reaches 100 percent by 2050.

4.73 While under the existing indexation rules overall the PAYG system would generate considerable surpluses, they would be generated entirely by the base pension component (Table A4.9). The NDC component would have considerable deficits (Table A4.10 and Figure 4.11).

Figure 4.11: Balance in the Base and NDC Components of the Pension System, Group 1 Scenarios, % of GDP



4.74 The inflation-only indexation rules would have a major effect on the real value of the base pension and could lead to a quick erosion of its value. If the real wages grow at 6 percent, the replacement rate for the base pension will decline by factor of approximately 3 by 2025, and by factor of 18 by 2050. The share of the base pension in the total average pension benefit will decline from 30 percent in 2003, to 20 percent in 2025 and to only 5 percent in 2050.

4.75 Under the circumstances, it would make sense (probably after 2030) to convert the base pension into an instrument of social assistance, link its size to the minimum subsistence benefit, and respectively move the responsibility for its funding from the Pension Fund to the federal budget. This would be consistent with the nature of the basic pension, which aims to provide basic income security for the elderly (Hotzmann et al., 2004, pp. 10-11).[89] This would cause an annual increase in government budget expenditures of about 1 percent of GDP in

[89] A similar suggestion was made by the Russian Union of Industrialists and Entrepreneurs (Concept of the Pension Reform. Employers' Position, 2001). Hungary and Poland abolished their minimum pension and provide a minimum income support for the elderly from outside of the pension system (IMF, 2002, p. 30).

2030, but this amount would be declining quickly to less than 0.4 percent of GDP in 2050. Accordingly, the same amount of pension fund resources could be freed and may be used for an increase in the PAYG pensions.

Impact of other specific factors on the replacement rate

4.76 The sensitivity of the results for future average pensions to changes in the interest rate proved to be quite high. An increase in yield by 1 p.p. leads to a 15-20 percent increase in the replacement rate for the fully funded component of the pension benefit. For 2050 this could bring about an additional 1.5 p.p. to the overall replacement rate in the system. However, for the period till 2030 the share of the fully funded component in the overall benefit remains low, and therefore changes in the interest rate have only a marginal impact on the real value of the overall pension benefit. Our baseline estimates assumed a rather conservative assumption regarding the interest rate, which is kept at 1 p.p. below the real wage growth, while usually these parameters are assumed to be equal in the longer term. Our choice of a lower interest rate relates to the fact that the baseline scenarios assume quite high real wage growth, and equalizing interest and wage growth under the circumstances may produce unrealistically high yields.

4.77 While the pension system may have potential financial reserves associated with an increase in the economic activity (labor market participation) of the population, as well as with declining unemployment, the possible impact of these two parameters seems to be low. It appears in our assumptions used for Scenario 14 (high growth with advanced reforms) that we have already accounted for most of the realistic reserves in these two areas.

4.78 An increase in the birth rate along with the effects of declining unemployment, growing economic activity, and higher net migration inflows in the base scenarios of Group I help to reduce the system dependency ratio by about 10 percent and, respectively, to increase the average pension benefit by 10 percent.

4.79 The above estimates for baseline trends in the replacement rate assume a considerable compression of the early retirement schemes as proposed by the Draft Law on Professional Pension Systems. Thus, there are no significant unaccounted reserves associated with this factor. We estimate that if the current draft Law becomes effective, this would reduce the number of early pensioners from about 3 million in 2002 to 2.25 million in 2030, and to 1 million in 2050.[90] Given that the total incremental annual payments to early retirees, as estimated, amount to about 4 percent of total Pension Fund spending on pension benefits, total savings due to the proposed reduction in this benefit would be modest – from 1 percent of the total pension payments in 2030 to 2.7 percent in 2050.

4.80 The existing proposals for UST reforms also suggest considerable changes to the existing tax brackets, and also introduce a regular indexation of the tax brackets for the future. If implemented, this would change both the average effective tax rate and the coefficient of regressivity (currently equal to 0.94) for the pension system. However, it is difficult to predict the magnitude of possible changes in the latter because we do not have data on actual distribution of wages within each group of contributors. More importantly, it is quite difficult to make longer-term projections for future changes in wage differentiation. We have therefore kept the coefficient of regressivity intact in our simulations and focused primarily on the impact of changes in the average contribution rates.

[90] However, the number of early pensioners would increase till 2012 due to the grandfathering clauses.

Group II. UST reform: cuts in the pension contribution rates

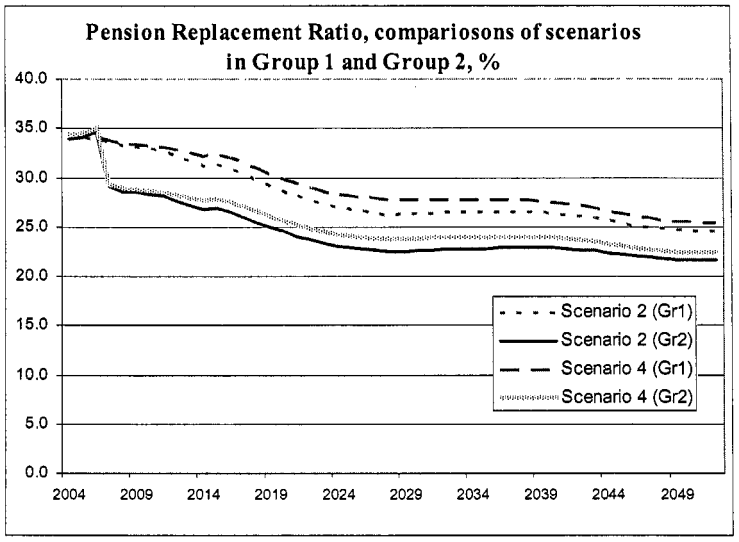
Modest rate cut of 4 percentage points

4.81 The pension system understandably is very sensitive to even modest cuts in the contribution rates. Scenarios of Group II were used to undertake a series of simulations that help evaluate the possible effects of cuts in the average UST rate on the overage benefit under the assumption that such a cut is not complimented by other reform efforts. In the base case, when there is no increase in the UST tax base relative to the baseline of 31 percent of GDP, the proposed rate cut is expected to cause by 2030 an additional decline in the average replacement rate by 6.5-7.5 p.p. This would bring the replacement rate to the level about 20 percent, i.e. one quarter below the replacement rate that is likely to be generated in the system without the reforms (and 40 percent below the current replacement rate). This would represent a major compression of the real value of the pension benefit.

4.82 The ratio of the average pension and subsistence minimum in the latter scenario is about 20 percent below those in the Group I scenarios. It is worth noting, however, that it remains considerably higher than 1 (by 60-120 percent in 2030), which is a major improvement relative to the current situation.

4.83 In the optimistic case, despite an assumed considerable expansion in the tax base (See Section D), the average replacement rate would decline relative to the baseline in the Group I scenarios. By 2030 the decline would amount to 3.5-4 percentage points, which bring the replacement rate to the range of 22.7-23.8 percent (Figure 4.12). Along with this, potential fiscal costs of closing the gap in the pension system (measured against the replacement rate target of 30 percent) would increase from approximately 0.6-0.9 to 1.7-2.1 percent of GDP.

Figure 4.12: Pension Replacement Ratio, Comparisons of Scenarios in Group 1 and Group 2



4.84 Due to a linear dependency among the parameters in the PAYG system, the above results may be used for generating rough estimates for potential alternative plans for cuts in the contribution rates in the PAYG pillar. On average 1 percentage point in reduction of the UST rate could be compensated for by an increase in the share of taxable payroll in GDP by 1.0-1.3 p.p. At the same time, a 1 p.p. cut in the UST tax rate could be compensated by 0.25-0.3 percent of GDP in additional external (budget) transfers to the pension system (Table

4.11). Annex 4.1 presents additional results of sensitivity analysis: it helps to get the idea of the variation in real value of average pension for different pairs of UST contribution rate and payroll share in GDP.

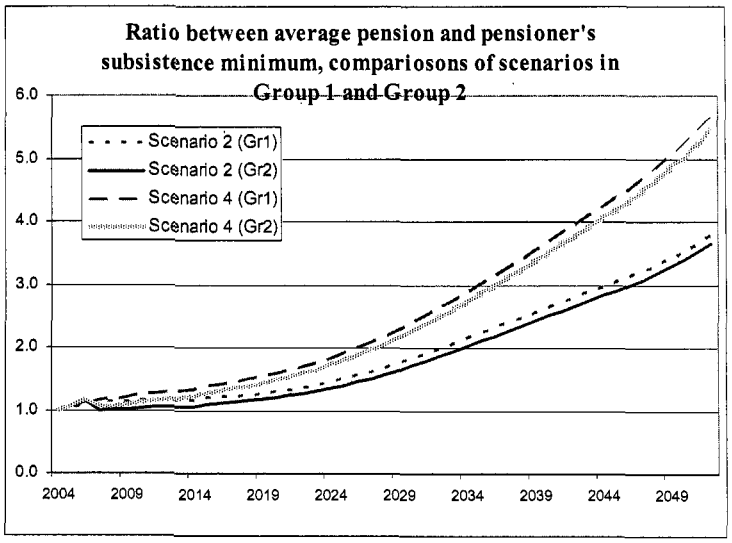
Table 4.11: Some results of sensitivity analysis for 2030: equivalence table

1 p.p. in UST tax rate cut	Could be compensated by an expansion in the UST tax base of 1.0 –1.3 p.p.
1 p.p. in UST tax rate cut	Could be compensated by an additional budget transfer of 0.25 - 0.30% of GDP

4.85 An important conclusion from this part of the analysis is that without an increase in the retirement age even a rather substantial growth of the tax base does not allow halting the decline in the replacement rate. At the same time, as shown below, with the retirement age increase (as in Group III scenarios) and particularly when the retirement age increases along with cuts in UST benefits (as in Group IV scenarios), the effect of a declining replacement rate is fully compensated.

4.86 The basic distinctions between the scenarios within Group II (Figure 4.12) are associated with the differences in GDP growth rate, as well as with differences in the shares of payroll in GDP. The results also suggest that despite a considerable decline in the replacement rate, the ratio between the pension benefit and the subsistence minimum is less sensitive to cuts in the UST tax rate (Figure 4.13). The latter ratio did not change much relative to the results in similar scenarios of Group I.

Figure 4.13: Ratio Between Average Pension and Pensioner's Subsistence Minimum, Comparisons of Scenarios in Group 1 and Group 2



Latest government proposal: rate cut of 8 percentage points

4.87 Earlier in 2004, the Government announced a plan to introduce a more drastic cut in the UST rate compare to what has been discussed in this Chapter. Specifically, the latest Government's proposal calls for a rate cut of 8 percentage points, from 28 to 20 percent,

which will be allocated among base (cut by 6 p.p.) and fully funded (cut by 2 p.p.) components of the pension benefit. The proposal includes the following compensatory measures:

a) substantial reduction in participation in the fully funded pillar, which, as we estimate, would reduce the average replacement ratio in this pillar by 0.8-1.0 p.p. by 2030;
b) utilization of the currently expected surpluses in the base component to accommodate a decline in the contribution rate to this component from 14 to 8 percent; and
c) compensatory budget transfers to the Pension Fund funded either from regular budget revenues or from the Stabilization Fund.[91]

4.88 We estimate that the current plan, if implemented, would utilize about a half of the expected surplus in the base pension component, and it would reduce the affordable replacement rate in the PAYG system by 4-5 p.p. Thus, if there is no compensation for the pension system from the budget, the total reduction in the replacement ratio (including FFP) in 2030 could reach 5-6 p.p. relative to the baseline scenario in Group I without the rate cut. This is equivalent to a 20-25 percent decline in real average pensions. This would raise potential (longer term) fiscal costs of supporting the replacement ratio of 30 percent to above 2 percent of GDP a year.

4.89 Moreover, the short term negative impact of the proposed could be also significant. The PAYG component may lose more than 25 percent (6/22) of its regular incomes, while the affordable replacement rate would decline correspondingly. Based on the estimates obtained in this Chapter, we would recommend that the government should be prepared to compensate most of the lost revenues in the PAYG component to avoid either decline in real value of current pensions or accumulation of pension arrears. Such compensation may amount to an equivalent of not less than 4 p.p. of the UST rate and be funded from regular budget revenues. It is estimated that the total annual budget costs associated with such compensation would amount to 1.0-1.1 percent of GDP. The compensation has to be provided until either considerable improvements in the revenue performance of the pension system materialize, driven either by strong recovery in real wages or by a decline in the share of informal wages or by both, or policy decisions are made, which reduce Pension's Fund's financing needs.

Sensitivity to the high rates of economic growth

4.90 To reflect the fact that our base growth assumptions are quite conservative, we also undertook an alternative set of simulations based on the assumption of the much higher (6 percent average) growth for the period 2004-09. However, in this case we found rather an insignificant change to our base results. This is because higher GDP growth is expected to be accompanied by higher growth in real wages, which limits opportunities for additional improvements in the replacement rate.

[91] The government indicated that in 2005 it may spend as much as 0.4 percent of GDP from the Stabilization Fund to cover the Pension Fund deficit that would derive from the introduced the UCT rate cut (Prime-TASS, August 24, 2004).

Group III. UST reforms supplemented by an increase in the retirement age by 5 years for men and 10 years for women

4.91 The growth in the retirement age by 5 years for men and by 10 years for women in the scenarios of Group III leads to a considerable decline in the system dependency rate. This decline amounts to approximately 40 percent by 2050 (Figure 4.14), and, therefore, to an increase in the average PAYG pension benefit by about 40 percent. Due to the increase of the contribution period, the affordable overall replacement rate in the optimistic case (with a higher tax base) increases to 33-35 percent in 2030 (Figure 4.15), i.e., by 20-30 percent as compared with the similar scenarios of Group I. Even in the base case, i.e. without the expansion of the tax base, the replacement rate still remains above 30 percent. This considerably reduces the risks of budget support for the pension system.

4.92 The ratio between the average pension and the subsistence minimum increases in the long term by approximately 50 percent as compared with the scenarios of both Groups I and II. In absolute terms, the latter ratio may reach 2.5-3.5 in 2025-30.

4.93 Our sensitivity analysis suggests that, without a mandatory increase in retirement age, a voluntary delay in retirement by 5 years under the current conditions and respective extension of the contribution period would have a noticeable impact on the individual pension. The replacement rate would be higher by 8-25 percent for both NDC and fully funded components, depending upon a particular combination of values for real wage growth and real interest rate. However, the size of this increase may be insufficient to create strong incentives for participants to retire later. The Government may consider amendments to the benefit formula to strengthen the link between the retiree's length of service and his/her benefit size. The latter step would be of special importance if there is a delay in resolving the issue of mandatory increase in the retirement age.

Figure 4.14: System Dependency Ratio, Comparisons of Scenarios in Group 1 and Group 3

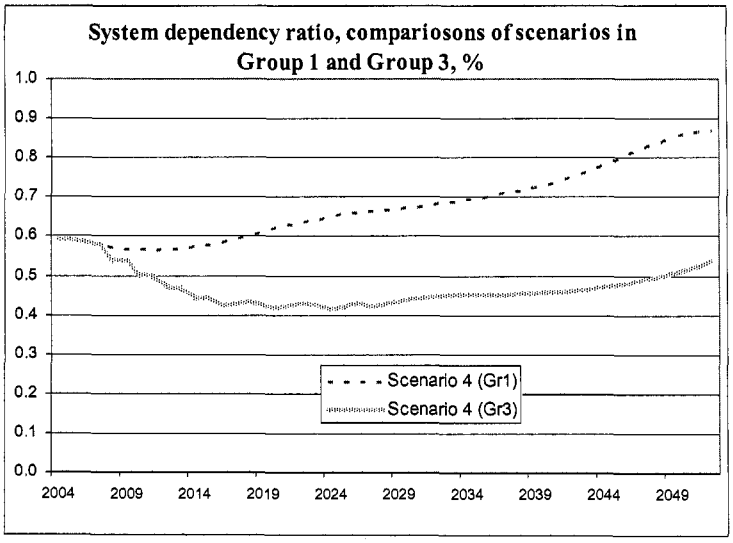
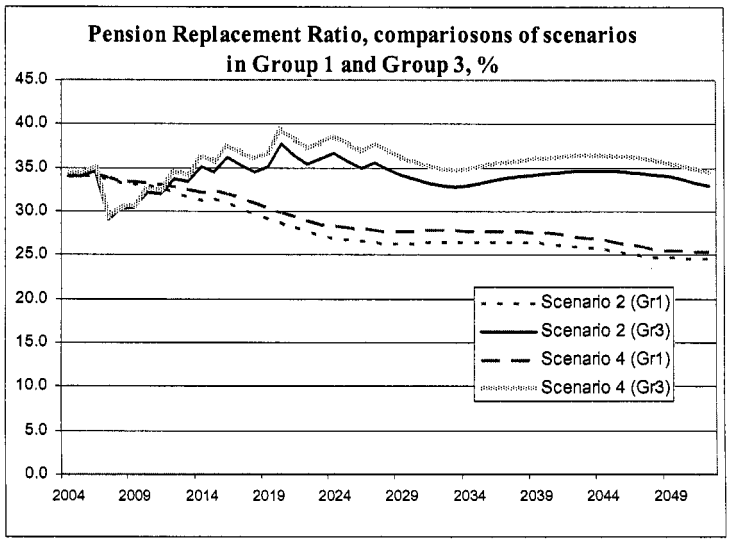


Figure 4.15: Pension Replacement Ratio, Comparisons of Scenarios in Group 1 and Group 3



Group IV. Additional reforms aimed at the reduction of current UST privileges

4.94 The results of the scenarios of Group IV show a modest additional growth of the affordable overall replacement rate by about 1 percentage point relative to the similar scenarios in Group III. This additional growth reflects primarily the following changes: (i) a one time twofold increase in the rates of pension contributions paid by the self-employed and indexation of these rates in accordance with the growth rate of average wages, and (ii) a reduction in the number of people who are eligible for reduced UST rates from 15 to 10 percent of the employed. The latter decline may be achieved through a tighter definition of eligibility rules and their stricter enforcement.

