January 1998

IMF Staff Country Report No. 98/8

Kyrgyz Republic: Recent Economic Developments

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International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

KYRGYZ REPUBLIC

Recent Economic Developments

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Approved by the European II Department

November 25, 1997

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Social and demographic indicators	
Area	199,900 sq. km.
Population density (January 1, 1996)	22.6 per sq. km.
Population (January 1, 1996)	4.512.4 million
Rate of population growth (1995)	1.4 percent
Life expectancy at birth (1996)	66.6 years
Male	62.3 years
Female	71.0 years
Infant mortality rate	25.9 per thousand
Hospital beds per 1000 inhabitants (1996)	9.0

	1992	1993	1994	1995	1996
			(Percentage change)		
Real GDP	-14	-16	-20	-5	6
Consumer prices 1/	1,259	767	96	32	35
Producer prices 1/	4,031	500	100	26	41
Broad money	428	180	125	77	23
Currency	563	345	167	94	24
Deposits	375	88	67	42	19
			(In percent of GDP)		
Share in GDP					
Agriculture	37	39	38	41	47
Industry	32	25	21	12	12
Construction	4	5	3	6	5
Transport and communication	2	3	3	2	2
Other	25	28	35	39	34
Government revenue and grants	17	25	21	17	17
Government expenditures	34	39	29	30	23
Overall balance	-17	-14	-8	-14	-6
Exports	...	34	31	27	31
Imports	...	43	42	39	51
Current account balance	...	-16	-11	-16	-24
			(In millions of soms)		
GDP	741	5,355	12,019	16,145	22,468

Sources: Kyrgyz authorities; and Fund staff estimates.
1/ December-to-December.

I. Introduction and Overview

1. In the aftermath of the breakup of the USSR, the Kyrgyz government rapidly adopted a strategy to transform the economy to a market system. The Kyrgyz Republic has thus been one of the earliest and most active reformers of the Commonwealth of Independent States (CIS). During the first stage of transformation, the government freed most prices, created a national currency, introduced a liberal trade regime, and eliminated most capital controls. Structural reforms included privatizing small-scale enterprises and housing, establishing a two-tiered banking system, introducing a VAT, and enacting market-friendly legislation. However, output fell sharply, unemployment rose, and poverty increased, partly owing to the loss of extensive financial support from the USSR and the disruption of trade and payments links.[1]

2. Significant progress has been achieved in establishing macroeconomic stability since 1994 (Figure 1). Inflation has fallen sharply over 1992–97, and projections indicate that the 17 percent targeted for the year will be achieved. After a massive output decline during 1991–95, real GDP started to increase in late 1995 and showed solid growth in 1996 and during the first half of 1997. The budget deficit was halved during 1995–96 and is targeted to decline further in 1997, financed mostly through external assistance. Concomitantly, in 1996 domestic financing of the deficit fell to one-third the 1995 level, and has fallen further in 1997, which facilitated a corresponding decline in monetary growth rates. Moreover, the exchange rate stabilized in 1997 and international reserves were built up to over 2½ months of imports by end-June 1997. The current account balance, dominated in 1995 and 1996 by imports related to the construction phase of the Kumtor gold mine, improved in the first half of 1997 with the beginning of Kumtor gold exports. The Kyrgyz Republic's competitiveness was maintained since wages in US$ terms remained at low levels and the real effective exchange rate depreciated somewhat during 1995–96. On the structural front, significant progress has been achieved during 1996–97, especially as regards tax reform, budgetary reforms, financial sector reforms, completion of the mass (coupon) privatization program, and enactment of key new legislation; however, some delays occurred in the privatization of medium- and large-scale enterprises, restructuring of agriculture, pension reform, and the application of the new legal and regulatory environment.

