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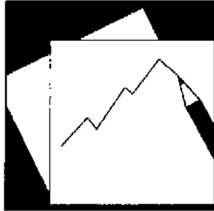

IMF Working Paper

Priorities for Further Fiscal Reforms in the Commonwealth of Independent States

Henri Lorie

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IMF Working Paper

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Priorities for Further Fiscal Reforms in the Commonwealth of Independent States

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Abstract

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Building on the substantial progress made in establishing fiscal systems consistent with market economies, the paper identifies priorities for further fiscal structural reforms among the Commonwealth of Independent States (CIS) countries. Activities of extra budgetary accounts and quasi-fiscal activities need to be brought into the budget framework. Although there is room for improvements, the CIS countries now have, broadly, levels of tax revenues and expenditures not out of line with the international norm, taking into account income levels. The main challenges they face are to further increase the market friendliness of taxation and to implement an efficiency-improving structural reform of the expenditure system while strengthening control and accountability.

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I. Introduction and Summary

In recent years, substantial progress has been achieved in transforming the fiscal systems in the countries of the Commonwealth of Independent States (CIS) into more effective instruments to implement public policy objectives within the framework of a market economy. Today these fiscal systems are expected to play key roles in ensuring macroeconomic stabilization, creating an environment supportive of sustained economic growth based on private sector development, and addressing social needs including poverty alleviation.

The purpose of this paper is to highlight the unfinished agenda, rather than systematically reviewing the many accomplishments, and to identify priorities in terms of contributions to those key policy objectives. The focus is on structural reforms as well as on transparency and good governance,[2] with which sustainable economic growth has been shown to be positively correlated. All enhance the effectiveness and efficiency of fiscal policies in reaching public policy objectives, such as fighting inflation, establishing a tax system and administration more supportive of the productive sectors, providing quality public infrastructure and services, or meeting social needs, all of which are prerequisites for growth. The paper emphasizes cross-country issues, highlighting relevant common challenges, as well as, when possible, specific country experiences relevant for all countries. It does not try to propose one-size-fits-all reform recommendations but, at the same time, draws on the experience of successful fiscal reforms both inside and outside the group of transition countries. Section II deals with overall fiscal management of the macroeconomy; Section III with tax policy; Section IV with tax administration; Section V with expenditure policy; and Section VI with expenditure management. Section VII concludes.

The remainder of this introductory section summarizes the main findings and recommendations:

- With regard to **overall fiscal management**, notwithstanding the significant progress that has been made, integration or consolidation of certain fiscal and quasi-fiscal activities into the budget process will be necessary to strengthen the ability of fiscal policy to contribute to the achievement of public policy objectives, including poverty alleviation. It would, in particular, facilitate comprehensive expenditure reform.

- There appears to be room for a more systematic approach to the treatment of **privatization receipts**, one which might allow the use of "one-off" proceeds from privatization to finance the one-off costs of the transition to a full market economy, which could be conceived of as an investment in reform.

- The ongoing round of **tax reform** focusing on a reduction in income and payroll tax rates and elimination of exemptions should present the broad productive sectors with a

[2] Various fiscal Reports on Standard and Codes (ROSCs), referred to at the end of this paper, were an especially valuable source of information in this regard.

more enabling tax environment. However, the reform has to be assessed in the context of the international experience which suggests that (in 2002) the CIS countries were, on average, already relatively low tax countries, except for the payroll tax/social security contribution and the Value Added Tax (VAT); and that tax revenues *do* appear to be positively related to both incomes per capita and to the statutory tax rates themselves. These findings cast some doubt on the ability of the CIS countries to mobilize tax revenues that are, on average, much higher than their current level of about 23 percent of GDP, although this will also depend on the strength of their tax administration. For some of the Caucasus countries, in particular, there is scope for improving the tax revenue effort.

- The biggest challenge for **tax administration** in the CIS countries remains to transform themselves into more market-friendly institutions stressing self-assessment, taxpayer services, and enforcement. Valorization of the tax administration's personnel, and abolition of tax police as separate agencies would be important prerequisites for that transformation. A major challenge is to manage "dynamically" the limited tax administration resources in a way that will rapidly integrate the relatively small, but hopefully rapidly growing, profitable new private sector enterprises.

- The fiscal adjustment of the last decade has brought **general government expenditure** in the CIS countries down to a level that is, on average, broadly in line with the international norm, taking into account the level of incomes. One exception is the still significant amount of quasi-fiscal activities and deficits. Furthermore, distortions in the composition of expenditures and evidence of much lower efficiency suggest the need for broad expenditure reforms within those aggregates, mainly in the social sectors (health and education, pensions, and other targeted transfers to households) in order to reach, in terms of effectiveness, a delivery of public services matching at least those of middle-income countries.

- The substantial progress made in establishing treasuries has contributed greatly to improving the execution of the budget and cash management. **Expenditure management,** in terms of formulating expenditure policies and plans that maximize the return from outlays within a tighter resource constraint, has lagged behind. The medium-term budget framework (MTBF) with which several CIS countries are now experimenting is an important tool for introducing more strategic thinking in budget formulation; but it needs to be made more comprehensive and specific, in particular to reflect the impact of expenditure reforms. There is also a need to further develop the internal and external auditing functions to make them more effective instruments to ensure that public funds are not only used properly, but also purchase quality public services.

II. Fiscal Management of the Macroeconomy

By and large, the national budgets in the CIS countries are today more comprehensive, based on more realistic macroeconomic assumptions, and more transparent than in the

past, **owing to a significant strengthening of the budget process**.[3] At the same time, weaknesses have remained, especially at the level of line ministries and local governments. Strengthening of fiscal institutions and of the skills and commitment of the civil servants occupying them remains a challenge in most CIS countries.

Cash implementation of the national budgets is also under much better control, largely due to the creation of Treasuries. Most countries of the CIS can now be said to have fully operational Treasuries, even if, to various degrees, there is room for further improvements in their operations. These improvements include: broadening the coverage of the Treasury operations to all government agencies at various levels, elimination of certain exceptions to the concept of the Treasury single account; and fuller computerization. Nevertheless, thanks to the Treasuries, the macroeconomic risks associated with the implementation of national budgets have been substantially reduced. And indeed, the national budgets have greatly contributed to the macroeconomic adjustment.[4]

At the macro-level, further integrating certain fiscal and quasi-fiscal activities into the budget process broadly understood is a priority. This integration will help in obtaining a better picture of, and control on, the size of government within the economy, and of the overall fiscal stance itself. It will also assist in identifying and integrating with the budget process fiscal reform priorities, particularly in the area of public expenditures.

A. Earmarked Extrabudgetary Funds

In most CIS countries, the fiscal operations under *general government* also include certain earmarked extra-budgetary funds which have dedicated revenue sources and are often legal entities of their own, with budgets separate from the *state budget*.[5] There has been in recent years a welcome trend towards integrating many of these funds within the budget, but several have remained (or even been newly introduced). These cover, in particular, various social funds, as well as privatization funds, and oil funds among oil producing countries (Azerbaijan, Kazakhstan). Integration of these funds into the state budget would simplify the fiscal system, increase the fungibility of resources, and facilitate efficient expenditure policy choices. On the other hand, earmarked extra-budgetary funds can help in highlighting certain specific features of their revenue and expenditure flows (and possible imbalances), in

[3] This is the outcome of both legislative improvements, such as adoption of organic Budget Laws, as well as a strengthening of technical skills to formulate budget policies and projections, at least at the Ministries of Finance.

[4] For an analysis of the fiscal adjustment in transition countries including the CIS, see for instance C. Purfield (2003). By and large, the decline in the overall deficits was achieved through expenditure cuts, as revenue collections generally declined during most of the 1990s. There has, however, been some increase in tax revenue/GDP ratios among the CIS countries since the late 1990s.

[5] The state budget generally includes the republican budget (central government) and the local governments.

identifying the underlying fiscal stance,[6] as well as in providing the right incentives for revenue mobilization (in the case of pension and health funds, in particular). In this, they may also assist in identifying necessary reforms.

Generally, a main concern regarding the earmarked extra-budgetary funds which are expected to remain is to ensure that their budgets: (1) are comprehensive and transparent; (2) clearly identify the financial linkages with the state budget; and (3) are fully coordinated with the state budget when formulated, approved by Parliament, and implemented. In this way, decisions on expenditure allocations, including any transfers from the state budget, can be taken within a global view of expenditure priorities and available resources, and the risks that budget execution is fragmented and leads to arrears and/or inefficiencies would be minimized. It is also important to ensure independent audits of the extra-budgetary funds' operations.

"Privatization funds" are of special importance in transition cases; and there have been variations in the way the privatization process and its impact have been integrated with the fiscal operations among the CIS countries. While privatization agencies have generally been part of government, earmarked privatization funds to receive proceeds from privatization and manage their use have been introduced in several countries, with various degrees of independence granted to these funds.[7] Revenues from and expenditures on account of privatization appear to be generally well identified and included in the countries' fiscal operations. But there have been reports of privatization proceeds being used to finance large unplanned expenditures outside the budget process.[8]

Generally, there seems to be still room for improving the transparency of the privatization process, which should benefit overall economic efficiency. Effective auditing of the privatization process by a Parliament Commission or Independent Audit Agency is in place in some but not all CIS countries. [9]

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[6] Oil funds and privatization funds may help in separating "permanent" resources to the budget from more "transitory" ones, as caused for instance by a spike in oil prices/output, or the one-off privatization drive. Because the issue of oil funds is relevant to only a few of the CIS countries, and has been extensively discussed elsewhere, most recently in Lewis (2003), it is not further discussed here.

[7] Specifically, in Ukraine, Armenia, and Uzbekistan. Outside the CIS, privatization funds have also been set up in Lithuania and Estonia.

[8] In Azerbaijan, earlier on, and Kazakhstan for instance.

[9] For instance, in Azerbaijan and Armenia. In Ukraine, the privatization process is evaluated by a privatization advisory group with participation of the World Bank, among others.

A strategic issue is what should be the best use of "one–off" proceeds from privatization.[10] It has generally been accepted that the proceeds from privatization should be treated "below the line," not to distort the assessment of the "structural" level of revenues and deficits, and this has been the general treatment across the CIS countries. The question is what could be the counterpart use of these proceeds? It appears that in most CIS countries the proceeds have been used as general financing for the budget deficit, with a few exceptions. There are in fact good reasons to invest these proceeds, preferably abroad, or equivalently, use them to reduce government debts, especially in highly indebted countries.[11] Nevertheless, the design of fiscal policy could benefit from greater attention to the question of when and to what extent privatization proceeds could be used to finance certain "one-off" transitional costs. The process of transformation of CIS countries into market economies involves many such costs (see further below).[12, 13]

In addition to great opportunities for improvements in standards of living, market economies also expose the individuals to greater economic and social risks; and protection from these risks in an efficient way requires more complex forms of government intervention and financing. CIS countries have tended to address this issue by introducing new earmarked extra-budgetary funds, including unemployment, social, and health and accident funds, in addition to pension funds.[14] There has been little attention paid so far to the question of "optimality" of such institutional arrangements. This applies, in particular, to their sources of revenue (insurance premia, payroll taxes, or earmarked tax surcharges).

B. Extrabudgetary Accounts

The operations of earmarked extra-budgetary *funds* have to be distinguished from those of extra-budgetary *accounts* which the budget entities have generally been allowed to keep. Typically, these accounts collect "own" resources of budget entities, and finance "own"

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[10] For a full analysis of the fiscal and macroeconomic impact of privatization, see J. Davis, and others (2000).

[11] If privatization does not increase wealth, the loss of revenue stream from the state assets in enterprises must be replaced by a stream of interest income to have a neutral impact on the fiscal structural position. But of course it could be argued that privatization *does* increase wealth to some extent.

[12] Outside the CIS, Estonia and Lithuania have intended to use the proceeds from privatization to finance the cost of pension reform.

[13] Under the new 2001 Government Finances Statistics manual, privatization proceeds are treated as negative acquisition of non-financial assets. Privatization proceeds do not affect the net operating balance; but net lending/borrowing balance will improve if privatization proceeds are used to purchase financial assets. Provided "one-off" transitional costs can be treated as "investment" in non-financial assets (say, in "reform"), privatization proceeds to pay for these costs would not affect *either* balance.

[14] In Ukraine, for instance.

expenditures outside the budgetary process.[15] For instance, budget entities in the health, cultural, science, and education fields, including hospitals, schools, universities, and institutes levy fees and charges for services provided, and use these resources to pay for wages, purchases of goods and services, or even investment expenditures not covered by the state budget. Own resources of budget entities under the Ministry of Defense, and of Presidential Administrations also appear to be substantial in several CIS countries.[16] There are also instances where state enterprises continue to make transfers to the extra-budgetary accounts of ministries to which they remain formally or informally subordinated. A clear separation of government finances from those of state enterprises remains a major weakness for fiscal management and transparency in several CIS countries, including Russia.

Unless consolidated with the state budget, the operations of extra-budgetary accounts distort the assessment of the size of government and possibly the true level of the budget deficit in any given period. They may also distort the direction of specific public policies and greatly complicate the design of important fiscal reforms. For instance, extrabudgetary accounts in health and education may mislead any assessment of financial resources going into these sectors, and the often regressive nature of their fees and charges as source of revenue may at the same time undermine a political commitment to provide quality basic health and education services to all groups of society, including the poor.

While an across-the-board consolidation (if not full integration) of revenues and expenditures of extra-budgetary accounts within the state budget would be a significant step towards greater transparency, as would the integration of their operations with the Treasury system,[17] deeper reforms would generally be needed. Where budget entities are mainly performing commercial or quasi-commercial operations, such entities could be formally converted into enterprises, and eventually privatized. Where that is not the case, fiscal policy formulation would generally benefit from a clearer identification of all "own" revenue sources and "own" expenditure lines, and from a systematic assessment by the Ministry of Finance in collaboration with the line ministries of whether they should be retained. When so, the own revenues and expenditures of extra-budgetary accounts could, at a minimum, be *consolidated on a gross basis* with the revenues and expenditures of the state budget. When no advantage could be seen from the earmarking involved in the operations of extra-budgetary accounts,[18] there

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[15] There are 31,000 such accounts at the federal level alone in the Russian Federation, with own resources estimated to amount to as much as 15-20 percent of budget expenditures. Budget entities also continue to "own" numerous state enterprises. See Russian federation (2003) and also J. Diamond (2002).