4.95 Even under the most optimistic reform and macro assumptions as in Group IV, the replacement rate remains below 36 percent in 2030. Thus, if the policy target is reaching a 40 percent replacement rate for the average pension, this objective can not be achieved without an expansion in additional private pensions, based on additional voluntary contributions. Encouraging the development of private pensions is a large, separate task that would require the introduction of supportive regulatory, institutional and tax frameworks.

Group V. Effects of expanded immigration

4.96 In this group of scenarios we simulated a potential impact of a considerable migration inflow to Russia on the trends in the pension system. As a base case, we used a scenario 12 from the Group 1, and compared it with the two additional scenarios that differ by both the level and structure of migration inflow. In these additional scenarios, the annual net number of migrants increases from about 100,000 to respectively 400,000 and 600,000 a year. In addition, it is assumed that the immigration inflow would have a higher share of people of working age (and thus, a higher share of contributors to the pension system) than the average share of working age people in the Russian population. The latter assumption is reflected in a higher share of labor force participants, which is increased by 4-7 p.p.

4.97 While an increase in migration would have a drastic impact on the overall demographic trends in Russia, it has rather a modest influence on parameters of the pension system. Table 4.12 presents the main results of these simulations, which do not change much our previous conclusions – the system dependency ratio continue to growth rapidly, while the replacement rate still declines below 30 percent. Even under the boldest assumption on immigration level (which by 2050 bring a considerable increase of 30 percent in the total population), the replacement rate increases by less than 15 percent. In no way, the active migration policy in Russia could become a substitute for a comprehensive pension reform.

Table 4.12: Potential impact of an increase in immigration on the pension system

	Russia's population, total, million		System dependency ratio		Replacement rate, percent	
	2030	**2050**	**2030**	**2050**	**2030**	**2050**
Base scenario 12, Group I, low growth	122	102	0.72	0.93	26.4	24.6
The same scenario with additional immigration:						
a) of 300,000 a year	132	119	0.68	0.84	28.0	26.9
b) of 500,000 a year	138	130	0.66	0.8	29.1	28.2

G. SUMMARY AND CONCLUSIONS

4.98 Based on simulations of various policy scenarios, this Chapter estimates potential fiscal costs associated with various developments in Russia's pension system. It finds that these costs are likely to emerge as a result of the declining relative value of old age pension and associated political pressures for budget support to the pension system. These results are based on the projections that, within the framework of the basic macroeconomic projections and with the current demographic trends, the long-term financial self-sustainability of the existing Russian pension system may be ensured only at the cost of a substantial reduction in the average replacement rate, from 33 percent in 2002 to 24.4-27.8 percent in 2030 and to 23.5-25.5 percent in 2050.

4.99 This replacement rate reduction is driven primarily by demographic factors, while its dynamics is less sensitive to variations in macroeconomic parameters, such as growth and unemployment rates. Even under the most favorable macroeconomic scenario without an increase in the retirement age, the overall replacement rate declines below 30 percent by 2020 and by 2050 it goes further down to 25 percent. The rate of decline would be the most pronounced in the period 2016-2025, when it is the most likely to expect that political pressures to support the pension system through budget transfers would emerge. While higher economic growth results in a much higher real value of pensions, it does not help to close the gap between growth in wages and pensions. Additional immigration and any realistic improvements in demographic and employment trends do not change much these basic results.

4.100 Table 4.13 summarizes our results for expected replacement rates and associated potential fiscal costs. Fiscal costs are measured against a target of maintaining the replacement rate at 30 percent. In the baseline scenarios, annual fiscal costs amount to 0.25-0.55 percent of GDP in 2020 and to 0.55-0.90 percent of GDP in 2030. However, potential costs increase rapidly in all scenarios with the reduced contribution rates. In the most

pessimistic case, with 8 p.p. cut in the USR rates and no expansion in the tax base, annual costs to the budget exceed 2 percent of GDP in 2030. In contrast, the scenarios with the increased retirement age do not require any budget support to provide a replacement rate of 30 percent.

4.101 However, the above fiscal costs would expand quite rapidly if the Government implements significant cuts in the pension contribution rates. The simulation results suggest that even under the most optimistic assumptions about potential expansion in the tax base (reaching 35 percent of GDP), this factor cannot compensate for a cut in the UST rate of four percentage points if it is not supported by additional pension reforms. Political demands for maintaining simultaneously higher benefits and low UST rates can result in quick widening of the deficit of the pension system, which would become a contingent liability of the government. Even with a modest rate cut of four p.p., annual fiscal costs would increase to 1.35-1.70 percent of GDP. If the current Government proposal to cut the UST rate by eight p.p. (6+2) is fully implemented, this would raise the fiscal costs above 2 percent of GDP per annum.

4.102 At the same time, all scenarios show a gradual increase in the value of average pension relative to the subsistence minimum. This indicates that with economic growth the real incomes of pensioners will also grow steadily. However, there are two concerns with the patterns of this future growth: a) in the initial period till 2015, despite a low level of current pensions, the growth will be rather slow; and b) as reflected in the falling replacement rate, the growth in pensions will be lagging growth in real wages, which may become a politically sensitive issue.

4.103 A gradual increase in the retirement age by 5 years for men and 10 years for women in the long-term perspective would reduce the system dependency ratio by approximately 40 percent. This makes it possible to provide practically full compensation for the negative impact of the both UST rate reduction of 4 pp. and demographic factors on average pensions. The replacement rate (assuming the same reduction of the UST rate of 4 p.p.) in 2030 would grow to 33-35 percent, i.e., would be the same or higher than its 2002 level. Even in the case with no expansion in the tax base, the replacement rate would remain above 30 percent. This drastically reduces a risk for budget support to the pension system.

Table 4.13: Summary of the simulation results for replacement rate and potential fiscal costs

Scenarios	Replacement rate		Fiscal costs per annum, % of GDP	
	2020	**2030**	**2020**	**2030**
Scenarios of Group I				
12: base case, no reforms, low growth	27.7	26.4	0.55	0.90
14: base case, no reforms, high growth	28.9	27.8	0.25	0.55
12 + 8 p.p. cut in UST rate		21.0		2.45
14 + 8 p.p. cut in UST rate		22.0		2.15
Scenarios of Group II				
22: 4 p.p. cut in UST rate, expanded tax base, low growth	23.4	22.7	1.70	2.05
24: 4 p.p. cut in UST rate, expanded tax base, high growth	24.7	23.8	1.35	1.70
Scenarios of Group III				
32: Scen. 22 + increase in the retirement age, low growth	35.5	33.0	-	-
34: Scen. 24 + increase in the retirement age, high growth	37.1	34.8	-	-
Scenarios of Group IV				
42: Scen. 32 + reduction of UST privileges, low growth	36.4	33.8	-	-
44: Scen. 34 + reduction of UST privileges, high growth	38.0	35.7	-	-
Scenarios of Group V				
Scenario 12 + annual immigration of 300,000		28.0		0.50
Scenario 12 + annual immigration of 500,000		29.1		0.20

Note: Fiscal costs measured against a target of maintaining the replacement rate at 30 percent.

4.104 Additional policy reforms, related mainly to a twofold increase of the contribution rate for the self-employed and further elimination of tax exemptions, may lead to a modest additional growth in the affordable replacement rate by about 1 percentage point.

4.105 Based on these findings the following recommendations on pension policy could be suggested:

- The simulations confirm the need to supplement the proposed reduction in the pension contribution rate with a set of decisions, such as a gradual increase in the retirement age, aimed at a longer-term sustainability of the pension system and an increase in the real value of future pension benefits. A decision on the retirement age is critical for longer-term prospects of the pension system. Further delaying this decision leads to high social and political costs in terms of reduction of the relative value of future pension benefits, and, as argued in this Chapter, is likely to trigger significant longer-term budget liabilities. Moreover, the political difficulties of rising the retirement age may increase in the future as the population continues to age.
- The second best solution with respect to the retirement age increase, given the political sensitivity of the issue, would be the introduction of amendments to the Pension Law, which would modify the formula that defines the amount of retirement benefit in a way that create much stronger incentives to delay retirement voluntarily.
- Trends in the share of the taxable payroll in GDP will play a critical role in determining future results of pension reform. This highlights the importance of policies aimed at stabilizing income and payroll taxation (to facilitate stability of taxpayers' expectations), as well as at the removal of various administrative barriers in the economy that currently hold back reduction of shadow incomes/wages.
- It seems unlikely that more radical cuts in the UST rate (in excess of 4 percent points) could be compensated for by the combined positive impact of the tax base expansion and an increase in the retirement age. Under the circumstances, the first best strategy for reducing the UST rates would be to avoid longer-term commitments regarding future additional cuts in the contribution rate that would exceed 4 p.p. It may be rational to do tax rate reductions in stages -- giving the system some time to stabilize after the initial round of UST rate cut of 4 p.p., and after accumulating certain experiences of operating with new parameters, planning for next steps of tax cuts and pension reforms.
- At the same time, if the government is convinced that the UST rate cut larger than 4 p.p. is urgently required to accelerate the formalization of the economy and sustain growth, it should be prepared to provide a substantial compensation to the Pension Fund from regular budget revenues (including the Stabilization Fund). In particular, if the current proposal is finalized to cut the average UST rate by 8 p.p., an annual budget transfer of 1.0-1.1 percent of GDP may be needed immediately to avoid either decline in real value of current pensions or accumulation of pension arrears. The compensation has to be provided until considerable improvements in the revenue performance of the pension system materialize and/or policy decisions are made, which reduce Pension Fund's financing needs.

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ANNEXES

ANNEX 2.1.

DEFINITIONS ON CIVIL SERVICE REFORM

The following definitions on Civil Service are used in Chapter 2.

Federal Civil Service includes all employees of the federal executive, legislative, judiciary and other federal bodies (these bodies include the Accounting Chamber, Central Election Commission, and the Apparatus of the Plenipotentiary on Human Rights) that enjoy the status of federal civil servants and are financed from the federal budget. Employment of federal civil servants is regulated by the framework Law on State Service System enacted in May 2003.

Subnational Civil Service includes all employees of the regional and municipal executive, legislative, judiciary and other regional and municipal bodies that have the status of civil servants of subjects of Federation or municipal servants and are financed from the regional and municipal budgets[92]. Employment in subnational civil service is regulated by civil service and municipal service legislation (including federal legislation on municipal service and regional legislation on civil service at the regional level).

Categories of Civil Servants refer to the groups of civil service positions used, *inter alia,* for determination of cash compensation, in-kind benefits, and the like. A detailed table on the existing categories of federal civil servants is presented in Annex 2.2.

Core Government Administration Employment includes federal and subnational civil service, as well as other employees of the executive, legislative, judiciary and other authorities that do not have the status of federal/subnational civil servants (employment of such employees is usually regulated by Labor Code)[93] that are performing functions not related to maintaining public order and internal security. Core government administration employment includes employees of the federal authorities that are either **headquarter-based** or **deconcentrated** (but in any case financed directly from the federal budget) and employees of regional and municipal authorities (financed from subnational budgets).

Civilian Public Sector Employment includes employees of health, education, research and development, and other social sector branches financed from the federal, regional, and municipal budgets. Staff of the Ministry of Education, Ministry of Health, etc., is not

[92] The term includes both "civil service of a subject of the Federation" – a category used in accordance with the new Law "On the System of State Service in the Russian Federation" No.58FZ dated May 27, 2003 – and municipal service. Civil service of a subject of the Federation is to be financed from the regional budgets. Civil servants of the subjects of the Federation may also be financed from the federal budget, if there is an appropriate provision to this effect included in a federal law. Municipal servants are financed from sub-national budgets.

[93] In some cases, government employment may be regulated by specific legislation, such as a Law on Customs Service. For example, all uniformed and managerial staff (division heads and above) in the State Customs Committee are not counted as civil servants, but as customs servants. At the same time, some technical and support staff, as well as temporary employees working in the government agencies are not considered civil servants, and their employment is regulated by the Labor Code. It is expected that during the implementation of civil service reform, the legal framework would become simpler and more systematic.

included in this category as they are part of the above mentioned category of core government administration employment.

Police Service includes all employees of the authorities responsible for maintaining public order and internal security. Police service includes, *inter alia,* Federal Security Service, Ministry of Interior, etc.

Armed Forces include all personnel employed by military authorities (i.e., Ministry of Defense, military officers and solders).

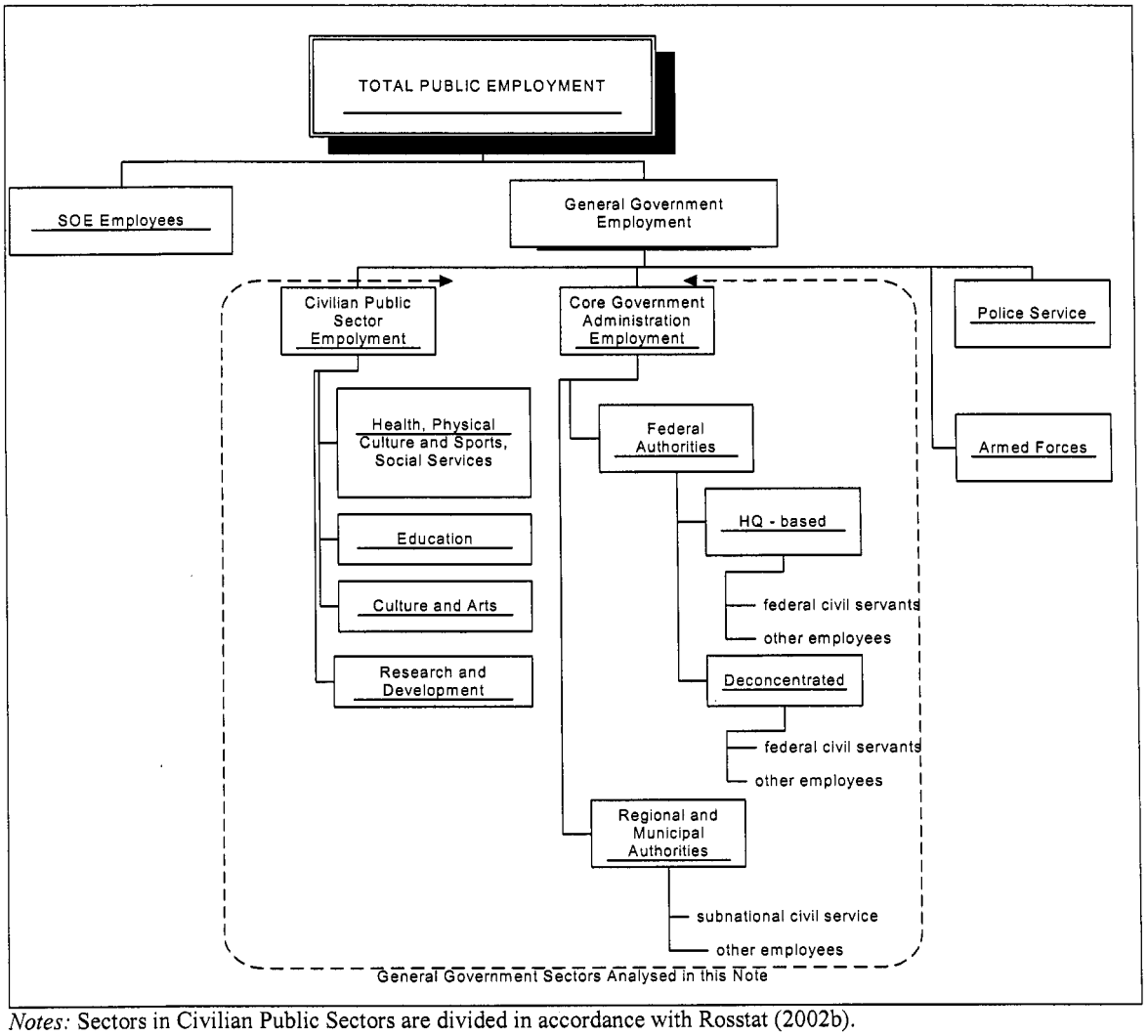
General Government Employment includes core government administration employment, civilian public sector employment, police service and armed forces[94].

Total Public Employment includes general government employment and SOE employees (employees of enterprises that are majority-owned by the government). SOE employment and wages are beyond the scope of this Chapter. The definition is listed here primarily for the purposes of cross-country comparisons.

[94] This definition corresponds to the one adopted in the International Standard of Industrial Classification of All Economic Activities (ISIC). According to the ISIC, General Government refers to employment in "all government departments, offices, organizations and other bodies which are agencies or instruments of the central or local authorities whether accounted for or financed in ordinary or extraordinary budgets or extra-budgetary funds. They are not solely engaged in public administration, but also in defense and public order, in the promotion of economic growth and in the provision of education, health, cultural and social services." (International Standard of Industrial Classification of All Economic Activities (ISIC), Series M No.4, Rev 3 – 1990).

