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Public expenditures on education and health in the Kyrgyz Republic before and during the global financial crisis

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Public Expenditures on Education and Health in the Kyrgyz Republic before and during the Global Financial Crisis

Roman Mogilevsky

No. 97/2011

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12 Sienkiewicza, 00-010 Warsaw, Poland
tel.: (48 22) 622 66 27, fax: (48 22) 828 60 69
e-mail: case@case-research.eu
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Abbreviations

ADB	Asian Development Bank
CPI	Consumer Price Index
DF	Development Fund
EC	European Commission
GDP	Gross Domestic Product
GG	General government
GoKR	Government of the Kyrgyz Republic
HIPC	Highly Indebted Poor Countries initiative
IDA	International Development Association
IMF	International Monetary Fund
LB	Local budgets
lhs	Left-hand side (axis)
MHI	Mandatory health insurance
MHIF	Mandatory Health Insurance Fund
MoES	Ministry of Education and Science of the Kyrgyz Republic
MoF	Ministry of Finance of the Kyrgyz Republic
n/a	Non-available
NBKR	National Bank of the Kyrgyz Republic
NSC	National Statistical Committee of the Kyrgyz Republic
OECD	Organization for Economic Cooperation and Development
PIP	Public Investment Program
PISA	Programme for International Student Assessment
PPP	Purchasing power parity
RB	Republican budget
rhs	Right-hand side (axis)
SF	Social Fund
SWAp	Sector-Wide Approach
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	Dollar of the United States of America
VAT	Value Added Tax
WDI	World Development Indicators
WHO	World Health Organization

The author

Roman Mogilevsky, Ph.D., is Executive Director of CASE-Kyrgyzstan and a CASE Fellow. He has been a consultant for projects with the World Bank, Asian Development Bank, UNDP and other international organizations in Eastern Europe and Central Asia. His recent publications focus on fiscal and social policy and foreign trade in Eastern Europe and Central Asia.

Abstract

This paper analyses the public finance performance and the dynamics of government expenditures on education and health in the Kyrgyz Republic in 2007-2010, when the country was hit by the global economic crisis and then by an internal political crisis in 2010. Despite these crisis conditions, public health expenditures have increased substantially. In education, recurrent expenditures have been protected, while capital investments have been cut dramatically. Both sectors suffer from chronic under-financing, which results in an insufficient quality of services. The country's fiscal situation in the medium-term is going to be difficult, so efficiency-oriented reforms need to be implemented in health care and especially in education in order to sustain the development of these critical services in Kyrgyzstan.

1. Introduction

This paper has been prepared within the framework of the project "The Impact of the Global Financial Crisis on Public Service Delivery in Economies of the Former Soviet Union," which is supported by the Local Government and Public Service Reform Initiative of the Open Society Institute[1]. This project aims to analyze the attitudes of the governments in the countries the Former Soviet Union towards the financing of key public services in education and health under the conditions of the global economic crisis. The project covers six countries: Belarus, Georgia, Kyrgyzstan, Moldova, Russia, and Ukraine. This paper looks at developments in the areas of education and health financing in Kyrgyzstan.

An analysis of the crisis's influence on public expenditures is implemented through a comparison of financing levels and patterns before the crisis and after it started. Changes in the political, economic and social environment affecting public finances in the country, which are unrelated/indirectly related to the crisis, have also been taken into account in order to allow for the revelation of the net impact of the crisis.

There are several possible crisis transmission channels for the financing of social services. The most obvious one is the crisis-related economic slowdown, which causes a reduction of the tax base in the country and, hence, a decline in the government's revenues, which could induce expenditure cuts either across all expenditure items, or specifically in education and health. The second possible channel is the impact of the crisis on the unit costs drivers: salaries of teachers, doctors and other staff in these two sectors, inflation rates, utility costs etc. The next issue is a possible change in the demand for education and health services due to the crisis; this may include demographic and migration changes, a possible deterioration in living conditions with implications for school enrolment or nutrition and health. Apart from these potential threats to the education and health systems, which may or may not become a reality, the medium- and long-term perspectives for the development of these key services is also taken into consideration. The issues of quality of services and service delivery efficiency are also addressed in this paper.

[1] This paper has been prepared with the editorial assistance of Paulina Szyrmer.

Traditionally, an important role in financing education and health services is played by the local budgets, although their role is different in different societies. Therefore, this paper focuses on the impact of the crisis on the local budget situation and the changes in the contribution of local budgets to the financing of education and health in Kyrgyzstan.

For the purposes of this paper, it is necessary to distinguish between the periods of time before and after the crisis. An analysis of economic data suggests that it started to be felt in Kyrgyzstan in the second half of 2008. From the public finance perspective, however, the patterns of government revenue and spending had changed only during the next budget cycle, beginning in 2009. So, it seems natural to consider the end of 2008 as the pre-crisis period, and the 2009-2010 period as the period of crisis. In the majority of cases, this paper covers the period from 2007 to 2010.

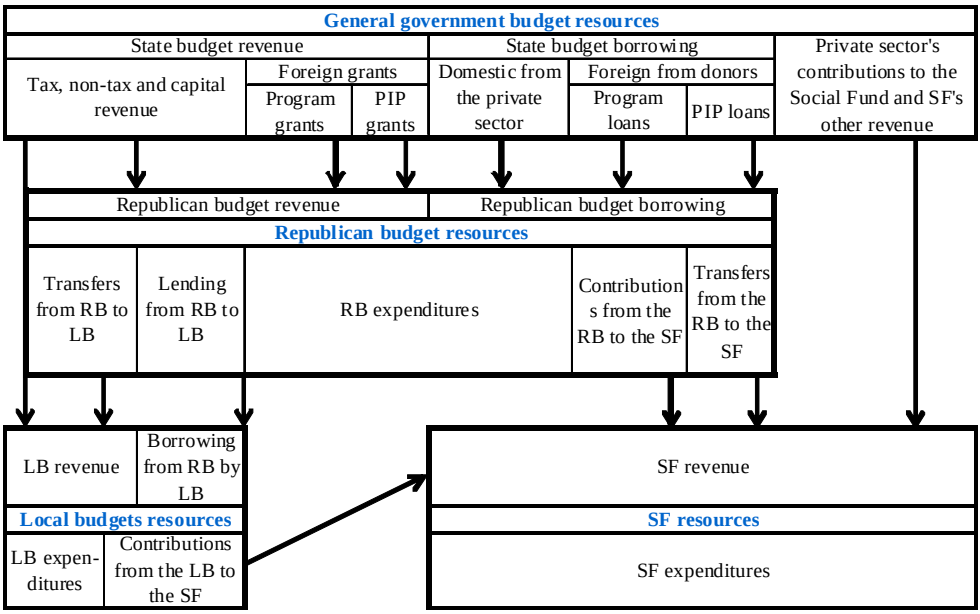
This paper has the following structure. Section 2 discusses the general fiscal situation in the country in the pre-crisis period and during the crisis; it also explains the budget system in Kyrgyzstan and the roles of different bodies and institutions in the financing of public services. Section 3 provides an analysis of the financing of the education system and Section 4 looks at the developments in health financing. Section 5 summarizes the paper's key findings and discusses the policy implications of the analysis.

2. Fiscal situation

2.1. Budget system in Kyrgyzstan

The budget system of Kyrgyzstan consists of several key elements which together constitute the *general government (GG) budget*. These elements are: (i) the *republican budget* – the budget of the government of the country, (ii) *local budgets* – budgets of towns and rural municipalities called aiyl okmotu, and (iii) the *Social Fund* (SF). The republican budget and the local budgets are consolidated into the *state budget*. The Social Fund nominally stays out of the state budget, but has numerous linkages with it. The scheme of financial flows between the various parts of the GG budget is presented on Figure 1.

Figure 1. Structure of the GG budget



Source: compiled by author on the basis of the legislation of the Kyrgyz Republic.

The revenues of the GG budget are comprised of taxes, contributions to the Social Fund, non-tax revenues, capital revenues, and foreign grants. There are three types of taxes: republican (which go to the republican budget), shared (which are

split in some proportion between republican and local budgets), and local taxes (go to the local budgets). Regardless of the type of tax, tax base definitions and tax rates are usually set at the central level by Jogorku Kenesh – the parliament of the country.

Contributions to the Social Fund are not formally taxes, but mandatory pension and health insurance payments. These payments are made by employers and employees of private companies and budget institutions as well as by self-employed people. The contributions of the budget institutions to the Social Fund are internal flows within the GG budget.

Non-tax revenue includes revenues from services provided by the government entities and income from government-owned property. An important component of non-tax revenue is the so called 'special means'. This is an income from paid services provided by budget-funded institutions (universities, hospitals etc.) to the population in addition to services, to which free access by the population is guaranteed by law. Capital revenue is an income from the sales of fixed assets (buildings, equipment etc.) belonging to the government.

The last revenue item of the GG budget is foreign grants provided by multilateral donors (the World Bank, the IMF, the ADB) or bilateral donors (the EC, the governments of Russia, Germany, United Kingdom and other countries). These foreign grants go to the republican budget only. Part of the grants – program grants – are intended for general or sectoral budget support; another part – PIP grants – is to finance the Public Investment Program, a special facility within the republican budget which finances donor-supported hard or soft infrastructure projects. Program grants are not usually earmarked for a concrete type of expenditures, while the PIP grants are intended for specific spending programs only.

There are massive intra-governmental transfers in the GG budget system. The republican budget provides different types of transfers to local budgets and to the Social Fund. Transfers from the republican to local budgets include: (i) earmarked *categorical grants* to support the primary and secondary education system, which is mostly financed by local budgets; (ii) *equalizing grants*, which are general purpose grants aimed at partially equalizing the differences in the levels of social and economic development in different parts of the country; in practice these resources are used mostly to support administrative systems at the local level; (iii) *matching grants*, which provide co-financing for local investment/infrastructure projects; and (iv) *mutual settlements*, which are to compensate for an increase in expenditure liabilities of the local budgets resulting from decisions made by the republican government. The purpose of transfers from the republican budget to the Social Fund is to finance the pensions of former government employees (military personnel, policemen etc.), which, according to the law, are to be paid not from the in-

surance contributions of the population, but from the budget. Also, in some years there is a transfer from the republican budget to the Social Fund to cover the gap between old-age-pension liabilities and resources available from the pension fund.

Of all budget entities, only the central government borrows from foreign sources and from the domestic private sector. Domestic borrowing is minimal and foreign borrowing occurs on concessional terms only. Similarly to foreign grants, the foreign borrowing consists of program loans for budget support and PIP loans for investment projects. Some borrowing operations are possible within the GG: sometimes local budgets do not receive grants, but rather short-term interest-free loans from the republican budget, and the Social Fund may lend to the republican budget through the purchase of T-bills issued by the government. Finally, the Social Fund is eligible to keep deposits in commercial banks (i.e., lend to the private sector) and receives some interest income from these deposits.

The republican budget and the budget of the Social Fund are approved annually by Jogorku Kenesh. Local budgets are approved by local representative bodies – town or village/aiyl keneshes – usually along very strict lines provided by the Ministry of Finance.

2.2. Pre-crisis developments

The macroeconomic situation in Kyrgyzstan was pretty good in 2007-2008. The GDP growth rates exceeded 8% per annum (Table 1); in terms of growth, these two years were the best in the course of the entire history of independent Kyrgyzstan. The Kyrgyz economy benefited greatly from the fast economic growth in Russia, Kazakhstan and other neighboring countries. Key channels of positive spillovers from the regional economic growth were: 1) remittances from Kyrgyz labor migrants in Russia, Kazakhstan and some other countries – the amount of remittances increased by 40% in 2007 and by 44% in 2008, making Kyrgyzstan one of the largest remittance recipients in the world in terms of the share of remittances in GDP (28.6% in 2008); 2) increased exports to the countries of the region – the growth rate of the total exports of goods was 48% in 2007 and 40% in 2008; 3) the explosive growth of re-exports of Chinese commodities to Russia and other countries in the region – no good official estimates exist, but the re-exports were most likely worth several billion USD per annum, i.e., more than the annual GDP of Kyrgyzstan, and the trade mark-up was worth many hundreds of millions of USD left in Kyrgyzstan. These massive inflows of foreign exchange fueled the domestic economy, contributing to the growth of real wages (for exam-

ple, by 19% in 2007) and poverty reduction. Imports grew particularly quickly (more than doubled in USD terms in 2006-2008) despite the fact that only a part of import flows intended for re-exports were accounted in the official statistics.

During these years the economy experienced not only positive, but also negative external shocks. 2007-2008 appeared to be a period of high inflation (Table 1), which was triggered by the hike in the international food prices during these years (however, in the background of an enormous increase in domestic money supply, e.g., M2x aggregate doubled in 2005-2007).

Table 1. Selected economic and social indicators

	2007	2008	2009	2010
GDP, million soms	141 898	187 992	201 223	212 177
GDP per capita at PPP, current international dollar	2 029	2 229	2 283	n/a
GDP growth rate, %	8.5	8.4	2.9	-1.4
GDP growth rate (without Kumtor), %	9.0	6.5	3.4	-2.1
GDP deflator, %	14.9	22.2	4.0	6.9
Inflation rate (CPI, end of period), %	20.1	20.0	0.0	19.2
Exchange rate, soms/USD (period average)	37.31	36.57	42.89	45.96
Exports of goods, million USD	1 337.8	1 874.4	1 693.8	2 027.8
Imports of goods, million USD	2 417.0	4 072.4	3 040.2	3 237.6
Remittances, million USD	1 023.2	1 469.6	1 072.8	1 267.7[2]
Average wage real growth rate, %	19.0	9.2	8.0	5.8
Population (period average), million	5 268.4	5 318.8	5 383.5	5 448.0
Poverty rate, % of total population	35.0	31.7	31.7	n/a

Sources: NSC, NBKR.

The economic growth allowed for a significant expansion of the government budget (Table 2). Revenues were increasing rapidly in nominal terms, partially due to the high rate of inflation. Another source of revenue growth was the very rapid growth of imports, which are a very important component of the tax base in the country. In 2008, for the first time in its history, the Kyrgyz GG budget had a positive balance (the state budget still had a small deficit). Government expenditures were also growing, although their increase in real terms was much less impressive than in nominal terms and there was a substantial reduction of expenditures, as expressed in % of GDP[3] in 2008.

[2] Author's estimate.

[3] In 2008, the GG expenditures in current prices increased by 23.9%, while in real terms the increase was just 1.4%, and the expenditures decreased by 2.1% of GDP.

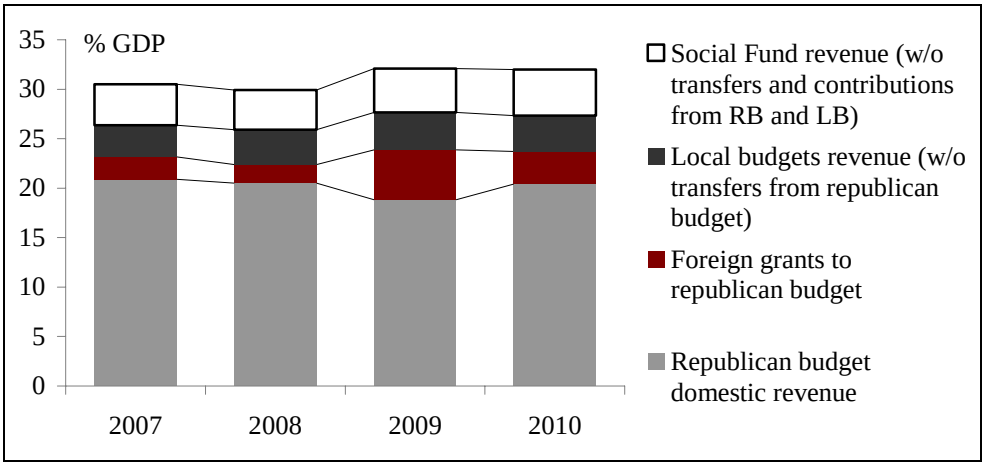
Table 2. Key GG budget indicators

	2007	2008	2009	2010[4]
In nominal terms, billion soms				
Total revenue	43.3	56.3	64.6	67.9
Total expenditure	44.4	54.9	72.7	83.0
Surplus (+) / Deficit (-)	-1.1	1.4	-8.2	-15.1
In % of GDP				
Total revenue	30.5	29.9	32.1	32.0
Total expenditure	31.3	29.2	36.1	39.1
Surplus (+) / Deficit (-)	-0.8	0.7	-4.1	-7.1

Sources: MoF, NSC, IMF.

About three-quarters of total revenues of the GG budget go to the republican budget, while the share of own revenues of local budgets has been slightly more than 10% (Figure 2); contributions to the Social Fund are less than 15% of total government revenue. In % of GDP, all components of government revenue apart from foreign grants were pretty stable in 2007-2008 indicating the then-existing sensitivity of the tax base to the economic growth.

Figure 2. Revenues of the GG budget



Sources: MoF, IMF.

As follows from Figure 3a, in the pre-crisis period, the main component of the republican (and GG) budget revenue was VAT on imports; other taxes on imports (custom duties and excises) were the second largest source of revenue in terms of

[4] Preliminary estimates.