3. While much has already been achieved since the beginning of the reform effort, the full potential offered by macroeconomic stabilization and the subsequently adopted domestic adjustment strategy has not yet been realized. In particular, the private sector, which is considered as the engine of growth and the main source for providing employment opportunities for the Kyrgyz Republic's growing population, is still at an early stage of

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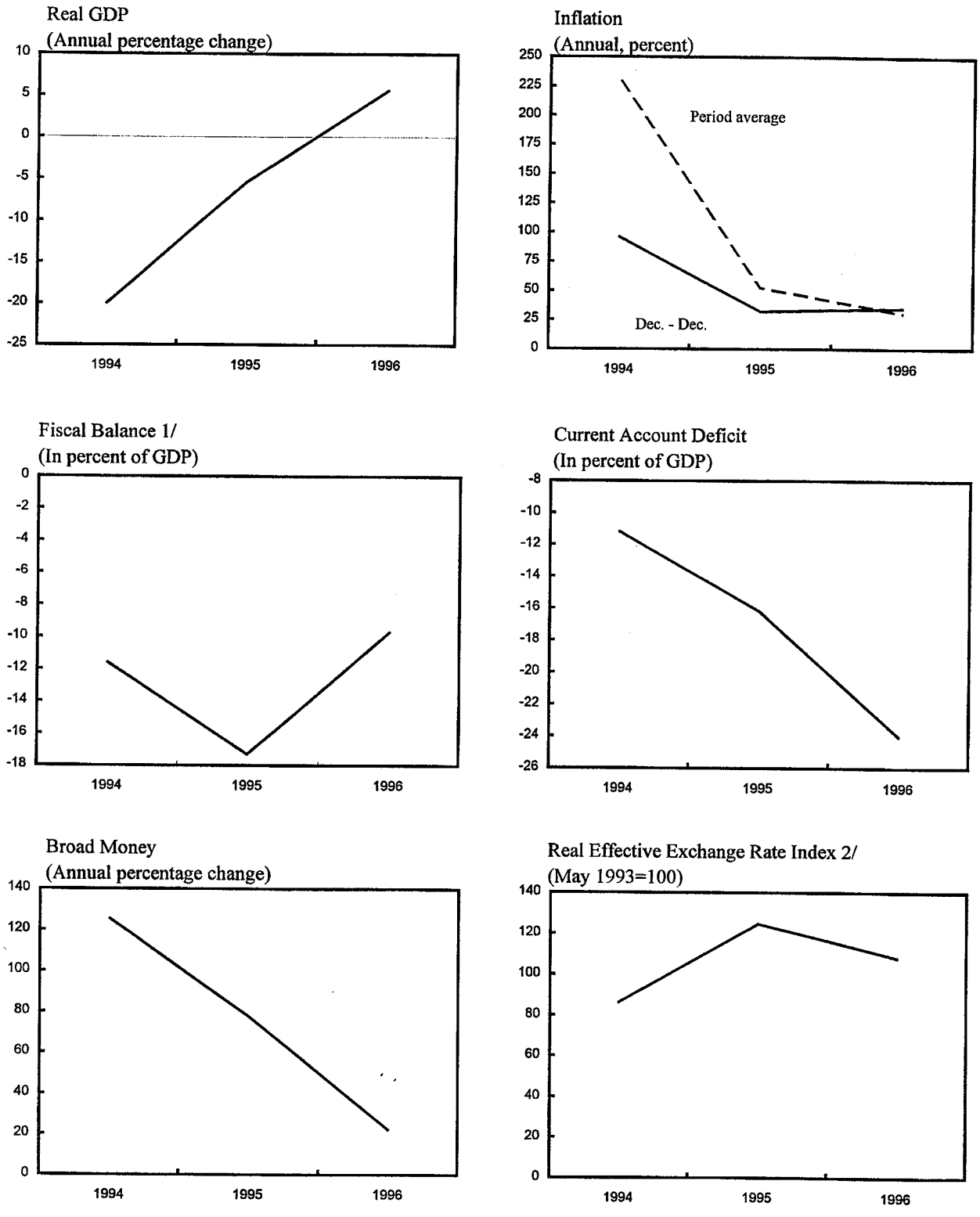
[1]This support consisted of (a) explicit budgetary transfer of 10–15 percent of GDP per annum, equivalent to about one-third of government revenue; and (b) favorable terms of trade that allowed the Kyrgyz to export overpriced capital goods, chemicals, and manufactured goods in exchange for underpriced energy, other inputs, and consumer goods.

Figure 1. Kyrgyz Republic: Selected Economic Indicators, 1994-96



Sources: Kyrgyz authorities; and Fund staff estimates.

1/ Comprises budget balance and the externally-financed public investment program.