The main components of the government employment are illustrated in Figure A2.1.

Figure A2.1: Total Public Employment in the Russian Federation



Notes: Sectors in Civilian Public Sectors are divided in accordance with Rosstat (2002b).

Sectors of the general government analyzed Chapter 2 are depicted inside the dot line area.

Cash Compensation refers to an average monthly amount of the base salary and all other payments in cash received by an employee for services rendered, including payroll taxes.

Wage Bill refers to the total annual amount of cash payments to all public employees in return for services rendered before deduction of payroll taxes. It is calculated by multiplying cash compensation by the number of employees and by twelve (the number of months).

Non-Monetary Benefits refer to all in-kind benefits, such as transportation, housing, meals, travel, but do not include intangible rewards, including job security, prestige, social privileges, training, trips abroad (see Annex 2.3 for classification of public servants' both contractually provided and intangible rewards).

Non-Wage Expenditures refer to overhead costs of providing public services and include costs of office maintenance, equipment, staff training, etc. For purposes of this Chapter,

these expenditures are calculated for core government administration only and represent a difference between total expenditures on core government administration and the sum of the wage bill, payroll taxes, and identifiable non-monetary benefits.

Compression Ratio for Federal Executive HQ-Based Civil Service is estimated as a ratio between the average pay to federal executive HQ-based servants holding positions classified as Category C Top Group and average pay to federal executive HQ-based servants holding positions classified as Category C Junior Group. In this case, pay includes all monetary payments to civil servants.

Compression Ratio for Federal Executive Civil Service is estimated as a ratio between the average pay to federal executive HQ-based servants holding positions classified as Category C Top Group and average pay to federal executive servants employed in deconcentrated units and holding positions classified as Category C Junior Group. In this case, pay includes all monetary payments to civil servants.

Internationally, there is no methodological consensus for estimation of compression ratios. The World Bank website and database estimate the compression ratio as a ratio of the highest salary to the lowest on the central government's main salary scale. The OECD measures wage compression in OECD countries as the mean of ninth decile salaries divided by the mean of first decile salaries. The OECD's approach ensures that a handful of salaries will not dramatically skew the compression ratio. Given that the base salary paid to the civil servants in Russia represents only a part of total monetary payments made to civil servants and the provisions of the draft Federal Law "*On State Civil Service of the Russian Federation*" suggest that this situation would continue to be the case in the future (see HSE (2003) for more specific analysis), for the purpose of this Chapter the compression ratios were estimated based on the average monetary payments to the officials holding positions in Category C Top Group (a proxy for high level officials) as compared to the average payment in Category C Junior Group (a proxy for the lowest grades in the service). Because of this methodological difference, the cross-country comparisons in this Chapter may be used primarily for reference rather than for policy deliberations

Civil Service Reform includes all reform efforts affecting the functions, structure, and employment of core government administration employees. In Russia, unlike in most other countries, the government makes a clear distinction between civil service and public administration reforms, which derives from the division of responsibilities for preparation of these two reform packages among different commissions within the Government. However, the two are interrelated (in fact, the pay reform, which forms an integral part of civil service reform, is an important condition of implementation of the administrative reform, as it would supposedly reduce the internal opposition within the civil service to restructuring efforts). For the purpose of this Note, administration reform is considered as a component of the overall civil service reform agenda.

Attrition denotes the amount of actual staff reduction and is estimated as a difference between the staffing levels at the beginning of the reform and staffing levels at the end of the reform.

ANNEX 2.2 CATEGORIES OF FEDERAL CIVIL SERVANTS IN THE RUSSIAN FEDERATION

Table A2.1: Federal Civil Servants in the Russian Federation – Categories in Accordance with the Current Legislation

Category	Definition	Legislative branch	Executive branch	Judiciary branch	Other
Category A	State positions determined by the Constitution, federal laws (for federal civil service), regional constitutions and statutes. These positions assure execution of the authority of state bodies.	Chairmen and Deputy Chairmen, members of Commissions of the Federal Assembly, similar positions in the subjects of Federation	Federal Ministers, Heads of the highest executive bodies in the subjects of Federation	Chairmen of courts of all levels, their deputies, General Prosecutor of the Russian Federation, judges	Chairmen and Deputy Chairmen of Accounting Chamber (AC) and Central Election Commission (CEC), Plenipotentiary on Human Rights, AC Auditors, CEC Members, similar positions in the subjects of Federation
Category B	Positions that support the execution of the authority by the Category A positions	Heads of Offices of Federal Assembly Chambers, similar positions in the subjects of Federation	Heads of Presidential Administration (PA), Government Office (GO), Heads and Deputies of Presidential Office, Heads of Secretariats of Chairmen of Government, Assistants, Advisors and Referents to the President and Government Chairman, Federal Ministers, similar positions in the subjects of Federation	Heads and Deputy Heads of Supreme, Constitutional, Higher Arbitration Courts Secretariats and Secretariats of Federal Arbitration Courts in the subjects of Federation, Assistants, Advisors and Referents to the Chairmen of Supreme, Constitutional, Higher Arbitration Courts, similar positions in the subjects of Federation	Heads and Deputy Heads of AC Secretariat, Heads and Deputy Heads of AC Auditors Secretariats, Assistants, Advisors and Referents to the AC Chairman, auditors; similar positions in the subjects of Federation
Category C	Positions determined by federal and regional authorities to ensure the execution of their authority and responsibilities	*Example: Council of Federation*	*Example: Federal Ministry*	*Example: Higher Arbitration Court*	*Example: Accounting Chamber*
Top		1st Deputy Head of Federal Council Office to Unit Head	1st Deputy Minister, Deputy Minister, Head of Department	Head of Division to Head of Separate Unit	Head and Deputy Head of AC Apparatus, Department and Division Head and Deputy Head, Head of Inspection

Category	Definition	Legislative branch	Executive branch	Judiciary branch	Other
Chief		Deputy Unit Head, Head of Federal Council Head Secretariat to Advisor	Head of Division, Deputy Head of Department, Deputy Head of Division, Head of Unit (if this Unit is not a part of Division/Department)	Deputy Head of Separate Unit, Head and Deputy Head of Unit in the structure of the Department, Advisor	Deputy Inspection Head, Head and Deputy Head of Unit in Department/Division, Chief Inspector
Lead		Consultant, Expert	Deputy Head of Unit if this Unit is not a part of Division/Department); Head and Deputy Head of Unit in the structure of a Department/Division; Advisor	Chief Consultant, Senior Consultant	Lead Inspector, Consultant, Senior Inspector, Expert
Senior		Lead Specialist	Consultant, Chief Specialist, Lead Specialist	Chief Specialist, Consultant, Lead Specialist	Lead Specialist
Junior		Specialist, 1st Category	Specialist, 1st Category; Specialist, 2nd Category	Specialist, 1st Category; Specialist, 2nd Category	Specialist, 1st Category

Note: Positions presented in the Matrix are examples, not exhaustive lists. Draft Law on State Civil Servants introduced by the President to the State Duma establishes a new set of categories of civil servants in Russia, although position groups (Top to Junior are retained). The specific lists of positions for each category/group has to be approved separately, but tentative structure is presented in the Table A2.2.

Sources: Presidential Decree No.33 dated January 11, 1995, "On Register of State Positions of Federal Civil Servants"; Presidential Decree No. 981 dated September 3, 1997, "On Approval of the List of State Positions of Federal Civil Servants".

Table A2.2: Tentative Classification of Civil Service Positions in Accordance with the Draft New Legislation

Category	Definition	Group				
		Top	Chief	Lead	Senior	Junior
1. Managers	1.1. Positions hold on regular basis or for a defined term of authority	✓	✓	✓	✓	
	1.2. Positions hold on regular basis					
2. Assistants (Advisors)	Term positions established to support execution of authority by state body heads or persons holding state positions	✓	✓	✓		✓
3. Specialists	Regular positions established to ensure professional performance of functions and tasks of the state body	✓	✓	✓	✓	✓
4. Executors	Regular positions established for organizational, information, documentary, financial and other support to the activities of the state body		✓	✓	✓	✓

Source: Draft Law on State Civil Service of the Russian Federation.

CLASSIFICATION OF CIVIL SERVANTS REWARDS

The basic classification of civil servants rewards used for cross-country comparisons is presented in the figure below.

Figure A2.2: Civil Servants Rewards Classification

		Contractually-provided		Non-contractual/intangible
		Monetary	**In-kind**	
Current rewards	**Base rewards**	1. Base wage/salary	2. Health insurance	3. Job security, prestige, social privileges
	Allowances	4. Transportation, housing, meals, telephone, travel, cost-of-living	5. Transportation, housing, meals, travel	6. Trips abroad, training
Future expectations		7. Pension	8. Housing, land, etc.	9.Reputation, re-employment after retirement

Source: World Bank Public Administration Website.

Most of the rewards listed in the figure are also applicable to federal and subnational civil servants in Russia. However, the structure of monetary rewards included in the wage bill is more complicated than shown in this figure. In addition to base wage/salary it usually includes allowances for grade, years in employment, as well as performance bonuses and other cash payments. It should be noted that there is a tendency to substituting in-kind allowances for transportation, housing, meals and travel (especially in the police service and armed forces) with cash allowances.

INTERNATIONAL PUBLIC SECTOR PAY AND EMPLOYMENT DATA, 1996–2000*

Countries	Public Sector Employment (%of population)			Total Central Govt. Wage bill (Civilian and Armed Forces)		Average central govt. wage to per capita GDP ratio
	Civilian Central Government	Subnational Government	Education and Health Employees	% of GDP	% of govt. expend.	
High-Income OECD Countries						
Australia	0.8	2.1	3.8	2.1	2.6	1.3
Canada	1.1	2.1	5.0	1.6	10.4	1.5
France	3.6	2.4	3.2	4.5	15.9	1.0
Germany**	1.0	5.1	..	1.0	7.9	0.9
United Kingdom	3.1	3.4	3.0	1.5**	5.9	1.4
United States	1.0	5.9	3.8	1.4	8.4	1.4
Transition Economies						
Bulgaria	0.4	0.4	2.2	5.2	7.9	1.0
Czech Republic	4.8	2.3	1.0	2.7	8.1	0.8
Hungary	1.5	1.6	4.5	7.3	8.6	0.7
Kazakhstan	0.0	0.5	5.1	4.9	9.7	0.9
Poland	0.4	0.3	2.1	..	7.6	1.4
Russia* **	**0.4**	**0.5**	**6.0**	**1.2**	**4.5**	**1.0**
Ukraine	1.1	..	3.9	8.7	..	1.2
Developing Countries with Federal System						
Brazil	0.3**	1.3**	1.8**	12.2	16.5	..
India	0.3	0.6	0.4	1.8	11.0	4.8
Mexico	0.7	0.7	0.3	2.6**	24.9	1.1
Regional Averages** **						
Africa	0.9	0.3	0.8	6.7	..	5.7
Asia	0.9	0.7	1.0	4.7	..	3.0
Eastern Europe and Former USSR	1.0	0.8	5.1	3.7	..	1.3
Latin America and Caribbean	1.2	0.7	1.1	4.9	..	2.5
Middle East & North Africa	1.4	0.9	1.6	9.8	..	3.4
OECD	1.8	2.5	3.4	4.5	..	1.6
Overall	1.2	1.1	2.4	5.4	..	3.0

*Data are for the latest year available.
** Latest data available is for 1991-95.
***For Russia data is for 2002, Central Government includes employees of the federal authorities (both HQ-based and deconcentrated, but does not include Ministry of Interior.
****Regional data is for early 1990s based on sample cross-country survey.

Source: World Bank Public Sector Employment and Wage Database, Rosstat, Schiavo-Campo, et al., "Government Employment and Pay in Global Perspective: A Selective Synthesis of International Facts, Policies and Experience," World Bank (1997).

ASSUMPTION ON CORE GOVERNMENT ADMINISTRATION ATTRITION RATES

Table A2.3: Significant Administrative Reform (Attrition Rates)

	Employment Reduction Assumptions, Executive, Category C		
Group	**Federal HQ**	**Federal Deconcentrated**	**Subnational**
Top	25%	25%	35%
Chief	20%	20%	30%
Lead	20%	20%	30%
Senior	15%	15%	25%
Junior	15%	15%	25%
Other	20%	20%	30%

Table A2.4: Fair Administrative Reform (Attrition Rates)

	Employment Reduction Assumptions, Executive, Category C		
Group	**Federal HQ**	**Federal Deconcentrated**	**Subnational**
Top	10%	10%	20%
Chief	10%	10%	20%
Lead	10%	10%	20%
Senior	7%	7%	17%
Junior	7%	7%	17%
Other	7%	7%	17%

Table A2.5: Assumption on Attrition Rates in Civilian Public Sector Employment Adjusted by Demographic Projections (2001– 2010)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Education Sector										
Higher Education	26.9%	25.7%	24.4%	23.2%	21.9%	20.7%	19.5%	18.2%	17.0%	15.7%
General Education	23.3%	25.4%	27.5%	29.6%	31.6%	33.7%	35.8%	37.9%	40.0%	42.0%
Vocational Education	10.5%	14.4%	18.3%	22.3%	26.2%	30.1%	34.0%	37.9%	41.8%	45.7%
Health Sector										
State	20%	20.0%	20.4%	20.9%	21.3%	21.7%	22.2%	22.6%	23.0%	23.5%
Regional & Municipal	20%	20.0%	20.4%	20.9%	21.3%	21.7%	22.2%	22.6%	23.0%	23.5%
Other Civilian Service	10%	10.0%	10.4%	10.9%	11.3%	11.7%	12.2%	12.6%	13.0%	13.5%

INTERPRETATION AND ANALYSIS OF RESULTS: IMPACT OF INDIVIDUAL FACTORS

As shown in Table 2.12 of the main text, the estimated annual fiscal costs of the reform scenarios vary significantly both in the mid-term perspective (between 1.3 and 3.3 GDP p.p. for 2006 as compared to 2003) and in the long term (between 1.2 and 4.2 GDP p.p. for 2010 as compared to 2003). In this annex we analyze the sensitivity of these results to the key parameters used in the simulations (macroeconomic parameters, extent of pay reform, pace of reform and extent of administrative reform). Our cost estimates are generated as additional government expenditures (in p.p. of GDP) needed to finance operations of both government administration and civilian public sector as a result of the proposed reforms.

Sensitivity to macroeconomic parameters. The results of the simulations proved that potential fiscal costs of civil service reform are quite sensitive to relative growth rate of private sector wages, and respectively to the changes in the share of the total payroll in GDP.

To illustrate this sensitivity, three groups of reform scenarios were selected:

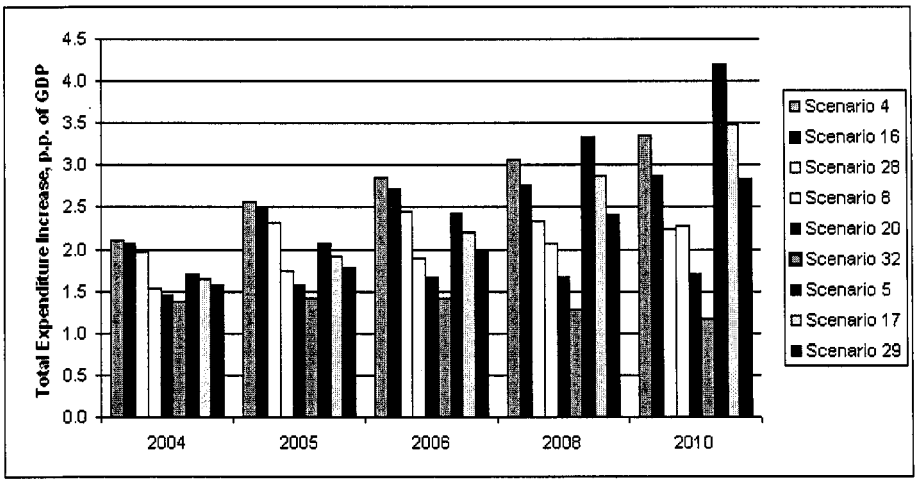
(i) radical pay reform combined with significant administrative reform implemented at a high pace, i.e., within 2004-2006 (scenarios 4, 16, and 28);

(ii) moderate pay reform combined with fair administrative reforms and implemented at a medium pace, i.e., in the period from 2004 to 2008 (scenarios 8, 20, and 32); and

(iii) moderate pay reform implemented during 2004 – 2010 with no administrative reform (scenarios 5, 17 and 29).

Within each group, there is a considerable variation of the growth (relative to GDP growth) in private wages, as described in Table 2.5 in Section D.

Figure A2.3: Sensitivity of Civil Service Reform Costs to Real Wage Growth[95]



Source: Staff estimates.