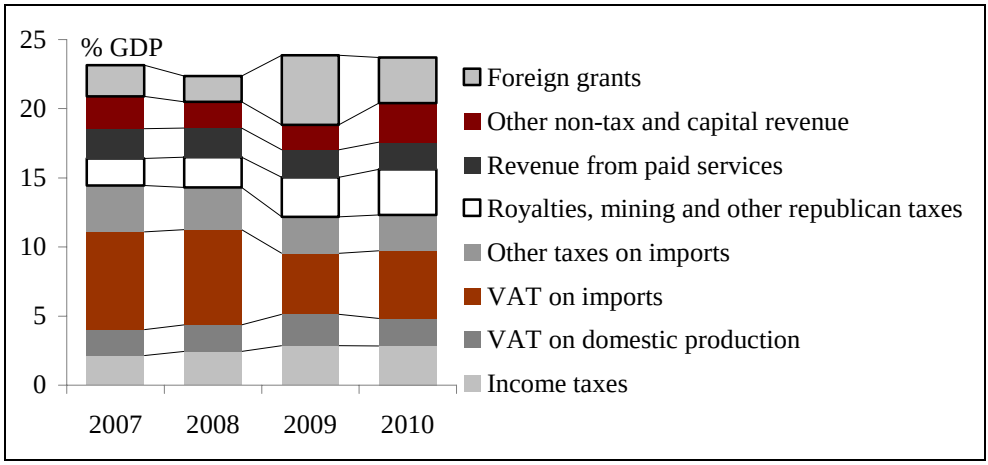
size. Altogether, taxes on imports provided 52% of total tax collections in the country in 2008. The very fast growth of imports and improved tax administration on customs in comparison to the administration of domestic taxes contributed to the leading role of taxes on imports in the revenue structure.

Only half of all revenues in local budgets come from their own sources – local taxes, shared taxes and non-tax revenues (Figure 3b). The other half is provided by the republican budget in the form of grants and mutual settlements. Key sources of tax revenues for local budgets are personal and corporate income taxes and sales tax; the role of land and property taxes is relatively small. It should be noted that these taxes are collected mostly in urban areas, especially in Bishkek – the capital of the country. For example, in 2008, the own revenue[5] of the Bishkek city budget was 62% of own revenues of all local budgets. So, the revenues of other urban and rural municipalities almost completely depend on the transfers from the republican budget.

The revenues of the Social Fund (Figure 3c) are composed mostly from contributions of the employers and employees operating in the formal economy; the contributions by people employed in agriculture, retail trade and other informal economy sectors are very small. In 2007-2008, the republican budget's transfer composed around 16% of total SF revenue.

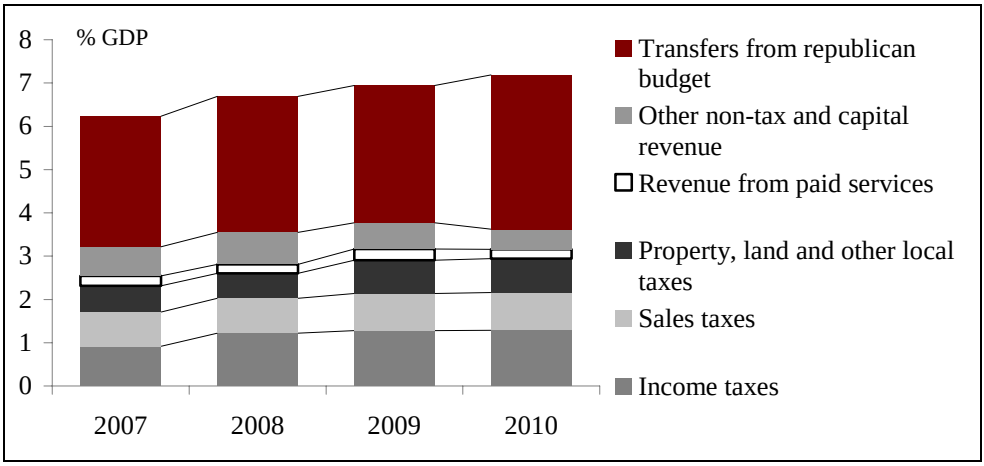
Figure 3. GG budget revenue structure

a) Republican budget

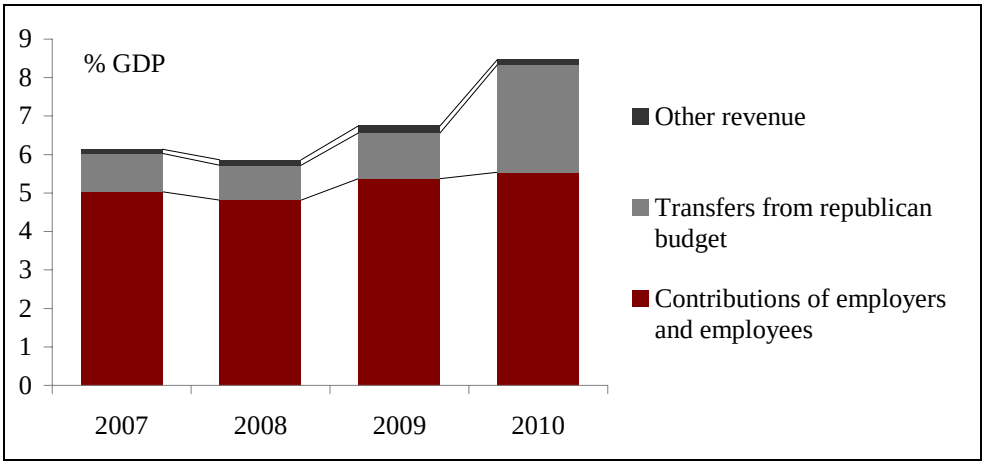


[5] I.e., total revenue less transfers from the republican budget.

b) Local budgets



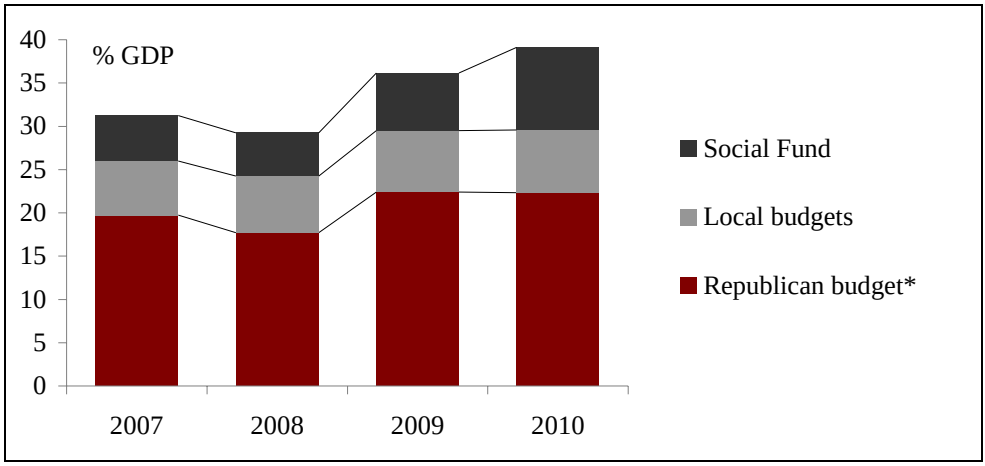
c) Social Fund



Sources: MoF, IMF.

Total GG expenditures fluctuated around the level of 30% of GDP for many years including 2007-2008 (Figure 4). The decline in the total expenditures by 2.1% GDP in 2008, which was mentioned above, was related to the reduction in revenues and to the policy of reserves accumulation implemented by the authorities in that year (IMF, 2009). Due to the transfers from the republican budget, the share of local budgets in GG expenditures is higher than in revenues; in 2008 this share achieved 22.4%. The reduction of expenditures in % of GDP in 2008 did not affect expenditures of local budgets, which even slightly increased – from 6.2% GDP to 6.5% GDP. This means that spending on the functions financed from local budgets was not cut.

Figure 4. Expenditures of the GG budget



Note. * including DF spending less transfers to LB and transfers and contributions to SF.
Sources: MoF, IMF.

Recurrent expenditures constitute the larger part of the GG budget (Figure 5a); e.g., in 2008 their share was 79%, leaving 21% for capital expenditures. 60-70% of capital expenditures are financed by internal government revenues and the remaining 30-40% are financed by the Public Investment Program, i.e., by donor resources.

The key government functions financed from the republican budget (Figure 5b) include social spending (education, health, social protection[6]), support to the economy (mostly development of transport and energy infrastructure), GG services and defense, public order and security. The share of social spending in the republican budget in 2007-2008 was on the level of 33-35% of total expenditures financed directly from the republican budget.

The main sector financed from local budgets is education (Figure 5c); in 2007-2008 its share in total spending of local budgets was 55-60%. Other relatively large local budget spending items include utilities and general government services (local administrations). Spending on health is a significant item only in the city budget of Bishkek (16-17% of total expenditures in 2007-2008); all other local budgets spend negligible amounts of money on health (see Section 4 for details on the health care financing system in Kyrgyzstan).

Almost all of the resources of the Social Fund (94-95% of total) go for pension payments. In 2007-2008, the remainder consisted of the mandatory health insur-

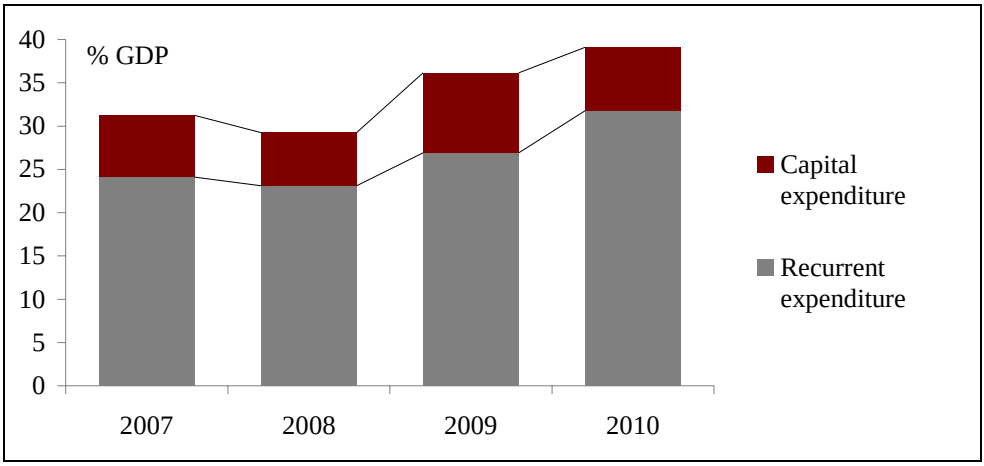
[6] Includes the transfer to the Social Fund mentioned above.

ance contributions, which have been collected by the Social Fund and then transferred to the Mandatory Health Insurance Fund.

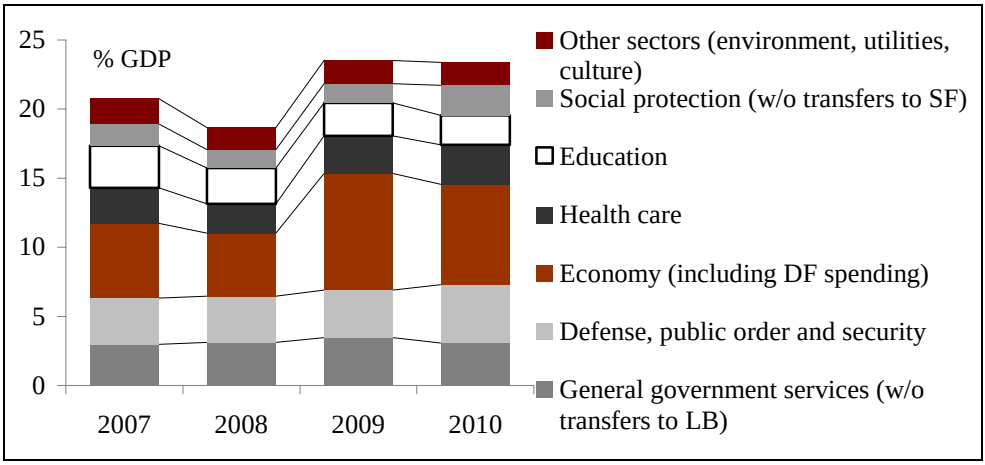
Social spending occupied slightly more than half of total GG budget expenditures (Figure 5e). Shares of health care, education, social insurance and social protection stayed pretty stable in 2007-2008 in the proportions of 2:4:3:1.

Figure 5. Government expenditure structure

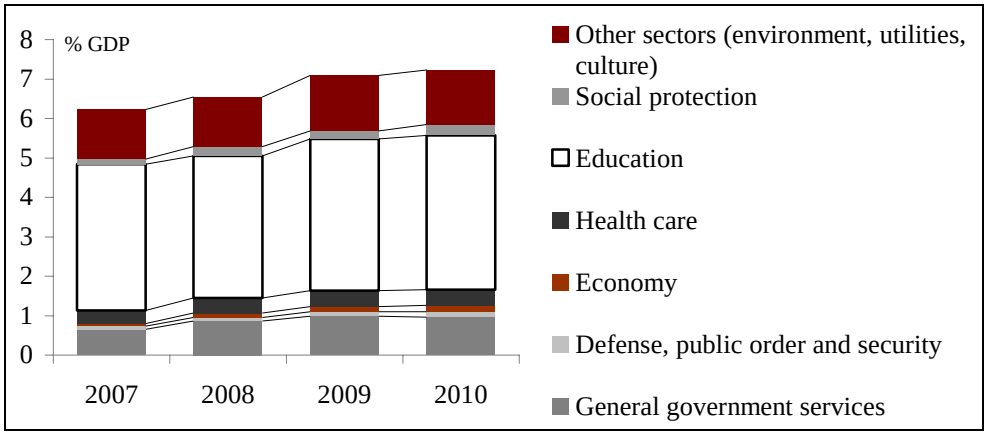
a) Recurrent vs. capital



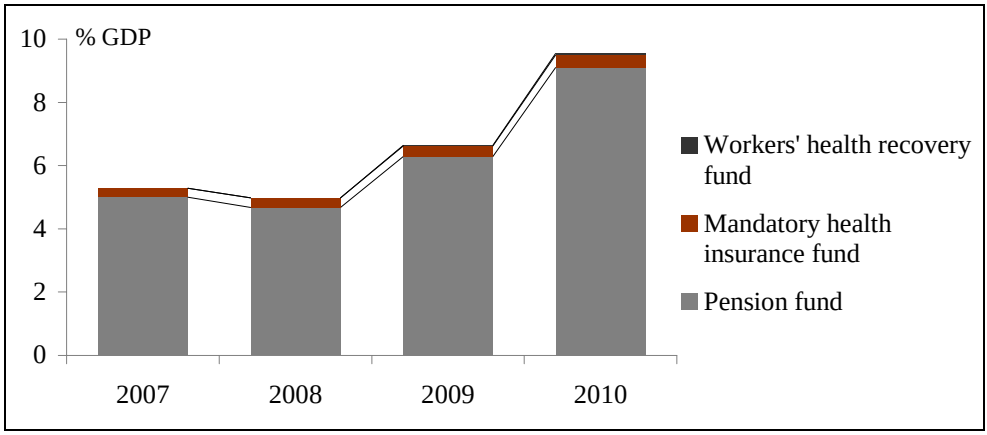
b) Republican budget by function



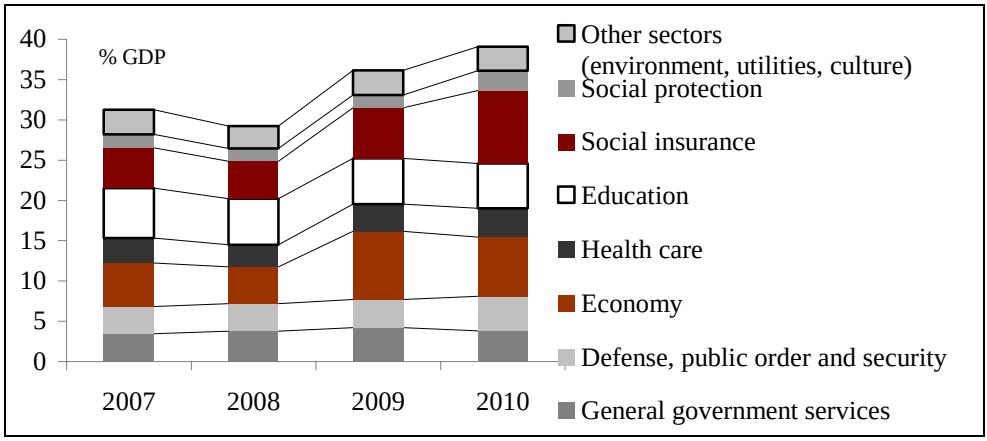
c) Local budgets by function



d) Social Fund by component



e) GG budget by function



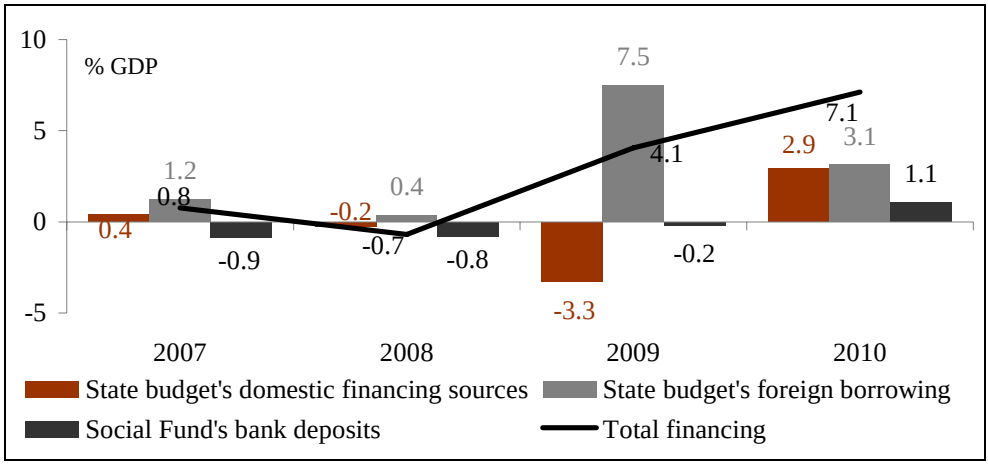
Sources: MoF, IMF.