2/ An increase corresponds to an appreciation.

development. Private investment is constrained by low private saving rates and the remaining obstacles in the legal and regulatory framework, especially as regards the application of the newly adopted laws. A sound banking system has been established; however, it has not yet taken over the role as a provider of medium- to long-term loans and other financial services, for various reasons. In the agricultural area, while significant progress has been made to lay the foundation for private agriculture, further reforms are needed to improve the legal foundation of land registration and titling, obtain access to financing, promote agricultural know-how and institutional capacities, provide an adequate incentive framework to farmers, demonopolize agro-industries, and develop competitive input and output markets. The completion of the mass privatization program in mid-1997 represents a major milestone in the government's privatization program; nevertheless, there are still about 100 large enterprises and some 3,600 small-scale enterprises in the portfolio of the State Property Fund awaiting divestiture. In order to achieve sustainable growth, the Kyrgyz authorities will also have to increase the efficiency of the public sector's use of scarce resources; reduce the country's vulnerability to external shocks; and ensure an adequate management and use of the Kyrgyz Republic's natural resources.

II. Output, Inflation, and Wages

A. Overview and Aggregate Demand

4. After five years of decline, a broad-based recovery in output started in late 1995, with real GDP growing by 5.6 percent in 1996 and 6.8 percent during the first half of 1997. Growth in 1996 was driven by the agricultural and transportation sectors, Kumtor-related construction activity, and, to a lesser extent, by manufacturing and trade. The increase in output in 1997 is largely attributed to the beginning of production from the Kumtor gold mine. The economic recovery benefitted from the implementation of structural reforms, especially in privatization and restructuring of public enterprises, banking activities and the legal framework, as well as in agriculture. There are widespread signs that private sector activity is expanding with the emergence of individual farming, small-scale enterprises, and a variety of trading activities. Even though it remains inadequately measured in the official statistics, official data suggest that the share of private sector activity in gross value added rose from 13 percent in 1994 to 35 percent in 1997.[2]

5. The share of agriculture in GDP has expanded since 1991 to about one half of GDP in 1996 (Table 1), while the share of manufacturing dropped sharply during the period. Construction activity rebounded in 1995 and 1996 on account of construction at the Kumtor mine, considered to be the eighth largest gold mine in the world. Reflecting the increasing role

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[2]While considerable progress has been achieved in improving the statistical data base and methodology at the National Statistical Committee (NSC), there are still deficiencies in collecting appropriate primary data and adequately measuring private sector activity, as well as valuation problems.

of the private sector in the economy, trade- and market-related activities almost doubled to about 20 percent of GDP in 1996, while the share of nonmarket services has fallen.

6. The change in the composition of aggregate demand reflects the progress achieved in macroeconomic stabilization during 1994–96 (Table 2). Public consumption declined by 3 percentage points to 16 percent of GDP in 1996 as a result of fiscal consolidation, while private consumption increased 4 percentage points to 82 percent of GDP, in line with the rise in agricultural production and the increased purchases of consumer durables. Investment increased sharply, mostly as a result of the Kumtor project but also because of the public investment program. Related to the rise in investment, imports boomed, growing by 25 percent in volume terms in 1996 alone and contributing to the rise in the resource balance from -6 percent of GDP in 1994 to -22 percent in 1996. Saving rates continued to hover at low levels, with negative public sector saving rates, albeit cut in half compared to 1995.

B. Sectoral Developments

Agriculture

7. The return of positive real growth in 1996 was primarily attributable to increases in agricultural production (Table 5). Favorable weather conditions, improved cropping patterns, and an increase in the area under cultivation contributed to a 13 percent rise in agricultural output in 1996, after declines of 9 percent and 2 percent in 1994 and 1995, respectively. In the first half of 1997, an early harvest helped raise agricultural output by 8 percent. The change in cropping patterns was facilitated by the reforms in the agricultural sector (see below), especially the distribution of land use rights to individual farmers. Private farmers now cultivate roughly one third of the arable land and account for more than half of the production of, inter alia, corn, vegetables, potatoes, fruits, and tobacco (Table 3)—products that are largely marketed directly by farmers in urban areas or exported through private traders to neighboring countries. State farms accounted for most of the wheat and sugar beet production. Overall, output also benefitted from the privatization of markets for agricultural inputs, which helped reduce shortages of fertilizers and quality seeds. These factors contributed to significant increases in yields, which generally improved between 10 and 30 percent in 1996 (Table 6).