[16] In the Russian Federation, Kazakhstan, and Tajikistan, in particular.

[17] The coverage of extra-budgetary accounts seem to vary among FSU countries, as does their integration with the Treasury system.

[18] In Ukraine, transformation of extra-budgetary accounts into earmarked extra-budgetary funds has been used as a first step to increase transparency.

would seem to be no good reason not to fully *integrate* them into the state budget, and close the extra-budgetary accounts themselves.

C. Public Investment Program (PIP)

The process of full integration of the PIP, including its foreign-financed component, within the state budget is recent in most CIS countries,[19] yet is essential to assess the fiscal stance in the macro-economy, and the debt sustainability outlook. This integration has two main aspects: comprehensive accounting of both domestically and foreign financed investment expenditures (including net lending operations) when the liability of government is involved;[20] and inclusion of recurrent budget expenditures (personnel, maintenance, interest) and receipts[21] associated with the investment projects. Integration within the budget also means that the expenditures of the PIP are subject to the prioritization process applicable to all budget expenditures. Setting macroeconomic targets based on a narrow fiscal coverage excluding foreign financed projects runs the risk of "missing" important debt dynamic issues.

D. Quasi-Fiscal Operations and Deficits Outside the Budget Framework

There has been progress towards eliminating certain quasi-fiscal activities and deficits, but others have remained. They result when entities outside the coverage of government are being asked to implement and finance the cost of certain government policies. ***Directed lending on subsidized terms*** was earlier on a significant source of quasi-fiscal deficit (especially at the central banks). Their elimination in most CIS countries underpinned the dramatic progress witnessed in recent years in reducing inflation.[22]

***Quasi-fiscal activities and deficits born by certain state enterprises in the industrial sector*, however, are still quite large, especially in the energy, water, housing, communal services, and transport sectors**.[23] They have been mainly associated with government control of tariffs for services below cost recovery, as well as other forms of government intervention. The latter include: forcing enterprises to accept non-payment from, while maintaining delivery of services

[19]The foreign-financed capital expenditure program was included for the first time in the 2003 Budget in Tajikistan.

[20] When the PIP includes capital expenditure financed with loans only *guaranteed* by the government, recording in an inventory of such contingent liabilities is important for the purpose of assessing fiscal sustainability.

[21] In the case of net-lending.

[22] Exceptions are Belarus, Uzbekistan, and Turkmenistan. Some limited central bank lending at below market rates has also continued in Ukraine; and there have been instances of directed lending in Tajikistan, albeit on a limited scale.

[23] See for instance M. Petri, G. Taube, and A. Tsyvinski (2002); and T. Saavalainen and J. ten Berg (2003). The latter paper mentions estimates averaging more than 5 percent of GDP for electricity alone in Georgia, the Kyrgyz Republic, Moldova, and Ukraine.

to, certain customers; requesting enterprises to make ad hoc transfers to the budget outside the obligations defined by the tax laws;[24] or pressuring enterprises to finance specific government projects (for instance, prestige Presidential projects), with none of these expenditures reflected in the state budget. The part of quasi-fiscal activities and deficits not covered by explicit or implicit budget transfers have had to be financed by the enterprises themselves, most often through higher debts and the enterprises' own *decapitalization*.[25] Thus, these quasi-fiscal activities and deficits not only imply a laxer than apparent fiscal stance, but also jeopardize the foundation for future economic growth.[26]

Including an assessment of quasi-fiscal operations and deficits, as well as cross-subsidization, in the state budget, and reflecting them in a broad general government balance should contribute not only to their greater transparency, but also to the formulation of a strategy to phase them out (see further below).[27]

The assessment of, and budgeting for, explicit and implicit contingent government liabilities remains limited in most CIS countries, with inherent risks to the fiscal outcome. Those liabilities involve government guarantees on domestic and foreign debts of enterprises, not fully funded insurance schemes, as well as cases where the government could be forced to assume certain obligations—for instance in the case of enterprises too strategic or too big to fall. A full inventory of contingent and implicit government liabilities, and assessment of potential calls on such liabilities and their timing, should form the basis for contingency reserves in the state budget. While distinct in nature because more discretionary, cases where moving forward with restructuring or privatization are likely to necessitate the assumption by government of certain liabilities also needs to be made part of the budget process.[28]

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[24] In the case of Belarus, for instance. Also, tax obligations are not always clear, and then often negotiated; thus, where governments have kept a tighter control on state enterprises, they have generally managed to collect more from them.

[25] In Armenia, energy sector enterprises have built liabilities of nearly $31 million to banks, most without explicit government guarantee.

[26] Enterprises in the energy sector have also been asked to subsidize certain groups, generally households, and been allowed to finance internally such subsidy by charging higher than cost recovery tariffs for other groups, for instance industrial companies. A main economic impact of this *cross-subsidization* is in terms of efficiency losses, but the cost of such quasi-fiscal activities can also be made apparent by explicitly recognizing the financial burden of low households tariffs as a quasi-fiscal deficit, and recognizing the impact of higher industrial tariffs as a source of financing. In the case of energy exporting countries, exports at international prices may also allow energy producers to finance *internally* lower domestic prices, in which case, the quasi-fiscal deficit is in the form of opportunity cost.

[27] A specific "end-product approach" to calculate quasi-fiscal deficits in the energy sector is discussed in T. Saavalainen and J. ten Berge, op. cit. Benchmark tariffs are either short-term or long-term marginal costs. Consolidation of quasi-fiscal deficits with the general government accounts requires to reduce these deficits by the amount of explicit and implicit subsidies.

[28] The case of energy enterprises in Armenia, just mentioned, would be a good example.

There is room for further strengthening in the CIS countries the capacities and techniques to formulate macroeconomic assumptions and revenue and expenditure estimates. While there has been significant progress in this area, especially in the context of Fund programs, more institutionalized in-house capabilities could be developed. This applies in particular to a determination of sources of economic growth, and their impact on revenue bases; to the formulation of expenditure programs more closely linked to the policy objectives of the government, and focused on value-for-money; and to the running of sensitivity exercises/risk scenarios based on alternative assumptions about the external environment, especially world commodity prices and interest rates. In the latter case, the results could support various reserves in the state budget. External scrutiny of macroeconomic assumptions should be welcome and encouraged.

III. TAX POLICY

The introduction of new Tax Codes in most CIS countries during the mid-late 1990s represents a significant reform achievement.[29] A key objective was to put in place a tax system more consistent with a market economy (less distortionary and more responsive to the incentives structure of the private sector). The model built on the international experience, with a major focus on the VAT, while preserving some other features of the previous regime, for instance relatively low taxation of international trade and reliance on payroll taxation to finance pensions and other transfers to households. There were two limiting factors: First, the realization that tax administration capacities were weak, especially with regard to taxation of sectors expected to do well with the transition, such as private SMEs, and agriculture. Second, the need for fiscal consolidation. As a result, unless expenditures were to be cut to unacceptable levels, there was a need to improve the revenue effort, certainly from their dismal performance at the initial stage of the transition. Partly as a result, the tax systems remained rather heavy and complex, and the *statutory tax rates* relatively high.

Under those circumstances, the tax systems in the CIS countries have tended to be treated by the authorities as "work in progress" and have seen frequent changes. Earlier changes tended to support vested interests and to protect them from competition and the need to adjust; they included:

- ***Multiplications of exemptions,*** for the income and profit taxes, VAT, and import duties. While many of these exemptions were made part of amended tax codes, others appear to have been granted on an "ad hoc" basis. ***Tax deferrals*** are still being widely used to

[29] For an early assessment of tax reform in the countries of the former Soviet Union, see (staff team led by) L. Ebrill and O. Havrylyshyn (1999).

subsidize enterprises,[30] especially when the enterprises, in turn, are financing quasi-fiscal deficits.

- ***Differentiations in rates.*** For instance, excise tax rates were set higher for imported than domestically produced excisable goods, with a view to protect the domestic industries.[31]

Largely in response to the negative impact of the multiplication of exemptions on revenue collections, tax administrations have at times had to rely on measures that fundamentally undermine coherent tax policy. These include, for instance, indefinitely delaying VAT refunds/credits (difficulties in administering VAT claims have also been cited as a reason for such action).[32]

The recognition at the political level of the need to present the broad productive sectors, including the SMEs and the professional classes, with an enabling tax environment has encouraged a "second-round" tax reform in many CIS countries. This development has also been facilitated by the general recovery in economic activity, which appears to have exerted a positive effect on tax/GDP ratios, as well as by visible improvements in tax administration.

There is undoubtedly scope to generally strengthen revenue mobilization through broadening tax bases and improving tax administration. Nevertheless, it would be unwise to generalize about the direction which this second-round of tax reform should take as regards their overall impact on revenue mobilization measured in percent of GDP. This is for two main reasons: one is that there is a great diversity in revenue performance so far among the CIS countries, reflecting in part differences in tax policy and administration, as well as the pace of reform; hence, the "initial" conditions for further reform might no longer be the same. The second (and overlapping) reason is that views about what the government should be expected to, or can, provide have evolved differently as well, with implications for the necessary revenue effort. Furthermore, any assessment of tax revenue mobilization prospects needs to take into account the apparent relationship between achievable revenue/GDP ratios (and thus expenditure/GDP ratios) and the incomes per capita (see below).

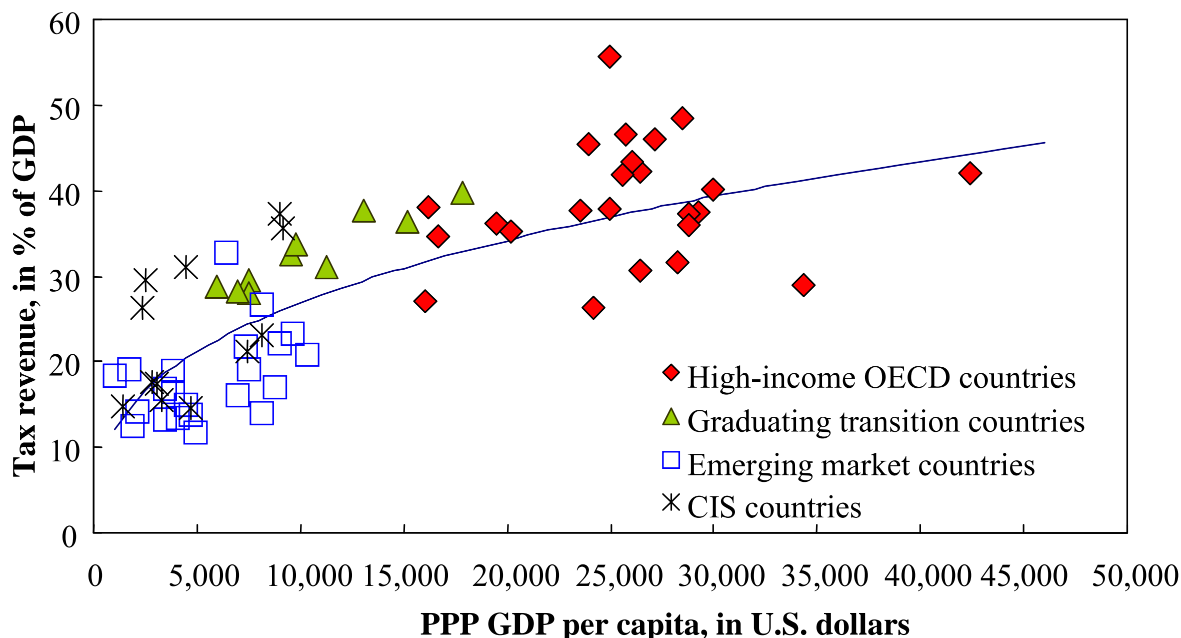
International comparisons involving a large group of countries and taking into account the income differentials offer a useful way to assess what may be referred to as the "international norm." Accordingly, Figure 1, based on Annex Table 1a, illustrates the empirical relationship between revenue/GDP and PPP-adjusted income per capita for a large number of countries classified in 1) high-income OECD countries (of which: the EU countries

[30] In Ukraine and Georgia, for instance.

[31] In Ukraine and Tajikistan, for instance.

[32] The problem has been especially severe in Ukraine and Tajikistan but exists in most other CIS countries. See V. Summers and K. Baer (2003).

Figure 1. General Government Tax Revenue
and Purchasing Power Parity (PPP) GDP Per Capita



Source: Annex Table 1a.

are a sub-group); 2) ten "graduating" transition countries;[33] 3) twenty two "emerging" market economies, excluding transition countries;[34] and 4) the CIS countries.

Results of a simple econometric analysis *do not suggest* that there is a CIS "characteristic"[35] in explaining the tax revenue/GDP ratio, beyond the significance of the PPP-adjusted income per capita variable. Interestingly, however, the regression fit improves *both* if the CIS countries are included with a OECD/graduating transition countries group characteristic or with an emerging market group characteristic; the improvement in the fit being slightly larger in the former case. We interpret these results as reflecting in part the diversity of experiences and philosophies about the role of government in the economy among the CIS countries.[36] Table 1a and 1b, respectively, report for each country the extent of its over-(under)

[33] Coinciding with the eight transition countries of Central and Eastern Europe joining the EU in 2004, Bulgaria and Romania.

[34] With the exception of China.

[35] Specifically, inclusion of a CIS dummy variable does not significantly improve the fit; and the estimated coefficient for the dummy variable is not significant at the 95 percent confidence interval.

[36] Of course, differences in institutional capacities with regard to tax administration would also be a factor.