As mentioned above, the GG budget had a small deficit or even a surplus in 2007-2008. This was a dramatic change from the situation of previous years, when this deficit was at the level of 5-10% of GDP. A major source of deficit financing has always been foreign borrowing from donors. Apart from a short period of time in the beginning of 1990s, the government had never borrowed from foreign sources on commercial terms. The domestic market for government borrowing via treasury bills is very shallow and incapable of providing any significant amount of money. Massive borrowing from foreign sources even on concessional terms led to an accumulation of the government's foreign debt, which became unsustainable already in the beginning of the 2000s. The Kyrgyz Republic went through two rounds of debt treatment by the Paris Club of creditors in 2001 and 2005; nevertheless, in 2006 its debt situation deteriorated to such a level that Kyrgyzstan became eligible for HIPC support from the World Bank and the IMF.[7] After some hesitation and hot political debates, the government decided not to join the HIPC initiative. In the meantime, in light of the difficult debt situation, the donors substantially reduced the provision of aid to the Kyrgyz Republic in the form of loans and switched to grants for budget support and PIP. Therefore, foreign borrowing decreased quite substantially in 2007-2008, resulting in a radical reduction of the government budget deficit.

Another factor that contributed to the reduction in government expenditures and budget deficit was the accumulation of reserves by all levels of government. For 2007-2008, the balances of the republican and local budgets on the treasury accounts increased by 1 billion soms and the Social Fund accumulated 2.4 billion soms on its deposits in the commercial banks. Altogether, by the end of 2008, the GG budget had increased its reserves by 1.8% of GDP. This may not seem like much by the standards of neighboring countries, which created huge reserve funds by accumulating windfall money from the sale of natural resources, but it is quite a substantial amount for Kyrgyzstan which lacks large oil or gas deposits. The result of the interaction of these different budget deficit financing sources is shown in Figure 6.

[7] These two organizations together with the Asian Development Bank have always been the main lenders to the Kyrgyz government. The Heavily Indebted Poor Countries (HIPC) Initiative was launched in 1996 by the IMF and World Bank, with the aim of ensuring that no poor country faces a debt burden it cannot manage. Under this Initiative, poor countries receive debt relief on debt owed to the IMF and World Bank in the form of writing it off and/or restructuring on the condition of implementing a reform program agreed upon with the donor organizations. This initiative was the only way available for Kyrgyzstan to receive relief from its debt to the international financial organizations.

Figure 6. Financing of the deficit of the GG budget



Sources: MoF, IMF.

Some important changes had been introduced in the fiscal policy at the end of 2008. One of these changes was the adoption of a new Tax Code effective from 1 January 2009. Some new taxes were introduced and others abolished but from the budget perspective, the most significant innovation was the reduction of the VAT rate from 20% to 12%. This very substantial tax rate cut was undertaken in anticipation of a Laffer-curve-type effect (expansion of tax base in response to the reduction of the tax rate). Another major policy shift was a decision to increase public investments in the economy, especially in the energy sector. There are several hydropower station projects pending from Soviet times including the very large Kambarata-I and the medium-sized Kambarata-II stations. The construction of Kambarata-I requires roughly USD2 billion in investments and this is impossible without foreign participation, so efforts to attract foreign investors to the project have intensified. Kambarata-II requires much fewer resources, and it can be completed using only domestic resources. Massive investments into the latter station started in 2008 and continued in 2009-2010.

As a result of these decisions made at the end of the pre-crisis period, the size and composition of the government budget revenues and expenditures had to change drastically in the following years.

2.3. Fiscal performance during the crisis

The Kyrgyz economy started to feel the impact of the crisis in the second half of 2008. Falling remittances became the first and one of the most important crisis transmission channels; the remittance growth slowed from a 66% rate of increase in IIQ2008 (in comparison to the same quarter a year ago) to a 38% growth rate in IIIQ2008 and 26% in IVQ2008. In 2009, remittances fell throughout the year and, in total, were reduced by 27% in comparison to 2008 record amounts (Table 1).

Falling exports were another transmission mechanism (reduction in US dollar terms by 10% in 2009, see Table 1). From the government budget revenue point of view, the most sensitive macroeconomic change was the contraction of imports by 25%; this was caused by shrinking foreign currency inflows (remittances and exports) to finance these imports, but an even more important reason was the fall in re-exporting activities and associated incomes of the Kyrgyz traders. Russia, Kazakhstan, and other countries of the region that were seriously affected by the crisis had to devaluate their currencies, and the cheap Chinese commodities exported to these countries via Kyrgyzstan lost a significant part of their price competitiveness. By unofficial estimates, the re-exports value in 2009 fell by 46% in comparison with 2008.

Unlike its neighbors, Kyrgyzstan was not affected by the global financial crisis in the narrow sense as the Kyrgyz banks are not closely integrated into the global financial system; nor could the Kyrgyz enterprises borrow on international markets. The fall in international prices for oil, gas and metals had only a minor positive effect on the Kyrgyz economy as imported fuel became somewhat cheaper.

All these changes resulted in a slow down in GDP growth to 2.9%, the Kyrgyz som/USD exchange rate devaluation by 17% and zero inflation in 2009. Interestingly, real wages kept growing in 2009 (8% growth rate) albeit at a bit slower pace than in 2008. According to the NSC, the poverty rate in 2009 remained at 2008 levels. All in all, the economy was only moderately affected by the crisis.

The fiscal impact of the crisis was, however, more significant. The above mentioned fall in imports coupled with the VAT rate cut (see the previous section) led to a dramatic fall in collections of VAT on imports. In 2009, collections of this tax fell in comparison to 2008 by 31% in nominal terms and by 34% if measured in % of GDP (Figure 3a). Collections of customs duties and excise taxes on imports fell as well. Despite some improvements in collections of income tax and mining-related taxes,[8] domestic revenues of the government budget started abruptly

[8] These improvements are related to the introduction of new taxes in the Tax Code starting from 2009: the tax on special means of budget-financed organizations and the special tax

shrinking in January 2009. In IQ2009, the government had to return to the practice of delays in payments on virtually all its budgetary obligations almost forgotten since the early 2000s. In these conditions, the government had to look for any foreign sources capable to fill-in the hole in the budget.

In the beginning of 2009, The Kyrgyz government negotiated and received a substantial aid package from the Russian Federation, which included, among other things, a USD150 million grant for budget support and a USD300 million loan on very concessional, IDA-comparable terms[9]. This completely changed the fiscal situation in 2009.

Thanks to the Russian grant, the total GG budget revenue in 2009 increased by 10.4% in real terms or by 2.2% of GDP (reduction by 1.0% of GDP without the Russian grant). The share of foreign grants in the GG budget revenue increased from 6.3% in 2008 to 15.7% in 2009. The dependence of the republican budget revenue on foreign grants became even stronger – their share increased from 8.4% in 2008 to 21.2% in 2009.

The other components of the GG budget revenue – own revenues of local budgets and the Social Fund – somewhat increased in comparison to 2008 levels (Figures 2 and 3b). This was mostly due to the growth of wages and salaries, which are a tax base for personal income tax and contributions to the Social Fund.

The resources of the USD300 million Russian loan were not integrated into the budget directly, but have been allocated to the specially created Development Fund. In this Fund, these resources were split into two parts: one part was used for financing the Kambarata-II hydropower station construction and the other part was used for financial investments abroad and inside the country. This resulted in an increase in total GG expenditures to the level of 36.1% of GDP (Figure 4) and a creation of the budget deficit of 4.1% GDP (Figure 6). The investments into Kambarata-II contributed to an increase in the share of capital expenditures in terms of total expenditures of the GG budget from 21% to 26% (Figure 5a).

The creation of the Development Fund and the use of its resources for financial investments outside the country had implications for the implementation of the IMF program, which started in December 2008 and assumed the IMF's USD100 million support to the budget. The IMF considered these investments to be a violation of the program's condition of transparent management of public finances in Kyrgyzstan (IMF, 2010). As a result, during the 18-month period of the program's

on the gross income of the Kumtor mine as well as on the expansion of the patent system (lump sum income tax for physical persons) to additional types of activities.

[9] Two other components of the package – debt for equity swap and USD1.7 billion in investments into Kambarata-I hydropower station – have not materialized in 2009-2010.

implementation, only the initial tranche worth USD25 million had been disbursed; the remaining USD75 million never arrived in the country. This, in turn, resulted in lost or, at least, delayed budget support to be provided by the EC in 2010 under the condition of proper implementation of the IMF program.

Significant changes took place in 2009 in the functional structure of government expenditures (Figures 5b and 5c). The share of spending on the economy (mostly the Kambarata-II station but also some other public investment projects) in the republican budget increased from 24.4% in 2008 to 35.9% in 2009. The share of spending on administration and defense, public order and security also increased from 34.6% in 2008 to 37.9% in 2009. On the opposite end, the share of social spending (including education, health, social insurance and social protection expenditure) in the republican budget was reduced from 32.5% to 27.6%, mostly at the expense of education. It should be noted, however, that the local budgets' and Social Fund's social spending increased (Figures 5c and 5d), so the share of social expenditures in total GG budget expenditures reduced less: from 50.2% in 2008 to 46.8% in 2009 (Figure 5e).

The picture of the budget deficit financing in 2009 (Figure 6) was shaped by the receipt of the Russian loan and creation of the Development Fund (and the IMF's reaction, see above). Due to these developments, the foreign borrowing of the republican budget went up to 7.5% of GDP. Part of these resources was spent on financing the increased government expenditures, but a larger part of this borrowing was directed towards the Development Fund – the operation registered in the treasury accounts as the republican budget's domestic financial investments.

In October 2009, the government decided to implement a major structural reform in the energy sector by privatizing distribution companies and dramatically increasing energy tariffs (by 100-300% for different energy types). One component of this reform package included compensation for the increased energy tariffs for socially vulnerable categories of the population in the form of increased pensions, privileges and benefits for those receiving them. This significantly influenced fiscal developments in 2010.

Developments in 2010. From a purely economic point of view, 2010 began well: with the economic recovery in Russia and other countries of the region, remittances and exports picked up; the output of the Kumtor gold mine increased substantially, providing very good economic growth figures for the IQ2010. The implementation of the energy sector reforms started seemingly smoothly; the tariffs were increased and compensations to the population started to be paid.

In April 2010, however, a violent change of political regime took place, which was followed by even harsher violent conflict in the southern part of the country in June 2010. During these events, especially in the south, many people were killed

or injured. Many residential buildings and other infrastructure (including education and health facilities) were destroyed. The political, economic, social and fiscal situation in the country was deeply destabilized.

In terms of the economic impact of the events, many SMEs in trade and services suffered from looting. Agricultural production in many parts of the country was also negatively affected as many peasants became active participants in the events or refugees during spring and summer – the periods of the year which are critically important for crop production in Kyrgyzstan. The country's banking system was also strongly affected as the activities of several banks affiliated with the former president's family were destabilized by the change in power. Construction and investments into fixed capital also slowed down because of the difficult political environment.

These domestic shocks for the economy were complemented by unfavorable developments in the external environment. As a reaction to the events in Kyrgyzstan, neighboring countries closed their borders with Kyrgyzstan either completely or partially, which resulted in a significant reduction in trade with these countries and transit of goods via these countries. Just before the April events, Russia introduced an export duty on oil products going to Kyrgyzstan; previously these were exported to Kyrgyzstan without such a duty. This action induced a hike in prices for gasoline and diesel fuel in the country, which increased in September 2010 by 23% and 47%, correspondingly in comparison with December 2009. Supplies of oil products were also disorganized during the spring period which had adverse consequences for crop production which is dependent on supplies of diesel fuel for land cultivation. The next shock was the launch of operations of the Customs Union between Belarus, Kazakhstan and Russia on 1 July 2010. One implication of the Customs Union was a much stricter customs administration on the Kazakh-Kyrgyz border which adversely affected the re-exporting activities of Kyrgyz traders. Then, as expected, the inflow of tourists from Kazakhstan, Russia and other countries into Kyrgyzstan fell by half during the summer due to the tourists' fears of instability in the country.

According to the NSC's preliminary data for 2010, GDP decreased in real terms by 1.4% in 2009. The decline was registered in many sectors of the economy: 4.7% in agricultural crop production, 22.8% in construction, 9.8% in investments into fixed capital (FDI almost halved), 6.8% in retail trade, and 7.4% in tourism. These economic losses have been partially compensated by good growth in industrial production – by 9.8%; industry has not been affected by the events and benefited from improving market conditions on export markets for the Kyrgyz light industry, increased water supply necessary for electricity generation and favorable developments in gold production. The impact of the political events on government revenue was less significant as the key taxpaying sectors – industry

and communications (growth by 2.6%) – did well, and the most affected sectors (retail trade, tourism, agriculture) pay very little in taxes. The fuel price shock in April-May and the rapid increase in money supply (M2x grew by 17.8% in May-October 2010) resulted in high inflation: in December 2010, the 12-month inflation rate by CPI appeared to be 19.2%.

According to the preliminary fiscal data for 2010 (Table 2 and Figures 1-5), the GG budget's domestic revenue increased by 1.6% GDP in comparison with 2009, but foreign grants fell significantly (no comparable replacement to the Russian grant received in 2009), so total revenue decreased by 0.1% GDP. For the same period of time, the GG budget expenditures increased by 3.0% GDP to the level of 39.1% GDP, which had never been seen before in the history of Kyrgyzstan. The largest spending increases were registered in social insurance and social protection (the compensatory package for the energy tariff increase has been left unchanged despite the cancellation of the tariff increase in April 2010) and in spending on defense, public order and security (the result of an increase in salaries to the servicemen after the April events). The spending on the economy and education decreased due to substantial cuts in capital expenditures and an insufficient indexation of recurrent expenditures for inflation. The GG budget deficit appeared to be at the level of 7.1% of GDP; it was financed by previously accumulated savings (including the remainder of the Development Fund's resources, which played a crucial role in sustaining government expenditures during the most vulnerable period in summer-fall 2010, and the Social Fund's deposits in commercial banks) as well as by an extraordinary aid package provided by different donors.

Apparently, the 2010 budget had an extraordinary nature; neither the level of government expenditure, nor the GG budget deficit are sustainable, and these are to be reduced in the medium-term. Under such conditions, it is difficult to count on the sustainable growth of all social expenditures; in particular, it is hardly possible to maintain pension expenditures at the level above 9% of GDP as in 2010. It seems that a reasonable goal could be to maintain expenditures on education, health, social benefits and services to the most vulnerable groups of the population at least at the already achieved level in % of GDP. This should be accompanied by deep structural reforms aimed at increasing efficiency within the resource envelope available for these sectors.

3. Education

3.1. Education system and education policy in Kyrgyzstan

The country inherited a well-developed and expensive system of education, health care and other social services from the Soviet period. These types of systems are usually found in countries with much higher levels of GDP per capita than Kyrgyzsatn. Social policies during the independence period were mainly directed at sustaining the already achieved level of social development. This is fully relevant to the government policy in the area of education.

The education system in Kyrgyzstan includes the following cycles: pre-school, primary, basic secondary, general secondary, initial professional, secondary professional and higher education. Key data on the components of the education system are provided in Table 3. Primary (1-4 grades), basic secondary (5-9 grades), and general secondary education (10-11 grades) are usually provided in the same school. Before 1993, general secondary education was mandatory and available for all children free of charge. With the adoption of the Constitution in 1993, basic secondary education had become mandatory. Access to general secondary education remained free in public schools, but it was not guaranteed to everybody any more.