8. The increase in agricultural production was concentrated in a few important products, notably sugar beets, wheat, potatoes, and vegetables, which in 1996 grew by 77 percent, 54 percent, 30 percent, and 16 percent, respectively (Table 5). The expansion in wheat production was partly the result of politically motivated efforts to become self-sufficient in wheat. Wheat output rose from 1 million tons in 1996 to a record of 1.3 million tons in 1997, some 300,000 tons above the level of domestic demand. Almost one half of the area under cultivation (46 percent) is now devoted to wheat production, compared to only 18 percent five years ago, replacing other crops (mainly barley, corn, and tobacco) and livestock. Most other crops recorded moderate growth rates or stabilized in 1996, but their production remained considerably below 1990 levels. Between 1990 and 1996, production of tobacco fell

by 67 percent, vegetables by 24 percent, and grains and cotton by 10 percent. Notwithstanding measurement problems that are related to under-declaration to avoid local taxes on livestock, the livestock inventory is estimated to have declined sharply, ranging between 30 percent for cattle and 86 percent for poultry. Related to this decline, production of eggs, wool, meat, and milk also fell sharply (Table 4).

Manufacturing and construction

9. The contribution of the other sectors to GDP growth was, for the most part, less pronounced than that of agriculture. **Manufacturing** output increased by 4 percent in 1996 after having contracted by about 75 percent during the previous 5 years, considerably more than other sectors. In the first half of 1997, manufacturing grew by 26 percent, primarily owing to the startup of Kumtor gold production; other manufacturing is estimated to have remained broadly unchanged, although some statistical uncertainty still exists.[3] Electricity and fuel industry production expanded sharply in 1996, the latter on account of the start of operation of the new oil refinery in Jalalabad (Table 7). By contrast, output of agro-industries and light industries continued to contract in 1996, albeit at significantly reduced rates compared to the previous four years. **Construction** activity, which boomed in 1995—an increase of 62 percent over 1994—due to the Kumtor construction, fell by 19 percent in 1996 and 36 percent in the first half of 1997. However, the production of building materials (e.g., cement, roofing sheets) increased substantially in 1996 (Table 8), indicating that non-Kumtor construction fared relatively well.

Trade, transportation, and other services

10. **Trade and commerce** expanded by 2 percent in 1996 and by 4 percent in the first half of 1997, after a cumulative contraction of about one third during 1994 and 1995. However, the buoyancy in trade is likely to have been significantly larger than reported in the official statistics, given the predominance of informal shuttle and re-export trade with neighboring countries (see below). In the same vein, **transportation and communication** services fared well, growing by 14 percent in 1996 and 8 percent in the first six months of 1997, after a cumulative decline of 46 percent during 1994-95, in part reflecting the modernization of the telephone system. Finally, the **banking sector** began to contribute positively to GDP growth, expanding by 2 percent in 1995 and by 4 percent in 1996, following its successful restructuring (see below).

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[3]This uncertainty is mainly related to the statistical treatment of manufacturing output data by the NSC. While the preliminary estimates for the first two quarters of 1997 showed a decline in non-Kumtor manufacturing, the data for July indicated a very significant increase. This increase, however, is partially due to the upward revision of previous production numbers which were lumped into the July number. Based on this treatment—which is not unusual in the Kyrgyz Republic—it is estimated that non-Kumtor manufacturing production during the first half of the year was broadly unchanged.

C. Prices

11. **Inflation**, as measured by the consumer price index (annual, end-of-period), increased by 35 percent in 1996, after 32 percent in 1995. It fell to about 10 percent during January to September 1997, compared to 20 percent during the same period a year earlier. The producer price index rose by 41 percent in 1996 and by 9 percent in the first eight months of 1997 (Table 9).[4]

12. Several factors prevented inflation from falling in 1996 despite the sharp decline in monetary growth rates. During the first half of the year, inflation was fueled by a relaxation of fiscal and monetary policies in connection with the Presidential elections in late 1995. Other contributing factors were increases in administered prices for heat and electricity and higher imported grain prices in early 1996, leading to average monthly inflation rates of about 4 percent during the first four months of the year (Figure 2). With a seasonal decline in agricultural prices and the tightening of monetary policy in the first half of 1996, average monthly inflation rates fell to 0.6 percent during May to October. Monthly inflation rates increased sharply in November and December, as the effect on liquidity of sizable spending of official external aid by the government in the third quarter was not sterilized by the central bank. With the tightening of macroeconomic policies starting in November 1996, the CPI rose by 10 percent in the first nine months of 1997. During that period, food prices grew at a faster pace than the overall index, as they were affected by the rise in prices for fish and meat (59 percent) and for sugar, tea, and coffee (25 percent). Prices for vegetables and fruits showed strong seasonal declines, and bread prices, the largest individual component of the food basket, remained virtually unchanged during the period. Nonfood items grew by 3 percent only, in part as administered prices for heat and electricity were not changed.