Table 1a. Tax Revenue: By How Much Are Countries Above/Below the International Norm?
(In percent of GDP) 1/

	Actual	Predicted			Difference 3/
		Low 2/	Central	High 2/	
Armenia	17.4	15.1	18.0	21.4	0.6
Azerbaijan	15.5	15.4	18.4	22.0	2.9
Belarus	35.5	21.4	26.2	32.0	-9.3
Georgia	14.5	17.3	20.8	25.1	6.3
Kazakstan	21.2	20.1	24.4	29.7	3.2
Kyrgyz Republic	17.6	14.7	17.5	20.8	-0.1
Moldova	26.4	13.8	16.3	19.4	-10.1
Russia	34.9	21.3	26.0	31.8	-8.9
Tajikistan	14.7	11.6	13.6	15.9	-1.1
Turkmenistan	23.0	20.7	25.2	30.7	2.2
Ukraine	31.0	16.9	20.4	24.5	-10.6
Uzbekistan	29.5	14.1	16.8	19.9	-12.7
Average	23.4	16.9	20.3	24.4	-3.1

Sources: Annex Tables 1a and 2a.
1/ Based on the regression model tax revenue/GDP regressed on PPP (no dummy variable).
2/ Based on 80 percent confidence interval for coefficient of PPP-based income per capita.
3/ From central prediction.

Table 1b. Tax Revenue: By How Much Are Countries Above/Below the International Norm?
(In percent of GDP) 1/

	Actual	Predicted			Difference 3/
		Low 2/	Central	High 2/	
Armenia	17.4	18.7	22.2	26.4	4.8
Azerbaijan	15.5	18.9	22.6	26.9	7.1
Belarus	35.5	24.1	29.3	35.7	-6.2
Georgia	14.5	20.6	24.8	29.7	10.3
Kazakstan	21.2	22.9	27.8	33.7	6.6
Kyrgyz Republic	17.6	18.3	21.7	25.8	4.1
Moldova	26.4	17.5	20.7	24.5	-5.7
Russia	34.9	24.0	29.2	35.6	-5.7
Tajikistan	14.7	15.4	18.1	21.1	3.4
Turkmenistan	23.0	23.4	28.5	34.6	5.5
Ukraine	31.0	20.3	24.4	29.2	-6.6
Uzbekistan	29.5	17.8	21.1	25.0	-8.4
Average	22.4	20.2	24.2	29.0	0.8

Sources: Annex Tables 1a and 2b.
1/ Based on the regression model tax revenue/GDP regressed on PPP-based income per capita and dummy variable for OECD, ten graduating transition countries, and CIS (log form).
2/ Based on 80 percent confidence interval for coefficient of PPP-based income per capita.
3/ From central prediction.

performance relative to the predicted international norm for the regressions without dummy variable, and with a dummy variable for OECD, graduating transition countries, and the CIS. Ranges around the predicted norms (based on an 80 percent confidence interval) are included to illustrate the need for great caution in concluding too much from this exercise. Nevertheless, the results leave little doubt that Georgia and Azerbaijan collect less than the norm, while Moldova, Russia, Ukraine, and Uzbekistan more. On average, the CIS countries should be expected to mobilize about 20–24 percent of GDP in tax revenue (the upper-bound applying if the OECD/graduating transition countries is the orientation),[37] which is close to the current average level.

Recent tax reform strategies have had three main components:

- ***Reduction in the rates and progressivity of the individual and corporate income tax***. Generally, the case for such measures in the countries where statutory direct taxation remains relatively heavy is made on the basis of the disincentive effects that high and progressive rates are presumed to have on the decision to produce and invest, on the one hand, and on tax compliance, on the other hand. While the idea that the "supply response," in the form of higher economic growth, would finance such a reform is probably chimerical, lower rates could be expected to encourage compliance, mainly by promoting formalization of the grey economy, as well as by acting on the perception that tax rates are "fair."[38] It should be recognized, of course, that this perception also depends on the ability of government to deliver value for money in terms of services.[39]

- ***Cuts in the payroll tax/social security contribution rates paid by the enterprises.*** Current rates paid by the enterprises remain high in virtually all CIS countries, while the rates paid by the employees are still quite low. The linkage between contributions and benefits also remains limited. The situation has encouraged productive activities to remain in the grey economy and discouraged tax compliance generally. A reduction in the overall payroll/ social security contribution rates could be expected to have a positive impact on formal employment and tax compliance. A re-calibration of the tax burden away from the employers to the employees should also help in this regard, mainly to the extent that the employees establish a direct link between their contributions and the benefits they could expect to receive, and therefore do not fully treat their contribution as reducing (life-cycle) disposable income.[40] Of course, the room for cuts in the overall

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[37] This is slightly lower than the estimate made by P. Mitra and N. Stern (2003) using a less empirical approach.

[38] The presumed linkage of rate cuts to greater compliance and higher revenues is quite speculative at this stage, with little to date in the way of data or empirical studies.

[39] This could explain the acceptance of higher taxation in the Nordic countries.

[40] This likely requires regular reporting of individual social security account information, a capability which most CIS countries don't yet have.

taxation of labor needs to be assessed in the context of a broad reform of social security (see Section IV below).

- ***Broad elimination of tax exemptions, and harmonization of previously differentiated tax rates***, which is viewed as essential not only to avoid revenue losses from lower overall rates, but also to present the productive sectors with a more leveled playing-field.

Russia's implementation of these principles is summarized in Box 1.

Overall, the greater tax compliance from lower rates for the income, profit, and payroll taxes, and a wholesale elimination of exemptions could be expected to offset the direct negative impact of such lower rates on the revenue effort. But clearly, estimates of the extent of this offset need to be carefully worked out on a case by case basis.

International tax comparisons, involving both *statutory rates* and revenue mobilized across country groups are useful to gauge both the international norm as regards the statutory rates, and the extent to which other countries have managed (or not) to collect significantly larger amounts of revenue at similar statutory rates. The evidence, summarized in Table 2, which is based on Annex Tables 1a and 1b, indicates that:

- The CIS countries already appear to have the lowest (average) statutory rates for the personal income tax (PIT);

- They have, however, after the ten graduating transition countries, the highest average rate for the payroll tax/social security contribution;

- The CIS countries now appear to be about as efficient as the emerging markets in collecting revenue from both these sources. This efficiency is significantly less than achieved in the graduating transition countries, suggesting possibly room for improvement at current (or even lower) rates;

- Based on the estimated coverage of their revenue base relative to GDP, the CIS countries perform almost as well as the OECD countries with regard to the enterprise income tax (EIT) and the VAT, suggesting limited room for significantly higher collections from these revenue sources, notwithstanding the scope for efficiency improvements.[41]

[41] To the extent that nominal GDP in the CIS countries are likely to be more underestimated than elsewhere, these results could bias upward this assessment of revenue performance.

Box 1. Tax Reform in Russia Since 1999

Broad Objectives:
- make the tax system fairer for all, simpler, and more predictable;
- reduce the tax burden, including by lowering rates;
- reduce exemptions and increase compliance through improvements in tax administration and more "market friendly" interactions with the taxpayers and tax authorities.

Measures:
- adoption of amendments to Part I of the new Tax Code of 1998, to support the required improvements in tax administration;
- adoption in steps during 2000-01 of the provisions of Part II of the new Tax code, covering the "substantive taxes." Key changes were:

PIT: introduction of a flat 13 percent rate (replacing the three-band tax rates of 12, 20, and 30 percent), while reducing the extent of deductions;

EIT: reduction of the overall rate from 35 percent to 24 percent, while eliminating almost all incentives, including the investment allowances;

VAT: overhaul of the system, inter alia, eliminating some exemptions, extending the application of the tax to individual entrepreneurs, while introducing small-business exemption thresholds [Note: the authorities intend to cut the main VAT rate from 20 to 18 percent in 2004, leaving the preferential rate of 10 percent unchanged].

Excises: provisions to enhance excise-tax collection and to counteract avoidance/evasion schemes; increase in excises on alcohol and oil products;

Payroll tax: introduction of a Unified Social Tax (UST) rate of 35.6 percent for wages up to a specified limit, with regressive tax rates applicable for wages above that limit, replacing the 39.5 percent overall payroll taxation previously applicable [Note: excludes the employees' pension contributions, and the employers' contributions for insurance accident, at various rates; also, the authorities intend to cut the UST further in 2005 or 2006].

Other taxes: introduction of a new mineral extraction tax in 2002; and elimination of various nuisance taxes, most significantly, the regional sales tax, from 2004.

Source: IMF Country Reports.

Table 2. Tax Comparisons 1/

	Rates (a)	Rev/GDP (b)	Ratio 2/ (b)/(a)
PIT			
CIS	18.0	2.4	0.13
Emerging market	21.3	2.3	0.11
Graduating transition	28.4	5.2	0.18
OECD	30.0	11	0.37
EU	32.1	10.5	0.33
EIT			
CIS	25.5	2.8	0.11
Graduating transition	25.9	1.8	0.07
OECD	31.1	3.7	0.12
Emerging market	31.7	3.5	0.11
EU	33.3	3.8	0.11
Payroll tax/social security			
Emerging market	16.2	2.6	0.16
OECD	20.4	10.1	0.50
EU	24.9	11.4	0.46
CIS	33.1	5.2	0.16
Graduating transition	42.1	11.1	0.26
VAT			
Emerging market	14.8	4.7	0.32
OECD	17.0	6.6	0.39
EU	19.4	7.1	0.37
CIS	19.5	6.7	0.34
Graduating transition	20.5	7.6	0.37

Sources: Annex Tables 1a and 1b.

1/ For each tax, countries are ranked according to highest (average) statutory rates.

2/ Ratio can be viewed as a measure of efficiency in terms of coverage of the revenue base relative to GDP.

The above analysis does not explicitly recognize the empirical relationship between tax revenue mobilization and income per capita. One factor behind the significance of this relation for the PIT and payroll tax/social security contribution is that low income per capita countries are often countries with relatively larger agricultural and informal sectors, which have traditionally been sectors difficult to tax. Econometric analysis regressing revenue/GDP on *both* tax rates and PPP-adjusted income per capital indicates that:

- Both for the PIT and payroll tax/social security contribution, revenues strongly and positively correlate with both the (average) statutory rates, and the PPP-adjusted income per capita (see Annex Tables 3 and 4), raising doubt on any Laffer-curve effect;

- There does not appear to be a CIS characteristic to the observed relationships, as a CIS dummy variable is neither significant or adds noticeably to the overall fit.

- On average, the CIS countries appear to perform marginally better than predicted by the international norm regarding the PIT, but marginally worse for the payroll tax/social security contribution (Annex tables 5 and 6).In any case, a main insight from this analysis is that consideration of the PPP-adjusted income per capita somewhat tampers the assessment of the scope for improvement in collections.

- Among the individual CIS countries, there is a great deal of diversity in performance. For instance, Azerbaijan and Belarus collect less under the PIT than predicted, but Ukraine and Russia, more.

The emergence of many new SMEs has characterized all successful transition cases, and a challenge is to find ways to reasonably tax these enterprises (often the tax base of the future) without imposing too many administrative and other requirements. Because of this characteristic, it seems especially important to pay special attention to "simplified" forms of direct taxation for un-incorporated enterprises. There are two concerns: one is that simplified taxation should not unnecessarily complicate the tax system; the second is that it should not discourage enterprises to move to the full-fledged tax system when the conditions are met.

The international evidence also suggests that the CIS countries could collect relatively higher amounts of revenue from excises, although overall they are not performing any worse than the emerging market economies (see Annex Table 1a). Often, there is still room to reduce the range of goods and services subject to excises (to limit them to fuel, tobacco, and alcohol). The problem with these excises appears to be relatively low rates as well as difficulties with tax administration. The experience, particularly in the Caucasus and Central Asia, also points to the need for harmonization of tax rates across countries as part of a strategy to reduce incentives for smuggling.

Recently, there has been a debate, in the case of oil and gas rich countries, on whether it would be appropriate to shift a greater share of the tax burden on the energy sector. This debate has been made possible by changes in the political economic forces. It reflects a desire to assist new constituencies gaining importance, the SMEs outside the energy sector and the

professional classes, upon which future economic growth and diversification will mainly depend. In this context, it has been argued that a macroeconomic implication of such a shift in the share of the tax burden might be to reduce the risk of the Dutch Disease occurring. Clearly the issue is delicate since even properly designed taxation of the energy sector (eschewing price distortions) could adversely affect production and investment incentives, especially in marginal fields. Although taxation of energy exports is clearly distortionary, negatively affects incentives, and slows the domestic adjustment to relative prices by allowing continuous subsidization of energy prices for the domestic users, it has remained popular because it is easy to administer and serves as substitute to royalty payments.

Pending the removal of all exemptions, there is a need to recognize and quantify the tax expenditures involved with such exemptions in the state budget, as well as the tax deferrals/arrears sanctioned by the authorities as a form of assistance to certain enterprises and sectors. While limited progress appears to have been made in this direction, a grossing-up of such tax expenditures in the budget formulation and reports would introduce greater transparency, and support the debate about the budgetary and societal costs of such concessions.

There is also a need to eliminate inconsistencies which have existed in a number of countries between the Tax Codes and other tax and economic laws and decrees, in particular Investment Codes. The uncertainty created by such inconsistencies has at times further discourage domestic and foreign investors.

IV. TAX ADMINISTRATION

Significant progress has been made in recent years towards building tax administration institutions better equipped to collect taxes from a much larger group of taxpayers in the context of a market economy; but much work remains to be done. The progress has seemingly had a positive impact on the revenue effort, although this impact might not be easily distinguishable from that of the recovery in economic growth. Generally, the ***legal framework*** for tax administration is now in place; there has been a ***strengthening of institutional arrangements***, whether in the form of the creation of Revenue Ministries or upgraded tax and customs committees, with closer links to the Ministry of Finance; the tax administration agencies have been ***re-organized along functional departments*** (return filing/payment, audit, collection enforcement, appeals); procedures have been introduced to issue ***taxpayer identification numbers (TINs) and to register taxpayers***; and there is a more effective ***coordination of information in the collection of various taxes*** (income, VAT, customs duties, and payroll tax/social security contribution), including through computerization. This is not to say that significant improvements could not still be made in each of these areas: for instance, taxpayers are still often confused about their rights and obligations or exact interpretation of the tax laws; the operation of functional departments remains hampered by weak institutional arrangements and technical capacities; many taxpayers who should be registered still are not; and computerization often remains limited.