Table 3. Enrollment and number of education establishments and teachers by cycle of education

	1990	2001	2007	2008	2009
Pre-school education					
Number of establishments	1 696	407	474	503	594
Number of children in establishments, thousands	211.6	45.1	62.8	68.0	76.0
Number of teachers/educators, thousands	13.7	2.3	2.5	2.7	2.9
Primary and general secondary education					
Number of establishments	1 759	2 048	2 168	2 188	2 191
Number of students, thousands	942.9	1 121.6	1 080.1	1 053.7	1 036.9
Newly enrolled students, thousands	109.9	116.7	98.5	96.8	100.7
Graduates, basic secondary school (8/9 grades), thousands	85.1	103.2	101.2	97.9	98.9
Graduates, general secondary school (10/11 grades), thousands	58.8	71.2	69.6	66.5	62.5
Number of teachers, thousands	68.8	73.4	72.1	70.8	71.2

	1990	2001	2007	2008	2009
Initial professional education (vocational schools)					
Number of establishments	111	113	111	110	109
Number of students, thousands	50.5	25.9	28.8	30.0	31.0
Newly enrolled students, thousands	32.2	22.8	22.6	26.4	29.6
Graduates, thousands	33.2	22.5	21.7	23.9	27.2
Number of teachers/educators, thousands	5.3[10]	3.1	3.3	3.5	3.2
Secondary professional education (technical colleges)					
Number of establishments	48	58	82	90	111
Number of students, thousands	43.4	26.5	43.4	49.0	59.6
Newly enrolled students, thousands	14.1	11.1	16.4	19.6	24.1
Graduates, thousands	14.2	8.4	8.6	10.1	11.6
Number of teachers/educators, thousands	3.9	2.9	3.4	4.1	4.8
Universities					
Number of establishments	9	48	49	50	54
Number of students, thousands	58.8	207.4	250.5	243.0	233.6
Newly enrolled students, thousands	11.0	51.0	55.4	46.2	47.4
Graduates, thousands	9.2	22.5	26.4	33.5	38.1
Number of teachers, thousands	5.2	10.5	14.4	13.0	12.7

Source: NSC, WDI.

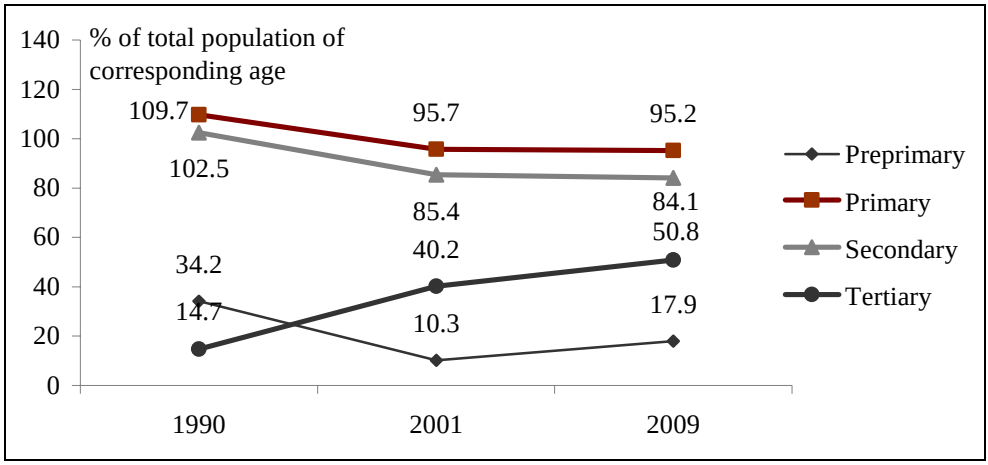
An area where government commitments were substantially reduced during the independence period was pre-school education. Many public pre-school establishments were closed; their number decreased from 1,696 in 1990 to 402 in 2001; then, with some economic recovery and an increase in the number of children, it went up to 594 in 2009. The number of children in pre-school establishments fell almost five-fold from 1990 to 2001; it then increased by approximately two-thirds by 2009. Despite this increase, the gross enrolment rate in pre-school education in 2009 was only 17.9% (Figure 7).

The situation in primary and secondary education developed quite differently. The number of schools increased by 25% in 2009 in comparison to 1990; during the same period, the number of schoolchildren rose by 12% due to the increase in the total population[11]. The average number of students per school decreased by 12%; this indicates that new schools were built mostly in rural areas; in these areas, the average number of students per school is usually smaller than in urban areas because of lower population density. This reflects the government policy targeted at maintaining access to education in rural areas, where the increase in the number of schoolchildren is higher due to the higher birth rate. Partially for this reason, gross enrolment rates were slowly deteriorating from 100%+ at the begin-

[10] Data for 1991.
[11] Total population was 4.4 million in 1990 and 5.3 million in 2009 (NSC).

ning of the 1990s to 95% for primary education and to already a rather low 84% for general secondary education[12] in 2009. The considerable decline in the general secondary enrollment rate was influenced by the transition from mandatory general secondary to mandatory basic secondary education (see above).

Figure 7. Gross enrollment rates by education cycle



Source: WDI.

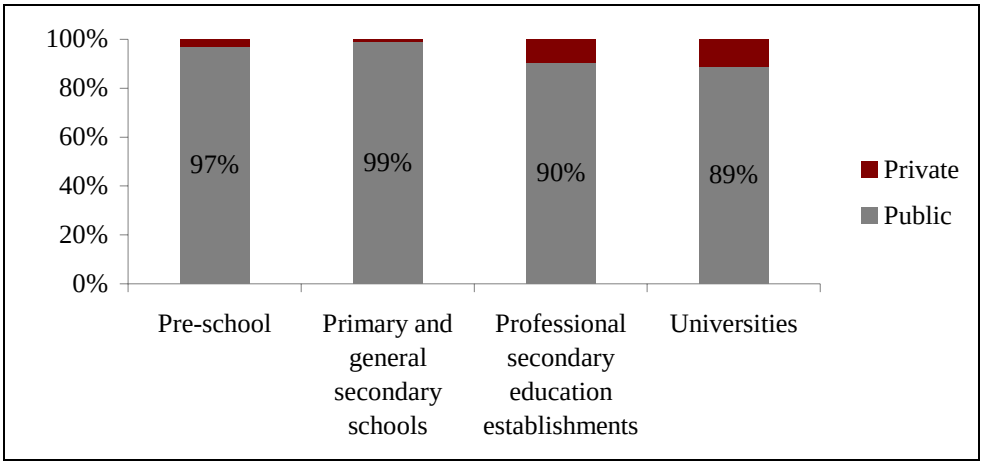
The initial professional education system (vocational schools) suffered greatly in the 1990s and slowly recovered in the 2000s. The number of students and educators in 2009 was just around 60% of 1990 levels. Training in these establishments has been shifted towards shorter programs; in 1990, the majority of students were enrolled in two-year programs; in 2009 the programs required only one year of study for almost all students (compare the total enrollment and the number of new entrants into the system).

The two upper segments of the education system – secondary professional and higher education – experienced a boom during the last twenty years. The number of technical colleges increased 2.3 times between 1990 and 2009; during the same period, the number of universities increased six-fold. Similarly, the number of students in universities increased almost 2.5 times; the number of students in the secondary professional education establishments grew more modestly – by just 37%. The gross enrollment rate in tertiary education jumped from 15% in 1990 to 51% in 2009.

[12] According to NSC data (may not be directly comparable to WDI data in Figure 7), the basic secondary education gross enrollment rate was fluctuating at the level of 96-98% in 2006-2009.

These trends in enrollment have been partially influenced by the emergence and expansion of private education establishments. In the pre-independence period these did not exist; by 2009 the role of private establishments became quite noticeable in professional secondary and university education (Figure 8); there are still very few private schools and kindergartens. However, household-funded (vs. government-funded) education is much more widespread than it seems in Figure 8. These days state-owned universities and technical colleges are allowed to enroll not only students paid for by the government, but in addition the students who pay for their educations (the so called contractual students). As the government does not impose any restrictions on contractual enrollment and university admission tests are not tough, the number of contractual students is limited by the population's demand only. The tuition fee is usually pretty low (typically USD200-500 per annum), so demand is very high. The enrollment increases in secondary professional and university education noted above are almost completely due to these contractual students. The possibility to simultaneously educate government-funded students (the so called budget students) and contractual students greatly increases the competitiveness of the public educational establishments in comparison to the private ones. This is because budget funding allows state-owned universities and colleges to cover a large part of the fixed costs of education, and tuition fees cover only the variable costs. Meanwhile, in private education establishments, the tuition fee is the only funding source covering both fixed and variable costs of education. Apparently, this is a deliberate strategy by the government to support state-owned educational establishments in secondary professional and higher education.

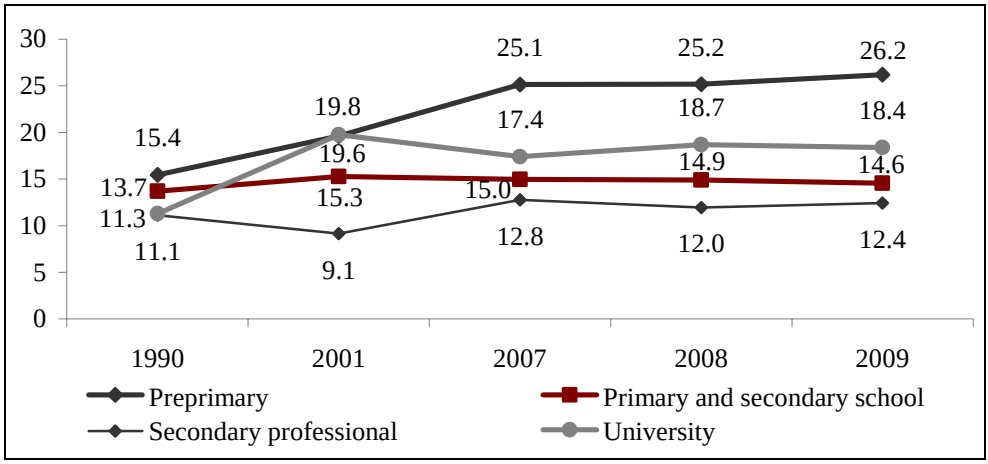
Figure 8. Share of private education establishments in total student enrollment, 2009



Source: NSC.

To understand the trends in the development of the education system, it is also instructive to look at the dynamics of student-to-teacher ratios for different cycles in 1990-2009 (Figure 9). This ratio remained almost stable in primary and secondary school education as well as in professional secondary education and increased considerably in preprimary and university education. These changes in the number of students per teacher, of course, have implications for the education costs per student and for the quality of education (see below).

Figure 9. Student-to-teacher ratios by cycle



Source: Author's calculations based on NSC data.

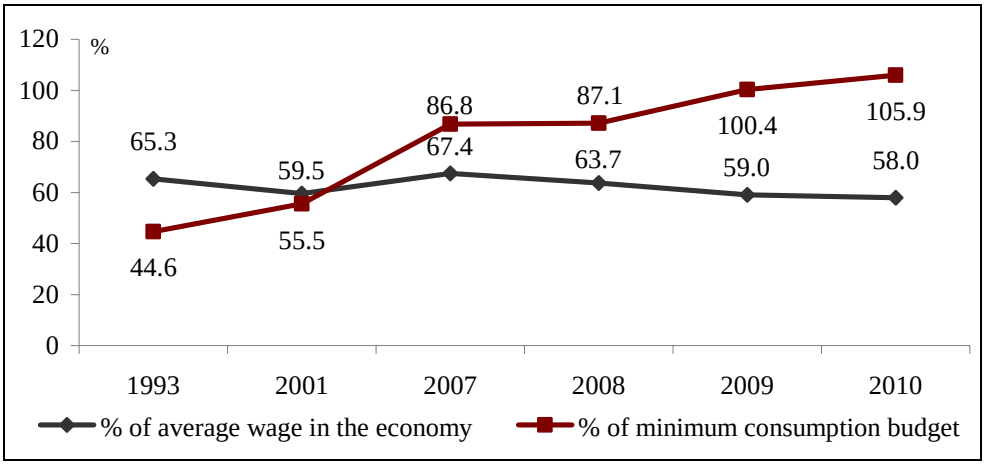
Another factor influencing both the costs and quality of education is the absolute and relative size of the average salary in the education sector (Figure 10). In the 1990s-2000s, the average teacher's salary was always below the minimum consumption budget[13] for adults (till 2009) and well below the average wage in the economy; thus salaries in the sector are very low even by the standards of the economy of Kyrgyzstan, which is classified by the World Bank as a low income country. The type of dynamics of absolute and relative size of teachers' salaries is, however, different. Salaries in absolute terms (measured as a percentage of minimum consumption budget) were gradually increasing after the fall in the living standards in the beginning of 1990s. In contrast, the relative salaries of teachers were not increasing but rather fluctuating in the range of 58-68% of the average wage in the economy. So far the government has been able to at least maintain the historical level of salaries in the sector in relation to the average wage in the econ-

[13] Costs of a minimum consumption basket officially approved by the authorities of the country.

omy. The persistently low salaries explain the outflow of skilled teaching staff relative to other sectors of the economy or to other countries and the unwillingness of good university graduates to teach at schools. According to the Institute for Strategic Analysis and Evaluation et al, 2009, only 24% of teachers are less than 45 years old. Skilled teachers are being replaced by inexperienced staff who often have insufficient levels of professional training (CASE-Kyrgyzstan, 2007).

Apart from the availability and remuneration of teachers, other factors influencing the quality of education include the language of instruction, curriculum, availability of textbooks, computers and learning materials, and programs for the retraining of teachers. As for the language of instruction at schools, the possibility to study in the native language in secondary schools has been maintained for an absolute majority of the population; public schools provide education in Kyrgyz, Russian, Uzbek and Tajik; private schools provide education in some other minority languages. The quality of education, however, significantly depends on the language, and schools with instruction in Russian are in high demand among parents[14].

Figure 10. Average salary in education



Source: Author's calculations based on NSC data.

Until recently, the contents of primary and secondary education and the professional structure of tertiary education had not changed very much in comparison to pre-independence times[15]. Changes were mainly in the area of languages and hu-

[14] Apart from the higher quality of education, these schools also offer their students an opportunity to develop better communication skills in Russian, which is important for those who may consider continuing their education at universities or migrating to work in Russia.

[15] In regards to universities this is true only with respect to the enrolment of budget-funded students. The contractual students are concentrated mostly in law, business administration

manities. Currently the MoES is developing a new curriculum for secondary schools, which is to modernize the contents of education. Existing evidence (CASE-Kyrgyzstan, 2007) suggests that textbooks are not supplied in necessary quantities and that those supplied do not always match current education programs and/or satisfy quality requirements. Re-training programs for teachers are offered under conditions which are not acceptable/convenient for teachers.

Under such circumstances it is not surprising that the quality of education is low. Kyrgyzstan took part in the two last rounds of the OECD's Programme for International Student Assessment (PISA) measuring the levels of proficiency of 15-year old pupils in reading, math and science. Both times the country placed last among the 57 (2006) and 65 (2009) participating countries and economies in all subjects. The survey is designed for developed countries and all OECD and non-OECD participating countries have levels of GDP per capita and other development indicators well above those of Kyrgyzstan, so last place as such is not very surprising. However, the share of those demonstrating at least a fair level of knowledge appeared to be very low, never exceeding 20% (Table 4). This means that 80%+ of schoolchildren do not have the skills that are minimally necessary for successful participation in the modern economy and life. The national learning achievement tests for students in the fourth and eighth grades conducted in 2001, 2005, 2007 and 2009 offer similar results: the share of those demonstrating fair performance and above was below 50% on all subjects in 2007-2009. There are no comparable testing data for the quality of education at university level, but existing anecdotal evidence suggests that this quality is low and falling; university graduates often fill in positions on the labor market which do not really require higher education.

Table 4. Share of schoolchildren who demonstrated a fair performance on the education quality tests in Kyrgyzstan, %

	PISA		**National learning achievements tests**						
	15-year-olds		**Fourth-grade students**				**Eighth-grade students**		
	2006	**2009**	**2001**	**2005**	**2007**	**2009**	**2003**	**2007**	**2009**
Reading	11.7	16.7	59.5	44.2	35.6	31.4	26.5	26.4	33.2
Mathematics	10.6	13.4	80.4	58.8	38.0	43.5	41.3	15.7	29.1
Science	13.6	18.1	n/a				37.7	13.6	n/a

Note. In this table, *proficiency level 2 and above* for PISA and *basic level and above* for national learning achievement tests are considered as fair performance.
Sources: OECD, UNICEF.

and economics, skewing the proportions of total numbers of university students towards these professions.

As follows from the government's Country Development Strategy for 2007-2010 and its update for 2009-2011 adopted in early 2009, the government has identified several problems in the education sector. The Strategy includes the following measures to fix these problems:

- Changes in the management and financing systems, especially in secondary education, towards a higher efficiency of government spending including the introduction of per capita financing in secondary education and encouraging the private provision of education services for those willing pay for it;
- Improvements in the access of 6-7-years-olds to preprimary education;
- Modernization of education programs at all levels of education;
- Improvement of the system of teacher training and retraining;
- Improvements in access of children from poor families to education;
- Improvements in supply of textbooks and other equipment and learning materials;
- Adjustment of the vocational, professional secondary and university education to the labor market demand.