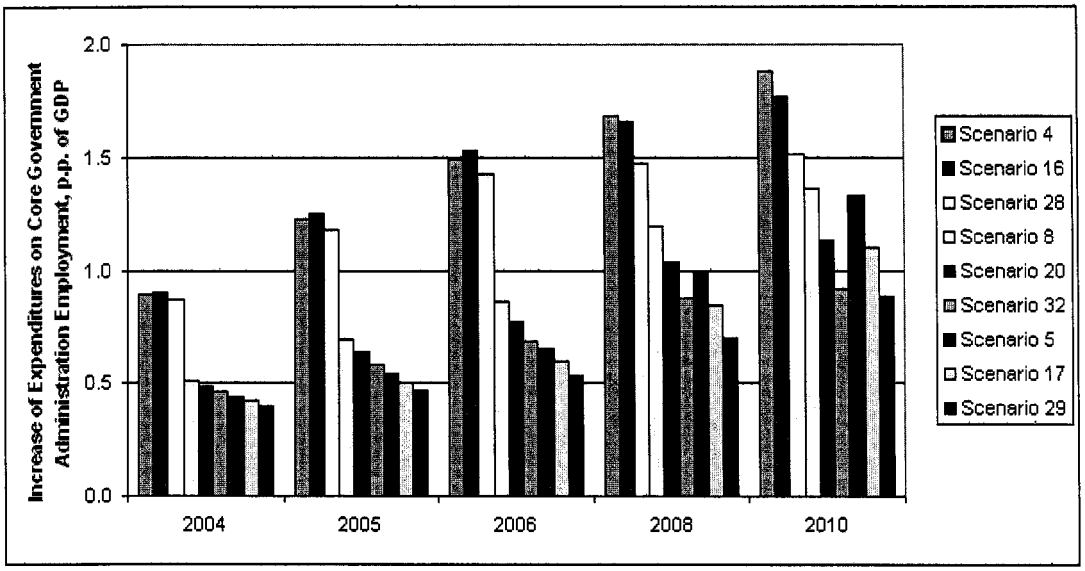
[95] Scenarios 4, 16, and 28 all assume a radical pay reform undertaken at high pace and accompanied by significant administrative reforms, but they differ by the growth rate in private sector wages. Respectively, scenarios 8, 20, and 32 all assume moderate pay adjustment at medium pace, and fair administrative reform effort, but the same difference in private wage growth. Scenarios 5, 17, and 19 assume moderate pay reform at a low pace and no administrative reform at all, while the same variation by wage growth remains intact.

As may be seen from Figure A2.3, the same reform scenario implemented in a situation when the real wages growth rate exceeds the GDP growth rate by 2 p.p. (Scenarios 4, 8 and 5) will be significantly more expensive for the budget that the one implemented in a situation when the share of real wages in GDP doesn't change over time (Scenarios 28, 32, and 29). As a result, variation in total budget costs within each group of scenarios amounts to 1.1 to 1.4 p.p. of GDP. A decrease in relative real wages growth by 1 p.p. leads to about 0.4 – 0.7 percent of GDP in annual budget saving for the end of the reform period.

It is notable that the degree of sensitivity to changes in relative wage growth varies among different groups of scenarios: it is higher for scenarios without any administrative adjustments (Scenarios 5, 17, and 29), and lower for scenarios with administrative reform (Scenarios 4, 16 and 28 that assume radical pay adjustment and Scenarios 8, 20, and 32 that assume moderate pay changes). Such cost variation is explained by the fact that Scenarios 5, 17 and 29, while leaving a significant residual pay gap, assume no any attrition. Thus, a much larger number of core government administration and particularly civilian public sector employees benefit from the pay increase, and the stronger effort to close the compensation gap leads to more serious fiscal implications relative to the scenarios assuming significant attrition in civilian public sector and at least some attrition in core government administration. Overall, *the more ambitious the pay reform, the more volatile are its fiscal costs.*

The above findings with respect to sensitivity of total reform costs to changes in the real wage growth remain valid when we look separately at the variation of costs associated with a narrower task – reform of the core government administration only (Figure A2.4).

Figure A2.4: Sensitivity of Civil Service Reform Costs to Real Wage Growth (for Core Government Administration Only)[96]

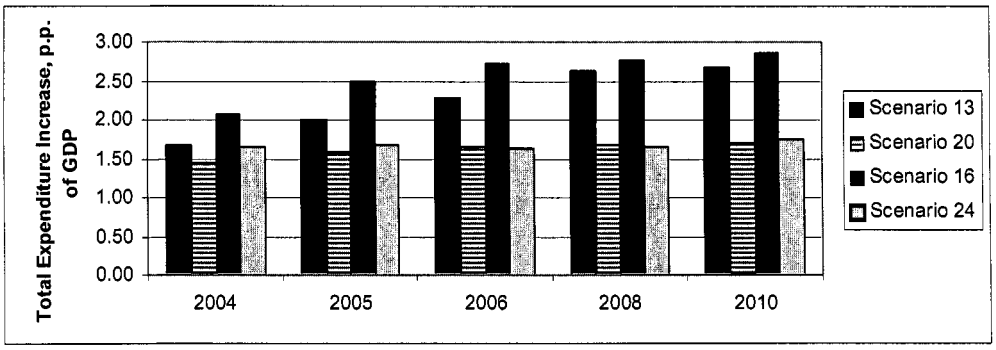


Source: Staff estimates.

[96] See the previous footnote for a description of the scenarios.

Sensitivity to the depth of pay reform. It is clear that the scenarios assuming radical pay reform tend to be associated with larger fiscal costs than those assuming a more moderate approach to closing the public-private compensation gap. To illustrate the difference in costs, two pairs of reform scenarios were selected: (i) a radical pay reform to be implemented within 2004 – 2008 with moderate administrative changes (Scenario 13) and the same administrative reform effort but combined with a moderate pay reform (Scenario 20); and (ii) a radical pay reform to be implemented within 2004–2006 with significant administrative reforms (Scenario 16) and the same administrative reform effort but combined with a moderate pay reform option (Scenario 24). All these scenarios are cost out under the same wage growth assumptions.

Figure A2.5: Total Fiscal Costs of Civil Service Reform: Radical versus. Moderate Pay Reform[97]

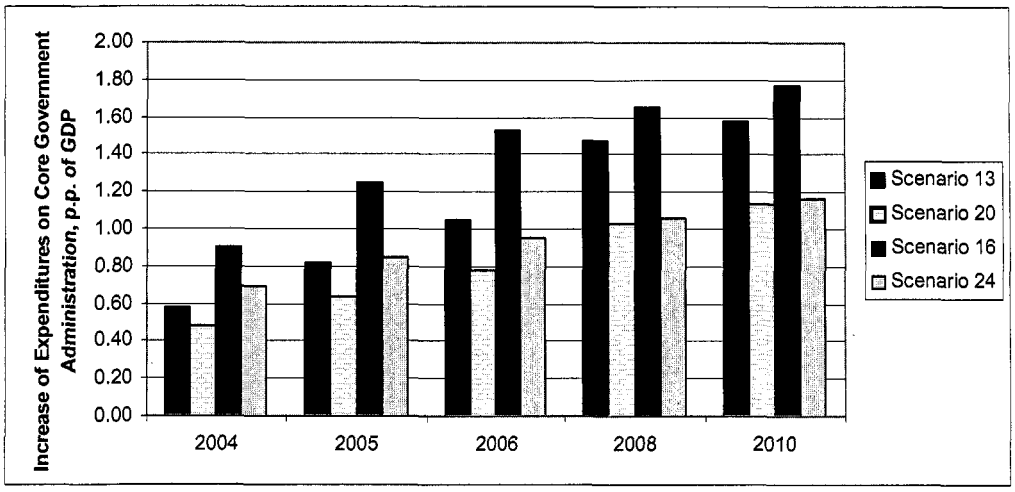


Source: Staff estimates.

The results of the comparison are presented in Figure A2.5. that confirms that the radical pay reform aiming at a 50 percent residual public-private compensation gap is on average about 1.5 times as expensive as the moderate pay reform that allows for 100 percent public-private compensation gap at the end of the reform process. This difference becomes less extreme when we consider separately the costs of reform for core government administration (Figure A2.6). Although the proposed pay increase in the civilian public sector is lower than the one in core government administration, the much larger number of civilian public sector employees has a major influence on the total cost difference.

[97] Scenario 13 assumes a radical pay reform to be implemented within 2004–2008 with moderate administrative changes. Scenario 20 assumes a moderate pay reform under the same administrative reform effort. Scenario 16: a radical pay reform to be implemented within 2004–2006 combined with significant administrative reforms. Scenario 24: a moderate pay reform but the same administrative reform effort.

Figure A2.6: Fiscal Costs of Civil Service Reform: Radical versus Moderate Pay Reform (Only Core Government Administration Covered)[98]



Source: Staff estimates.

The extent of the pay reform influences several components of the overall fiscal costs in our model, including both direct implications (such as increase in cash compensation, staff attrition costs, and increased PIT collection), and indirect implications (increased *non-wage expenditures*), which in our model are a function of the wage bill and the administrative reform pattern. Table A2.6 presents information on relative importance of different components of incremental costs.

[98] See the previous footnote for a description of the scenarios.

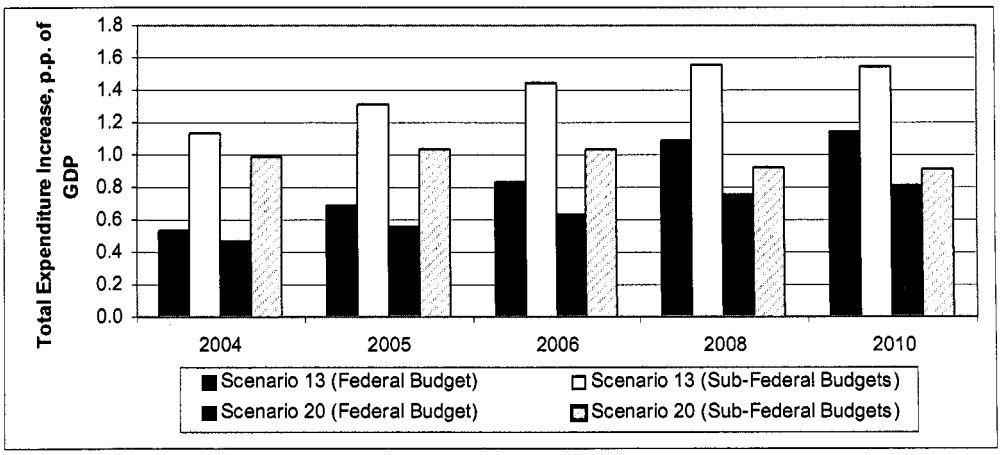
Table A2.6: Fiscal Costs of Civil Service Reform for the Selected Scenarios (as p.p. of GDP)

Scenario	2004	2005	2006	2008	2010
Medium-Paced Radical Pay Reform with Fair Administrative Adjustment (Scenario 13)					
Core Government Administration	***0.58***	***0.82***	***1.05***	***1.47***	***1.58***
Cash Compensation	0.50	0.64	0.78	1.05	1.10
Non-Wage Expenditures	0.13	0.24	0.34	0.52	0.59
Staff Attrition Costs	0.01	0.01	0.01	0.01	0.00
Increased PIT Collection	-0.05	-0.07	-0.08	-0.11	-0.12
Civilian Public Sector Employment	***1.09***	***1.18***	***1.23***	***1.16***	***1.09***
Cash Compensation	1.17	1.27	1.31	1.22	1.20
Staff Attrition Costs	0.03	0.04	0.04	0.05	0.01
Increased PIT Collection	-0.11	-0.12	-0.13	-0.12	-0.11
Total Costs	**1.67**	**2.00**	**2.27**	**2.63**	**2.67**
Medium-Paced Moderate Pay Reform with Fair Administrative Adjustment (Scenario 20)					
Core Government Administration	***0.49***	***0.63***	***0.78***	***1.03***	***1.13***
Cash Compensation	0.43	0.51	0.58	0.73	0.77
Non-Wage Expenditures	0.09	0.17	0.25	0.37	0.44
Staff Attrition Costs	0.01	0.01	0.01	0.01	0.00
Increased PIT Collection	-0.04	-0.05	-0.06	-0.08	-0.08
Civilian Public Sector Employment	***0.96***	***0.94***	***0.88***	***0.64***	***0.58***
Cash Compensation	1.03	1.00	0.93	0.65	0.63
Staff Attrition Costs	0.03	0.03	0.04	0.05	0.01
Increased PIT Collection	-0.10	-0.10	-0.09	-0.06	-0.06
Total Costs	**1.45**	**1.58**	**1.66**	**1.67**	**1.71**
High-Paced Radical Pay Reform with Significant Administrative Adjustment (Scenario 16)					
Core Government Administration	***0.90***	***1.25***	***1.53***	***1.65***	***1.77***
Cash Compensation	0.58	0.79	0.96	1.01	1.06
Non-Wage Expenditures	0.37	0.53	0.67	0.75	0.82
Staff Attrition Costs	0.01	0.01	0.01	0.00	0.00
Increased PIT Collection	-0.06	-0.08	-0.10	-0.11	-0.11
Civilian Public Sector Employment	***1.16***	***1.24***	***1.19***	***1.11***	***1.09***
Cash Compensation	1.22	1.29	1.24	1.22	1.20
Staff Attrition Costs	0.06	0.07	0.07	0.01	0.01
Increased PIT Collection	-0.12	-0.12	-0.12	-0.12	-0.11
Total Costs	**2.06**	**2.49**	**2.73**	**2.77**	**2.86**
High-Paced Moderate Pay Reform with Significant Administrative Adjustment (Scenario 24)					
Core Government Administration	***0.69***	***0.84***	***0.95***	***1.06***	***1.16***
Cash Compensation	0.43	0.50	0.56	0.60	0.64
Non-Wage Expenditures	0.29	0.37	0.44	0.52	0.59
Staff Attrition Costs	0.01	0.02	0.01	0.00	0.00
Increased PIT Collection	-0.04	-0.05	-0.06	-0.06	-0.07
Civilian Public Sector Employment	***0.95***	***0.84***	***0.67***	***0.60***	***0.58***
Cash Compensation	0.99	0.86	0.67	0.65	0.63
Staff Attrition Costs	0.05	0.06	0.06	0.01	0.01
Increased PIT Collection	-0.09	-0.08	-0.06	-0.06	-0.06
Total Costs	**1.64**	**1.68**	**1.62**	**1.65**	**1.74**

Source: Staff estimates.

The affordability issue of radical pay reforms becomes even more critical when one considers the *distribution of the additional fiscal burden between the federal and sub-federal levels of the budget system* presented in Figure A2.7. To illustrate the difference in the fiscal implications we considered radical and moderate pay reform scenarios implemented at a medium pace, i.e., within 2004-2008, and accompanied by fair administrative reform efforts (scenarios 13 and 20).

Figure A2.7: Fiscal Implications for Federal and Sub-Federal Budgets for Radical and Moderate Pay Reforms[99]



Source: Staff estimates.

Figure A2.7 shows that the sub-federal budgets would be much more affected by higher fiscal pressures than the federal budget: costs for subnational budgets are almost 1.5 times higher than for the federal budget. Even increased collection of PIT by subnational governments doesn't compensate for the fact that most of public employees in Russia are paid from subnational budgets, which as a result become more affected by the proposed pay adjustment. Sustainability of the sub-federal finances would call for a substantial increase in transfers from the federal budget complemented by a significant increase in the revenue base for sub-federal budgets.

As discussed in Section D, the pay reform has two major tasks: improving external competitiveness of the core government administration and the civilian public sector and instilling internal performance incentives through internal decompression of pay in the core government administration. The results of our simulations confirm that the magnitude of pay adjustment affects the compression ratios in the executive branch (Figures A2.8 and A2.9). To illustrate this effect, we selected 6 reform scenarios:

(i) Scenarios with *radical* pay adjustments implemented in various macroeconomic conditions (scenarios 4, 16, and 28); and

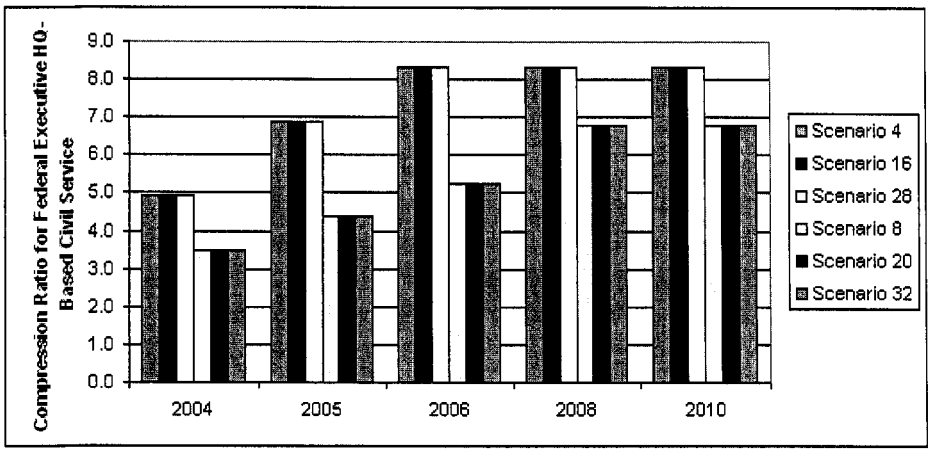
(ii) Scenarios with *moderate* pay adjustments implemented in various macroeconomic conditions (scenarios 8, 20, and 32).