The biggest challenge for tax administration in the CIS countries remains to transform themselves in more market-friendly institutions stressing *self-assessment*; *taxpayer services*, and ***enforcement***. Modern tax administration systems rely on the taxpayer willingness to comply with the payment of what he can recognize himself as owing under the law, on helping the taxpayer to make that assessment, and on highly credible and effective enforcement mechanisms, via audits and legal actions, not only to collect what is due but also to deter any abuse of greater freedoms granted. Progress in these directions has been limited. For instance, *assignment* of taxpayers to particular inspectors for the purpose of determining and collecting on tax liabilities remain common, which has continued to allow for discretion, negotiation, and political interference, in addition to corrupted practices. [42] Audit functions have remained weak, and the ability of tax administrations to collect on tax arrears has often been hampered by administrative or legal restrictions, as well as by a lack of political will. The proper sequencing for further fundamental reform in tax administration requires that the credibility of the tax administration in the auditing and enforcement areas be first enhanced.

Valorization of the tax administration's personnel through training is certainly a key requirement for that transformation, as is the strengthening of the managers' capacities to design and implement reforms In this context, a frequent issue is the ***proper remuneration of tax inspectors***, and whether special schemes should be devised to offer the tax inspectors better incentives.

The parallel existence of Tax Police next to the collection enforcement departments of the tax agencies, and the "culture" prevailing in these polices, do not seem consistent with the direction for reforms indicated above. These polices seem to duplicate the functions of the collection enforcement departments, double the burden on the taxpayers, and generally increase the scope for corruption.[43] Their abolition, or at least integration following reform with the regular tax agencies, should help in creating an environment more supportive of private sector development.[44]

One important principle of rational tax administration is that resources should not be wasted in going after small potential taxpayers unlikely to contribute much, but instead focus on the large taxpayers. This principle underpins the creation of **Large Taxpayer Units (LTUs)**. The seemingly more limited success of LTUs so far in the CIS countries compared to elsewhere in the world might have something to do with the nature of the economic recovery process in transition countries: the fact that the greater contribution to economic growth is likely to come from the new usually smaller private enterprises, rather than from the larger former

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[42] Azerbaijan is experimenting with new procedures requiring taxpayers to deliver their declarations at a single anonymous window at their local tax inspectorate, in the hope of cutting down on such practices.

[43] There should be no constraint on the ability of collection enforcement departments to refer possibly criminal cases to the Prosecutor's Office.

[44] In Russia, President Putin recently announced the abolition of the Tax Police.

state enterprises. While this might not necessarily call in question the strategy of giving priority to the development of LTUs (after all, the LTUs have performed well in Central and Eastern European countries facing a similar transition), it suggests the need to look dynamically at the LTUs' coverage, as well as the need for a stronger government commitment to support their operations.

Relative to other countries, greater resources might have to be devoted in the CIS countries to identify still relatively small but highly profitable new private sector enterprises for their integration in the tax net. This presents a formidable challenge given the limited qualified human resources available. Setting relatively high thresholds for registration under the full-fledged income tax and VAT, while actively pursuing the implementation of "simplified" taxes for small businesses might be one way to address this challenge. However, there is a need to keep in mind the concerns already voiced above.

V. Expenditure Policy

As part of their macroeconomic stabilization policies, all CIS countries were forced to cut significantly public expenditures during the first decade of their transition, although the severity of these cuts has varied according to the countries' ability to mobilize domestic and external resources. Under the Soviet system, input "norms" were widely used to define the amount of public services provided by government. These norms became the base for the annual budget expectations and proposals, although international comparisons suggest that they were quite inefficient in producing the intended output. There was little variation in these norms across the regions of the FSU. Generally, the costs of implementing such norms under the conditions of a market economy exceeded the resources that could reasonably be mobilized. This gap rose dramatically early in the transition period, as economic activity and incomes contracted dramatically. Therefore, the adjustment has had to be both in terms of levels, and structure.

The necessary expenditure adjustment has been considerably harsher for the poorer of the CIS countries. As their tax revenue effort had always been constrained by lower levels of income per capita, the relatively uniform norms across regions created a systemic tendency towards budget deficits in these poorer countries. These deficits were covered by transfers from the center under the Soviet system. The disappearance of these transfers, not matched by the increase in external grants, exposed significantly larger adjustment needs.

While most CIS countries have successfully managed to cut expenditures to bring them more in line with the available resources, contributing significantly to macroeconomic stabilization, the adjustment was not generally "strategic" in terms of being consistent with likely long-run government goals and priorities. Cuts were often made where the resistance was least or where priorities were less immediate; and it has proved to be extremely difficult to effect so far the necessary structural adjustment, despite substantial technical assistance from the World Bank and other agencies. The observed sequencing was likely unavoidable, but now that the CIS countries are recovering, the reform of expenditure programs in the CIS countries are becoming a priority, in part because of their impact on the prospects for

sustainable growth, and also given the commitments made in the PRSPs. There are bound to be differences in approaches across the countries of the CIS, reflecting in part the differences in available resources,[45] but also possibly different visions about the future role of the state. Nevertheless, the issue of how to improve the efficiency of public expenditures is a common theme.

At the end of what may be referred to as the initial round of public expenditure adjustment, the CIS countries have on average an overall level of public expenditure of about 29 percent of GDP, which is only marginally higher than that of emerging market economies, but significantly lower than that of the group of graduating transition countries and high income OECD countries (Table 3, based on Annex Tables 7a and 7b) Figure 2 illustrates the relationship between total expenditure/GDP and the PPP-adjusted income per capita. Econometric analysis confirms this relationship (see Annex Table 8). As in the case of revenues, it does not suggest that there is a CIS "characteristic" in explaining the expenditure/GDP ratio, beyond the significance of the PPP-adjusted income per capita, as a dummy variable for the CIS countries does not improve the fit materially and is not statistically significant.[46] Table 4 reports for each country the extent of its over-(under) performance relative to the international norm for the regression ran without a dummy variable, with the range for the predicted values based on a 80 percent confidence interval. The results suggest that Georgia, Kazakhstan, and Tajikistan under-spend significantly relative to the international norm, while Belarus, Moldova, Ukraine, and Uzbekistan over-spend. On average, the CIS should be expected to have government expenditure of about 27 percent, or only slightly less than the current level.[47]

Significant gaps between the experience of CIS countries and the international norm appear when looking at the composition of expenditures and also taking into account what is known at the micro-level about their apparent rates of return, suggesting the need for far-reaching structural reforms. Below are some salient observations based in part on Table 3.[48]

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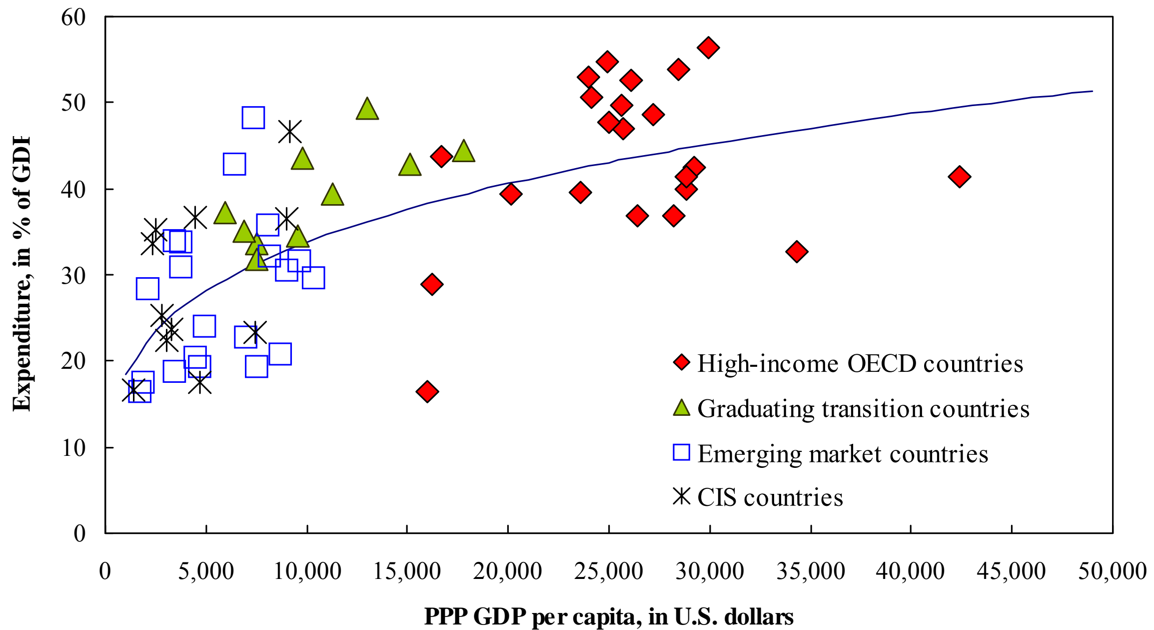
[45] In particular, reform options for social protection programs would likely depend on income levels. See World Bank (2002).

[46] The same is true for dummies which include the CIS with OECD-plus-graduating transition countries, or with the emerging market economies.

[47] The finding that the expenditure adjustment with the transition, in the aggregate, has been largely completed among the CIS countries contrasts with S. Gupta, and others. (2001).

[48] See also P. Mitra and N. Stern (2003); and M. Betley (2003).

Figure 2. General Government Expenditure and PPP GDP Per Capita



Source: Annex Table 7a.

Looking at a functional classification:

- Health appears to have been the sector most adversely affected by the adjustment in expenditures, and today the CIS countries spend in percent of GDP and as a share of total expenditure about the same low amount as the emerging market economies (about 2 percent and 7 percent, respectively). There is little doubt that the well-documented inefficiencies in the delivery of health services in the CIS (e.g., many hospital beds but scarce medicines, and little emphasis on preventive care) further reduce the actual effectiveness of that low level of expenditures in terms of delivery of health services. The same appears to be true for education (e.g., a lot of badly paid, and therefore unmotivated, teachers, and buildings in disrepairs, but few modern books and teaching materials).

- The CIS countries still spend about a third of their public expenditures on social security and welfare. While this is not out of line with the experience of OECD and graduating transition countries, it is significantly higher than in the case of emerging market economies. The spending also appears to be mainly on general entitlements rather than on well targeted social programs. Since total expenditure in the CIS countries are today on average only marginally higher than among emerging market economies, expenditures on social security and welfare could displace, based on the international norm, other expenditure categories, raising doubt on sustainability and optimality. Fortunately, the fact that the CIS countries as a whole face significantly lower interest payments than the emerging market economies seems to provide a sizeable buffer.

Table 3. Comparisons of General Government Expenditures
(In percent of GDP and of total expenditures)

	Total 1/	Total 2/	Economic Classification						Functional Classification						
			Goods/ Services	of which: wages	Transfers	of which: households	Interest	Capital	General Public	Defense	Public Order	Education	Health	Social Security	Economic Affairs
High-income OECD countries															
Average OECD	43.4	42.8	16.7	9.4	17.5	12.7	3.7	3.9	2.6	1.9	1.4	5.6	5.6	13.5	4.6
	100	100	38	22	40	29	9	9	6	4	3	13	13	32	11
Average EU	45.8	45.8	17.2	10.4	19.9	14.7	4.6	4.2	2.6	1.7	1.2	4.8	4.7	15.8	4.2
	100	100	38	23	43	32	10	9	6	4	3	10	10	34	9
Graduating transition economies															
	39.2	40.4	15.1	7.2	18.2	14.9	2.3	4.7	3.0	1.5	2.0	5.4	4.9	13.4	5.3
	100	100	39	18	46	38	6	12	7	4	5	13	12	33	13
Emerging market economies	27.9	26.8	10.1	6.4	6.2	4.9	5.4	4.5	2.0	1.8	1.2	3.7	1.5	4.3	2.8
	100	100	36	23	22	18	19	16	7	7	4	14	6	16	10
CIS countries	28.8	28.4	13.3	5.3	9.4	6.8	1.7	4.0	2.0	1.6	1.6	3.9	2.1	7.9	3.1
	100	100	46	18	33	24	6	14	7	6	6	14	7	28	11

Sources: Annex Tables 7a and 7b.
1/ Including net lending.
2/ Excluding net lending.

Table 4. Total Expenditure: By How Much Are Countries Above/Below the International Norm?
(In percent of GDP) 1/

	Actual	Predicted			Difference 3/
		Low 2/	Central	High 2/	
Armenia	22.4	20.6	24.8	30.0	2.4
Azerbaijan	23.6	20.9	25.3	30.6	1.7
Belarus	46.5	26.7	33.1	41.0	-13.4
Georgia	17.5	22.8	27.8	33.9	10.3
Kazakstan	23.4	25.4	31.3	38.7	7.9
Kyrgyz Republic	25.3	20.1	24.3	29.3	-1.0
Moldova	33.6	19.2	23.1	27.7	-10.5
Russia	36.5	26.6	32.9	40.8	-3.6
Tajikistan	16.6	16.9	20.1	23.8	3.5
Ukraine	36.6	22.4	27.3	33.3	-9.3
Uzbekistan	35.2	19.6	23.5	28.3	-11.7
Average	28.8	21.9	26.7	32.5	-2.2

Sources: Annex Tables 7a and 8.
1/ Based on the regression model (log form) expenditure/GDP regressed on PPP-based income per capita.
2/ Based on 80 percent confidence interval for coefficient of PPP-based income per capita.
3/ From central prediction.

Looking at an economic classification:

- Measured in percent of GDP, the government wage bill in the CIS countries is lower than in any of the other groupings, despite a relatively high level of public employment (particularly in health and education). The situation appears to largely reflect the low level of highly compressed public sector wages. In comparison with the emerging market countries, this has provided room for relatively more spending on other goods and services and transfers both to households and other entities.[49]

Structural reform of the public expenditures system in the CIS countries should be expected to address the observed current distortions and inefficiencies. **This will not only require political will, but also an improvement in the ability of the authorities to translate stated policy objectives into budgets specifically targeted to meet these objectives, and to ensure that these budgets are effectively implemented**. Some of the institutional reforms in expenditure management presupposed by these requirements are discussed in Section V below.