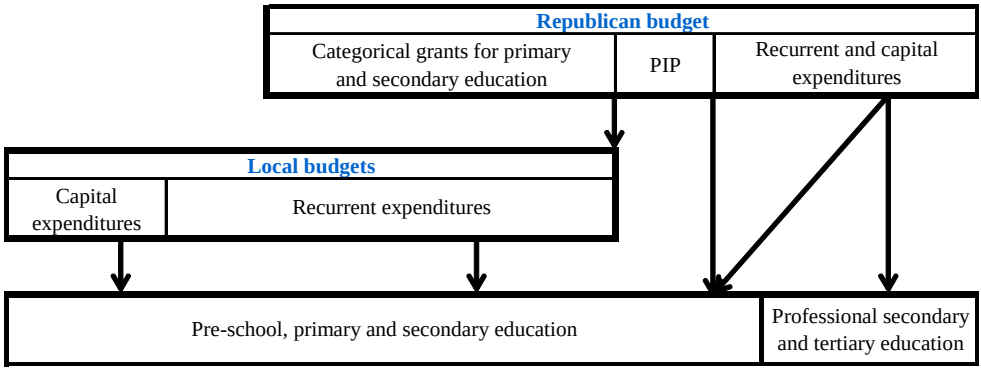
It is worth noting that many of the actions listed above have been included into different government programs since the 1990s. The successful implementation of this program is dependent, of course, on the availability of resources in the government budget, which has never been sufficient for the proper implementation of this ambitious program covering all components of the education system. So, insufficient prioritization and a lack of costing of policy actions seem to be the key problems of the reforms in the sector.

3.2. Trends in budget financing of education before and during the crisis

Public education programs are financed by both republican and local budgets (Figure 11). Local budgets finance pre-school, primary and general secondary education; the republican budget funds professional and university education as well as the sector administration. The republican budget also contributes to the financing of pre-school and school education through: 1) categorical grants, which are intended to support priority spending items (mostly teachers' salaries and utility costs) in primary and secondary education; 2) spending on preparation and publication of textbooks and learning materials, program development and educa-

tion quality testing for schools; 3) donor-funded Public Investment Program, which finances capital investments (new construction and repair of buildings, textbooks and learning materials, etc.) and re-training of teachers in pre-school, primary and secondary education; 4) direct financing of several secondary education establishments (this is a relatively minor item).

Figure 11. Education financing system



Source: compiled by author on the basis of the legislation of the Kyrgyz Republic.

In 2007-2010, the total budget financing of education expenditures fluctuated in the range 6-6.8% GDP (Figure 12). One could notice that the financial crisis did not result in any reduction of total education expenditures in 2009; instead, they slightly increased in comparison to 2008. Data for 2010 show that total education spending somewhat fell in comparison to 2009 under the conditions of the 2010 conflict-related acute budget crisis. In general, if one accounts for inflation (measured by GDP deflator) and the changing number of students, real government education expenditures per student have been consistently growing in the 2001-2009 period (Figure 13). Especially large increases were registered in 2006-2007, when the fiscal situation in the country was improving.

An analysis of the data in Figures 12a and 12b also reveals some trends which were common in the pre-crisis 2007-2008 and crisis 2009-2010 years:

- The share of republican budget education expenditures in total government education spending was going down; the share of local budgets increased from 55% in 2007 to 62% in 2009 and 65% in 2010; local budgets spending increases in % GDP started in 2008, while republican budget spending expressed in % GDP is falling; this reflects some shifts in spending policy from capital expenditures and professional secondary and higher education supported by the republican

budget to recurrent spending on primary and secondary education financed from local budgets;

- The share of spending on salaries of teachers increased from 48% in 2007 to 55% in 2010; this can be seen as the government's reaction to unacceptably low teachers' salaries; another factor is that salaries are protected items in the budget spending, and as such are not subject to cuts even when some other spending items are cut; finally, one could also take into account the presidential and parliamentary elections held in 2007, 2009, and 2010, for which salary increases are, of course, a good way to gain the support of workers in this sector, which is one of the most important sectors from the point of view of its share in total employment in the country;
- Capital expenditures fell in 2007-2010 in % GDP and as a share of total sector expenditures; this relates both to domestically funded capital expenditures and to the externally funded PIP; the capital spending cuts were especially sensitive in 2009-2010; apparently, in the conditions of budget resource insufficiency, capital expenditures in education were the first to be cut;
- Expenditures financed by the income from paid services (special means) remained unchanged in % GDP and increased as a share of total expenditures financed from the republican budget[16]; so, the special means earners (universities and colleges) are relying more and more on their own incomes and are becoming less dependent on the resources redistributed through the republican budget.

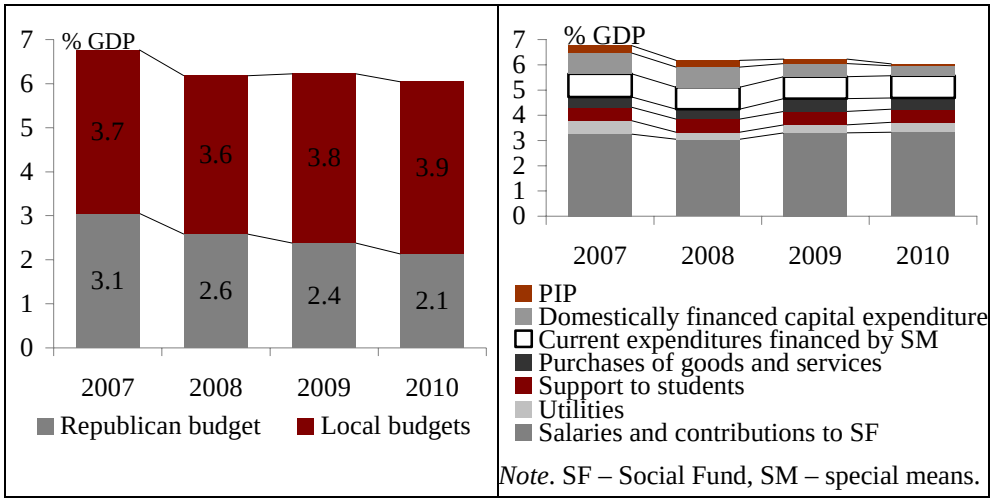
Apart from tuition fees from contractual students, another type of direct household spending on education is out-of-pocket expenditures. This relates to spending on textbooks, notebooks, hiring of private teachers in addition to school education etc., but also to informal parent payments to teachers at school. According to the NSC and MoF data, in 2009 household education expenditures (net of special means accounted in the government budget) were 15.2% of total government expenditures, which is quite a substantial amount equivalent to 1% of GDP. This share is growing fast as according to the same sources of information the share's

[16] Special means, i.e., income from paid services, are mostly tuition fees paid by contractual students of universities and technical colleges – the education establishments financed from the republican budget. The special means are left at the educational establishments which provide these services and are spent by these establishments at their own discretion, but accounted for in the state budget. In addition, starting from 2009, all establishments receiving special means have to pay a special 20% tax on special means, which is a way to centralize a part of these revenues in the republican budget.

values in 2007 and 2008 were just 3.8% and 7.3% correspondingly. So, it seems there is quite a clear trend indicating that, under the current level of efficiency of the budget expenditures, the sector increasingly needs more resources than the government provides.

Figure 12. State budget education expenditures

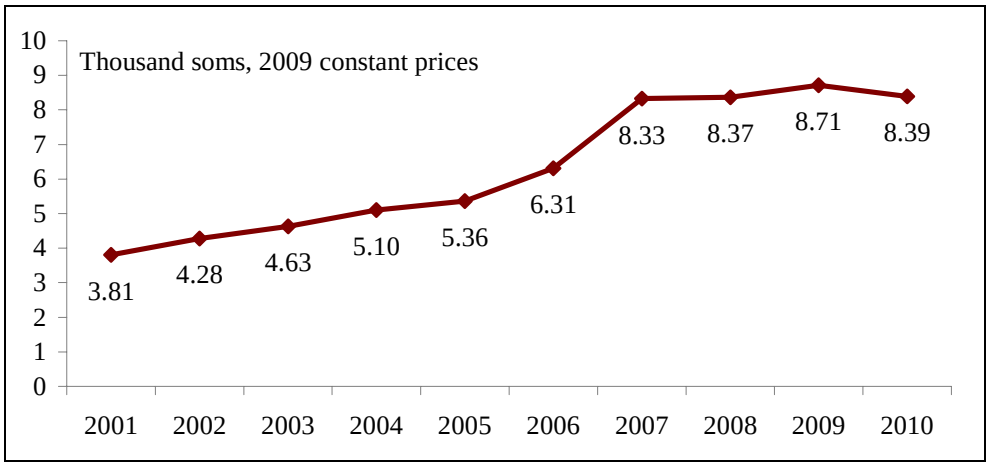
a) Republican and local budgets *b) Expenditures by economic classification*



Note. SF – Social Fund, SM – special means.

Source: MoF.

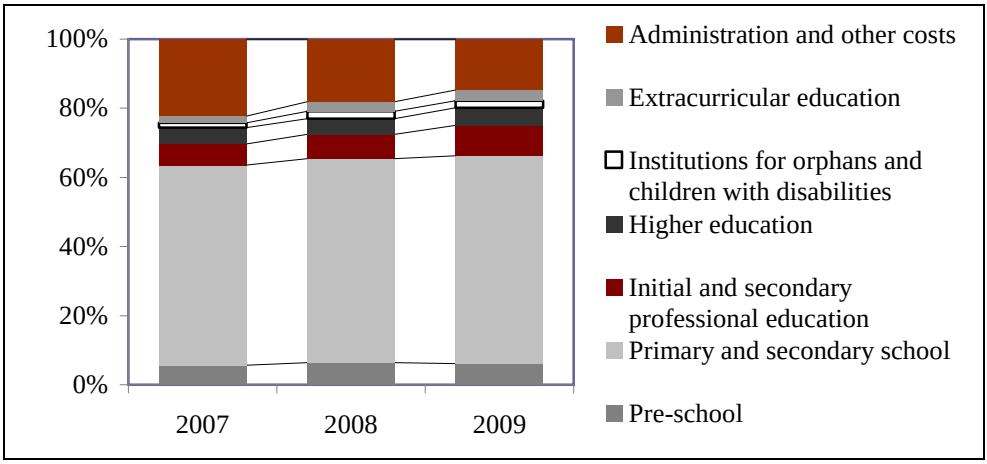
Figure 13. Government expenditure on education per student, all cycles



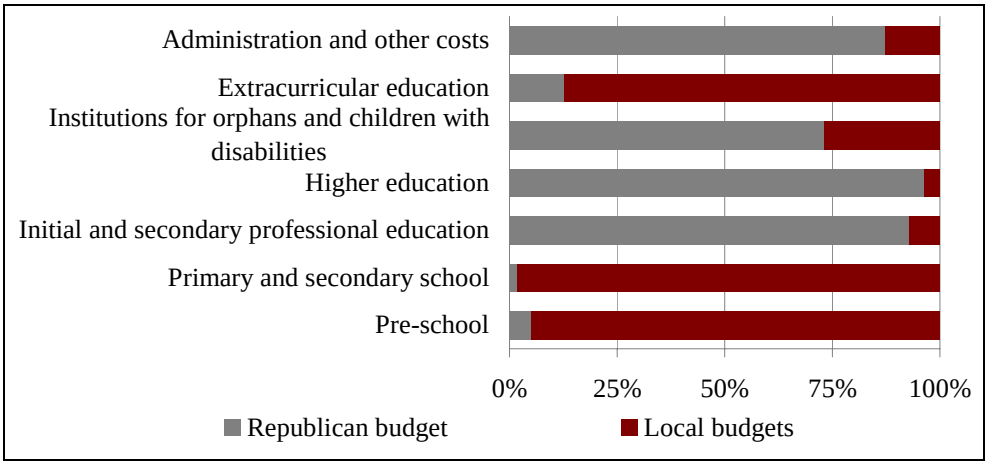
Sources: MoF, NSC.

Figure 14. Government education spending by program

a) Changes in structure, 2007-2009



b) Shares of republican and local budgets



Sources: MoF.

Government activities in the education sector are combined in several programs. The lion's share of budget resources[17] (Figure 14a) – about 60% – goes to primary and secondary schools; in 2007-2009, this share was gradually increasing. Other programs with increasing budgets include higher education and especially initial and secondary professional education; still, these programs occupy only a small share of the government education expenditure. Spending on the sector administration and other costs is the only falling item among education programs. As noted above and

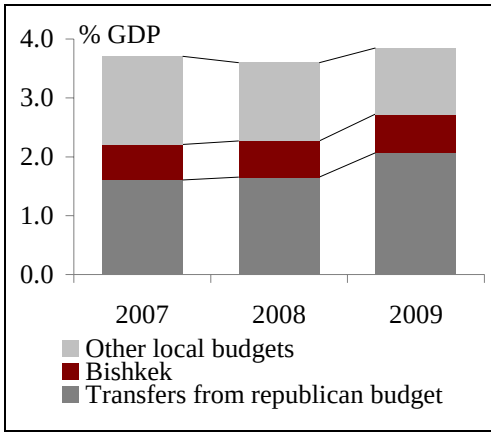
[17] Without special means.

as follows from Figure 14b, the republican budget dominates in financing initial and secondary professional and higher education, institutions for vulnerable groups of children as well as the sector administration, local budgets mostly finance primary and secondary education, pre-school education and extracurricular activities.

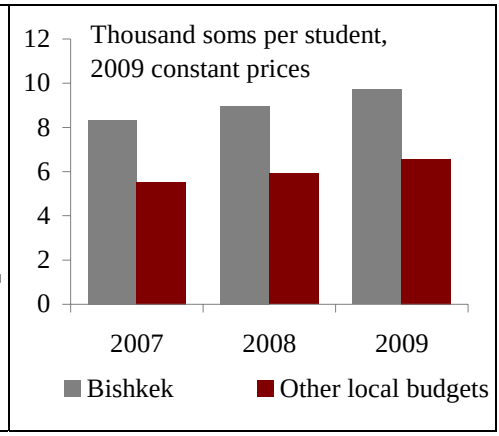
The prevalence of spending on primary and secondary school education explains the large role of local budgets in education financing. Local budget resources are, however, very limited. Under these conditions, the republican budget is to support local budgets in order to ensure that minimum budget financing standards are met in every rural and urban municipality regardless of resource availability in the local budget, from which most primary and secondary education establishments are financed. This support is provided through so-called categorical grants, i.e. transfers earmarked for primary and secondary education expenditure. In practice, categorical grants are allocated to all municipalities apart from the city of Bishkek, which has its own sufficient funds. The size of categorical grants is determined by the Ministry of Finance for every municipality separately on the basis of a special formula; the formula takes into account the number of students in municipality schools, remoteness, rural location, revenue mobilization potential of municipality, and deviation of utility costs from the country average.

Figure 15. Local budgets' education expenditures

a) Own resources vs. transfers from republican budget



b) Bishkek vs. other local budgets (including categorical grants)



Sources: MoF, NSC, Bishkek mayor's office.

As follows from Figure 15a, the categorical grants provide resources for more than 50% of local budget spending on education not including Bishkek (in 2009 – including Bishkek). In 2007-2009, the role of these grants was increasing, while the share of local budget funds was falling. However, this trend has not continued

into 2010, the categorical grants have fallen in the same period of 2009 by 8.7% in real terms. In 2010, local budgets increased their education spending by 10.6% in real terms, compensating the reduction of categorical grants and ensuring some increase in total recurrent education expenditure. The redistributive policies of the government, however, could not fully equalize the education spending per student; the availability of its own relatively high budget revenues in the budget of Bishkek allows the city to spend consistently more on education than other municipalities, which receive support in the form of categorical grants (Figure 15b).

Thus, recurrent education expenditures and especially school teachers' salaries have been secured even in the periods which are the most difficult from the fiscal point of view. This has been ensured by the efforts of the republican budget (in 2009) and local budgets (2010) at the expense of capital expenditure cuts. Insufficient government resources are increasingly supplemented by direct household spending on education. This financing strategy may, however, have implications for the efficiency of the education expenditures and the longer-term development prospects of the sector.

3.3. Equity, efficiency and longer-term trends in education financing

A key task of the education system is to provide equitable access to quality education services. So it is worth considering whether the resources spent on education correspond to the outcomes in terms of equity of access to and quality of education.

As follows from the discussion in section 3.1, the general indicators of seem to demonstrate nearly universal access to primary and basic secondary education country-wide. However, a look at the regional variation in access indicators reveals significant inequalities (Figure 16a). The capital of the country, Bishkek, the second large city, Osh, and the relatively industrialized Chui oblast located near Bishkek demonstrate much better primary completion rates than other predominantly rural regions. In the remote mountainous Naryn oblast, the primary completion rate is below 90%.