Figure A7.6 shows that both radical and moderate pay adjustments result in significant decompression in HQ-based civil service, from the ratio between average wages in Top and Junior Groups of 2.5 in 2002 to 5.2–8.3 in 2006 and to 6.8-8.3 in 2010. At the

[99] Both scenarios 13 and 20 assume implementation of reforms at a medium pace and accompanied by fair administrative reform efforts and by medium growth rates of private wages. However, scenario 13 provides for a radical pay reform, while scenario 20 for a moderate one.

same time, the decompression effect is stronger for the scenarios with *radical pay adjustment.* This can be explained by a combined effect of the two parameters used for simulating pay adjustment: residual public-private sector gap and minimum pay increase. In the scenarios that assume a radical pay reform (Scenarios 4, 16, and 28), the residual public-private pay gap is smaller, and hence, most of the wages in core government administration are increased by a factor exceeding the minimum pay increase of 30 percent. As a result, the salary structure is brought closer to the private sector comparators, and the decompression ratios are higher. Reversely, in the scenarios that assume moderate pay adjustment (Scenarios 8, 20 and 32), the rule of minimum pay increase (20 %) plays a greater role in determining expected wage growth for a lower level staff. Hence, the residual pay gap is smaller than the average for lower grade staff, which moderates adjustment in the pay structure and results in smaller decompression.

Figure A2.8: Internal Decompression in Federal Executive HQ-Based Civil Service: Radical versus Moderate Pay Adjustment[100]



Source: Staff estimates.

This differentiation in decompression effort could also be seen from the comparison of the proposed pay increases for moderate and radical pay reform scenarios[101] (Table A2.7). As one may notice, the ratio between the pay adjustment proposed for Top and Junior Groups is lower in the case of moderate pay reform than in the case of radical pay adjustments. Considering that for non-HQ-based staff (i.e., for a great majority of affected employees) we propose pay increases that are only 50 percent of those presented in Table A2.7, application of the minimum pay increase rule is more frequent when we simulate the dynamics of wages for employees in both deconcentrated units and regional and municipal core government administration.

[100] Scenarios 4, 16, and 28 all assume a radical pay reform, but different growth rates of private wages. Scenarios 8, 20, and 32 assume a moderate pay reform, but the same variation in private wage growth.

[101] Note that in actual simulations these increases are further adjusted to reflect annual real wage growth in the private sector.

Table A2.7: Existing Pay Gap and Proposed Pay Increases in Federal Executive HQ-based Civil Service, times

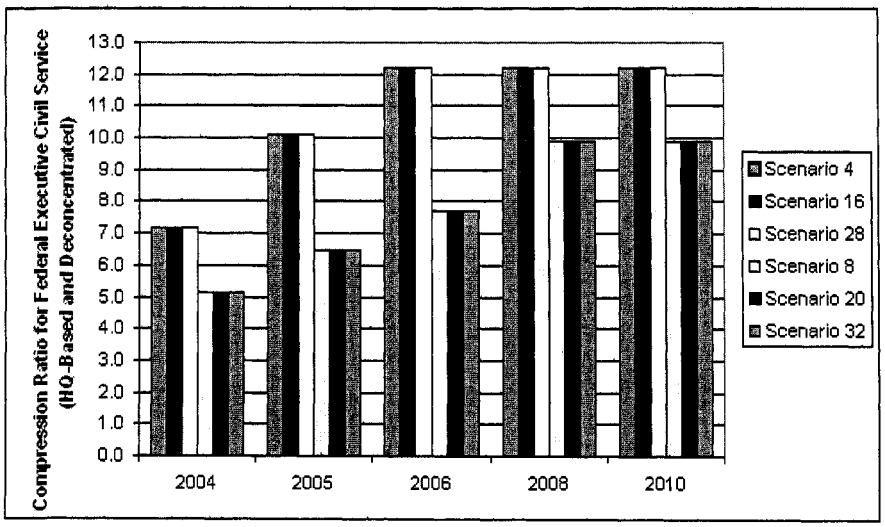
Category C Group	*Actual Net Public-Private Pay Gap, 2002*	*Estimated Net Public-Private Pay Gap, 2003 (adjusted for actual pay increases in 2003)*	*Proposed Pay Increase*	
			Radical Scenario	*Moderate Scenario*
Top	7.8	6.5	4.3	3.3
Chief	5.7	4.7	3.1	2.4
Lead	5.1	4.2	2.8	2.1
Senior	3.6	3.0	2.0	1.5
Junior	2.3	1.9	1.3	1.2*

** Minimum pay increase is applied.*

Source: Staff estimates; see also Table 4.2.

This trend towards decompression is even stronger in case the compression index captures both HQ and deconcentrated units of federal executive civil service (Figure A2.9), because, as was mentioned above, the proposed pay adjustment for deconcentrated service is smaller and based on local labor market prices. Adopting separate pay scales for HQ-based and deconcentrated civil servants leads to a drastic increase in internal compression ratios from 3.7 in 2002 to about 10–12 in 2010.

Figure A2.9: Internal Decompression in Federal Executive Civil Service: Radical versus Moderate Pay Adjustment[102]



Source: Staff estimates.

<u>*Pay reform pace and overall affordability of reforms*</u>. A brief review of summary results for all 36 scenarios presented in Table 5.4 points to several reform combinations that do not seem at the moment affordable to the Russian government budget. If we assume that the increase in total fiscal costs should be lower than 1.7 GDP p.p.[103] in 2004 as compared to

[102] See the previous footnote for a description of the scenarios.

[103] Significant pay increase in core government administration and civilian public sector implemented in October 2003 already suggests substantial increase of financing in 2004 as compared to 2003. Therefore, the assumption for fiscal costs growth for 2004 is set at quite a high level.

2003, and/or in 2006 – 2.3 p.p. of GDP respectively, and/or in 2010 – 2.7 p.p. of GDP, then the following two groups of scenarios become hardly affordable for the budget:

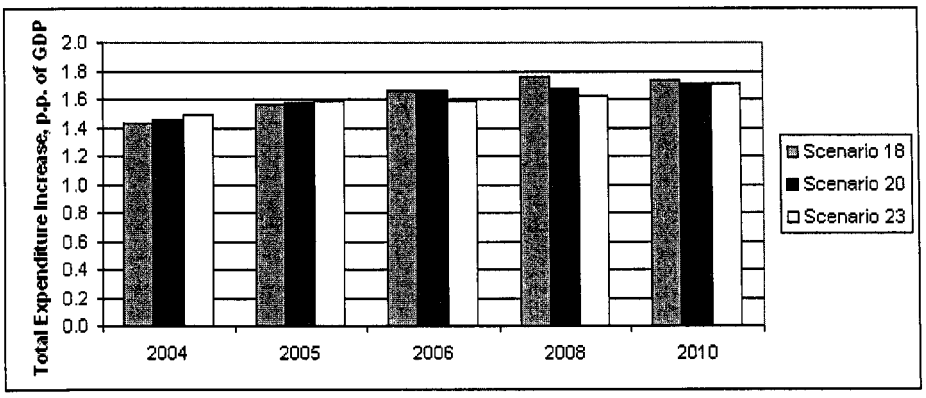
(i) scenarios assuming implementation of radical pay reforms (Scenarios 1-4, 13–16 and 26–28[104]) especially those assuming implementation of radical pay adjustments at a high speed, i.e., within 2004–2006 (Scenarios 3, 4, 15, 16, 27, and 28);

(ii) implementation of pay reforms without any administrative reform actions (Scenarios 5, 7, 10, 17, 19, 22, 29, 31, 34) regardless of options for private wage growth dynamics.

This preliminary review leads us to two major conclusions. *Firstly, significant attrition in civilian public sector and at least some attrition in core government administration is a precondition for successful implementation of civil service reform. Secondly, radical pay increase for public servants is not affordable to the budget, especially if considered in the 3-year implementation framework.*

Taking the above into account, we focus on a moderate pay reform with fair administrative reform efforts to illustrate the impact of the pay reform pace on fiscal costs in 2004–2010 (Figures A2.10 and A2.11).

Figure A2.10: Distribution of Total Fiscal Burden of Civil Service Reform Scenarios, Depending upon Pay Reform Pace[105]



Source: Staff estimates.

Figures A2.10 and A2.11 illustrate that although there is some variation in annual fiscal costs depending on the pace of reform implementation, and it should be taken into account in the context of other forthcoming fiscal challenges (such as peaks in public debt reduction), yet the variation is not very large. This can be explained by the fact that the fiscal implications of the civil service reform consist mostly of the increased current expenditures: indeed, the only type of one-time expenditures captured by our simulations are the costs associated with attrition, and those are not very high (see Table 2.12)[106]. Moreover, to sustain the reform achievements, the consolidated budget would have to accommodate annual indexation of pay in the core government administration and civilian public sector in line

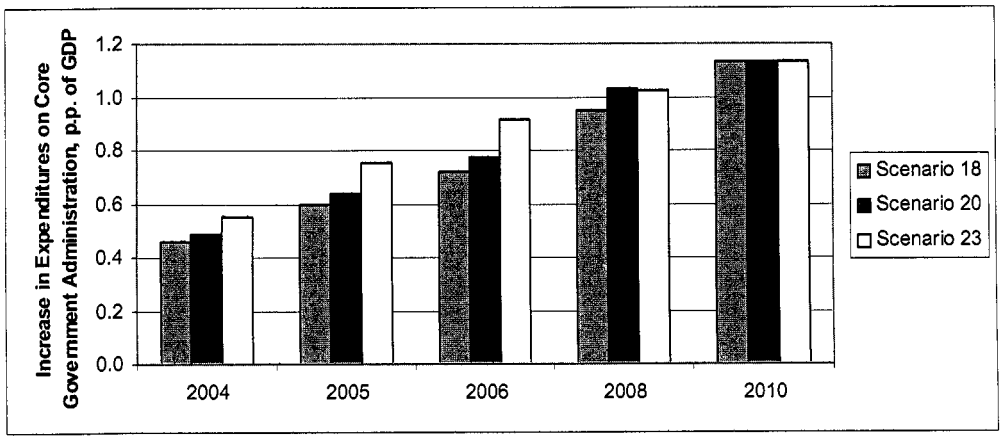
[104] However, the simulations show that implementation of radical pay adjustments at moderate pace is a viable option in case the share of the real wages in GDP remains constant (see Scenario 25).

[105] Scenarios 18, 20, and 23 assume different pace of pay reforms, but all provide for a moderate pay adjustment, fair administrative reform effort, and medium growth in private sector wages.

[106] As discussed above, we do not try to evaluate investment costs associated with public service modernization in the scope of this Note.

with real wage growth in the private sector. Because in our example the scenarios 18, 20, and 23 are implemented under the conditions of accelerated real wage growth as compared to GDP growth, the fiscal costs of reforms in scenario 18 and 20 (which assume the completion of reforms in 2006 and 2008, respectively) continue growing even after the reforms have been completed.

Figure A2.11: Distribution of Fiscal Burden of Civil Service Reform Scenarios, Depending upon Pay Reform Pace (Only Core Government Administration Covered)[107]



Source: Staff estimates.

Administrative reform magnitude. Three additional scenarios illustrate potential cost differences associated with different scopes of administrative reform:

(i) scenarios with "no administrative reforms" assumed some increase in the employment levels in core government administration and civilian public sector with a reduction of the share of non-wage expenditures in total expenditures on core government administration to 25 percent;

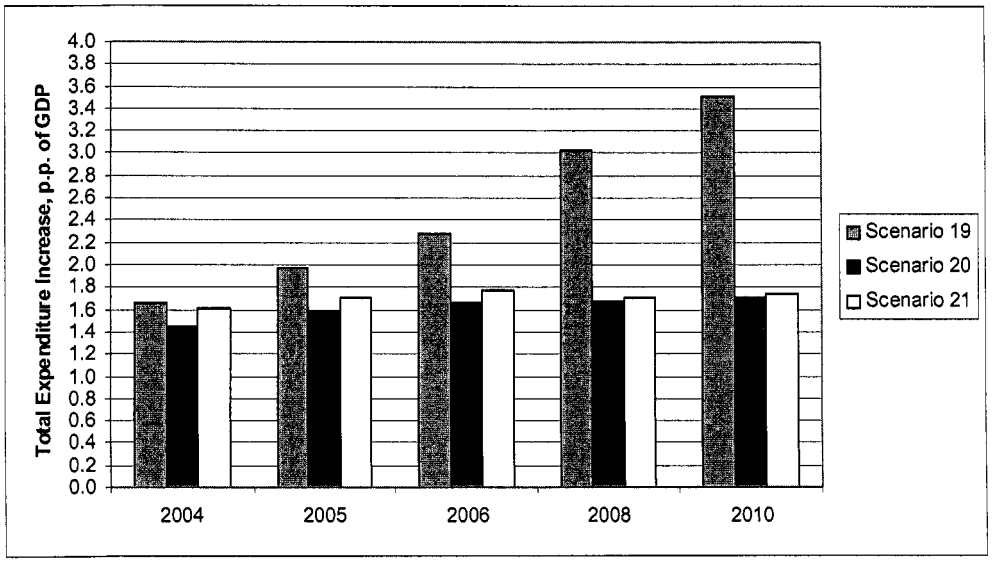
(ii) "fair effort" in administrative reform assumed that executive core government employment will be slightly reduced, and employment in the civilian public sector will be reduced (based on the defined ratios between staffing levels in the sectors that provide these services and numbers of their clients) with the share of non-wage expenditures in total costs on core government administration moderately reduced to 32 percent from 37 percent in 2002;

(iii) "significant administrative changes" that assume, in addition to the adjustment for civilian public sector employment described above, higher attrition rates for core government administration and sustainability of the share of non-wage expenditures in total costs of core government administration at the level of 36 percent.

To illustrate the cost variation under different scenarios of administrative reform implementation, we compared three options Figure A2.12) for a moderate pay reform scenario implemented at a medium pace (i.e., between 2004 and 2008) and accompanied with: (i) no administrative reform (scenario 19); (ii) fair administrative reform (scenario 20); and (iii) significant administrative reform (scenario 21).

[107] See the previous footnote for a description of the scenarios.

Figure A2.12: Total Fiscal Costs of Civil Service Reform for Different Scenarios of Administrative Reform Implementation (p.p. of GDP as compared to 2003)[108]

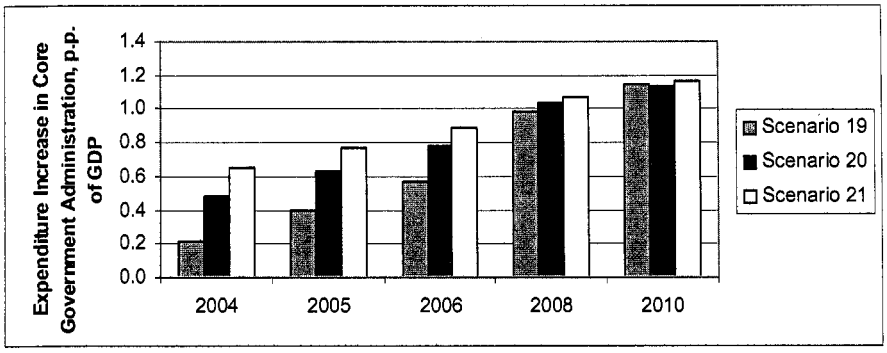


Source: Staff estimates.

Figure A2.12 shows that pay reform implemented without attrition clearly drives the total fiscal costs of the reform too high (with additional costs reaching about 2 percent of GDP by 2010). The results of the estimates for fair and significant reform scenarios (20 and 21) do not vary significantly because the key administrative reform component (attrition rates for the civilian public sector employment) is the same for both scenarios. Civil service reform with significant administrative changes requires more financing for *non-wage expenditures,* which makes scenario 21 slightly more expensive than scenario 20.

[108] Scenarios 19, 20 and 21 assume different scope of administrative reform, but all provide for a moderate pay adjustment, medium pace of pay reforms, and medium growth in private sector wages.

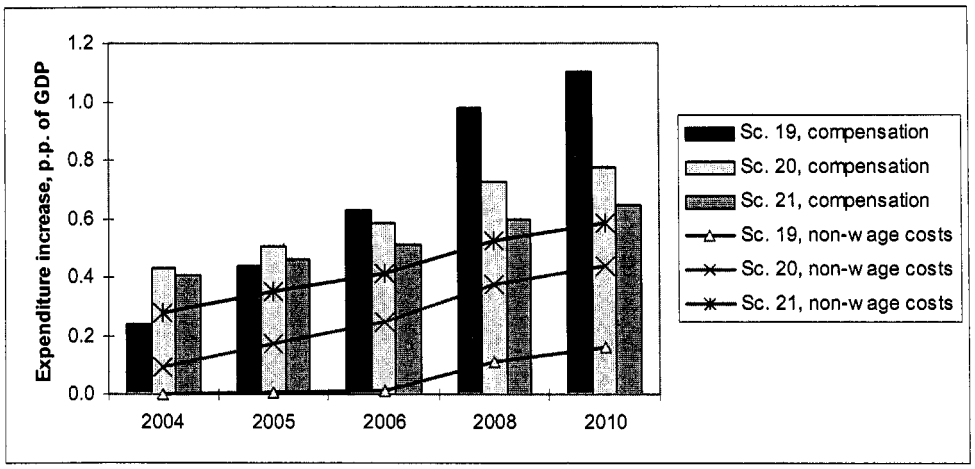
Figure A2.13: Fiscal Costs of Civil Service Reform in Core Government Administration for Different Scenarios of Administrative Reform Implementation, p.p. of GDP[109]



Source: Staff estimates.

Similar estimates for the same reform scenarios but applied only to core government administration surprisingly yield a different cost pattern: in this case scenario 19 is less expensive than scenario 20 (see Figure A2.13). To explain the reason for such a difference between the results in Figures A2.12 and A2.13, we looked at the structure of this expenditure increase. Figure A2.14 illustrates the dynamics of the two key components of total fiscal expenditures on core government administration: increased spending for cash compensation of employees (depicted by columns) and increased financing of non-wage expenditures (depicted by lines).