[49] Given the generally poor quality of government wage data in the CIS and related classification problems, it cannot be excluded that part of the relatively high level of expenditures on other goods and service in fact include some remuneration outlays as well.

The maintenance of relatively high levels of explicit (budget) and especially implicit (quasi-fiscal) subsidies,[50] as well as the relative status-quo regarding employment in the public sector are symptomatic of a still weak political will to address fundamental expenditure reforms. In some cases, the political will has simply been directed at wrong public expenditure choices (unproductive prestige expenditure, for instance). At the same time, the limited technical capacities in the CIS countries to develop expenditure policies which try to maximize the positive social impact within a tighter budget constraint should not be underestimated, pointing to the continued need for external technical assistance. Progress with some of the key expenditure reform priorities are reviewed below.

A. Civil Service Reform

The problem with the government wage bill in the CIS countries lies not so much in its level, but in its structure: excessive number of personnel in several major sectors, on the one hand; compressed and low wages relative to other sectors in the economy, on the other hand; as well as absence of necessary skills and values to deliver quality public services in the context of a market economy. As a result, services are very poor, morale is low, part-time absenteeism is de rigueur (mainly because of the need to hold several jobs), and the temptations to seek side rent-payments are great.

Establishment of a *Civil Service Agency* possibly overseen by a *Parliament Commission* has generally been be a first step towards systematic reform, already taken by a number of CIS countries. The Civil Service Agency is to define standards for qualifications and rules of behavior, set job categories and pay scales, maintain comprehensive public employment data, and develop civil service reform plans. A main challenge would be to separate civil service jobs (example, permanent secretaries) from political jobs (example, deputy ministers). Initially, the Parliament Commission could be expected to serve as a catalyst for political support for specific reform plans. Overtime, its overseeing role would mainly be to ensure the integrity of the activities of the Civil Service.

In addition to training in specialized fields of responsibility, for which international assistance has proved invaluable, introduction of and adherence to a *Civil Servants Code of Conduct*, and a *Civil Servants Financial Disclosure Requirement* could be expected to enhance good governance over time. A few CIS countries have already made progress in this direction.

In most CIS countries there appears to be scope for a reduction in civil service personnel, which in the medium-term should provide room for wage increases to essential qualified workers, and for a decompression of the wage scales. Public employment appears to be excessive in health, education, social, and cultural sectors, as well as in the police and military. However, a reduction of personnel in health and education, in

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[50] Sectoral subsidies remain especially large in Ukraine.

particular, would need to be coordinated with a broader reform of these sectors (see below). The short-term impact of civil service reform might be to temporarily increase the wage bill, because of the need to offer severance pay. In this context, the recent tendency to enact significant wage increases without much prior civil sector reform could prove problematic.

B. Reform of Health and Education

Even where reforms have moved faster and further (e.g. in the Kyrgyz Republic for health), much remains to be done. The main problem has been how to transform the costly and inefficient Soviet system based on "norms" for inputs (number of doctors and nurses, hospital facilities and beds; number of teachers, types of schools and subjects, etc.), which were often higher than in even advanced countries,[51] to one delivering quality health and education services (outputs) in a cost effective manner. There seems to be broad agreement regarding the direction of reforms, but implementation of comprehensive and far-reaching reform programs has proved to be a major challenge. Generally, given the resources constraint, the reforms have been expected to emphasize the provision of ***basic services to all***; some ***formal cost recovery formula (fees)***; [52] ***elimination or formalization of "informal payments" out of pocket for services***, which have tended to exclude the poor; ***targeted assistance to the poor***; ***rationalization of the health and education physical infrastructure***; ***privatization for the provision of less basic services***; and both ***reduction and re-training of the personnel***, which should allow for an ***increase in salaries***, particularly in the often harder hit health sector. Additional and more specific reform priorities are: to ***shift public resources from hospitals to primary health car*** in the health sector; and ***focus public resources on general education while increasing students/teacher ratios***, in the education sector.

Financing arrangements for health and education are expected to continue evolving. In addition to the de-centralization to local governments, and the greater reliance on fees, some CIS countries are experimenting with Health Funds. The devolution of responsibilities for health and education financing, if to be successful, requires robust subnational revenue sources or effective fee arrangements.

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[51] For instance, even among the poorest seven CIS countries, students/teacher ratio still average only about 12, compared to 16 for the OECD countries. At the outset of the transition, the same countries had more than 350 more hospital beds and 30 more physicians per 100,000 people than in the EU (the number of physicians actually employed has in some cases dropped significantly because extremely low pay has forced many to find other occupations). See E. Bonilla-Chacin and others (2003); and N. Burnett and others (2003).

[52] This is also likely to include conversion of often ad hoc fees and charges which are currently part of own resources of extra-budgetary funds of budget entities into explicit tariffs for services.

C. Pension Reform

Pension reform has proceeded to various degrees in most CIS countries, but institutional constraints have resulted in a slow pace of implementation.[53] The immediate problem of the transition was to address the financial imbalances which resulted, on the one hand from the decline in the payroll tax base (due to the recession), and on the other hand, from the pressure to maintain as much as possible the relatively generous benefits to the existing pensioners. Another problem was to correct the perverse incentives structure associated with a pay-as-you-go defined-benefits system based on high payroll taxes paid by the enterprises in the formal sector, and a lack of linkage between contributions and benefits. Naturally, the seriousness of the broad pension problem also reflects demographic circumstances, and it is important to recognize the diversity of situations in this regard (generally old and declining population in the more western countries; generally young and growing populations in Central Asia).

Initial reforms have tended to focus on parametric changes. These included a ***lengthening of the retirement age***, ***elimination of early retirement privileges***, and ***tightening of eligibility requirements,*** including deferral of benefits in the case of "working" pensioners. Steps were also taken to ***prevent pension arrears***. While compression in benefits has been the rule, to provide first for the poor pensioners, a recurrent pressure has been for some actualization of pensions based on length of services and inflation adjusted pre-retirement wages in the case of old pensioners.

There is a need to sequence implementation of more fundamental reforms towards multi-pillar pension systems with the strengthening of administrative capacities and development of capital markets (in the case of funded schemes). Current models experimented in several countries have emphasized still government-administered first and second pillars consisting of 1) a *basic* pay-as-you-go defined benefit pension mainly financed out of the payroll tax paid by the enterprises; 2) a supplementary (often still unfunded and notional) defined-contribution pension financed mainly out of *compulsory* social security contributions by individual workers to personal accounts. A third pillar would consist in a supplementary fully funded pension scheme based on *voluntary* individual contributions. In the case of more advanced reformers, the second pillar itself would be designed as a fully funded scheme.[54]

The rebalancing of contribution rates and incentives away from enterprises to the individual workers, and greater linkage between contributions and benefits should be expected to improve compliance and allow both a lowering of the payroll tax, and of the

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[53] An assessment of pension reforms in the CIS can be found in M. De Castello Branco (1998). See also J. Schiff and others (2000).

[54] The three-pillar scheme would then coincide to the so-called World Bank model.

combined payroll tax/social security contribution, resulting in a virtuous cycle for formal employment and overall available financing for social security.[55]

A difficult transitional issue is the extent to which current retirees are eligible for benefits similar to those expected with the second pillar, which would generally result in a transitional deficit. If only the enterprises were asked to contribute to the funding of this transitional deficit, it would considerably delay the pace at which the payroll tax could be reduced. This raises the question as to whether general resources of the state budget need to be called upon, or the benefits reduced. There is also a transitional financing issue in the case of a fully funded second pillar because then the social security contributions of the current working generation cannot be used to support the current pensioners.

D. Subsidies

Reduction/ elimination of quasi-fiscal activities and deficits in the energy, water, housing, communal services and transportation sectors remains a key challenge and requires the concerted implementation of a package of measures. As indicated in Section II, these quasi-fiscal activities and deficits have tended to remain quite large, with any direct subsidies or tax expenditures from the budget generally insufficient to cover them.[56] The package of measures includes:

- Elimination of pressures on the enterprises involved to continue delivering the services to the customers who fail to pay their bills (industrial enterprises, households, as well as budget entities);
- Steps to increase utility tariff collection rates and to collect on arrears (including through credible threat to cut delivery);[57]
- Make sure that the budget allocations for the use of these services by the budget entities at the higher tariffs are sufficient to avoid incurring arrears;
- Eliminate the preferential tariffs based on Soviet era categories of privileges;

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[55] As shown in Annex Table 1b, many of the graduating transition countries have already effected that re-balancing. However, the combined levy on individual and employers has generally been increased rather than lowered in recent years.

[56] There are instances of tax concessions being given to energy enterprises as compensation for them performing quasi-fiscal activities. In Armenia, explicit subsidies were recently increased to prevent tax arrears by energy enterprises.

[57] For households, the lack of gas meters often makes cutting delivery a difficult option.

- Introduce a well targeted scheme to partly compensate the poor households from the impact of necessary increases in utility tariffs;
- Adjust utility tariffs toward full cost recovery.

In general, this package of measures also needs to be supported by a broader strategy to reform these sectors, including full corporatization, strengthening of operational and financial management (reduction of technical and other losses, including thefts), privatization,[58] and setting up of an appropriate regulatory framework.

There are complex sequencing issues involved with the implementation of such a package. Strengthening payment discipline and introducing a well targeted compensation scheme would clearly need to precede steps to raise utility tariffs. This would be especially critical for the poor CIS countries, where, given their per capita incomes, the relative over-investment in the energy and communal services infrastructure under the Soviet system was the most severe, and many households would not currently be able to pay much higher tariffs, whether based on short-term or, a fortiori, long-term marginal cost pricing.

Difficulties in formulating well-targeted compensation schemes have at times be used as an argument not to move ahead with ambitious tariff adjustments. The issues are of ***design, institutional capacities to administer***, and ***financing***. On the design side, targeted cash transfers based on means or categorical testing, or life-line tariffs are two options. While the first is more efficient, it requires greater administrative capacities, in particular to administer the means-test formula. In the case of gas consumption, the lack of individual metering further complicates the design of compensation schemes, in addition to the enforcement of payment discipline.[59] On the financing side, unless the targeted scheme is sufficiently narrow (which might be very difficult, particularly in poor CIS countries), the amounts involved can be rather large.[60] The experience has shown that the replacement of Soviet era categories of privileges (including those identified under unfunded mandates) by new categories of households eligible to receive assistance because they are poor requires significant political will. In any case, the compensation schemes should be phased out over the medium-term, as incomes increase, and household consumption patterns adjust to the change in relative prices.

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[58] The experience suggests that once privatized, energy enterprises are better at imposing financial discipline.

[59] Imaginative financing arrangements for the installation of gas meters, possibly with foreign financial assistance, would be of great help in addressing this difficulty. This approach is currently being pursued in Tajikistan, with funds from China.

[60] In Russia, estimates suggest that if households are to spend no more than 22 percent of their disposable income on communal services including gas and electricity, full cost recovery might imply household compensations amounting to as much as 3–4 percent of GDP.

As evidenced in this section, transitional costs of expenditure reform could be substantial, and the issue, particularly in the poor CIS countries, is how to finance them. The attraction of foreign assistance, provided it is in the form of highly concessional financing, and preferably grants, is that it allows accommodating larger deficits without raising significant macroeconomic stabilization nor fiscal sustainability issues. Provided macroeconomic concerns can be reasonably addressed, the use of one-off privatization proceeds to finance one-off transitional costs of reform could perhaps be given more systematic attention, recognizing, however, that the financial resources still available might not be that large.

VI. Expenditure Management

Most CIS countries have made substantial progress in establishing Treasuries, which have contributed greatly to improving the execution of the budget and cash management. At the same time, weaknesses in the revenue and especially expenditure management system have continued to hamper the contribution of fiscal policy to macroeconomic management. Problems with making realistic and timely revenue projections are still making cash management often erratic when assumptions regarding availability of resources turn out not to be fulfilled. Cash arrears, even for protected items (wages and social payments) are still common, and the control of commitments remain generally quite weak in most countries. There has been limited evidence of a more "rational" approach to adjustment in expenditures. Underbudgeting for certain expenditure, for utilities in particular, continue to be an issue,[61] as does the maintenance of unfunded mandates, resulting in commitment arrears. A "strategic" approach to formulating expenditure plans within a much tighter budget constraint remains generally elusive. Recently, instances of overperformance in tax revenue have raised questions about the proper use of these resources. Often, budget outcomes continue to be quite different from planned ones in terms of aggregates and in their allocation. Which raises questions about the extent of expenditure control and the integrity of budget implementation itself. Both internal and external auditing of the execution of the budget remain generally weak; and there is little emphasis on the efficiency and performance of expenditures undertaken. Corrupt practices in the acquisition of goods and services authorized by the budget appear to be still common.

Generally, addressing these weaknesses requires improving the institutional capacities not only at the central but also at the local government levels. The latter is especially important if decentralization is also expected to be part of the equation to improve efficiency (in health and education, in particular). First and foremost, the personnel involved with the formulation and execution of the budget must become able to ***think more strategically*** in terms of linking expenditure programs with specific government policy objectives, and developing expenditure plans accordingly while taking into account the need to minimize the input costs. Second, the budget must become a more comprehensive policy

[61] A major problem in Azerbaijan, Georgia, and Ukraine, among others.

instrument by ***bringing into the state Budget key elements of fiscal policy currently outside its scope*** (see Section II above). Third, ***transparency and accountability*** in the budget formulation and implementation process must be increased.