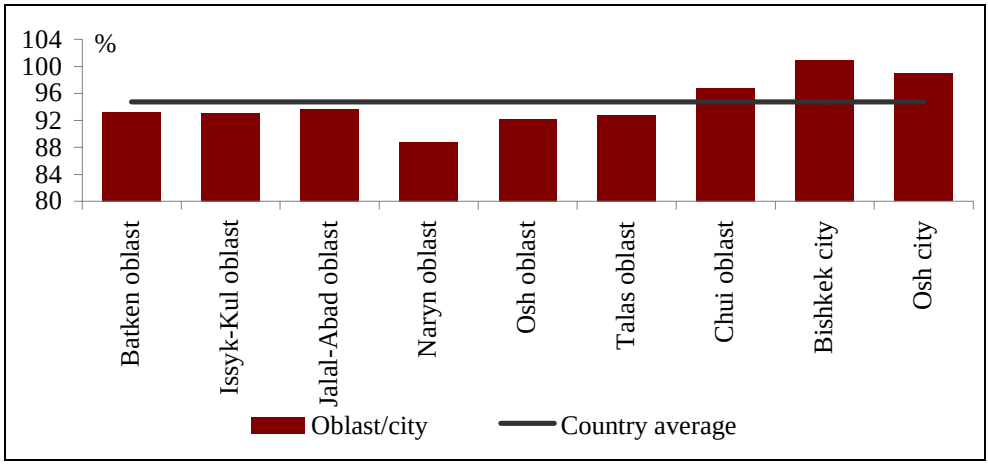
The general situation with quality of secondary education is not good (see section 3.1), but it is also far from being uniform in different parts of the country. The data on average republican testing[18] scores (Figure 16b) show that secondary

[18] Republican testing is a centralized test for general secondary school graduates willing to continue their education in universities.

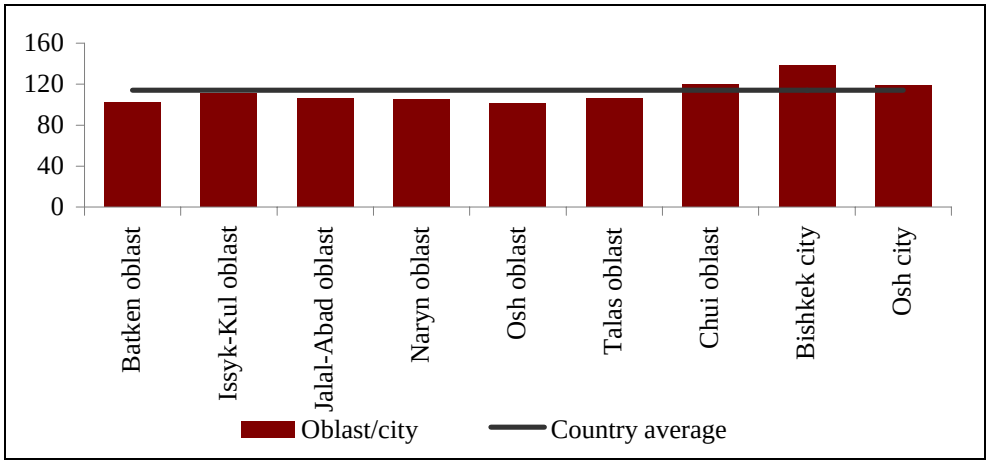
school graduates in the same three regions demonstrate much better knowledge of the school program than graduates from other oblasts.

Figure 16. Education outcomes by region, 2009

a) Gross primary completion rate, %



b) Average republican testing score



Source: NSC, MoES.

These distinct trends in the education outcomes exist despite the conscious efforts of the government to level the resource supply by region. As it was noted, the government builds new schools mostly in rural areas, supports schools with small numbers of students and maintains much lower student-to-teacher ratios in rural oblasts (Table 5). Categorical grants also go mostly to the rural areas. However,

the size of categorical grants per student is not always negatively correlated with the level of economic development of the regions as one would expect; for example, in 2009 the poorest oblasts, Batken and Osh, received less categorical grants per student than the significantly better off (in terms of gross regional product per capita) Chui and Naryn oblasts. So, the government redistributes large resources, but this redistribution does not seem to be really targeted and it does not produce desirable results. This could be seen as evidence of insufficient efficiency of government spending in education.

Table 5. Regional patterns in resource allocation in the school system, 2009

Region	**Batken oblast**	**Bishkek city**	**Chui oblast**	**Issyk-Kul oblast**	**Jalal-Abad oblast**	**Naryn oblast**	**Osh city**	**Osh oblast**	**Talas oblast**	**Kyrgyzstan**
Average number of students per school	416	864	434	438	461	423	888	433	402	**473**
Student-to-teacher ratio	17.2	21.0	17.7	12.8	15.4	10.2	19.8	13.5	11.9	**15.0**
Categorical grant per student, thousand soms	4.5	0.0	4.7	4.3	4.3	7.1	3.8	4.2	4.8	**4.1**
For reference:										
Rural population, % of total	75.9	0.4	82.1	71.2	77.4	85.0	9.5	92.0	85.2	**65.9**
Gross regional product per capita[19], thousand soms	14.6	87.5	39.2	62.7	23.0	27.4	26.1	17.1	26.5	**37.3**

Sources: MoF, NSC, MoES.

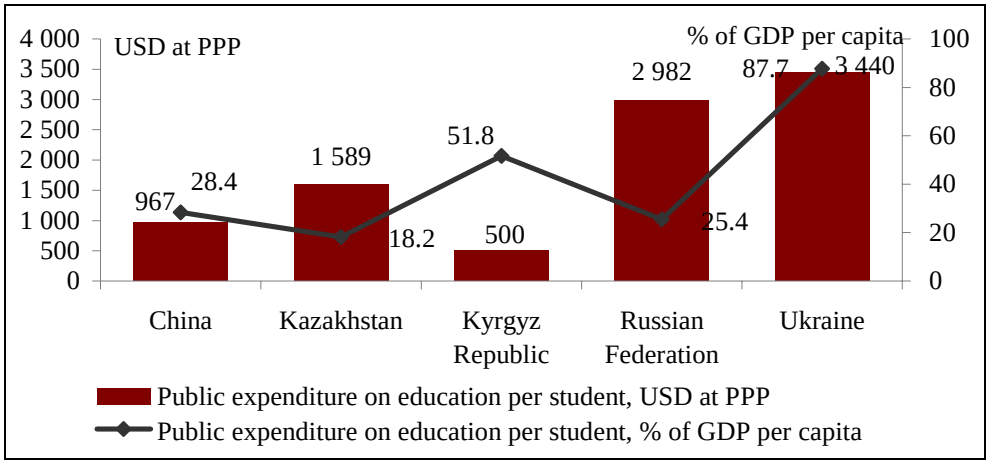
As discussed above, the insufficient quality of education is related to low teacher salaries, lack of modern (or, sometimes, any) textbooks, equipment and learning materials, which, in turn, may be related to insufficient government spending on education. A comparison with other countries may be useful for understanding whether or not the government spends enough on education. There are, at least, two spending variables to compare internationally: (i) public expenditure per student expressed in % of GDP per capita – this variable shows which

[19] Data for 2008.

share of the gross domestic product is spent on education controlling for the share of children and youth in the total population; this is a measure of the priority society assigns to the education sector; and (ii) public expenditure per student expressed in USD at PPP – this variable shows the absolute level of expenditures controlling for differences in purchasing power of USD in different countries.

A comparison with neighboring or traditional partner countries[20] indicates that the relative position of Kyrgyzstan is dependent on the variable used for this comparison (Figure 17). In absolute terms, Kyrgyzstan lags behind all the countries selected for comparison; it spends three times less than Kazakhstan, six times less than Russia and almost seven times less than Ukraine. Even China, which has never been perceived as a country with a developed social system, spends two times more per student than Kyrgyzstan. However, with regards to the indicator of education expenditures per capita relative to the level of economic development, Kyrgyzstan does well; it spends a two times higher share of its GDP per capita than Russia and almost three times more than Kazakhstan; among the countries selected for this comparison, only Ukraine spends more on education. So, it seems to follow from these comparisons that Kyrgyzstan already spends a large share of its available resources on education; yet, as these resources (GDP) are small, the Kyrgyz government's absolute level of education spending is very low by international standards and any further reduction in education spending does not seem acceptable.

Figure 17. Public expenditure on education – international comparison, 2008



Sources: IMF, UNESCO.

[20] Comparable data for Tajikistan and Uzbekistan are not available.

The gap in the absolute level of education expenditures per student between Kyrgyzstan and its closest neighbor, Kazakhstan,[21] (even if not comparing with other countries) is very large and could not be easily reduced. Moreover, the fiscal situation during the next few years is going to be very tough (see Section 2.3), and substantial increases in the total amount of resources spent on education can hardly be expected (apart from teacher salary increases, which are now a big political issue). So, a radical improvement in the efficiency of education spending and increased use of private resources seem to be unavoidable. This could be done through a series of measures, which are already being discussed by the government and the society:

- Greater reliance on private resources. Household resources spent on education are increasing already (see Section 3.1), so the government needs to further support the efficient use of these resources by improving conditions for competition between public and private education establishments and allowing for some user fees (e.g., textbook rental fee) even in the publicly funded segments of the education sector. The possible negative implications of user fees on the equity of education access are not to be ignored, but have to be addressed through targeted support to those at risk (i.e., children in poor families).
- Concentration of available public resources on priority levels of education. Primary and basic secondary education are the services the government must provide with proper quality, and resources are to be concentrated there. As for the initial and secondary professional education establishments and universities, it may be worth considering gradually transforming these into fully autonomous establishments receiving existing facilities as an endowment, but cutting off any government financing for recurrent and new capital expenditures. These autonomous establishments are to function at the expense of tuition fees and other private income sources only. To retain the possibility for talented young people from poor families who could not afford paying tuition fee to receive a higher education, a limited number of stipends of a decent size (well above the current low level of stipends paid to a broad circle of students) distributed in a competitive and transparent manner are to be established.
- Establishing effective feedback mechanisms providing parents and students with more say in the distribution of public resources spent on education. One mechanism serving this purpose is the introduction of

[21] This country is also very far from being a good performer in terms of education quality as the results of PISA-2009 suggest.

per capita financing schemes, which are now being tested in different parts of Kyrgyzstan. It is also important to have proper supervision and consultation mechanisms linking education establishments with the communities in which they are operating. Existing school parent committees are to be converted into school boards with the power to oversee all of the financial operations of their schools.

- Expansion of independent quality control mechanisms in education on the basis of pre- existing testing systems and creating a link between the results of this independent testing and the financing amounts received by schools.

It should be noted that these measures are broadly consistent with the current government policies (see Section 3.1) and many components of these reforms are already in place or in the making. The main issue in implementing reforms in education financing is the availability of strong political will as these changes are going to adversely affect influential groups.

4. Health

4.1. Health care system and reforms in the health sector

Unlike the education system, the health care system in Kyrgyzstan went through a substantial reform aimed at improving performance and increasing the efficiency of public spending in the sector. Government actions supported by different donor organizations have been framed within two health care reform programs, "Manas" (1996-2006) and "Manas Taalimi" (2006-2010).

These programs had the following key components:

- Restructuring the health care system, including the legal separation of primary and secondary (hospital) care, the introduction of family medicine practices[22], massive adjustments in the number of health establishments, beds in hospitals, and staff (especially nurses).
- Changing the financing mechanisms in the sector, which included the introduction of mandatory health insurance (MHI) and the creation of the MHI Fund, the introduction of the single payer system (MHIF serves as a single payer for services of all health establishments in the system), the transition from an input-based (numbers of staff, beds, etc.) to an output-based (number of treated cases, served population etc.) financing system, the introduction of patient copayments for received services, the formulation of the State Benefit Program (a package of health care services available free of charge /for some patients' categories/ or with a nominal copayment for all insured people) and an additional government-subsidized drug package of MHI.
- Improving the quality of health care services related to strengthening professional medical education, introducing evidence-based medicine principles, and enhancing intra-establishment management practices, accreditation and licensing standards for health establishments etc.
- Strengthening public health service through the improved supply of equipment to the service, the development of an epidemiological surveillance system, etc.

[22] Soviet-style policlinics have been transformed into family medicine centers providing out-patient services.

- Changing the sector management system, including the provision of more autonomy to health care establishments and creating the right conditions for private sector participation in the sector (in particular, the supply of medicines has been fully privatized).

Some of these reforms are still in the process of implementation. For example, according to MHIF data, as of 1/01/10, mandatory health insurance still covers only 77.6% of the population. Coverage of different population groups by the State Benefit Program and the level of copayments are being adjusted from time to time. Just recently, in 2009, the MHIF has become organizationally independent from the Ministry of Health.

In the process of implementation of these reforms, the size of the government-run health care system has been substantially reduced (Table 6). In comparison to 1990, the number of hospitals and beds in them fell by about 40% and the availability of doctors and nurses per 1,000 people fell by 30% and 50% correspondingly. At the same time, the number of rural primary health care units, so called medical and obstetrical units, have somewhat increased. Per 1,000 population, the number of doctors' outpatient visits fell by half and the number of patients treated in hospitals and average time of a patient's stay in hospital fell by one third. Interestingly, after a deep contraction in the beginning of the 2000s, the health care system's output started to grow as, for example, the data on the number of patients treated in hospitals in 2007-2009 suggest; this may be related to the partial/full copayment waiver provided for some population groups (children under five, pregnant women, elderly people over 70 etc.; see the paragraph related to copayments below).

Table 6. Health system indicators

	1990	2002	2007	2008	2009
Input indicators					
Hospitals	307	188	174	195	182
Number of beds, per 1,000 people	9.3	5.9	5.3	5.3	5.2
Family medicine centers	…	86	80	79	72
Village medical and obstetrical units	939	890	931	960	983
Emergency care stations	85	95	91	101	73
Doctors, per 1,000 people	3.5	2.8	2.4	2.5	2.4
Nurses, per 1,000 people	10.3	6.8	5.5	5.5	5.4
Output indicators					
Outpatient visits per capita	6.1	3.9	2.8	2.7	2.8
Patients treated in hospitals, per 100,000 people	2.31	1.46	1.55	1.56	1.61
Average time of stay in hospital, days	14.9	13.0	10.4	10.1	9.8
Outcome/impact indicators					
Life expectancy at birth, years	68.4	68.2	67.9	68.4	69.1

	1990	2002	2007	2008	2009
Under-five mortality rate, per 1,000 live births	41.3	29.0	35.3[23]	31.5	29.3
Maternal mortality ratio, per 100,000 live births	62.9	53.5	51.9	55.0	63.5
Death rate associated with tuberculosis, per 100,000 population	6.7	20.1	13.5	11.8	11.0
Proportion of one-year-old children immunized against measles, %	95.0	99.7	98.8	99.1	98.9
Proportion of births attended by skilled health personnel, %	98.9	98.8	98.4	98.5	98.5
Infectious diseases incidence rate, per 100,000 population	2.45	1.80	1.91	1.93	1.86
Cardio-vascular diseases incidence rate, per 100,000 population	0.62	1.98	1.10	0.98	1.01
Gastrointestinal diseases incidence rate, per 100,000 population	0.52	1.58	1.69	1.61	1.61

Source: NSC, UNDP.

The private sector is steadily developing in the Kyrgyz health care. According to the available data, in 2007, the number of active private medical practitioners (physical persons and legal entities) was above 1,800; they concentrated mostly in the supply of pharmaceuticals (drugstores), general medical practice, dentistry, and maternity care. By estimates, they handled up to 5% of outpatient visits. Obviously, the role of the private sector is still minor, but growing.

An analysis of the outcome and impact indicators of the health care system shows a mixed picture. Some indicators of the health status of the population have now returned to 1990 levels or improved in 2009 (e.g., life expectancy and under-five mortality rate); others are recovering after deteriorating in the 1990s – first half of 2000s, but are still considerably worse than in 1990 (e.g., mortality rate associated with tuberculosis and infectious, cardio-vascular and gastrointestinal diseases incidence rates); some indicators (e.g., maternal mortality ratio) continue to deteriorate. It should be noted, however, that not all indicators' time series are properly adjusted for making intertemporal comparisons because of the changes in definitions (e.g., under-five and maternal mortality, see footnote 22) or in morbidity/mortality registration practices. Also, importantly, many of the most socially important diseases are dependent not only on the performance of the health care system, but also on living standards and living styles, which were undergoing

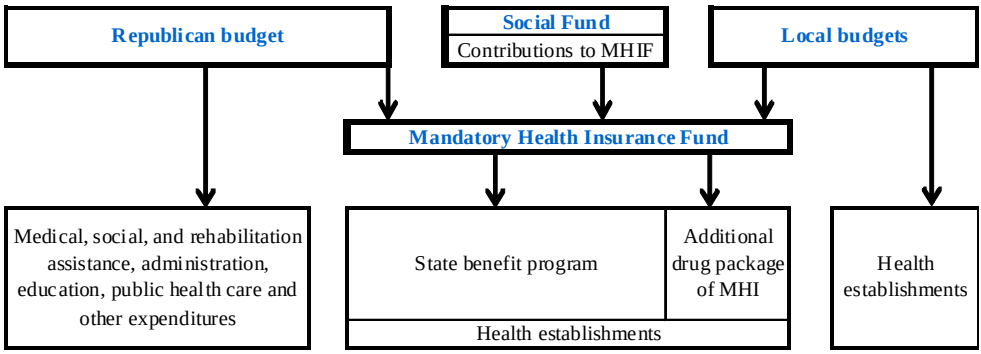
[23] Between 2002 and 2007 the country made a transition to the WHO definition of live births (different from the previously used Soviet definition), which resulted in an increase in infant and under-five mortality rates.

drastic changes during the period of time under consideration. For example, the changes in child and maternal mortality rates correlate with a major reduction in the fertility rate in the 1990s and its partial recovery in 2000s – from 3.7 births per woman in 1990 to 2.4 in 2000 and 2.7 in 2008. In any case, with some confidence one could say that the health status of the population in Kyrgyzstan has largely improved between 2002 and 2009 and this correlates well with improvements in health care financing (see below) and poverty reduction and the general increase in incomes during this period of time.