Figure A2.14: Fiscal Costs of Civil Service Reform in Core Government Administration: Dynamics of Cash Compensation and Non-Wage Expenditure Increase for Different Administrative Reform Scenarios (p.p. of GDP as compared to 2003)[110]



Source: Staff estimates.

Figure A2.14 illustrates two trends. Firstly, *the more significant the administrative changes and respectively employment cuts are, the lower is the fiscal burden caused by pay increase.* Secondly, *the more significant the administrative changes are, the higher is the*

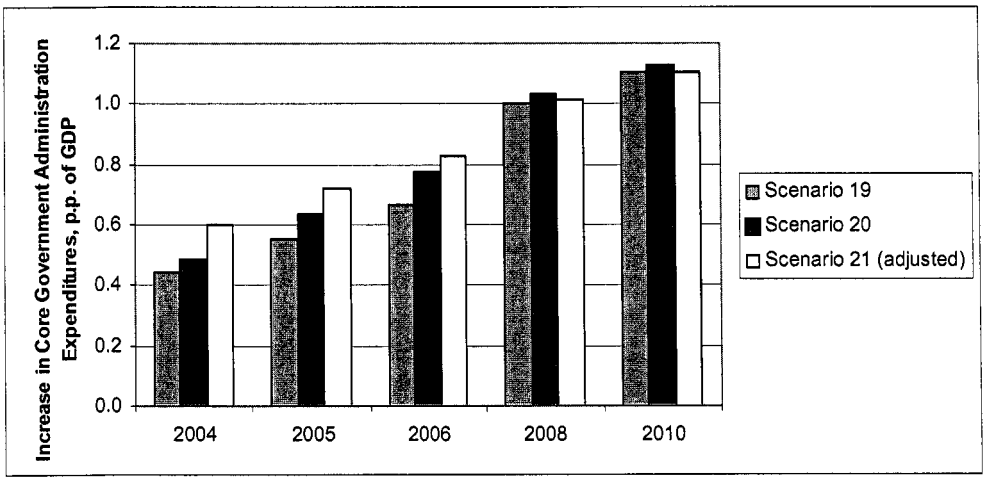
[109] See the previous footnote for a description of the scenarios.

[110] See footnote 10 for a description of the scenarios.

pressure to increase non-wage expenditures on core government administration and finance public service modernization, HR reforms, etc. Therefore, the total fiscal implications of the civil service reform in core government administration will highly depend on the dynamics of the share of non-wage expenditures in total structure of core government administration financing – this dependence is in fact so high that it reversed the costs pattern and brings a different trend for the total increase in fiscal expenditures on core government administration as illustrated by the difference between Figures A2.12 and A2.13.

Given that the scenario of pay reform without any administrative changes is unlikely to be selected because of the higher overall fiscal costs (i.e., when increased financing of the civilian public sector is taken into consideration), we did additional analysis of the fair and significant administrative reform scenarios in order to find a "breaking point" – the share of non-wage expenditures in total expenditures on core government administration that would still make the "significant administrative reforms" scenario more affordable than the scenario with the "fair administrative reforms". To do this, we modified the assumptions used for estimating the costs of scenario 21. The estimates showed that when the share of non-wage expenditures is equal or lower than 35 percent in the total structure of core government administration expenditures, the scenario with significant administrative reforms becomes less costly than the one implying lower attrition rates (Figure A2.15).

Figure A2.15: Fiscal Costs of Civil Service Reform in Core Government Administration for Different Scenarios of Administrative Reform Implementation (measured in p.p. of GDP as compared to 2003)[111]



Source: Staff estimates.

This observation underlines the fact that, while *non-wage expenditures* are often neglected in policy debates, they do play a key role in determining overall trends in costs of core government administration, and thus they should be fully taken into account at the design stage of civil service reforms. This finding also suggests that the total fiscal costs of reforms (that account for the entire civilian public sector costs) may be underestimated in our

[111] See footnote 10 for a description of the scenarios. Scenario 21 (adjusted) is similar to Scenario 21, but has a share of non-wage spending reduced to 35%.

model because the simulations do not take into account the dynamics of non-wage expenditures for the civilian public sector.

MACROECONOMIC FRAMEWORK USED FOR THE ANALYSIS OF FISCAL COSTS OF STRUCTURAL REFORMS

This work is based on the following approach to the development of macroeconomic scenarios for the analysis of the fiscal costs of structural reforms. We took the government's baseline macroeconomic projections for the period 2004-06, and used them as a basis for building a set of macroeconomic scenarios, each of which reflects a specific combination of factors that are primary determinants of Russia's macroeconomic performance. We identified two such determinants of Russia's performance in the medium to longer term: external, which is outside the government control, and internal, which depends on government policies.

Given the high dependency of both the Russian economy and the government budget on *world oil prices*, their level was used as the external determinant of macroeconomic trends. Following the government's macroeconomic projections, we selected the same two benchmark values for the Urals oil price: US$18.5 per barrel and US$22.5 per barrel. With ongoing global economic recovery, it seems unlikely that oil prices might decline below US$18.5 per barrel in the next two to three years. Beyond that, temporary price drops are possible, but it is still unlikely that they would reduce the 10-year moving average of the Urals oil price to below the benchmark US$18.5 per barrel, which was the long-term average price before 1999. Thereby, our assumptions about future oil prices appear to be fairly conservative and to allow a rather accurate reflection of the possible "low case," (i.e., a macroeconomic slowdown caused by low oil prices).

The *speed of implementing reforms* was the internal determinant of macroeconomic dynamics. For this determinant we distinguish two cases: 'no reforms' and "advanced reforms" scenarios. The scenario without reforms reflects an inertial strategy of dealing with major structural challenges, which is similar to the reform strategy pursued by the government in 2001-03, when progress in most key structural reform areas was slow and incomplete. The advanced reforms scenario was built on the assumption that the implementation of reforms would be accelerated, primarily in sectors such as energy, housing and utilities, public administration, pensions, and the investment climate. The characteristic features of the advanced reforms scenario include, inter alia higher growth in domestic energy prices in the initial period (owing to aggressive reforms in energy and utilities) and high investment rates (owing to improvements in the investment climate and, more generally, to improved investment confidence in the environment of stronger government reform commitment). At the same time, in the advanced reforms scenario we assume that the acceleration of reforms may cause some shocks for the real sector, which would result in lower growth rates for the initial period. However, growth is expected to pick up considerably in the medium term, when structural reforms would bring a significant pay-off. It is assumed that by 2010 the annual rates of GDP growth under the advanced reforms scenario would exceed the rates under the no reforms scenario, and by 2015 *cumulative* GDP growth under the advanced reforms scenario, would exceed that under the no reforms scenario.

The detailed presentation of specific quantitative macroeconomic parameters used in simulations could be found in Tables 2.5, 3.13, 3.15, and 4.4 of the main text.

It is worth noting that GDP growth rates assumed in our scenarios for the period 2004-06 are *lower* than those assumed in the corresponding government projections. Overall, we believe that without advancing the reforms growth rates will be declining: better utilization of existing reserves in the economy, which was a critical growth factor in 1999-2003, cannot support future growth in the same way as before because the reserves are to a large extent exhausted. At the same time, the advance reforms scenario implies that reforms are likely to temporarily slow down GDP growth compared to the no reform scenario, other things being equal. Therefore, in this case growth rates will also be lower than those assumed by the government.

The consensus medium-term estimates for Russia's economy made by investment companies, IFIs and NGOs for 2004-05 are rather favorable; everyone expects that in the most likely scenario the economy would grow at about 5.2 percent a year under the assumption of a modest reform effort (no breakthrough) and favorable oil prices (23-25 $/bbl). At the same time, almost all of them predict the slowdown of economic growth along with declining oil prices. In this respect, our growth scenarios would not differ much from the alternative projections if the latter are recalibrated at our lower oil prices.

At the same time, it is worth noting that the two out of three models, used for costing structural reforms in this report, designed in a way that the main results (i.e. incremental fiscal costs) are not sensitive to the assumptions on economic growth. The growth parameter is critical only for modeling the pension reform in Chapter 4. To reflect this, in the latter case we undertook an alternative set of simulations based on the assumption of 6 percent average growth for the period 2004-09. But even in this case we found quite a modest sensitivity of the results to the variation in the growth rate.

A combination of the oil price scenarios with the reforms speed scenarios provides for the following set of four possible macroeconomic scenarios. While each of these four scenarios is internally consistent, their combination allows the consideration of rather a broad variation in possible macroeconomic trends. For instance, across-scenario variation in the projected average growth rate for 2004-06 would be between 2.3 and 5.0 percent, annual average inflation would vary between 9.0 and 12.3 percent, and real investment growth would be between – 5.7 and 7.7 percent.

	No reforms	Advanced reforms
Moderate oil prices (18.5), low growth	Scenario 11	Scenario 12
High oil prices (22.5 and higher), high growth	Scenario 13	Scenario 14

We used the above framework for the analysis of the fiscal implications of specific structural reforms – pension reform, public administration reform, and housing/utility reform. In each of these cases, we used the four macroeconomic scenarios as a basis on which we design and elaborate further more detailed *sub*-scenarios of specific structural reforms.

MAIN DATA SOURCES AND DATA ASSUMPTIONS

The simulation of future costs of the delivery of housing and utility services, as well as estimates of the associated demands for budgetary support were undertaken based on the following data sources and assumptions (Table A3.1).

Table A3.1: Basic Data Used in Simulations and Related Assumptions

Indicator	Comments
1. Average per capita household income by region. Household income distribution, by region	We used 2002 household income data as reported by the Rosstat (2003) *Regiony Rossii. Social'no-economicheskiye Pokazateli.* Related assumptions: (a) For the period of forecast, the average real per capita income assumed to grow at an identical rate across regions. (b) The income distribution by octile in each region would remain unchanged during the forecast period, i.e., the shares of households in each octile remain the same (but region specific). Average income for each octile changes is based on the assumptions about real income growth. The forecast was based on the actual household income distribution by octile in 2002.
2. Share of population groups that have much lower liabilities with respect to housing and utility payments, by region	Two special population groups were identified: (a) Families eligible for benefits on payments (lgoty) for housing and utility services, established by the federal legislation. These data were based on the 2003 NOBUS survey. (b) Families that occupy housing units with permanent access to running water. These data were based on Rosstat reports for 9 months of 2003 (statistical report 22-ZhKH). The importance of separating this group relates to the fact that families without access to running water are, as a rule, occupants of sub-standard housing who do not have access to other most expensive utilities, such as district heat, sewage, and hot water. As a result, the overall costs of housing and utility services for the residents of this type of housing are considerably lower than the average. In practical terms, it means that those households in the units without running water never apply for housing allowances.
3. Monthly costs of delivering housing and utility services per 1 sq. m. of the occupied housing stock, by region	The model provides estimates for unit costs of delivering housing and utility services using information on the federal standards for maximum housing and utility costs per 1 sq, m. of housing in 2002, approved by the federal government for each region (Government Decree No. 804 of November 19, 2001). The model (a) estimates the future national average costs of housing under chosen assumptions, and then (b) differentiates these costs by region, based on the historical cross-regional cost differentiation in 2002. Related assumption: The regional proportions between housing costs will remain unchanged during the forecast period for all simulated scenarios.
4. Cross-subsidization in tariffs	Estimates are based on the data on actual energy and utility tariffs by types of consumers in early 2003 as reported by the Rosstat in *Tseny i Tariffy v Zhilishno-kommunal'nom Khozyaistve* 2003. Issue 1 (15). January-March. Related assumption: Cross-subsidization in tariffs is phased out in two years (2005-06) in two equal steps.
5. Information on housing allowances programs (total costs and number of recipients), by region	Rosstat Bulletin. *Tseny i Tariffy v Zhilishno-kommunal'nom Khozyaistve.*

6. Estimates for budget expenditures on utility services provided to budget organizations	Expenditures on utility services were estimated as the share of the reported budget expenditures on particular government functions and were based upon: • data (in economic classification) on the execution of the consolidated regional budgets in 2001 (source: www.budjetrf.ru) • data on the federal budget expenditures in 2001-03 and reports on the consolidated regional budget execution in 2002 (in functional classification) (source: www.minfin.ru) • the findings of the IUE survey for the Vologodskaya and Rostovskaya oblasts in 1999-2001 • data on housing and utility prices and the norms of per capita consumption of these services in 2002 (source: Rosstat Bulletin. *Tseny i Tariffy v Zhilishno-kommunal'nom Khozyaistve:* 1(15), 2003) • data of the Center for Facilitation of Penal Reform on the number of inmates and personnel in the penitentiary institutions as of 1 July 2003 • data on the number of military and civil personnel in the Armed Forces, the Federal Border Guard, the Interior Troops of the Ministry of Interior and on the number of staff in law enforcement agencies, the Federal Security Service and tax police (source: www.budjetrf.ru).

Information on the incidence of housing privileges (lgoty)

The information on a number of beneficiaries of lgoty by region is in principle available from three different sources:

- Rosstat: the federal government's statistical survey of housing and utilities (Form 26-ZKH). The latest available information is for the nine months of 2003.
- Ministry of Finance: A specially prepared data set used by the Ministry for the estimation of regional fiscal needs. The latest available information is for the first six months of 2002.
- NOBUS: National survey of household budgets and participation in social programs (Russian acronym NOBUS), undertaken for the first time in spring 2003.

Information about the number of people enjoying discounts on payments for housing and utility services has been traditionally reported by the Rosstat in Form 26-ZhKH. A major deficiency of this source is that housing and utility providers that file Form 26-ZhKH have incentives to report larger numbers of lgoty recipients. Moreover, lack of effective control over these reports results in quite distorted statistics. In the past, despite its reliability problem, most research on the topic was based on this source just because no nationwide alternative was available.

Data from the Finance Ministry do not represent an independent source of information. They are based on Rosstat data, but a considerable effort was made to clean up the original information and eliminate most inconsistencies. However, this data set is the most outdated. In particular, it does not reflect some reduction in a number of lgoty recipients that took place in 2002-03 owing to the monetization of their benefits.

The NOBUS survey provides the best available data to date on lgoty recipients. The survey was undertaken for the first time in April-May 2003. Forty-five thousand households in all Russian regions participated in the survey. It is believed to be much more reliable than the 26-ZhKH data, in part because the parties responsible for collecting and processing the survey returns were not interested in misreporting the results. This is the reason why this report uses the NOBUS data for the simulation of fiscal effects related to lgoty.

ANNEX 4.1.

SENSITIVITY ANALYSIS FOR PENSION SIMULATIONS

Given the fact that two parameters – UST tax rate and share of payroll in GDP (i.e. the UST tax base) — have the greatest impact on the performance of the pension system, additional sensitivity analysis of the results was undertaken to explore details of their influence on the average pension, as well as to assess potential links between such individual influences.

Figure A4.1 presents the indifference curves for the average pension in 2030, measured as its ratio to the pensioner's subsistence minimum. These estimates correspond to the scenario 44 (advanced institutional reforms under the high oil prices). Each curve corresponds to the same ratio of average pension to subsistence minimum, i.e. it reflects the same purchasing power of the average pension. These results reflect the outcomes of about 100 simulations that correspond to specific values of these two parameters (UST rate and payroll share). In the base scenario without UST rate cut, the share of payroll is expected to increase from the current 25% to 29% of GDP, which bring the pension/subsistence ratio from 2.3 to about 2.5. The diagram also shows how much the payroll share should increase to keep the ratio roughly at the same level of 2.5 under different assumptions regarding the magnitude of the tax cut. If the rate is cut by 4 p.p., the share has to reach 36% to keep the pension/subsistence ratio intact.

In general, 1 p.p. decline in the UST rate could be compensated by an increase in the payroll share by about 1.5 p.p. At every specific tax rate the decline in the payroll share by 2 p.p. brings the pension/subsistence ratio down by about 12 points, from 2.5 to 2.38. The latter result suggests that our estimates are rather robust: substantial fluctuations in the payroll share cause modest changes in the purchasing power of the average pension.

Figure A4.2 presents a more accurate non-linear approximation for the relationship between these two parameters that corresponds to the indifference curve of 2.3 at Figure A4.1.

Figure A4.3 presents a similar set of indifference curves for the replacement rate.

The presented approach helps expand understanding of potential dynamics of the analyzed variables. Instead of generating specific point estimates of particular parameters, it focuses on larger intervals of policy variables, within which the performance characteristics of the pension system remain sensible. It also helps to concentrate the analysis on the issue of internal consistency of the assumptions: how realistic is that the future joint dynamic of main parameters would go in a way that would ensure a stable performance of the system?