The Medium-Term Budget Framework (MTBF) encompassing as broad a definition of the operations of general government as possible in a multi-year horizon is an important tool to introduce more strategic thinking in budget formulation. A number of CIS countries have made progress towards formulating their annual state budget within such a framework.[62] Medium-term budgeting helps focus on priorities in a longer term perspective. For instance, key government objectives on expenditure re-orientation can be expressed in relative rates of change among expenditure lines across years. There is a need to further develop the MTBFs, although this also requires as a pre-requisite a further strengthening of analytical capabilities of the personnel involved, as suggested above. In terms of priority improvements, MTBFs need to go beyond broad aggregates for the outer years; more fully integrate both the domestic *and* foreign financed components of the PIP within the government policy priorities and annual budget plans, especially in terms of linkages with the current expenditure programs; explicitly integrate key quasi-fiscal activities; explicitly recognize the multi-year impact of key expenditure policy reforms, especially phasing-out of quasi-fiscal activities and deficits, civil service reform, health and education reform, and pension reform. The medium-term budget framework should be expected, particularly in the case of PRGF countries, to be closely coordinated and consistent with poverty reduction strategies, and to facilitate broad fiscal sustainability assessment.

Other supportive and more specific reform priorities in the budget management framework are listed below:

- Continue with the ***extension of the Treasury system*** to all levels of government, including the operations of earmarked extra-budgetary funds and extra-budgetary accounts;

- Refine and adopt transparent and ***realistic assumptions to formulate requests for expenditure provisions*** in the budget, especially with regard to utilities;

- Develop ***"program budgeting"*** as a tool to enhance the efficiency of expenditures.[63] In this connection, much progress has already been made toward proper functional and economic classifications of the budget;[64]

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[62] Usually a three-year rolling horizon integrating the PIP with the state budget. The process is well under way in Kazakhstan, Armenia, Kyrgyz republic, Moldova, and Tajikistan, and initiated in Russia and Ukraine. However, many of the quasi-fiscal activities identified in Section II have so far remained outside the scope of MTBFs.

[63] Kazakhstan has introduced an interesting system of "passports" which provide information necessary to incorporate, monitor, and evaluate implementation of all budget programs.

- In this context, the ***capacities to assess the rates of return*** of domestic and foreign-financed investment projects and to rank them accordingly could be strengthened. So far, the PIPs have been mainly driven by the individual donors;

- ***Formalize a mid-year review*** of the implementation of the budget, as an opportunity to realign aggregates and allocations to take new macroeconomic and policy developments into account;

- Strengthen the capacities to ***control expenditure commitments***.[65] In addition to the key area of utilities, this should apply to the wage bill as well, where the existence of many unfilled vacancies and general provisions for various allowances have complicated expenditure control;

- Strengthen the ***public procurement laws and regulations***, and strictly enforce them; train the civil servants involved and make them fully accountable;[66]

- ***Increase the transparency and integrity of the privatization process***, and the integration of its revenue and expenditure flows within the budget. The process could be supervised by a Privatization Commission in Parliament and be subject to regular internal and external audits;

- ***Improve internal auditing***, not only as an instrument of financial control of budget implementation, but also as a tool to assess the efficiency and performance of expenditures in delivering public services;

- ***Build on the progress already made in developing the legal basis, independence, and operational capacities for an independent external auditing function***.[67] Ensure that the external audit agencies focus mainly on auditing the proper use of public funds.[68] There have been concerns about too broad investigations of the activities of

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[64] This process is still facing difficulties in Ukraine and Russia.

[65] Russia has been experimenting with an interesting system of utility contract registration, as a way to improve commitment control.

[66] Some regulatory framework appears generally to be in place in most CIS countries. In Kazakhstan, there are administrative constraints to the implementation of the law, and insufficient transparency.

[67] The Account Chamber, in Russia, the Control Chamber of the National Assembly in Armenia, the State Control Office in Ukraine are all independent and report to Parliament, but have lacked the resources to do their job. The Accounting Committee in Kazakhstan and State Financial Control in Tajikistan report to the President first, and then to Parliament, which has raised questions about independence and transparency. The independent audit function is still in the process of being set up in Azerbaijan.

[68] In many cases, the coverage of rights and responsibilities of existing audit agencies could be narrowed down. For instance, the agencies should be expected to audit the execution, not the formulation of the state budget (as the law seems to allow them to do in several countries including Russia and Tajikistan).

private enterprises as well. Most importantly, value-for-money audits in addition to purely financial control type of audits should be encouraged.

VII. Concluding Remarks

This paper summarized the state of play with fiscal reforms among the CIS countries and presented an agenda of priorities for further reforms in the area and a strategy to implement them. The main findings and recommendations were summarized in the introduction. The substantial progress made in building fiscal systems that are more transparent and effective for the conduct of macroeconomic policies and the pursuit of public policy objectives was evidenced. Key among these public policy objectives are to present the private sector with an enabling fiscal environment, as well as to address the social needs. More has probably been achieved with regard to the former objective than the latter.

An important finding was that, broadly, the CIS countries now have levels of tax revenues and expenditures that are not out of line with international norms, taking into account the income differentials, although for some individual countries the size of government (at least of that covered by the formal transactions of the general government) has become small by international standards, while in a few others, it remains too big. Among the Caucasus countries, in particular, there is room for increasing the tax revenue effort.

Looking ahead, therefore, the main fiscal challenge is to improve the efficiency of tax revenues and, especially, of expenditures. Given the inefficiencies of the current expenditure system, the fact that the expenditure level is barely equal to that of emerging market economies suggest that the delivery of public services is inadequate by international standards. Broadening the tax base and strengthening tax administration, which could allow some further reduction of rates in limited cases, should address the first aspect of this challenge. Structural reform of the expenditure system is necessary to address the second aspect. This is likely to take more time, given the complexities involved.

Building technical capacities and institutions to further improve the tax administration standards and to develop and manage more efficient expenditure plans is a prerequisite. For this to take place, broad-based international expertise and advice on a fairly large scale will continue to be necessary for some time.

Table 1a. Total Tax Revenue of General Government
(In percent of GDP)

	Year	Total Tax Revenue	Income, Profits, and Capital Gains	Individual Income Taxes	Corporate Income Taxes	Sales Taxes and VAT	Excises	International Trade Taxes	Property Taxes	Social Security & Payroll	Other
I. High-income OECD countries 1/											
Canada	2000	37.5	18.3	13.9	4.1	5.4	2.1	0.3	3.7	6.1	1.6
United States	1999	28.9	14.2	11.8	2.4	2.2	1.7	0.2	3.1	6.9	0.6
Australia	1999	30.6	18.1	13.2	4.9	2.5	3.3	0.6	2.9	2.0	1.2
Japan	2000	42.3	14.2	10.1	2.5	6.6	3.8	0.1	1.8	12.0	3.8
Korea	2000	27.1	9.1	5.7	3.5	2.4	2.0	0.2	2.8	10.0	0.7
New Zealand	2000	36.2	21.3	15.3	4.4	8.9	2.1	0.6	2.1	...	1.1
Austria 2000		43.3	12.4	9.6	2.0	3.3	3.3	0.1	0.6	17.5	6.1
Belgium 2000		46.0	18.1	14.3	3.7	7.5	2.9	0.5	1.5	14.2	1.4
Denmark	2000	48.4	28.5	25.3	2.3	9.5	5.4	0.2	1.6	2.4	0.8
Finland	2000	46.5	20.5	15.1	5.4	8.4	4.8	0.1	1.1	11.1	0.3
France 2000		45.5	11.4	8.3	3.1	7.7	3.7	0.1	3.0	17.4	2.1
Germany	2000	37.8	11.4	9.6	1.8	6.9	3.3	0.2	0.9	14.8	0.4
Greece	2000	38.0	10.4	5.0	4.4	8.6	4.5	0.2	2.0	11.7	0.6
Iceland	2000	37.3	15.0	13.8	1.2	10.9	3.7	0.4	2.6	2.9	1.7
Ireland 2000		31.5	13.7	9.9	3.8	6.9	4.7	0.2	1.8	4.3	-0.1
Italy 2000		26.4	7.6	3.9	3.7	4.5	0.5	1.1	3.3	4.5	4.9
Luxembourg 2000		42.0	15.0	7.6	7.4	6.4	5.3	0.1	4.4	10.7	0.2
Netherlands 2000		41.7	10.5	6.3	4.2	7.3	3.6	0.5	2.2	16.4	1.2
Norway 2000		40.2	16.4	10.2	6.1	8.0	4.5	0.1	1.0	9.0	1.3
Portugal 2000		34.7	10.3	6.0	4.2	8.5	5.1	0.2	1.1	8.9	0.6
Spain	2000	35.3	9.9	6.6	3.0	6.2	3.2	0.2	2.2	12.4	1.2
Sweden 1999		55.7	23.4	19.6	3.9	7.6	4.0	0.2	2.0	18.2	0.3
Switzerland	2000	35.9	13.6	11.0	2.6	4.1	2.1	0.3	3.1	12.2	0.6
United Kingdom 2000		37.7	14.5	10.8	3.7	7.0	4.7	0.2	4.4	6.3	0.6
Average OECD		38.6	14.9	11.0	3.7	6.6	3.5	0.3	2.3	10.1	1.4
Average EU		40.7	14.5	10.5	3.8	7.1	3.9	0.3	2.1	11.4	1.4
II. Graduating transition economies 2/											
Bulgaria	2001	28.7	7.4	3.6	2.5	8.3	3.7	0.7	0.0	7.8	0.8
Czech Republic	2001	36.4	9.1	4.8	3.2	5.6	3.5	0.5	0.3	15.0	2.4
Estonia	2001	32.5	8.2	7.4	0.8	9.1	3.6	0.0	0.0	11.0	0.6
Hungary	2001	37.6	9.9	7.5	2.4	8.4	3.6	0.8	0.2	11.3	3.4
Latvia	2001	29.6	8.0	6.0	2.1	7.4	3.4	0.3	0.0	9.2	1.3
Lithuania	2001	28.1	7.9	7.3	0.5	8.0	3.4	0.3	0.0	7.7	0.8
Poland	2001	33.6	6.5	4.6	1.8	7.4	4.0	0.6	0.0	9.6	5.5
Romania	2001	28.2	5.4	3.3	1.9	4.5	3.5	0.8	0.0	11.2	2.8
Slovak Republic	2001	31.0	6.6	3.5	2.0	7.4	2.9	0.4	0.2	12.7	0.8
Slovenia	2000	39.8	7.7	4.2	1.3	10.2	3.3	0.9	0.7	15.5	1.4
Unweighted average		32.5	7.7	5.2	1.8	7.6	3.5	0.5	0.1	11.1	2.0
III. Emerging market countries 2/											
Argentina	2001	20.9	4.9	3.2	1.7	3.3	1.7	5.2	2.4	3.1	0.3
Bolivia	2001	16.9	1.5	...	1.2	4.4	3.9	2.1	1.6	1.8	1.6
Brazil	1998	21.8	5.0	0.3	1.3	2.0	1.8	0.7	0.6	9.7	1.9
China	1999	15.0	1.9	0.4	0.5	4.3	1.1	0.7	0.3	...	6.7
Colombia 3/	2001	19.2	8.0	2.6	5.3	5.3	3.3	0.9	0.6	...	1.1
Cote d'Ivoire	2001	19.1	4.0	2.3	1.7	2.8	0.5	8.3	0.5	2.1	1.0
Ecuador 3/	2001	11.8	2.6	...	...	6.6	0.7	...	...	...	1.9
Egypt	1997	16.5	5.7	0.6	4.5	...	4.4	3.3	0.2	...	2.9
India	1999	14.2	3.0	1.3	1.6	...	3.2	3.0	...	...	5.0
Indonesia	2001	13.2	6.3	1.3	4.7	3.7	1.2	0.6	0.5	0.4	0.3
Jordan	2001	19.0	3.1	0.8	2.2	8.0	...	4.2	1.0	0.4	2.3
Lebanon	1999	14.1	2.1	...	...	...	3.2	5.5	1.7	...	1.6
Mexico	2000	17.0	5.0	...	...	3.5	1.6	0.8	0.2	1.5	4.3
Nigeria 3/	2001	18.3	11.7	1.5	10.2	1.9	...	...	...	...	4.7
Pakistan	2002	12.6	3.9	0.6	3.3	4.6	1.3	1.4	...	...	1.5
Peru	2001	13.8	3.4	1.6	1.8	6.2	1.9	1.5	...	1.3	-0.5
Philippines	2001	13.5	6.1	2.2	2.7	1.6	1.6	2.7	...	...	1.5
South Africa	2001	26.7	14.2	9.7	4.3	6.1	2.6	0.8	1.3	0.6	0.9
Thailand	2001	16.0	4.9	1.9	2.7	3.1	3.6	1.8	0.2	0.5	1.9
Turkey	2000	32.8	9.5	7.1	2.3	10.9	1.5	0.4	1.1	5.1	4.3
Uruguay	2001	23.3	3.8	1.7	2.1	6.2	3.2	0.7	1.6	6.0	1.7
Venezuela 3/	2001	22.2	15.7	1.8	13.1	4.1	1.5	1.0	0.4	0.7	-1.2
Unweighted average		18.1	5.7	2.3	3.5	4.7	2.2	2.3	0.9	2.6	2.1
IV. CIS countries 4/											
Armenia	2002	17.4	...	0.9	1.3	7.0	2.6	0.7	...	2.8	2.1
Azerbaijan	2002	15.5	...	1.9	2.5	5.7	1.5	0.9	0.3	2.2	0.5
Belarus	2002	35.5	6.6	3.0	3.6	9.0	2.3	2.1	1.5	11.9	2.1
Georgia	2002	14.5	...	1.9	1.1	5.6	1.2	0.9	0.4	1.8	1.6
Kazakhstan	2002	21.2	8.6	2.1	6.5	4.7	0.7	1.0	0.9	3.6	1.7
Kyrgyz Republic	2002	17.6	2.9	1.4	1.5	6.9	1.4	0.6	...	3.5	2.3
Moldova	2002	26.4	...	2.1	1.9	9.2	3.0	1.5	...	7.4	1.3
Russia	2002	34.9	...	3.3	4.3	7.6	2.4	3.0	1.1	7.7	5.5
Tajikistan	2002	14.7	1.8	1.2	0.6	6.6	0.9	...	0.6	1.9	2.9
Turkmenistan	1998	23.0	...	1.9	2.5	6.3	0.7	...	0.6	3.4	7.6
Ukraine	2002	31.0	9.7	4.9	4.3	6.1	4.0	1.1	0.8	9.0	0.3
Uzbekistan	2002	29.5	6.8	3.6	3.2	6.0	6.6	0.7	0.5	6.7	2.2
Unweighted average		23.4	6.1	2.4	2.8	6.7	2.3	1.3	0.7	5.2	2.5

1/ OECD database.
2/ *Government Finance Statistics* , IMF.
3/ IMF Fiscal Affairs Department emerging markets database.
4/ IMF European II Department database.