4.2. Trends in financing of health care before and during the crisis

There are several channels through which the government finances the health care system in Kyrgyzstan (Figure 18). The primary sources of money are the republican budget (the largest contributor), local budgets (almost exclusively Bishkek, other local budgets contribute very little) and the Social Fund (with regards to the employees' contributions to the MHIF). These resources are supplemented by patient copayments for services covered by the State benefit program and their payments for services, which are not included in this Program, i.e., special means of health care establishments. These resources are also accounted for in the government budget.

Figure 18. Government financing of health care



Source: compiled by author on the basis of the legislation of the Kyrgyz Republic

Two key government health care programs – the State benefit program and the Additional drug package of MHI – are financed through the MHIF, which receives funding from all three primary sources. The MHIF purchases services provided by

the health care establishments and serves as a single payer in the system. Other health care programs are implemented directly by the Ministry of Health and its bodies.

Similarly to other public services, taxes collected by the republican and local budgets are the main source of public financing of health care complemented by donor resources and means paid by the population to health care establishments. However, health care financing has some specifics. First, there is one additional source of financing – employers' MHI contributions. These contributions are paid at the rate of 2% of an employee's wage/salary. After accumulating in the Social Fund, these contributions are transferred to the MHIF and used to finance the State benefit program and the Additional drug package of MHI. Second, donor resources accounted in the budget include not only PIP health projects, but also SWAp money (see the next paragraph). Third, households' payments to health care establishments include not only special means[24], but also patients' copayments for services included in the State benefit program.

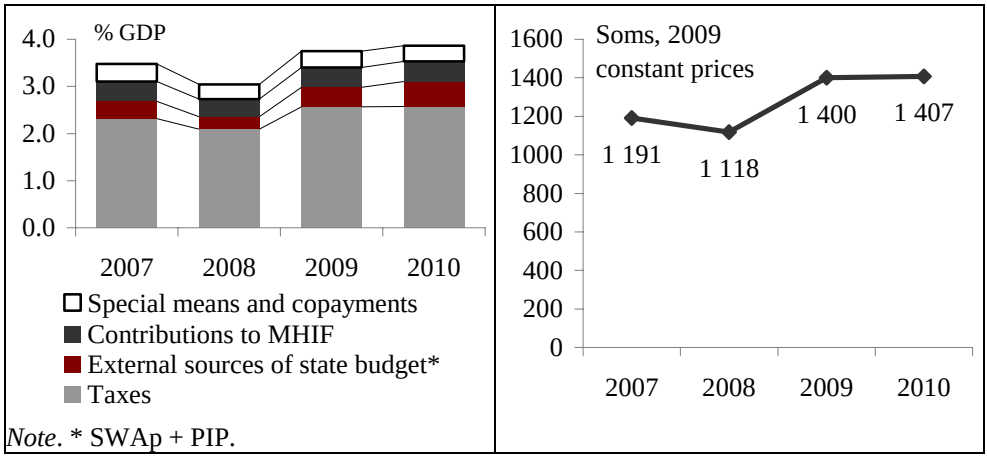
The adoption of the Manas Taalimi program marked the beginning of the implementation of the so-called Sector-Wide Approach (SWAp) in Kyrgyzstan. SWAp is a form of sector budget support provided by donor organizations: World Bank, Department for International Development (United Kingdom), KfW (Germany), Swiss Development Cooperation Agency, and Swedish International Development Cooperation Agency. The financial support goes to the republican budget under the conditions that (i) the government gradually increases the health care funding in the state budget from 10.3% in 2005 to 13.0% by 2010 and that (ii) the deviation of actual budget health expenditures from the approved ones should not exceed 5%. Apart from SWAp, the government budget also includes donor-funded PIP projects similarly to education and other sectors.

The improvement of the fiscal situation in 2005-2007 and the incentives created by SWAp contributed to a significant expansion in government health expenditures: from 2.0% GDP in 2003 (the lowest value in 2000s) to 2.4% GDP in 2005 and 3.5% GDP in 2007 (Figure 19a). A tighter fiscal situation in 2008 (see Section 2.1) resulted in a fall of public health spending to 3.0% GDP. Correspondingly, in 2008, per capita expenditures in constant prices decreased by 6% to the level of 2007. The fiscal expansion in 2009-2010 (Section 2.3) allowed for a health spending increase to the level of 3.8% GDP in 2009 and 3.9% GDP in 2010, which is already close to the pre-independence level of spending. The per capita spending indicator grew by 28% in 2009 in comparison to 2008; this indicator has almost not changed in 2010 (Figure 19b).

[24] I.e., payments for services, provision of which is not guaranteed by the government and which have not been included in the State benefit program.

Figure 19. Public expenditures in the health sector

a) Financing sources *b) Expenditures per capita*



Note. * SWAp + PIP.

Sources: MHIF, MoF, NSC.

Figures 19a and 20 also show that the increases and reductions in government health expenditures in 2007-2010 are to be attributed to the tax-based allocations from the republican budget, which provided 57-58% of total government health expenditures in 2007-2009. All other financing components – local budget resources (9-12% of total public expenditures on health), contributions to the MHIF (11-12%), donor resources (9-11%), and special means and copayments (9-11%) – have been significantly smaller in size and demonstrated much less volatility. It could be stated with confidence that donor budget support has not been crowding out domestic spending on health care; instead, domestic tax-based health care financing (including contributions to the MHIF) increased in 2009 compared to 2007 by 0.33% GDP or by 22% in real per capita terms. So, the crisis has not resulted in any public health expenditure cuts; these expenditures were growing both in 2009 and in the very difficult 2010.

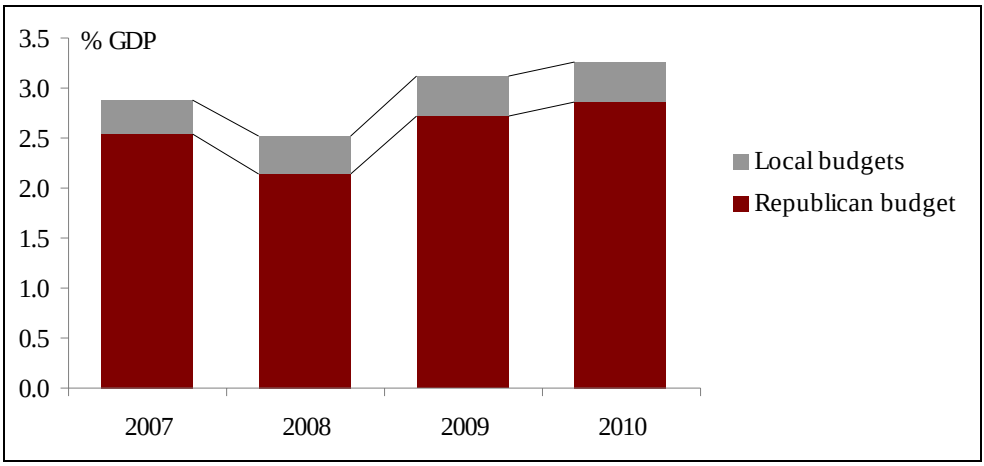
Public health expenditures managed by the Ministry of Health and MHIF are structured in five programs[25]: (i) A state benefit program consisting of six components, among which *assistance in hospitals* and *family medicine centers* are the largest[26]; (ii) MHI's additional drug package (iii) Public health care, (iv) Medical, social and rehabilitation assistance, administration and education, and (v) A hi-tech fund. As follows from Figure 21a, assistance in hospitals still consumes the

[25] As mentioned above, the first two programs are managed by the MHIF and the other three – by the Ministry of Health.

[26] The other four components are general practice centers, independent family doctor groups, emergency care, and dentistry.

larger part of the health care budget, but its share is now just about 40% of the total, much less than in the past (above 70% in 2000). This is due to the optimization/reduction of the hospital network. On the contrary, the shares of spending on primary health care and public health programs have been increasing during the health reform implementation and these trends continued in 2009-2010 despite the crisis.

Figure 20. Health expenditures of the republican and local budgets



Source: MoF.

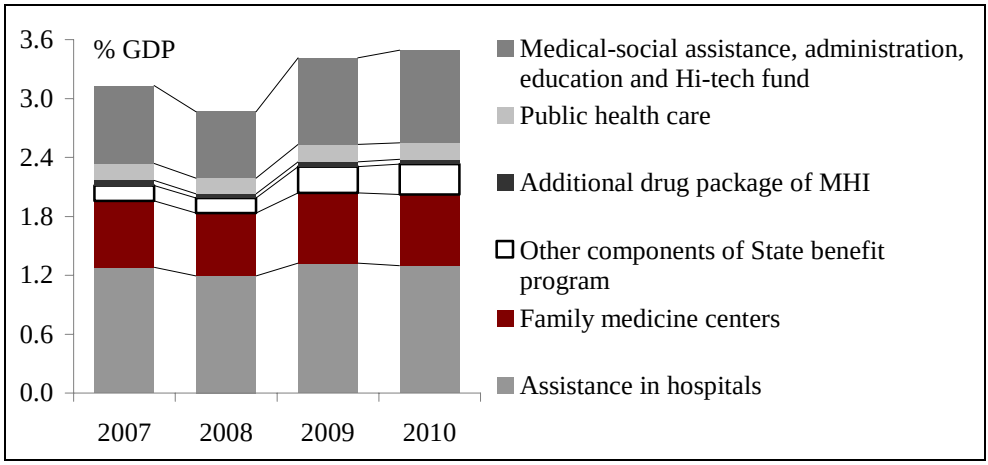
Another reform aspect – the transition from input-based to output-based financing mechanisms – has affected the composition of hospital costs. The number of beds or number of staff in a hospital does not directly affect the amount of resources received by this hospital any more. Instead, the funding depends on the number of cases treated in this hospital. Apparently, this arrangement reduces incentives for hospitals to keep patients longer than needed; it is one of the factors behind the continuous decline in the average time of stay in hospital (see Table 6). A single unit costs rate is established annually (e.g., in 2009 it was 1,340 soms per case), which is further adjusted upwards for rural areas and small towns and some gender and age groups (e.g., pregnant women). A similar system is used for financing primary health care; in this segment of the system, unit costs are set per insured person to be served by a health establishment (e.g., in 2009, it was 65 soms per person per annum); regional and gender/age adjustments are used for these unit costs too. These adjustments are funded separately; in 2009, additional expenditures of this kind were 172.8 million soms (2.3% of total public expenditures on health).

Copayments are to be paid by all insured users of services of government-run health establishments; uninsured people are expected to pay full/commercial costs of service. The size of copayment is not very high, but far from being negligible – in 2009, the average copayment amount was 684 soms (about USD15) per case. Some categories of the population receive 100% or 50% copayment discounts; these categories include pregnant women, children under five, pensioners above 70 years old (100% discount) and younger pensioners (partial discount); this list was somewhat expanded in recent years. Altogether, however, the copayments do not play an important role as a source of revenue for the health care system; in 2009 and 2010, their shares in total government health expenditures were just 2.9% and 2.8% correspondingly.

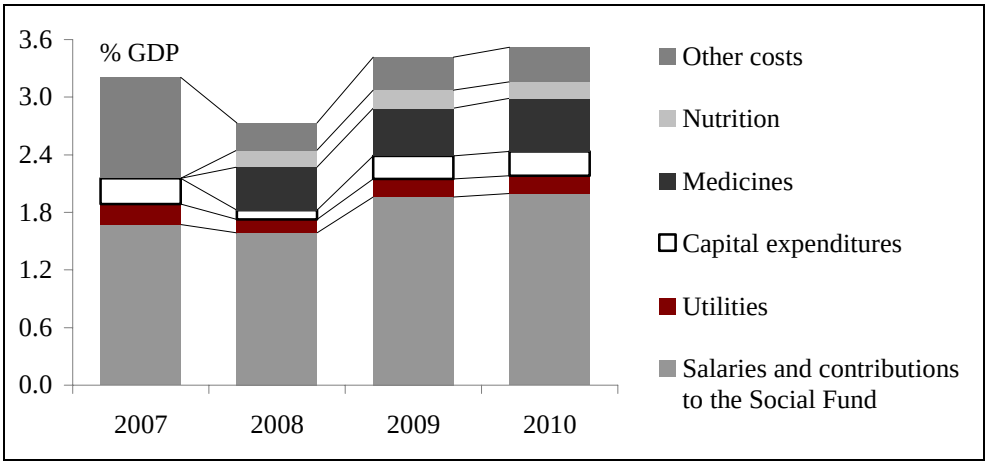
As previously noted, the health care establishments now have more control over their resources. In the economic classification of the republican budget expenditures on health, more than 60% of resources are now included into the item "Expenditures according to the single payer system" and do not require any further subdivision; it is up to the management of establishments to utilize these funds in the most appropriate way. The resulting structure of health expenditures by economic classification is shown in Figure 21b. Expectedly, salaries and associated contributions to the Social Fund compose a larger part of health expenditures. Medicines and capital expenditures are the next two largest items in terms of their share in total expenditures. Interestingly, in health care, unlike education, the crisis did not result in a reduction of capital expenditures. As data for 2009-2010 indicate, even during the crisis, capital expenditures continued to increase, especially spending on medical equipment.

Figure 21. Structure of public health expenditures

a) By program



b) By economic classification



Sources: MHIF, NSC.

Apart from public funding, there are other considerable resources in the health care system. By some estimates, private health expenditures were at the level of 3.4% GDP in 2007-2008[27]. This means that private health expenditures exceeded public ones. The majority of private spending is spent on medicines, but also on official paid services and copayments in the government health care system and for informal payments to doctors and nurses, which still exist and, as anecdotal evidence suggests, sometimes are very large (e.g., in the case of a complicated operation).

Another component of health care expenditures is spending by donor-funded projects, which are not accounted in the government budget. This relates to many technical assistance activities, community-based programs etc. By various estimates, these resources may be as high as 0.4% GDP.

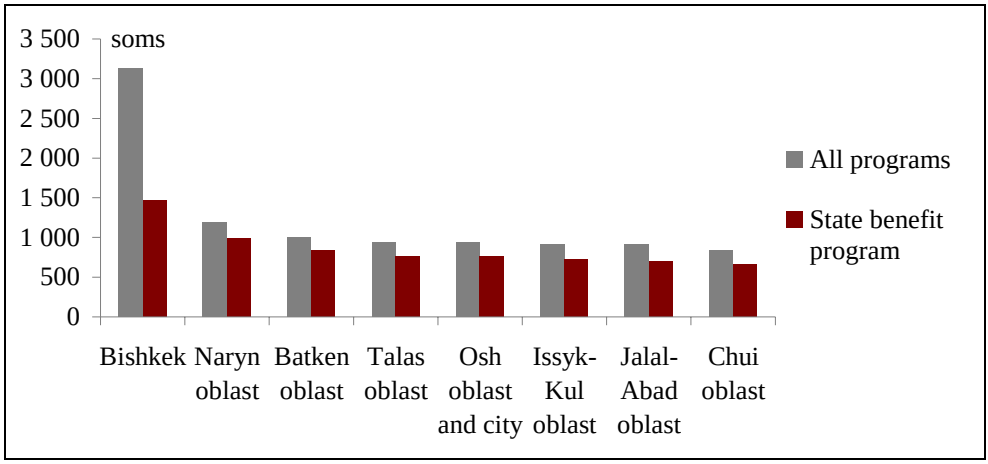
4.3. Equity, efficiency and longer-term trends in health care financing

The recent increases in public expenditures on health are to be accompanied by positive changes in equity of access to health care and efficiency of use of the public resources.

[27] Unfortunately, there are no data available yet on private health expenditures during the crisis.

From the regional point of view on equity of access to the health care system, data on per capita expenditures by region of the country (Figure 22) indicate that only in Bishkek are these expenditures much higher than in other parts of the country. This is understandable as an absolute majority of specialized care clinics in the country are in Bishkek, and these clinics serve people both from Bishkek and from other regions. Another reason is that the budget of Bishkek is capable of providing substantial additional funding for health care establishments, so the State benefit program (the minimally guaranteed set of services) is also better funded in Bishkek than in other regions. The differences between other regions are not big; an analysis of data indicates a slightly higher spending per capita in the three oblasts (Naryn, Batken, Talas) with the smallest populations. This fact may reflect the fixed costs effect (e.g., each oblast has an oblast hospital and some other standard services regardless of the population numbers in the oblast). The situation with inter-oblast spending differences is now much less acute than it used to be before 2006, when the largest part of resources was provided to health care through local budgets. Some oblasts were able to pay more than others. After centralizing the system's resources at the republican level and establishing a single level of unit costs for the whole country, the situation has generally improved and now there is even some positive discrimination towards more remote, mountainous and less populated regions.