Figure A4.1: Indifference curves for the pension system: the ratio between the average pension and pensioner's subsistence, 2030

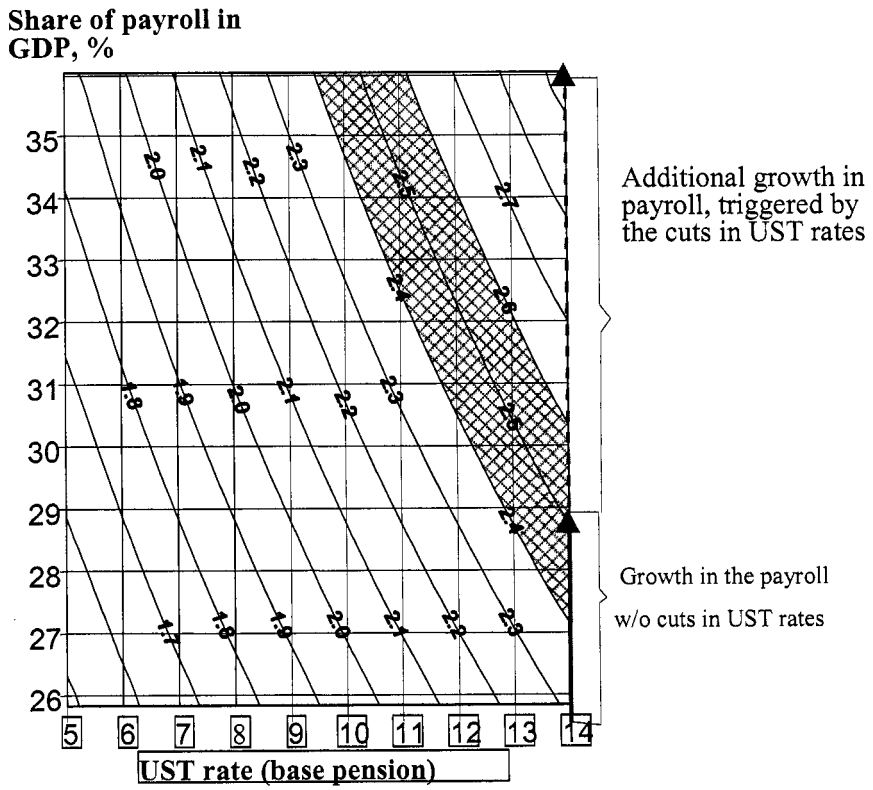


Figure A4.2: Indifference curve for the pension system: compensatory relationship between an increase in the payroll share and cuts in the UST rate.

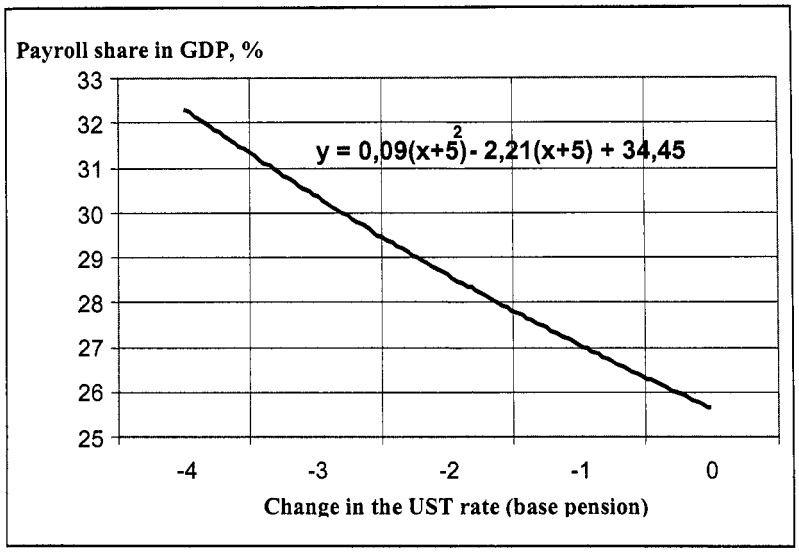
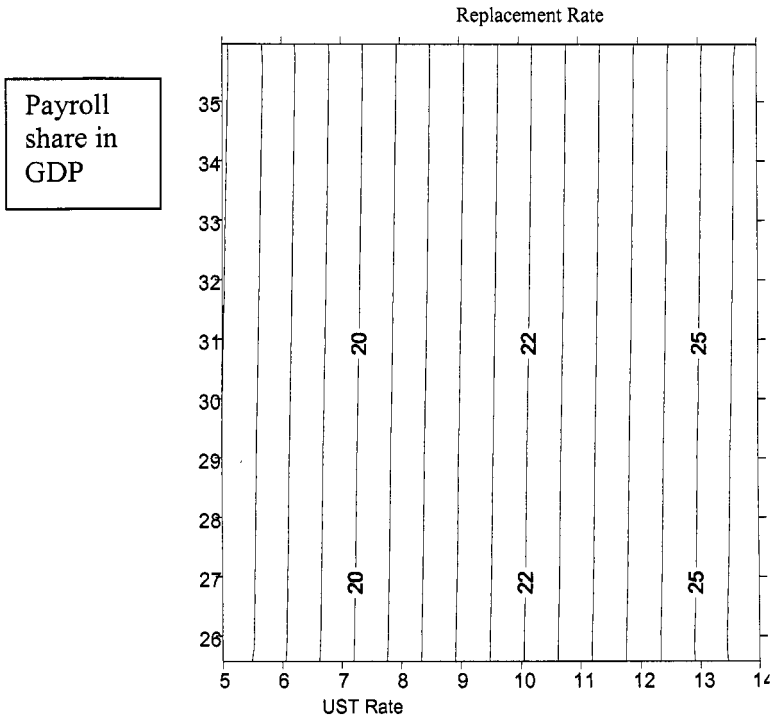


Figure A4.3: Indifference curve for the pension system: replacement ratio in the PAYG system, 2030



SIMULATION METHODOLOGY

Simulation methodology used in this report is close to the approach employed in the PROST program by the World Bank. Accordingly, the type of model used in this study had been employed frequently by the World Bank for undertaking similar analyses in other countries. It is also worth noting that the model followed some implementation principles that are similar to those used in the ILO Social Budget Program. The latter related e.g., to the model implementation in Excel with partial use of the Visual Basic. On the one hand, such an approach allows for more transparency in calculations because intermediate results for each program block are stored in separate spreadsheets of Excel books making it easier to trace links between the spreadsheets and check the formulas. On the other hand, rather complicated links between the spreadsheets present certain difficulties for the analysis of calculation sequences, and the formulas inserted directly in EXCEL cells make the model more vulnerable because it is easier to make a mistake in copying formulas, while it is rather time consuming to change separate formulas.

A brief description of the model is provided in the Annex to the World Bank (2003c) report, as well as in Simulation and Actuarial Estimates (2003). The earlier version of the model was reviewed by the TACIS consultants, and their main comments (Stott, 2002), such as more accurate reflection of pension contributions by working pensioners, were reflected in the current version of the model.

The simulation program used for analysis in Chapter 4 was fully implemented in Visual Basic. The same simulation technique was previously used for the preparation of the World Bank Report (2003). A specific structural feature of this version of the computer program as compared to the earlier version described in Baskakov et al. (2003) is its analytical focus, absence of interface forms and reliance on bar chart reports, which substantially facilitate the analysis and quality control of results obtained.

As compared with the World Bank (2003c) report, the simulations in Chapter 4 are based on a radically revised set of assumptions regarding Russia's macroeconomic projections that reflect the actual changes in the country's economic performance that occurred in 2001-03. Besides, we consider a broader range of potential development scenarios.

In addition, it is worth mentioning a certain difference in the logic between this model and the model in the World Bank (2003c) report. The latter modeled the accelerated growth of the payroll based on the explicit assumption about difference in growth rates between average wage and productivity. In this paper, the trend in the payroll share in GDP is instead considered as a key exogenous variable. This trend is described in the model by a conventional exponential transition process. Such an approach adds flexibility to the model. In particular, it allows undertaking additional analysis of the pension system's sensitivity to changes in the basic trends in taxable wages.

The following set of basic input variables in the model determines most of the variability within and across the scenario groups:

- GDP growth rate
- Share of payroll in GDP

- Level of economic activity of population
- Birth rate
- Net migration
- Inflation rate
- Unemployment rate
- Interest rate
- Contribution rate (tax rate for UST)
- Pension system parameters (such as e.g., collection ratio)
- Retirement age

The model employs a module principle based on the following sequence of calculations applied to each group of contributors and pensioners.[112]

- Estimating the number of contributors and pensioners;
- Estimating the average size of salaries and pensions;
- Estimating the flows of pension contributions and benefits;
- Balancing revenues and expenditures of the pension system;
- Determining the key performance characteristics of the pension system, such as a replacement rate, etc.

To estimate the number of contributors, all employees in the economy are divided into three groups: (i) regular employees; (ii) those who benefit from the reduced UST rates, including self-employed; and (iii) delinquent taxpayers.

The number of pensioners in the model is determined using the Stock method, where share matrixes are defined for each type of pensioner, as well as for each age and sex group. Then, to determine the number of pensioners in a particular group one has to multiply the population number in each age and sex group (defined by the existing demographic projections) by a respective value in the share matrix.

The size of pension benefit for each group of pensioners is determined based upon the overall amount of UST collection, the number of pensioners in each pension group, types of pension benefits established for these groups, as well as upon the adopted pension indexation rules. The level of administrative costs in the system is considered to be constant at 2 percent of the total annual PAYG benefits.

The NDC benefit is determined as accumulated notional individual fund divided by the annuitization factor that reflects the remaining life expectancy of the cohort and the notional interest rate. The annuitization factor is gradually increasing between 2002 and 2013 from 12 to 19. The initial notional individual fund for those who are enrolled in the system in 2002 is equivalent of the average monthly pension of 830 Rbl.

The overall inflow of revenues to the pension system is determined by the number and structure of contributors, average UST rates, as well as by the following factors:

- Collection rate (currently amounts to 0.96);

[112] The model considers two groups of contributors (regular employees and those who are eligible for reduced UST rates) and four groups of pensioners: old-age pensioners, disability pensioners, survival pensioners and early retirement pensioners.

- Nature of the wage distribution relative to the regression scale of the existing UST rates; this factor is reflected in the model by the introduction of a separate coefficient of regressivity (currently amounts to 0.94);
- Exemption rate for UST that reflects the average reduction in effective UST rate for contributors due to the existing legal benefits for particular groups of taxpayers, such as those who pay a single agricultural tax (currently amounts to 0.94)

Average working life period is estimated as 30-35 years.

The indexation of benefits in the model is based on current legislation: the base pension is indexed with average inflation, while the NDC portion of the benefit is indexed based on the growth rate of the pension fund collections per beneficiary (which on average exceeds the inflation rate due to the growth in real wages).

The model calculations were undertaken without feedback, i.e., even if the pension system balance starts to accumulate considerable surpluses, the model does not provide for an automatic change in the rules of pension indexation. The logic behind such an approach is in focusing the analysis on what outcomes various indexation rules may generate (in terms of both the pension system balance and average replacement rate) if kept intact for a considerable period of time.

In addition to this, however, the model generates an alternative estimate for the replacement rate, which is the rate that could be attained at a zero balance of the pension system. To get this estimate in the model all current surpluses in the system are distributed among the groups of beneficiaries proportionally to their NDC pensions. This alternative estimate reflects a potential maximum pension benefit that could be funded by utilizing all collected funds (i.e., without running surpluses), but at the same time without creating debts in the pension system. In Chapter 4 we call this indicator of the maximum potential pension benefit as an "affordable replacement rate", and this is an indicator that represents the core to our analysis. In other words, we are especially interested in understanding for each particular scenario how much the pension system could afford to pay. It is assumed that if in the longer term the selected indexation rules proved to be too restrictive (as they seem to be now), they could be adjusted to allow for a full pay-out of available pension funds.

While statistical data required for building a full quantitative model of the link between the pension contribution rate and the taxable base for UST were unavailable, a numeric experiment was undertaken, which allowed estimating sensitivity of the basic pension system parameters to the cuts in contribution rate.

MAIN SIMULATION RESULTS FOR THE PENSION REFORM ANALYSIS

Table A4.1: Total affordable replacement rate, %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	33.6	33.2	32.5	31.7	31.4	31.0	30.5	30.0	25.3	24.4	24.6	23.6
12: low growth, advanced reforms	34.0	33.9	33.6	33.2	33.1	32.9	32.7	32.2	27.7	26.4	26.0	24.6
13: high growth, slow reforms	33.6	33.2	32.5	31.7	31.4	31.0	30.6	30.0	25.5	24.6	24.7	23.6
14: high growth, advanced reforms	34.3	34.2	33.8	33.4	33.4	33.2	33.1	32.8	28.9	27.8	27.1	25.4
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	34.0	34.6	29.1	28.6	28.5	28.3	28.1	27.6	23.7	22.7	22.7	21.7
24: high growth	34.3	34.9	29.3	28.8	28.7	28.6	28.5	28.2	24.7	23.8	23.6	22.3
Group III. With the UST reform and increase in the retirement age												
32: low growth	34.0	34.6	29.1	30.3	30.4	32.2	32.0	33.8	35.5	33.0	34.6	32.9
34: high growth	34.3	34.9	29.3	30.5	30.6	32.6	32.5	34.4	37.1	34.8	36.3	34.4
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	35.3	35.7	29.8	31.1	31.2	33.1	32.8	34.6	36.4	33.8	35.5	33.9
44: high growth	35.6	36.0	30.0	31.3	31.4	33.4	33.3	35.3	38.0	35.7	37.3	35.3

Table A4.2: Affordable average replacement rate in the pay-as-you-go pillar, %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	33.6	33.2	32.5	31.7	31.4	31.0	30.5	30.0	24.2	21.8	19.5	16.7
12: low growth, advanced reforms	34.0	33.9	33.6	33.2	33.1	32.9	32.7	32.2	26.5	23.8	21.5	18.5
13: high growth, slow reforms	33.6	33.2	32.5	31.7	31.4	31.0	30.6	30.0	24.6	22.1	19.9	16.9
14: high growth, advanced reforms	34.3	34.2	33.8	33.4	33.4	33.2	33.1	32.8	27.8	25.3	22.8	19.8
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	34.0	34.6	29.1	28.6	28.5	28.3	28.1	27.6	22.6	20.2	18.2	15.6
24: high growth	34.3	34.9	29.3	28.8	28.7	28.6	28.5	28.2	23.6	21.4	19.3	16.7
Group III. With the UST reform and increase in the retirement age												
32: low growth	34.0	34.6	29.1	30.3	30.4	32.2	32.0	33.8	34.1	31.1	29.7	25.5
34: high growth	34.3	34.9	29.3	30.5	30.6	32.6	32.5	34.4	35.7	33.0	31.6	27.3
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	35.3	35.7	29.8	31.1	31.2	33.1	32.8	34.6	34.9	31.8	30.4	26.1
44: high growth	35.6	36.0	30.0	31.3	31.4	33.4	33.3	35.3	36.5	33.8	32.3	27.9

Table A4.3: Affordable average replacement rate in the fully funded pillar, %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.7	5.0	6.9
12: low growth, advanced reforms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.6	4.6	6.1
13: high growth, slow reforms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.5	4.8	6.6
14: high growth, advanced reforms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.5	4.3	5.7
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.5	4.5	6.0
24: high growth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.4	4.2	5.6
Group III. With the UST reform and increase in the retirement age												
32: low growth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.9	4.9	7.4
34: high growth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.8	4.7	7.1
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.0	5.1	7.7
44: high growth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.9	4.9	7.4

Table A4.4: Overall affordable average replacement rate adjusted for the personal income tax (13%), %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	38.6	38.1	37.3	36.5	36.1	35.6	35.1	34.4	29.1	28.1	28.3	27.2
12: low growth, advanced reforms	39.1	39.0	38.6	38.2	38.1	37.9	37.6	37.0	31.8	30.4	29.9	28.2
13: high growth, slow reforms	38.6	38.1	37.3	36.5	36.1	35.6	35.2	34.5	29.3	28.3	28.4	27.1
14: high growth, advanced reforms	39.5	39.3	38.9	38.4	38.3	38.2	38.1	37.7	33.2	31.9	31.2	29.2
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	39.1	39.8	33.4	32.9	32.8	32.5	32.3	31.8	27.2	26.1	26.1	24.9
24: high growth	39.5	40.2	33.6	33.1	33.0	32.9	32.7	32.4	28.4	27.4	27.1	25.7
Group III. With the UST reform and increase in the retirement age												
32: low growth	39.1	39.8	33.4	34.9	35.0	37.1	36.8	38.8	40.8	37.9	39.8	37.8
34: high growth	39.5	40.2	33.6	35.1	35.2	37.4	37.3	39.6	42.6	40.0	41.7	39.5
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	40.6	41.0	34.3	35.8	35.9	38.0	37.7	39.8	41.8	38.8	40.8	38.9
44: high growth	40.9	41.3	34.5	36.0	36.1	38.4	38.3	40.6	43.7	41.0	42.8	40.6

Table A4.5: Real overall affordable replacement rate (replacement rate adjusted for the share of informal wages in the total payroll)

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	20.16	22.25	23.65	24.59	25.51	26.12	26.52	26.61	24.06	22.99	22.64	21.27
12: low growth, advanced reforms	20.40	22.78	24.49	25.76	26.95	27.79	28.38	28.59	26.35	24.85	23.99	22.12
13: high growth, slow reforms	20.16	22.26	23.67	24.61	25.53	26.15	26.56	26.65	24.27	23.15	22.72	21.23
14: high growth, advanced reforms	20.60	22.97	24.66	25.90	27.13	28.05	28.78	29.16	27.48	26.13	24.98	22.88
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	20.40	23.25	21.18	22.19	23.20	23.89	24.38	24.54	22.52	21.35	20.88	19.51
24: high growth	20.60	23.44	21.33	22.31	23.35	24.12	24.72	25.02	23.48	22.43	21.69	20.11
Group III. With the UST reform and increase in the retirement age												
32: low growth	20.40	23.25	21.18	23.53	24.73	27.20	27.79	29.99	33.74	31.02	31.88	29.64
34: high growth	20.60	23.44	21.33	23.66	24.90	27.47	28.18	30.58	35.24	32.76	33.44	30.93
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	21.17	23.95	21.74	24.14	25.37	27.91	28.50	30.76	34.59	31.79	32.71	30.47
44: high growth	21.37	24.14	21.89	24.27	25.54	28.18	28.90	31.36	36.13	33.57	34.31	31.80