Table 1b. Tax Rates
(In percent)

	PIT 1/	EIT	VAT 2/	Payroll/ Social Security		
				Individual	Employer	Total
I. High-income OECD countries 3/						
Canada	34.0	27.2	7.0	1.8		1.8
United States	20.1	26.0	…	7.7		7.7
Australia	31.2	36.0	10.0	1.5	8.0	9.5
Japan	10.7	34.5	5.0	13.3		13.3
Korea	25.0	22.2	10.0	4.5	9.0	13.5
New Zealand	27.3	33.0	12.5	…	…	…
Austria	31.2	34.0	20.0	17.7	21.7	39.3
Belgium 42.	5	40.2	21.0	13.1	34.0	47.1
Denmark 49.	1	32.0	25.0	9.0	0.3	9.3
Finland	41.9	28.0	22.0	…	…	…
France 20.	7	33.3	19.6	20.5		20.5
Germany 28.	7	29.4	16.0	13.0	13.0	26.0
Greece 2	7.0	40.0	18.0	15.9		15.9
Iceland	…	…	24.5	…	…	…
Ireland 35.	0	30.8	20.0	9.0	12.0	21.0
Italy 33.	0	37.0	20.0	10.0		10.0
Luxembourg 15.	5	31.8	15.0	10.7		10.7
Netherlands 16.	5	35.0	19.0	18.1	8.8	26.9
Norway	41.5	28.0	24.0	7.8	14.1	21.9
Portugal 28.	8	34.0	17.0	11.0	23.8	34.8
Spain 33.	3	35.0	16.0	6.4	30.8	37.2
Sweden 53.	5	28.0	25.0	7.0	33.1	40.0
Switzerland	19.6	8.5	7.6	6.6	6.6	13.1
United Kingdom 24.	3	31.0	18.0	10.0		10.0
			17.5			
Unweighted average						
Organization for Economic Co-operation and Development	30.0	31.1	17.8			20.4
European Union	32.1	33.3	19.4			24.9
II. Graduating transition countries 4/						
Bulgaria	29.0	28.0	20.0	6.4	32.7	39.1
Czech Republic	23.0	31.0	22.0	12.5	35.0	47.5
Estonia	26.0	26.0	18.0	2.0	33.0	35.0
Hungary	30.0	18.0	25.0	12.5	36.0	48.5
Latvia	25.0	25.0	18.0	9.0	26.1	35.1
Lithuania	25.9	24.0	18.0	3.0	28.0	31.0
Poland	29.7	28.0	22.0	18.7	20.4	39.1
Romania	28.6	25.0	19.0	13.0	45.0	58.0
Slovak Republic	29.1	29.0	23.0	12.0	38.0	50.0
Slovenia	37.3	25.0	20.0	22.1	15.9	38.0
Unweighted average	28.4	25.9	20.5			42.1
III. Emerging market countries 4/						
Argentina	22.6	35.0	21.0	17.0	32.0	49.0
Bolivia	13.0	25.0	14.9	12.2		12.2
Brazil	21.3	22.5	20.5	9.3		9.3
China	25.0	35.0	17.0	…	…	…
Columbia	18.5	35.0	16.0	7.4		7.4
Côte d'Ivoire	…	…	…	…	…	…
Ecuador	15.0	25.0	12.0	9.4		9.4
Egypt	26.0	42.0	10.0	…	…	…
India	21.4	35.0	…			0.0
Indonesia	18.0	28.5	10.0	2.0	3.7	5.7
Jordan	…	…	…	…	…	…
Lebanon	…	…	…	…	…	…
Mexico	26.7	35.0	15.0	1.3	6.2	7.5
Nigeria	15.0	30.0	5.0	3.5	6.5	10.0
Pakistan	27.5	…	15.0			0.0
Peru	17.5	30.0	18.0	13.0	11.0	24.0
Philippines	19.6	33.0	10.0	…	…	…
South Africa	29.3	35.0	14.0	6.4	30.6	37.0
Thailand	20.4	30.0	7.0	3.0	3.0	6.0
Turkey	27.5	30.0	18.0	14.0	19.5	33.5
Uruguay	…	30.0	23.0	21.1	18.6	39.8
Venezuela	18.8	34.0	14.5	7.2	2.0	9.2
Unweighted average	21.3	31.7	14.5			16.2
IV. Commonwealth of Independent States countries 5/						
Armenia	15.0	20.0	20.0	3.0	15.0	18.0
Azerbaijan	24.0	25.0	18.0	1.5	29.0	30.5
Belarus	19.8	30.0	20.0	1.0	40.0	41.0
Georgia	16.0	20.0	20.0	1.0	27.0	28.0
Kazakstan	17.5	30.0	16.0	10.0	26.0	36.0
Kyrgyz Republic	15.0	20.0	20.0	8.0	25.0	33.0
Moldova	17.7	28.0	20.0	2.0	29.0	31.0
Russia	13.0	24.0	20.0		35.6	35.6
Tajikistan	15.0	30.0	20.0	1.0	25.0	26.0
Turkmenistan	15.1	25.0	20.0	5.0	30.0	35.0
Ukraine	23.0	30.0	20.0	3.0	37.0	40.0
Uzbekistan	24.3	24.0	20.0	2.5	40.7	43.2
Unweighted average	18.0	25.5	19.5			33.1

1/ Generally based on average of various marginal rates.
2/ Main rate.
3/ PriceWaterhouseCoopers, 1999-2000
4/ PriceWaterhouseCoopers, 2001-2002
5/ EU2 database.

Table 2a. Tax Revenue/GDP Regressed on PPP-Adjusted Income Per Capita

(log form)

Regression Statistics	
Multiple R	0.779562
R Square	0.607717
Adjusted R Square	**0.601774**
Standard Error	0.258594
Observations	68

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6.837287	6.837287	102.2461	4.82E-15
Residual	66	4.413479	0.066871		
Total	67	11.250766			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.103289	0.314553	0.328367	0.743674	-0.524737	0.731315	-0.524737	0.731315
ln income	**0.346541**	0.034271	**10.111680**	4.82E-15	0.278116	0.414966	0.278116	0.414966

Sources: Annex Table 1a and staff calculations

Table 2b. Tax Revenue/GDP Regressed on PPP-Adjusted Income Per Capita
(log form; dummy variable for OECD, ten graduating transition countries, and CIS)

Regression Statistics	
Multiple R	0.850209
R Square	0.722856
Adjusted R Square	**0.714329**
Standard Error	0.219022
Observations	68

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	8.132685	4.066342	84.76761	7.73E-19
Residual	65	3.118081	0.04797		
Total	67	11.25077			

	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.694061	0.28966	2.396124	0.019457	0.115571	1.27255	0.115571	1.27255
ln income	**0.256394**	0.033816	**7.582126**	1.61E-10	0.18886	0.323929	0.18886	0.323929
dummy	**0.343703**	0.066141	**5.196545**	2.20E-06	0.211611	0.475795	0.211611	0.475795

Sources: Annex Table 1a and staff calculations.

Table 3. Personal Income Tax (PIT) Revenue/GDP Regressed on Rates, and PPP-Adjusted Income Per Capita

Regression Statistics	
Multiple R	0.846908
R Square	0.717253
Adjusted R Square	**0.707332**
Standard Error	2.795783
Observations	60

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	1130.202	565.1012	72.296849	2.32E-16
Residual	57	445.5349	7.816402		
Total	59	1575.737			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-4.290721	1.111348	-3.860824	0.000291	-6.516159	-2.065283	-6.516159	-2.065283
rates	**0.256997**	0.045850	**5.605118**	6.32E-07	0.165183	0.348811	0.165183	0.348811
income	**0.000280**	3.86E-05	**7.254000**	1.20E-09	0.000203	0.000357	0.000203	0.000357

Sources: Annex Tables 1a and staff calculations.

Table 4. Payroll Tax and Social Security Contribution/GDP Regressed on Rates and PPP-Adjusted Income Per Capita

Regression Statistics	
Multiple R	0.714196
R Square	0.510076
Adjusted R Square	**0.490864**
Standard Error	3.641838
Observations	54

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	704.2361	352.1181	26.54893	1.25E-08
Residual	51	676.4122	13.262984		
Total	53	1380.648			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-2.521468	1.520914	-1.657864	0.103484	-5.574828	0.531892	-5.574828	0.531892
rates	**0.206959**	0.036714	**5.637105**	7.55E-07	0.133253	0.280665	0.133253	0.280665
income	**0.000321**	5.19E-05	**6.195839**	1.01E-07	0.000217	0.000426	0.000217	0.000426

Sources: Annex Table 1a and staff calculations.

Table 5. PIT Revenue: By How Much Are Countries Above/Below the International Norm?
(In percent of GDP) 1/

	Actual	Predicted	Difference
Armenia	0.9	0.4	-0.5
Azerbaijan	1.9	2.8	0.9
Belarus	3.0	3.4	0.4
Georgia	1.9	1.1	-0.8
Kazakstan	2.1	2.3	0.2
Kyrgyz republic	1.4	0.4	-1.0
Moldova	2.1	0.9	-1.2
Russia	3.3	1.6	-1.7
Tajikistan	1.2	-0.1	-1.3
Turkmenistan	1.9	1.9	0.0
Ukraine	4.9	2.9	-2.0
Uzbekistan	3.6	2.7	-0.9
Average	2.4	1.7	-0.7

Sources: Annex Tables 1a and 3.
1/ Based on the regression model PIT revenue/GDP regressed on PIT rates, and PPP-based income per capita.

Table 6. Payroll Tax/Social Security Revenue: By How Much Are Countries Above/Below the International Norm?
(In percent of GDP) 1/

	Actual	Predicted	Difference
Armenia	2.8	2.2	-0.6
Azerbaijan	2.2	4.8	2.6
Belarus	11.9	8.9	-3.0
Georgia	1.8	4.8	3.0
Kazakstan	3.6	7.3	3.7
Kyrgyz Republic	3.5	5.2	1.7
Moldova	7.4	4.6	-2.8
Russia	7.7	7.7	0.0
Tajikistan	1.9	3.3	1.4
Turkmenistan	3.4	7.3	3.9
Ukraine	9.0	7.2	-1.8
Uzbekistan	6.7	7.2	0.5
Average	5.2	5.9	0.7

Sources: Annex Tables 1a and 4.
1/ Based on the regression model payroll tax and social security contribution/GDP regressed on rates, and PPP-based income per capita.

Table 7a. General Government Expenditure, by Economic Type
(In percent of GDP)