Figure 22. Health expenditures per capita by region, 2009



Sources: MHIF, NSC.

Data provided in Section 4.1 suggest that access to some key health services (immunization, births attended by skilled health personnel) is near universal. This, however, is not always the case with regards to some other more sophisticated

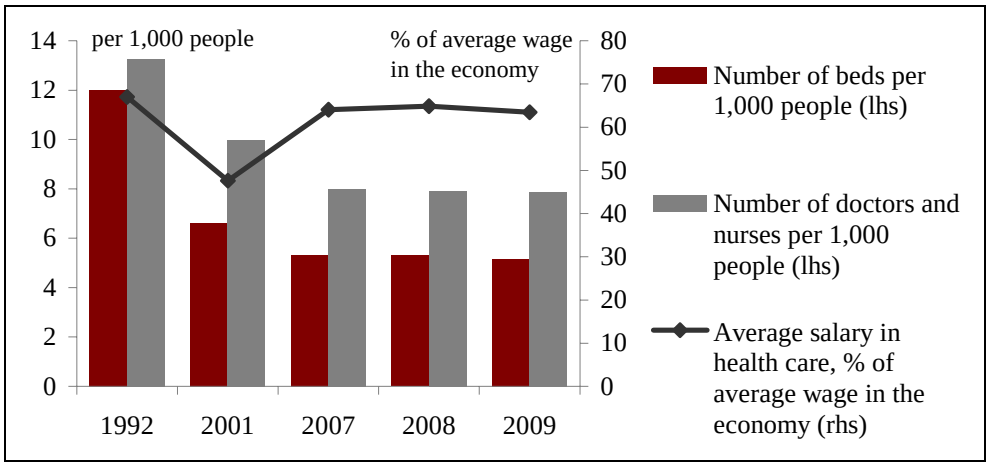
services. There are several types of access barriers: (i) lack of certain specialized care facilities outside of Bishkek and a few other towns; to get access to these services people from rural areas/small towns must travel there, which is costly even if medical services costs as such are not high; (ii) although official copayments are not a heavy burden on most patients' budgets, the costs of medicines are high and unaffordable for people from poorer segments of the population; the government-funded drug package includes only the most essential drugs; (iii) about one-fourth of the population is not included in the mandatory insurance system; this is especially relevant for external and internal migrants, who spend most of their time outside their places of registration; these people face much higher costs of medical services if they wish to receive them in public establishments; and (iv) apart from official copayments, patients often make unofficial payments to doctors and nurses especially in cases of operations and intensive medical treatment; these payments are high and, of course, are not covered by any insurance policy.

It follows from the discussion in Sections 4.1 and 4.2 that one of the key directions of reforms in Kyrgyz health care was an improvement in the efficient use of sector resources. The number of hospital beds and health personnel almost halved in 2009 in comparison to 1992 (Figure 23). Reductions in infrastructure and staff numbers coupled with the general growth of the sector financing allowed the salary situation to improve. The average salary in the sector increased from less than 50% of the average wage in the economy in 2001 to more than 60% in 2007-2009. It should be noted that this level is still low and thee outflow of skilled personnel from the sector is a persistent problem. The "Manas Taalimi" reform program operates with two aggregate indicators of efficiency: (i) share of direct care costs (medicines and materials, patients' nutrition) in total hospital costs and (ii) share of primary health care costs in total costs of the State benefit program. The value of the first indicator increased from 20% in 2004 to almost 30% in 2009; the share of primary health care increased from 26% in 2004 to 38% in 2009. So, apparently the efficiency of the health care system is being improved.

The efficiency of health care in Kyrgyzstan could also be assessed through international comparisons. One of the key health indicators used internationally is the under-five mortality rate (cases per 1,000 live births, U5MR). Statistical analysis based on the data for 27 transition countries of Europe and Central Asia for 2007 (source – WDI) indicates that this variable's different values for different countries are well explained by the countries' differences in just two determinants: public expenditures on health per capita (constant 2005 international dollar at PPP, PHEPC) and fertility rates (birth per woman, FR), see Table 7. This regression equation reflects the general relationship in the region between health spending and health outcomes. According to this equation, actual U5MR in Kyrgyzstan is 11% lower than its value estimated using this equation. In other words, Kyr-

gyzstan has achieved better results in child mortality reduction than countries with similar levels of public health expenditures and fertility rates. This points to the somewhat higher than average efficiency of health spending in Kyrgyzstan.

Figure 23. Dynamics of some health care financing determinants



Source: NSC.

Table 7. Regression of under-five mortality rate on public expenditures on health per capita and fertility rate

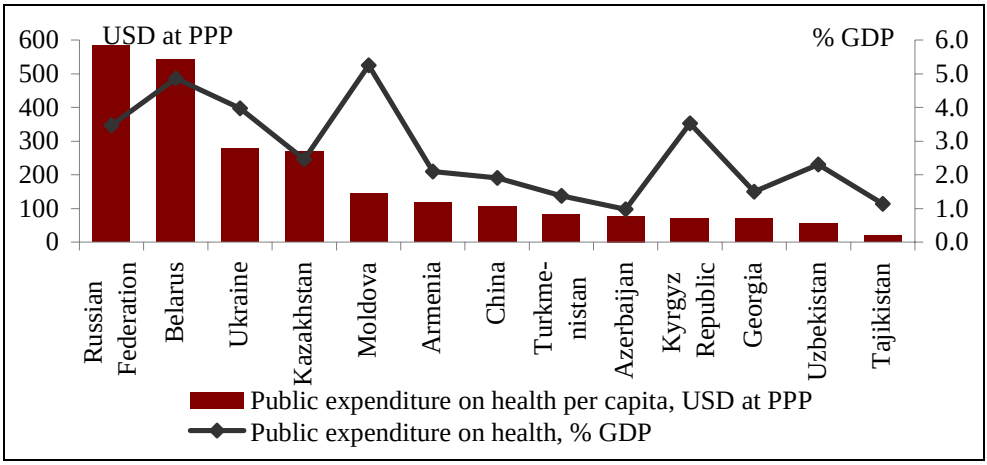
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	37.92	8.30	4.57	0.0001
FR	13.44	1.95	6.90	0.0000
LOG(PHEPC)	-7.30	0.93	-7.88	0.0000
R-squared	0.959	Prob (F-statistic)		0.0000

Note. Dependent variable – U5MR; method – Least Squares; included observations – 27.
Source: Author's calculations based on WDI data.

The improvement in efficiency of use of the public money means that available resources are spent better than before, but this does not mean that the total amount of resources is large or sufficient to ensure good standards of health care. Another type of international comparison (Figure 24) shows that, as in the case of education, the share of GDP spent on health care by the Kyrgyz government is not low; it is the highest among all countries of Central Asia and the South Caucasus. It is higher than in the much richer Kazakhstan and China and is at the same level as in Russia. However, the absolute amount spent per capita is really low: almost four times less than in Kazakhstan, eight times less than in Russia and itwo times less

than in Moldova, a country comparable to Kyrgyzstan by size and level of economic development. Modern health care is costly and without high levels of spending on equipment, medicines, retraining of personnel etc. one can not expect having high quality health care services and low mortality/morbidity rates.

Figure 24. Public expenditure on health – international comparison, 2007



Sources: WDI.

The State benefit program is systematically underfinanced; domestic financing for the program (state budget plus contributions to MHIF plus copayments) covers less than 80% of its estimated full financial costs and only SWAp resources allow it to meet basic financial requirements. So, in order to ensure the sustainability of this and other programs, some further increases in government health care expenditures are needed.

The probability of an increase in government health expenditures in the medium-term perspective is difficult to assess because of the uncertainty regarding the general fiscal situation in the country. Any significant increases in health financing can hardly be expected (again, apart from the medical personnel salaries increase to be implemented in 2011) for the reasons described in Section 2.3. This means that the reform focus should not shift from efficiency to a general increase in financing as seems to be partially the case in recent years. The problem is that infrastructure adjustments, which were a major source of savings in the sector, could not continue infinitely; data from Table 6 indicate that the number of establishments, hospital beds and staff was not decreasing in 2007-2009. So, other sources of efficiency are to be looked for. It seems that, as in the case of education, a larger role is to be assigned to private sector providers. The issue here is to develop budget procedures allowing private health establishments to participate in

the implementation of the State benefit program and other government programs on equal grounds with government-owned health establishments. This could create some competition in the sector, which may be an important source of these sorely needed efficiency gains in the Kyrgyz health care.

5. Conclusions and policy implications

It follows from the above discussion that the macroeconomic and fiscal situation in Kyrgyzstan in 2007-2008 improved mostly due to a favorable external environment. Government expenditures increased substantially and, at the same time, some reserves were created.

The impact of the global economic crisis on the economy was modest; GDP growth slowed down, but remained positive. The impact of a crisis-induced reduction in imports coupled with an untimely VAT rate cut resulted in a drop in government revenues, and the fiscal situation in 2009 was saved only due to the Russian financial aid package. This aid allowed government expenditures to increase dramatically in 2009. The fiscal situation in 2010 appeared to be much more sensitive to domestic political conflicts than to the influence of the global/regional economic trends; these conflicts caused deep a political, economic, social and fiscal crisis in the country. Nevertheless, from the fiscal perspective, the worst case scenario did not materialize; to address post-conflict recovery issues, the government was able to increase spending to unprecedented levels. This was done at the price of a very high government budget deficit, and reducing it to a sustainable level in the medium-term seems to be the most pressing task of the fiscal policy.

Education and health care in Kyrgyzstan represent two different cases of the development of the social sectors, both of which are too large for the government to maintain. The education system experienced minimal reforms in the1990s-2000s; policies in the sector were mostly conservative. In contrast, health care underwent deep and painful reforms, a large part of which had already been completed by the time of the crisis. Both sectors benefited from fiscal expansion during the pre-crisis period, but the spending patterns in these sectors during the crisis have been quite different. In education, the government could maintain recurrent expenditures, but cut capital expenditures in the sector very significantly in 2009-2010. This means that in the medium-term, the development prospects of the sector are even gloomier than before. On the contrary, expenditures on health, including capital expenditures, have been growing in the crisis years. Among other things, this was due to the availability of a well-thought out reform program supported by donors. Donor funding complemented the steadily increasing domestic

resources of the government spent on the sector. So, in this case, the reforms in the sector were literally paying off.

As international comparisons have revealed, both sectors face an acute problem of low per capita financing. The drastic and chronic underfunding of services has resulted in a quality that is much lower than the government and the population tend to expect. The dynamics of quality/access indicators in these two sectors is, however, also different. The quality of education in the country continues to deteriorate as the results of many testing programs suggest; equity in access to education is also suffering. In health care, one can see some improvements in mortality/morbidity rates and coverage by health care services after the deterioration of practically all indicators in the second part of the 1990s – early 2000s. The only way forward for both sectors seems to be a dramatic increase in the efficiency of government expenditures, because hopes for further significant increases in financing (which are very desirable, of course) in the current very difficult fiscal situation seem to be ungrounded. Importantly, these efficiency improvements are to be achieved when the most painful adjustments in health care are already over, while in education these adjustments still lie ahead.

It seems that quality-enhancing and efficiency-oriented financing policies in education and health care would include:

- ***Preserving the current levels of government expenditure on education and health care*** expressed as a % of GDP. Taking into account that in the medium-term the government will have to cut its total expenditures, this means that these two sectors' expenditure ceilings are to be protected against such cuts.
- Preserving the total amount of spending does not mean conserving the current structure of expenditures in each sector. ***Resources should be*** redistributed within the sectors and ***concentrated on priority programs only***. Each sector has some spending programs which are not really priority areas for the country's development. Examples of such government spending include financing university education in professions, which could be provided for a fee (law, business administration, health care etc.) or which are not demanded by the labor market, free breakfasts at schools for students of 1-4 grades, which are not really necessary, etc. These costs can be saved; a proposed list of expenditure cuts is to be prepared by sector specialists and publicly discussed in an open and transparent manner. On the other hand, the freed resources are to be channeled to the top priority segments, e.g., primary and basic secondary education and primary health care.

- ***The role of household resources in financing health care and education is to be increased***; in practice this role is pretty high already, so it is to be recognized and built-in to the sectors' financing policies. User fees are to be utilized more broadly; at the same time, proper precautions should be taken in order to preserve access by the poor to the essential education and health services. These measures have already partially been taken. The country also has some social protection programs (e.g., a monthly benefit for poor families with children) which seem well-suited to this task.
- ***The role of the private sector in the provision of services in both sectors is to be increased***. The key issue here seems to be to provide private establishments with access to government-funded programs in education and health care on an equal basis with the government-owned schools, universities and clinics. These require introducing some changes in the budget procedures.
- Another measure to increase efficiency is ***to establish some linkages between the financing of education and health establishments and their performance***. Although setting the task of introducing full-scale performance-oriented budgeting seems to be premature in the current post-conflict context in the country, some of its elements may already be useful, e.g., additional pay for teachers whose students perform well on independent tests. For the introduction of these elements, the previous input-based financing system in education is to be abandoned (in health care it was already abandoned some time ago) and a transition to a per capita financing mechanism is to be transferred from the pilot phase to universal use.

Sources and References

Bishkek Territorial Department of the Mandatory Health Insurance Fund under the Government of the Kyrgyz Republic (2010) Annual report for 2009.

CASE-Kyrgyzstan (2007) Review of Public Expenditure on Social Sector in the Kyrgyz Republic.

Center for Health System Development (2007) Analysis of Medium-Term Financial Sustainability of the State Benefit Program. Policy Brief No. 17.

Center for Health System Development (2008) Private Sector Assessment in the Kyrgyz Republic. Policy Research Paper No. 51.

Central Treasury of the Ministry of Finance of the Kyrgyz Republic. Web-site www.kazna.gov.kg.

Government of the Kyrgyz Republic (2006) "Manas Taalimi" National Program of Health Care Reform in the Kyrgyz Republic for 2006-2010. Approved by the GoKR Decree No. 100 from 16.02.2006.

Government of the Kyrgyz Republic (2008) Methodology and Formula to Determine Categorical Grants to Local Budgets for Education Financing. Approved by the GoKR Decree No. 91 from 19.08.2008.

Health Policy Analysis Center (2009) Review of Total Health Expenditures for 2006-2008 (based on the National Health Accounts). Policy Brief No. 23.

Health Policy Analysis Center (2009) National Health Accounts in Kyrgyzstan: Review of Total Health Expenditures in 2008. Policy Research Paper No. 64.

Health Policy Analysis Center (2010) Indicator package of "Manas Taalimi" National Health Reform Program.

Institute for Strategic Analysis and Evaluation, NSC and CASE-Kyrgyzstan (2009) National Study on Child Poverty and Inequality in the Kyrgyz Republic.

International Monetary Fund (2009) Country Report No. 09/209.

International Monetary Fund (2010) Country Report No. 10/336.

International Monetary Fund (2010) Government Finance Statistics.

International Monetary Fund (2010) World Economic Outlook database.

Law of the Kyrgyz Republic "On Main Principles of Budget Law in the Kyrgyz Republic" No. 78 from 11.06.1998.

Law of the Kyrgyz Republic "On Republican Budget of the Kyrgyz Republic for 2010 and forecast for 2011-2012" No. 19 from 29.01.2010.

Ministry of Finance of the Kyrgyz Republic (2008) Medium-Term Budget Framework for 2009-2011.

Ministry of Finance of the Kyrgyz Republic. Web-site www.minfin.kg.

Mandatory Health Insurance Fund under the Government of the Kyrgyz Republic (2008, 2010) Annual Reports for 2007 and 2009.

Ministry of Health of the Kyrgyz Republic (2007-2010) "Manas Taalimi" Program's Financial Monitoring Reports for 2006-2009.

Ministry of Health of the Kyrgyz Republic (2007-2010) Annual Reports for 2006-2009.

Ministry of Health of the Kyrgyz Republic (2008) Report on the Mid-Term Review of the Kyrgyz Republic's "Manas Taalimi" National Health Reform Program.

National Bank of the Kyrgyz Republic (2011) Balance of Payments of the Kyrgyz Republic. Nine Months of 2010.

National Bank of the Kyrgyz Republic. Web-site www.nbkr.kg.

National Statistical Committee of the Kyrgyz Republic. Web-site www.stat.kg.

Organization for Economic Cooperation and Development (2007) PISA 2006. Science Competencies for Tomorrow's World. Volume 1.

Organization for Economic Cooperation and Development (2010) PISA 2009 Results: What Students Know and Can Do. Student Performance in Reading, Mathematics and Science. Volume I.

UNESCO Institute for Statistics. Data Centre. http://stats.uis.unesco.org/unesco/TableViewer/ document.aspx?ReportId=143&IF_Language=eng.

United Nations Development Programme (2010) The Kyrgyz Republic Second Progress Report on the Millennium Development Goals.

World Bank (2008) Reducing Financial Burden of Health Care for the Poor – the Case of Kyrgyz Health Financing Reform.

World Bank. World dataBank web-site databank.worldbank.org/ddp/home.do.