Table A4.6: Ratio of the overall affordable average pension to the minimum subsistence level, %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	105	105	105	105	105	110	110	110	120	150	185	230
12: low growth, advanced reforms	105	110	110	115	115	115	115	115	135	200	280	380
13: high growth, slow reforms	105	110	110	115	115	120	120	125	150	185	240	305
14: high growth, advanced reforms	105	110	115	120	120	125	125	130	170	265	395	565
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	105	115	100	100	100	105	105	105	130	185	265	365
24: high growth	105	115	100	105	110	110	115	115	160	250	375	545
Group III. With the UST reform and increase in the retirement age												
32: low growth	105	115	100	105	110	120	120	130	190	270	410	555
34: high growth	105	115	100	110	115	125	130	145	240	360	580	840
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	110	120	105	110	115	125	125	135	205	285	435	590
44: high growth	110	120	105	115	120	135	135	150	250	380	610	885

Table A4.7: Additional funding needed to maintain the replacement rate at 30%, as a share of GDP

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	-0.60	-0.55	-0.45	-0.30	-0.25	-0.20	-0.10	0.00	1.15	1.55	1.65	2.30
12: low growth, advanced reforms	-0.70	-0.70	-0.65	-0.60	-0.60	-0.55	-0.55	-0.45	0.55	0.90	1.10	1.75
13: high growth, slow reforms	-0.60	-0.55	-0.45	-0.35	-0.25	-0.20	-0.10	0.00	1.10	1.45	1.60	2.30
14: high growth, advanced reforms	-0.75	-0.75	-0.70	-0.65	-0.65	-0.65	-0.60	-0.55	0.25	0.55	0.75	1.40
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	-0.70	-0.85	0.20	0.25	0.30	0.35	0.40	0.50	1.70	2.10	2.35	3.10
24: high growth	-0.75	-0.90	0.15	0.25	0.25	0.30	0.30	0.40	1.35	1.70	1.95	2.65
Group III. With the UST reform and increase in the retirement age												
32: low growth	-0.70	-0.85	0.20	-0.05	-0.10	-0.40	-0.35	-0.65	-1.00	-0.55	-0.90	-0.65
34: high growth	-0.75	-0.90	0.15	-0.10	-0.10	-0.45	-0.45	-0.80	-1.20	-0.85	-1.15	-0.95
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	-0.90	-1.05	0.05	-0.20	-0.25	-0.60	-0.55	-0.85	-1.20	-0.75	-1.10	-0.90
44: high growth	-1.00	-1.10	0.00	-0.25	-0.30	-0.65	-0.65	-0.95	-1.40	-1.05	-1.35	-1.15

Table A4.8: Average replacement rate in the pay-as-you-go system if the pension indexation rules remain to be based on the currently effective legislation, %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	31.7	30.9	30.0	28.9	28.4	27.8	27.2	26.5	19.2	15.3	12.7	10.6
12: low growth, advanced reforms	31.8	30.8	29.9	29.1	28.8	28.4	28.0	27.4	19.6	14.7	11.8	9.9
13: high growth, slow reforms	31.7	30.5	29.2	27.9	27.2	26.4	25.7	24.8	17.5	14.0	11.6	9.7
14: high growth, advanced reforms	31.7	30.5	29.4	28.3	27.8	27.4	26.9	26.3	18.5	14.0	11.3	9.6
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	31.8	30.7	29.6	28.7	28.4	27.9	27.4	26.8	19.0	14.4	11.9	10.1
24: high growth	31.7	30.3	29.1	27.9	27.4	26.8	26.3	25.7	18.0	13.9	11.4	9.8
Group III. With the UST reform and increase in the retirement age												
32: low growth	31.8	30.7	29.6	29.7	29.5	30.4	30.0	30.8	25.4	19.6	16.0	12.4
34: high growth	31.7	30.3	29.1	28.9	28.5	29.3	28.9	29.8	24.6	19.3	15.8	12.4
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	31.4	30.2	29.1	29.2	29.0	29.8	29.4	30.2	25.0	19.4	15.8	12.4
44: high growth	31.3	29.9	28.6	28.5	28.1	28.9	28.5	29.3	24.4	19.2	15.8	12.4

Table A4.9: Balance of the base pension component, as % of GDP

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	0.82	0.92	1.00	1.07	1.13	1.19	1.24	1.28	1.62	2.00	2.23	2.39
12: low growth, advanced reforms	0.86	1.08	1.23	1.34	1.42	1.47	1.51	1.54	1.95	2.50	2.80	2.98
13: high growth, slow reforms	0.82	1.00	1.15	1.29	1.40	1.49	1.58	1.65	2.11	2.42	2.61	2.75
14: high growth, advanced reforms	0.89	1.14	1.31	1.45	1.55	1.63	1.71	1.76	2.33	2.83	3.10	3.26
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	0.86	1.13	0.31	0.42	0.50	0.55	0.61	0.65	1.18	1.76	2.07	2.25
24: high growth	0.89	1.19	0.40	0.53	0.64	0.73	0.82	0.89	1.58	2.11	2.38	2.55
Group III. With the UST reform and increase in the retirement age												
32: low growth	0.86	1.13	0.31	0.54	0.63	0.82	0.87	1.04	1.81	2.22	2.47	2.58
34: high growth	0.89	1.19	0.40	0.65	0.77	0.98	1.06	1.25	2.09	2.45	2.66	2.75
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	1.04	1.36	0.49	0.74	0.84	1.04	1.10	1.28	2.09	2.50	2.75	86
44: high growth	1.07	1.41	0.57	0.84	0.96	1.18	1.27	1.46	2.33	2.70	2.91	3.00

Table A4.10: Balance of the NDC pension component, as % of GDP

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	-0.50	-0.53	-0.55	-0.56	-0.59	-0.60	-0.60	-0.59	-0.39	-0.24	-0.13	-0.20
12: low growth, advanced reforms	-0.47	-0.52	-0.55	-0.56	-0.59	-0.59	-0.58	-0.58	-0.33	-0.19	-0.09	-0.18
13: high growth, slow reforms	-0.50	-0.53	-0.55	-0.56	-0.58	-0.58	-0.58	-0.57	-0.34	-0.20	-0.10	-0.18
14: high growth, advanced reforms	-0.44	-0.47	-0.48	-0.48	-0.49	-0.49	-0.49	-0.49	-0.27	-0.14	-0.06	-0.15
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	-0.47	-0.39	-0.42	-0.44	-0.47	-0.47	-0.47	-0.47	-0.24	-0.11	-0.05	-0.19
24: high growth	-0.44	-0.35	-0.36	-0.35	-0.37	-0.37	-0.37	-0.37	-0.17	-0.05	-0.01	-0.16
Group III. With the UST reform and increase in the retirement age												
32: low growth	-0.47	-0.39	-0.42	-0.43	-0.45	-0.48	-0.50	-0.51	-0.27	-0.08	0.19	0.37
34: high growth	-0.44	-0.35	-0.36	-0.36	-0.37	-0.39	-0.41	-0.42	-0.20	-0.03	0.22	0.39
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	-0.36	-0.32	-0.36	-0.37	-0.40	-0.42	-0.45	-0.46	-0.25	-0.07	0.20	0.39
44: high growth	-0.33	-0.27	-0.29	-0.30	-0.31	-0.33	-0.36	-0.37	-0.17	-0.03	0.23	0.40

Table A4.11: Overall balance of the PAYG pension (base+NDC), as % of GDP

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	0.32	0.39	0.44	0.51	0.54	0.59	0.64	0.69	1.23	1.76	2.09	2.19
12: low growth, advanced reforms	0.38	0.56	0.69	0.79	0.83	0.88	0.92	0.96	1.61	2.32	2.71	2.81
13: high growth, slow reforms	0.32	0.47	0.60	0.73	0.81	0.91	1.00	1.08	1.77	2.22	2.50	2.58
14: high growth, advanced reforms	0.45	0.67	0.83	0.97	1.06	1.14	1.21	1.28	2.06	2.70	3.04	3.11
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	0.38	0.73	-0.11	-0.02	0.03	0.08	0.14	0.18	0.94	1.65	2.02	2.06
24: high growth	0.45	0.85	0.04	0.18	0.28	0.36	0.44	0.52	1.42	2.06	2.37	2.39
Group III. With the UST reform and increase in the retirement age												
32: low growth	0.38	0.73	-0.11	0.11	0.17	0.34	0.38	0.53	1.54	2.15	2.66	2.95
34: high growth	0.45	0.85	0.04	0.29	0.40	0.59	0.65	0.82	1.89	2.42	2.88	3.14
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	0.68	1.03	0.14	0.37	0.44	0.62	0.66	0.82	1.84	2.43	2.95	3.25
44: high growth	0.75	1.14	0.28	0.54	0.65	0.85	0.92	1.09	2.16	2.67	3.13	3.40

Table A4.12: GDP growth rate

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.50	2.00	2.00	2.00
12: low growth, advanced reforms	1.50	1.50	1.50	1.50	1.50	1.51	1.73	2.02	4.95	4.92	3.73	3.50
13: high growth, slow reforms	4.00	4.00	4.00	4.00	4.00	4.02	4.03	4.03	3.30	2.49	2.50	2.50
14: high growth, advanced reforms	3.50	3.50	3.50	3.50	3.50	3.58	3.80	4.06	6.28	5.88	4.88	4.50
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	1.50	1.50	1.50	1.50	1.50	1.51	1.73	2.02	4.95	4.92	3.73	3.50
24: high growth	3.50	3.50	3.50	3.50	3.50	3.58	3.80	4.06	6.28	5.88	4.88	4.50
Group III. With the UST reform and increase in the retirement age												
32: low growth	1.50	1.50	1.50	3.14	1.62	3.25	1.78	3.83	4.99	4.90	4.13	3.35
34: high growth	3.50	3.50	3.50	5.17	3.62	5.35	3.85	5.91	6.33	5.86	5.27	4.33
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	1.50	1.50	1.50	3.14	1.62	3.25	1.78	3.83	4.99	4.90	4.13	3.35
44: high growth	3.50	3.50	3.50	5.17	3.62	5.35	3.85	5.91	6.33	5.86	5.27	4.33

Table A4.13: Real annual growth in taxable wage (reflecting decline in shadow wages), %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	4.10	3.84	3.65	3.39	3.34	3.26	3.20	3.34	4.04	3.07	3.57	3.69
12: low growth, advanced reforms	3.94	7.20	4.53	2.88	2.25	1.90	1.93	2.31	6.12	5.85	5.17	5.06
13: high growth, slow reforms	4.10	7.97	7.09	6.34	5.93	5.62	5.38	5.38	4.58	3.42	4.00	4.14
14: high growth, advanced reforms	4.06	9.00	6.47	4.87	4.04	3.58	3.49	3.75	7.35	6.80	6.28	5.99
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	3.94	9.02	5.92	4.01	3.24	2.80	2.78	3.14	6.70	5.85	5.17	5.06
24: high growth	4.06	11.10	8.01	6.11	5.09	4.53	4.36	4.59	7.93	6.80	6.28	5.99
Group III. With the UST reform and increase in the retirement age												
32: low growth	3.94	9.02	5.92	4.01	3.24	2.80	2.78	3.14	6.70	5.85	5.17	5.06
34: high growth	4.06	11.10	8.01	6.11	5.09	4.53	4.36	4.59	7.93	6.80	6.28	5.99
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	3.94	10.11	6.56	4.43	3.53	3.01	2.94	3.26	6.75	5.85	5.17	5.06
44: high growth	4.06	11.80	8.43	6.38	5.27	4.66	4.47	4.68	7.97	6.80	6.28	5.99

Table A4.14: Share of Taxable Payroll in GDP, %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	25.0	25.6	26.1	26.6	27.0	27.3	27.7	28.0	29.8	30.5	30.8	30.8
12: low growth, advanced reforms	25.3	27.1	28.4	29.2	29.8	30.1	30.4	30.6	30.9	30.9	30.9	30.9
13: high growth, slow reforms	25.0	26.1	27.0	27.7	28.3	28.7	29.1	29.5	30.7	30.9	30.9	30.9
14: high growth, advanced reforms	25.6	27.3	28.5	29.3	29.8	30.2	30.4	30.6	30.9	30.9	30.9	30.9
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	25.3	27.6	29.2	30.4	31.3	32.0	32.5	33.0	35.1	35.1	35.1	35.1
24: high growth	25.6	27.9	29.5	30.7	31.5	32.2	32.7	33.2	35.2	35.2	35.3	35.2
Group III. With the UST reform and increase in the retirement age												
32: low growth	25.3	27.6	29.2	30.4	31.3	32.0	32.5	32.9	35.0	34.8	34.8	34.8
34: high growth	25.6	27.9	29.5	30.6	31.5	32.2	32.7	33.1	35.2	35.0	35.0	35.0
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	26.8	29.5	31.5	32.9	33.9	34.7	35.3	35.8	38.3	38.1	38.1	38.1
44: high growth	27.1	29.7	31.5	32.9	33.9	34.6	35.2	35.7	38.0	37.8	37.8	37.8

Table A4.15: System Dependency Ratio (ratio of pensioners and employed), %

Scenarios	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050
Group I: Base scenarios												
11: low growth, slow reforms	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.62	0.73	0.79	0.88	1.03
12: low growth, advanced reforms	0.60	0.59	0.58	0.57	0.57	0.57	0.57	0.58	0.67	0.72	0.80	0.93
13: high growth, slow reforms	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.62	0.72	0.78	0.87	1.02
14: high growth, advanced reforms	0.59	0.58	0.58	0.57	0.57	0.57	0.57	0.57	0.64	0.68	0.75	0.87
Group II. With the UST reform (cuts in the pension contribution rates)												
22: low growth	0.60	0.59	0.58	0.57	0.57	0.57	0.57	0.58	0.67	0.72	0.80	0.93
24: high growth	0.59	0.58	0.58	0.57	0.57	0.57	0.57	0.57	0.64	0.68	0.75	0.87
Group III. With the UST reform and increase in the retirement age												
32: low growth	0.60	0.59	0.58	0.54	0.54	0.51	0.51	0.48	0.45	0.47	0.49	0.57
34: high growth	0.59	0.58	0.58	0.54	0.53	0.50	0.50	0.47	0.43	0.45	0.46	0.53
Group IV. UST reform, an increase in the retirement age and cuts in privileges												
42: low growth	0.60	0.59	0.58	0.54	0.54	0.51	0.51	0.48	0.45	0.47	0.49	0.57
44: high growth	0.59	0.58	0.58	0.54	0.53	0.50	0.50	0.47	0.43	0.45	0.46	0.53

SUMMARY OF PENSION BENEFIT RULES IN THE CURRENT SYSTEM

The future pension benefit is a sum of three components:

a) Base pension, which was established at the level of 450 rubles a month as of January 1, 2002 and is supposed to be indexed by inflation.

b) NDC pension, which is determined as accumulated notional individual fund divided by the annuitization factor that reflects the remaining life expectancy of the cohort and the notional interest rate. The annuitization factor is gradually increasing between 2002 and 2013 from 12 to 19. The initial notional individual fund for those who are enrolled in the system in 2002 is equivalent of the average monthly pension of 830 rubles. Annual contributions are defined in Table A4.16. The NDC pension is indexed for annual inflation. In addition, the law provides for an opportunity for additional indexation, which follows growth in pension contributions per beneficiary. Accumulation of the NDC capital is based on a notional interest, which is equal to annual real wage growth.

c) Fully funded (FF) pension, which is determined as accumulated individual saving fund divided by the same annuitization factor. Accumulation is based on the actual rate of return.

The base contribution rate is 28 percent. The rate is lower for annual incomes above 100,000 Rbl ($3,500). All regular employees have to pay 14 percent of their payroll (irrespective of their incomes and age) to finance basic pension. Contributions to the NDC and FF components vary and are presented in Table A4.16.

Overall, the future benefit does not depend explicitly on the actual length of service. Additional years of employment/contributions would result in higher pensions through accumulation of additional notional capital and savings in the second and third components respectively.

Table A4.16: Tax rates for pension contributions to the NDC and fully funded components, depending on income and age, as percent of annual personal income

	Total contribution rate to NDC and Fully Funded component	For men born in 1952 or older and women born in 1956 or older		For men born between 1953-66 and women born between 1957-66		For men and women born in 1967 and younger	
		NDC component	Fully Funded component	NDC component	Fully Funded component	NDC component	Fully Funded component
Incomes below 100,000 rbl	14	14	0	12	2	8	6
Incomes that exceed 100,001, but below 300,000 rbl	7.9	7.9	0	6.8	1.1	4.5	3.4
Incomes that exceed 300,001, but below 600,000 rbl	3.95	3.95	0	3.39	0.56	2.26	1.69
Incomes exceeding 600,000 rbl	0	0	0	0	0	0	0

Source: Federal Law FZ-167.