	Year	Total (incl. Lending minus Repayment)	Goods and Services	Of which: Wages	Transfers	Of which: Transfers to Households	Interest	Capital Expenditure	Lending minus Repayment
I. High-income OECD countries									
Canada	2001	42.5	20.9	11.0	13.6	9.3	5.2	2.4	0.3
United States	2001	32.7	13.9	7.7	12.9	8.9	2.9	3.0	0.0
Australia	1998	36.9	19.4	0.6	11.3	8.4	2.2	4.0	-0.8
Japan	...	...	...	...	...	...	...	...	...
Korea	1997	16.5	4.7	2.2	3.4	3.1	0.5	3.8	4.1
New Zealand	...	...	2.1	0.7	...	...	0.1	1.2	...
Austria	1999	52.6	20.3	9.0	23.9	17.5	3.6	4.8	...
Belgium	1998	48.6	12.8	9.6	25.0	22.4	7.7	3.2	0.0
Denmark	2000	53.9	25.3	16.2	22.1	6.9	4.1	2.2	0.2
Finland	1998	47.0	21.4	12.1	18.1	6.7	4.8	3.1	-0.4
France	1997	53.0	16.3	10.7	28.5	23.4	3.7	4.3	0.1
Germany	1998	47.8	19.5	9.2	20.8	...	3.5	4.5	-0.5
Greece	1998	29.0	10.5	8.6	4.3	4.1	9.0	5.2	...
Iceland	1998	40.0	24.3	13.6	9.0	6.6	2.6	5.4	-1.3
Ireland	1997	36.9	13.1	8.3	14.6	11.0	4.4	4.9	0.0
Italy	1999	50.6	17.1	10.4	20.9	17.0	6.8	5.0	0.8
Luxembourg	1997	41.3	13.1	9.3	23.2	19.7	0.3	5.8	-0.9
Netherlands	1997	49.7	14.7	8.9	25.8	20.7	5.0	3.7	0.5
Norway	1999	56.4	21.3	13.1	19.7	15.0	2.0	3.8	9.5
Portugal	1998	43.7	18.5	13.9	14.2	11.3	3.0	7.5	0.4
Spain	1997	39.4	14.0	9.4	17.0	13.7	4.8	4.3	-0.6
Sweden	1999	54.7	23.9	14.2	23.6	18.8	4.7	2.1	0.5
Switzerland	2000	41.4	20.4	10.3	15.7	10.4	2.0	4.0	-0.8
United Kingdom	1999	39.5	17.4	6.2	16.1	13.0	3.3	2.5	0.3
Average OECD	...	43.4	16.7	9.4	17.5	12.7	3.7	3.9	0.6
Average EU	...	45.8	17.2	10.4	19.9	14.7	4.6	4.2	0.0
II. Graduating transition economies									
Bulgaria	2001	37.2	14.2	5.0	16.8	13.3	3.7	4.3	-1.9
Czech Republic	2001	42.9	8.3	3.8	30.0	19.5	1.0	6.3	-2.7
Estonia	2001	34.6	18.5	6.8	14.5	12.2	0.3	3.6	-2.3
Hungary	2001	49.3	16.3	9.3	20.4	16.0	4.8	7.8	-0.2
Latvia	2001	33.7	14.4	8.1	14.1	12.3	1.1	4.0	0.1
Lithuania	2001	31.8	17.6	8.4	11.0	9.5	1.6	2.6	-0.9
Poland	2001	43.6	17.6	8.0	20.6	17.8	2.9	3.5	-1.0
Romania	2001	35.1	14.6	6.3	13.5	11.5	3.1	4.5	-0.6
Slovak Republic	2001	39.4	11.3	6.1	21.5	19.3	3.2	5.7	-2.3
Slovenia	2001	44.5	18.5	10.1	20.0	17.6	1.6	4.7	-0.3
Average	...	39.2	15.1	7.2	18.2	14.9	2.3	4.7	-1.2
III. Emerging market countries									
Argentina	2001	29.7	11.6	9.4	11.5	8.4	4.7	1.8	0.1
Bolivia	2001	33.9	16.7	11.5	5.9	5.4	2.3	9.1	-0.1
Brazil	1998	48.3	16.9	10.3	15.3	10.1	4.6	3.0	8.5
China,P.R.: Mainland 1/	2001	20.4	...	...	...	...	...	...	0.0
Colombia	1999	19.4	3.6	2.7	...	...	3.3	4.2	0.6
Côte d'Ivoire	2001	16.5	9.3	5.8	2.0	1.3	3.3	1.9	0.1
Ecuador 1/	2001	24.0	9.6	6.6	3.5	...	4.5	6.4	...
Egypt	1997	30.9	12.6	6.0	...	...	6.0	7.3	0.3
India	2001	28.4	9.9	6.5	5.8	...	7.0	3.8	1.9
Indonesia	1999	18.8	4.8	2.7	6.7	1.0	3.9	5.7	-2.3
Jordan 1/	2001	33.8	7.4	6.1	5.1	...	4.5	5.2	...
Lebanon	1999	35.7	10.6	8.1	...	4.3	14.5	6.2	...
Mexico	2000	20.8	7.5	2.6	8.1	...	2.2	2.8	0.0
Nigeria	...	...	...	...	...	...	...	...	...
Pakistan	2002	17.6	5.0	0.8	0.8	...	8.2	2.2	1.3
Peru	2001	19.3	10.6	5.5	3.8	3.0	2.2	3.2	-0.4
Philippines	...	...	...	...	...	...	...	...	...
South Africa	2001	32.1	19.3	11.9	4.5	0.9	5.1	3.3	0.0
Thailand	2001	22.7	10.8	5.9	2.9	2.4	1.2	5.9	0.6
Turkey	2001	42.9	11.6	8.6	2.8	2.2	24.7	3.3	0.6
Uruguay	2001	31.6	8.2	4.8	16.0	15.1	2.4	1.7	0.0
Venezuela, Rep. Bol. 1/	2000	30.5	6.4	4.8	...	...	3.2	9.7	...
Average	...	27.9	10.1	6.4	6.3	4.9	5.7	4.6	0.7
IV. CIS countries									
Armenia	2002	22.4	13.1	2.6	3.0	0.9	0.9	4.7	0.7
Azerbaijan	1999	23.6	12.8	6.5	8.5	7.8	0.4	4.1	-2.1
Belarus	2001	46.6	18.1	9.4	19.8	13.8	0.7	6.8	1.1
Georgia	2002	17.5	9.8	2.6	4.4	2.0	2.4	0.7	0.2
Kazakhstan	2001	23.4	12.5	3.9	6.2	4.8	1.2	3.0	0.5
Kyrgyz Republic	2001	25.3	14.3	4.8	5.3	5.3	1.7	5.3	-1.3
Moldova	2002	33.6	13.5	6.7	13.5	11.2	4.5	2.2	-0.1
Russia	2001	36.5	15.4	5.8	14.2	8.0	2.7	5.1	-0.8
Tajikistan	2001	16.6	8.7	3.2	3.2	2.7	1.8	3.1	-0.2
Turkmenistan	...	...	...	...	...	...	...	...	...
Ukraine	2001	36.6	15.1	7.8	16.0	11.9	1.9	3.4	0.1
Uzbekistan	2001	35.2	...	...	...	...	0.5	5.2	1.0
Average	...	28.8	13.3	5.3	9.4	6.8	1.7	4.0	-0.1

Sources: GFS and staff estimates, IMF.
1/ Data from FAD emerging markets database.

Table 7b. General Government Expenditure, by Function
(In percent of GDP)

	Year	Total	General Public	Defense	Public Order	Education	Health	Social Security	Housing	Recreation	Economic Affairs	Other
I. High-income OECD countries												
Canada	2001	42.1	2.0	1.2	2.1	8.4	7.1	13.1	1.0	1.0	4.6	1.7
United States	2001	32.7	2.8	3.0	1.8	7.5	7.3	8.1	0.8	0.4	3.0	-2.0
Australia	1998	37.8	3.8	1.7	1.6	6.7	7.0	9.6	1.3	1.2	5.3	-0.3
Japan	...	...	...	...	...	...	...	...	...	...	...	...
Korea	1997	12.3	0.9	2.9	1.1	3.6	0.1	1.9	0.4	0.1	4.1	-2.8
New Zealand	...	...	3.6	...	...	...	...	...	...	...	...	...
Austria	1999	52.6	...	...	...	...	...	...	...	...	...	...
Belgium	1998	48.6	...	...	...	...	...	...	...	...	...	...
Denmark	2000	53.7	4.2	1.4	0.8	8.2	5.2	32.1	0.9	1.6	4.3	-5.1
Finland 1/	1998	47.4	1.9	1.5	1.0	3.5	1.1	12.2	1.0	0.3	5.5	1.1
France	1997	52.8	...	...	...	...	...	...	...	...	...	...
Germany	1998	48.3	...	...	...	...	...	...	...	...	...	...
Greece	1998	29.0	1.4	2.6	1.0	3.3	2.2	5.5	0.7	0.4	3.8	8.1
Iceland	1998	41.2	2.3	...	1.7	6.4	7.7	8.4	0.9	2.7	6.6	4.6
Ireland	1997	36.9	3.2	1.0	0.2	5.7	10.4	9.1	2.3	0.4	7.3	-2.8
Italy	1999	49.8	...	...	...	...	...	...	...	...	...	...
Luxembourg	1997	42.2	...	...	...	...	...	...	...	...	...	...
Netherlands	1997	49.2	4.1	1.8	1.7	6.9	7.1	20.0	3.2	0.9	3.8	-0.4
Norway	1999	46.8	2.9	2.2	1.0	6.4	7.7	17.4	1.3	1.2	4.9	2.5
Portugal	1998	43.3	...	...	...	...	...	...	...	...	...	...
Spain	1997	40.0	1.9	1.0	1.6	4.0	5.1	13.8	1.8	1.0	3.8	5.9
Sweden 1/	1999	54.2	2.4	2.1	1.0	2.5	0.8	17.6	0.6	0.3	3.7	2.6
Switzerland	2000	42.2	2.7	1.4	1.8	6.5	9.4	17.0	1.3	0.9	6.1	-4.9
United Kingdom	1999	39.2	1.9	2.6	2.5	4.3	5.5	16.5	1.4	0.4	1.6	1.9
Average OECD	...	42.8	2.6	1.9	1.4	5.6	5.6	13.5	1.3	0.9	4.6	0.7
Average EU	...	45.8	2.6	1.7	1.2	4.8	4.7	15.8	1.5	0.7	4.2	1.4
II. Graduating transition economies												
Bulgaria	2001	39.1	3.0	2.1	1.9	3.8	3.9	13.6	1.7	0.7	4.4	4.0
Czech Republic	2001	45.6	2.5	1.7	2.0	5.9	6.8	14.4	3.1	1.1	7.3	1.0
Estonia	2001	36.9	3.3	1.5	2.3	6.8	5.1	10.4	1.5	2.2	3.5	0.4
Hungary	2001	49.6	5.0	1.2	1.8	6.0	4.1	13.3	4.1	2.9	10.4	0.8
Latvia	2001	33.6	2.8	0.9	2.2	6.5	3.4	12.7	2.2	1.3	3.9	-2.3
Lithuania	2001	32.7	1.6	1.6	1.8	6.1	4.3	10.4	0.5	0.8	3.5	2.1
Poland	2001	44.6	2.4	1.2	1.8	6.0	4.2	19.3	2.5	0.8	3.5	3.6
Romania	2001	35.7	1.8	1.5	2.2	4.1	4.7	10.1	2.0	0.7	5.3	3.2
Slovak Republic	2001	41.7	3.7	1.6	1.7	3.7	7.0	11.9	1.7	0.9	6.6	2.8
Slovenia	2001	44.8	4.0	1.3	1.8	5.6	5.9	17.8	1.4	1.2	5.0	0.7
Average	...	40.4	3.0	1.5	2.0	5.4	4.9	13.4	2.1	1.3	5.3	1.6
III. Emerging market countries												
Argentina	2001	29.6	4.8	0.7	1.6	4.9	1.8	9.0	0.8	0.1	1.8	4.0
Bolivia	2001	34.0	2.7	2.0	1.9	8.8	4.0	6.0	2.0	0.4	7.1	-0.9
Brazil 1/	1998	39.8	3.8	0.9	0.9	1.6	1.7	12.7	0.2	0.0	1.3	-3.1
China,P.R.: Mainland 1/ 2/	1999	20.4	1.6	0.0	0.8	2.0	0.6	3.1	0.8	0.3	4.1	...
Colombia	1999	18.8	1.1	2.5	1.1	3.8	1.8	2.3	1.3	0.2	1.3	...
Côte d'Ivoire	2001	16.4	...	...	...	...	...	...	...	...	...	...
Ecuador 2/	2001	24.0	...	...	...	...	...	...	...	...	...	...
Egypt	1997	30.5	0.9	2.9	1.5	4.5	1.0	0.1	1.6	2.5	3.3	...
India	2001	26.5	3.5	2.8	...	3.9	1.1	0.7	1.7	0.1	2.6	6.6
Indonesia	1999	21.2	1.0	0.8	0.4	1.4	0.5	1.1	3.1	0.3	2.1	8.6
Jordan 2/	2001	33.8	...	...	...	...	...	...	...	...	...	...
Lebanon	1999	35.7	4.2	3.8	1.4	2.6	0.7	1.9	0.5	0.2	5.7	...
Mexico	2000	20.7	1.0	0.5	0.4	3.9	0.8	3.2	1.1	0.1	1.3	1.5
Nigeria	...	...	...	...	...	...	...	...	...	...	...	...
Pakistan	2002	16.3	1.4	3.9	0.3	0.3	0.2	0.2	0.4	0.0	0.9	8.7
Peru	2001	19.7	0.8	...	...	...	...	...	...	...	...	...
Philippines	...	...	...	...	...	...	...	...	...	...	...	...
South Africa	1999	33.8	1.9	1.4	3.0	7.0	3.8	3.7	1.5	0.3	1.5	5.3
Thailand	2001	22.1	1.7	1.5	1.2	3.9	1.4	1.2	1.0	0.1	5.3	2.1
Turkey	2001	42.3	1.3	3.0	1.7	3.9	1.5	2.9	0.9	0.4	3.6	23.1
Uruguay	2001	31.6	1.4	1.3	1.5	2.3	2.0	17.6	0.5	0.2	1.8	-0.1
Venezuela, Rep. Bol.	2000	19.3	1.2	1.1	0.7	4.7	1.5	3.0	1.4	0.2	1.2	-1.8
Average	...	26.8	2.0	1.8	1.2	3.7	1.5	4.3	1.2	0.3	2.8	4.5
IV. CIS countries												
Armenia	2002	22.4	1.6	2.7	1.2	2.1	1.1	1.8	1.0	0.8	3.0	4.2
Azerbaijan	1999	25.7	1.7	2.5	2.6	4.6	1.2	7.6	0.5	0.5	1.9	3.1
Belarus	2001	45.5	1.9	1.3	1.6	6.5	4.7	13.4	2.6	1.0	7.3	5.1
Georgia	2002	17.3	1.6	0.6	1.4	2.2	0.9	4.3	1.0	0.7	1.0	3.6
Kazakhstan	2001	22.9	1.5	1.0	2.0	3.3	2.2	5.6	...	0.7	4.5	1.3
Kyrgyz Republic 3/	2001	26.6	2.8	1.3	1.0	3.9	1.9	7.1	1.1	0.4	1.9	1.5
Moldova	2002	33.7	1.9	0.4	1.8	5.3	3.4	11.6	0.6	0.6	1.4	6.8
Russia	2001	37.4	2.8	3.1	1.8	3.0	1.9	9.4	2.3	0.6	5.7	6.7
Tajikistan	2001	10.3	1.9	1.1	1.0	0.4	0.2	2.4	0.1	0.4	1.7	1.1
Turkmenistan	...	...	...	...	...	...	...	...	...	...	...	...
Ukraine	2001	36.5	2.5	1.7	1.9	4.5	3.1	15.0	0.9	0.7	3.7	2.5
Uzbekistan	2001	34.2	...	...	...	6.7	2.5	8.6	...	...	2.3	...
Average	...	28.4	2.0	1.6	1.6	3.9	2.1	7.9	1.1	0.7	3.1	3.6

Sources: GFS and staff estimates, IMF.
1/ Breakdown by functional expenditures is incomplete due to lack of information on either local or state budget expenditure.
2/ Data from FAD emerging markets database.
3/ Breakdown excludes PIP.

Table 8. Expenditure/GDP Regressed on PPP-Adjusted Income Per Capita
(log form)

Regression Statistics	
Multiple R	0.676809
R Square	0.458070
Adjusted R Square	**0.449186**
Standard Error	0.257848
Observations	63

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3.428049	3.428049	51.560655	1.13E-09
Residual	61	4.055632	0.066486		
Total	62	7.483681			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.091864	0.337925	3.231082	0.001989377	0.416141	1.767587	0.416141	1.767587
ln income	**0.263881**	0.036749	**7.180575**	1.13E-09	0.190396	0.337366	0.190396	0.337366

Sources: Annex Table 7a and staff calculations.

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