D. Labor Markets and Wages

13. **Unemployment** is likely to have been high in 1996 and 1997, notwithstanding a fall in the official unemployment rate during that period. After having peaked at 4.4 percent (about 80,000 people) in mid-1996, the official unemployment rate fell to 3.2 percent (55,000 people) in August 1997. However, the true level of unemployment and under-employment is hard to measure, given that (a) the recording of unemployment and the granting of benefits is limited to six months; (b) many people do not register officially as unemployed in view of the modest level of benefits; and (c) notwithstanding identical regulations, granting of unemployment status differs from region to region, with the system of unemployment benefits working less efficiently in some regions. Against this background, recent World Bank estimates put the unemployment rate at 18 percent in rural areas and at

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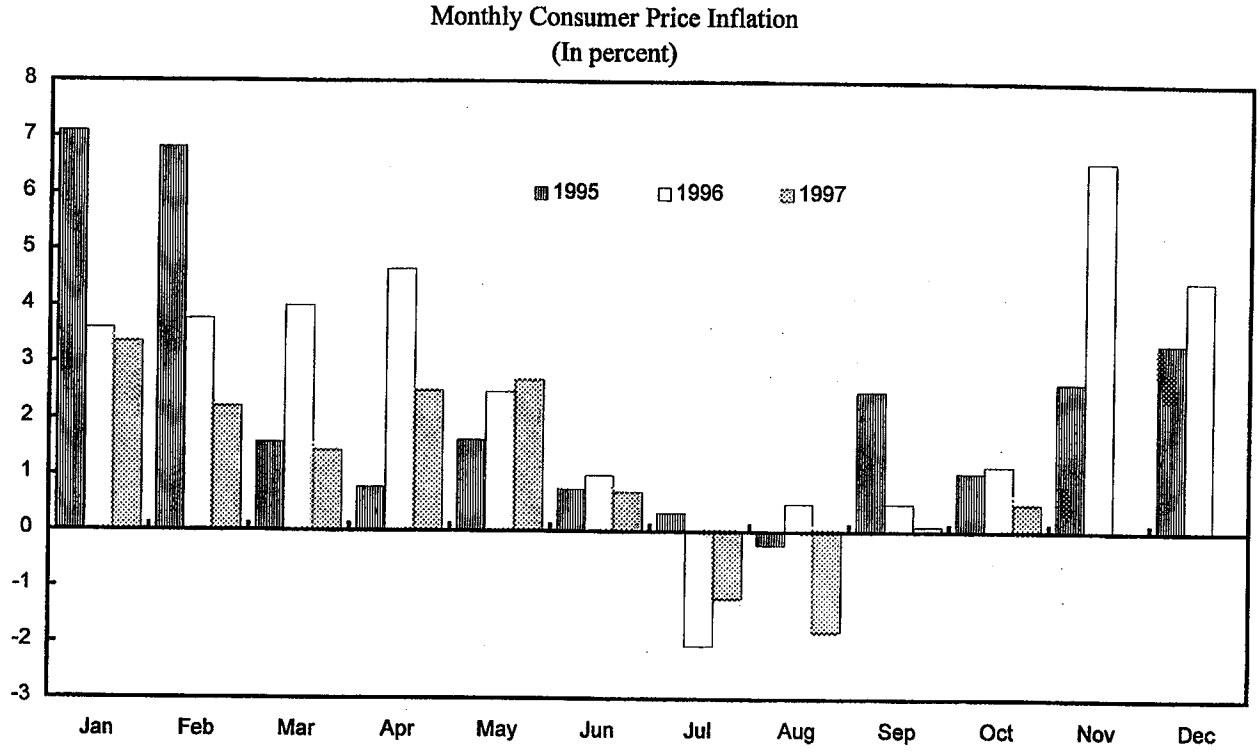
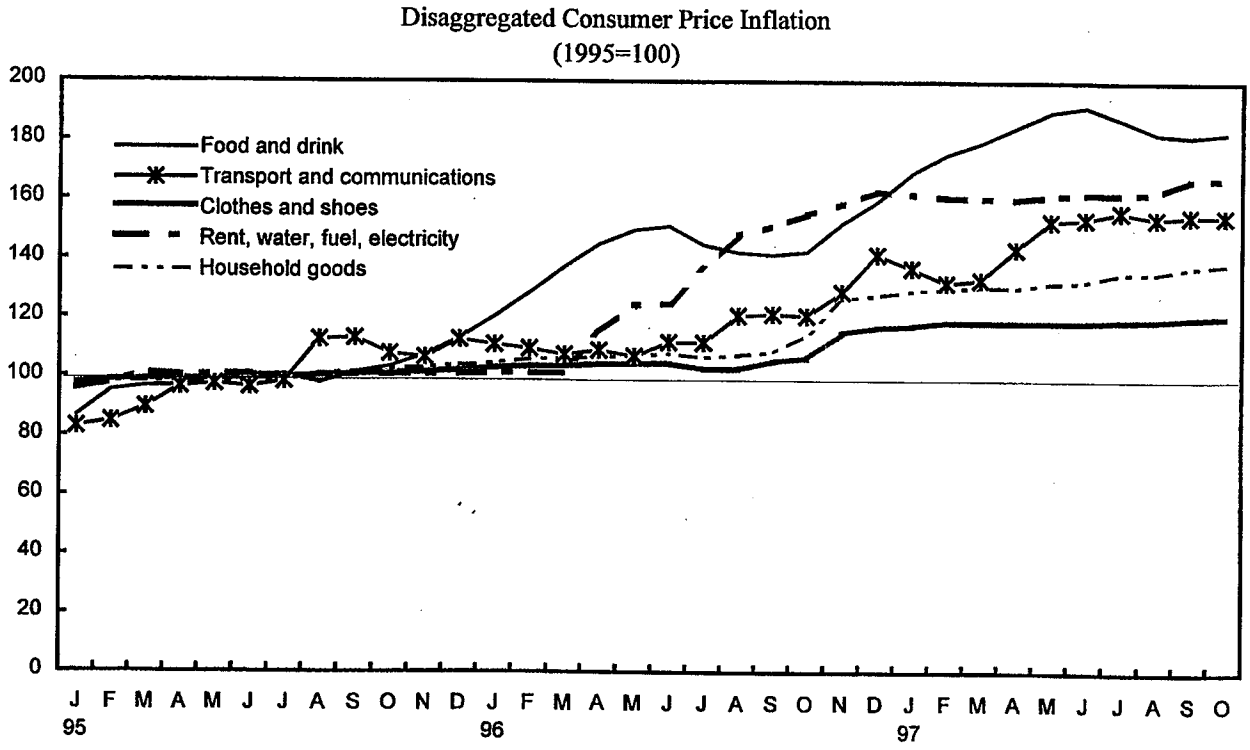
[4]In October 1996, the wholesale price index (WPI) was replaced by the producer price index (PPI). The WPI was calculated with the Sauerbeck formula, while the PPI is calculated using the Laspeyres formula, in line with international standards. As of mid-1997, the PPI covered 86 enterprises and about 44 percent of manufacturing output.

Figure 2. Kyrgyz Republic: Consumer Price Inflation, 1995-97





Sources: Kyrgyz authorities; and Fund staff estimates.

21 percent in urban areas. Notwithstanding the decline in the official unemployment rate, formal sector employment fell from about 775,000 in 1995 to 629,000 at mid-1997, which could imply that economic growth has been accompanied by a rise in productivity, mainly in the newly privatized enterprises; however, this could also indicate a rise in informal sector employment. There are an estimated 1 million workers outside of the official employment statistics, consisting of 350,000 agricultural workers, 300,000 workers in the informal private sector, and 350,000 subsistence farmers (Table 12).

14. **Wages** kept pace with inflation in 1996–97 (Tables 10 and 11). Average nominal wages increased by 67 percent in 1995 and 26 percent in 1996, while average real wages fell by 3 percent in 1996, after an increase of 9 percent in 1995. In the first half of 1997, the average real wage was broadly unchanged from the previous year, thereby remaining at about 80 percent of the 1992 level. In US$ terms, the average nominal wage rose from US$22 in 1994 to US$38 in 1996, but fell to US$32 in the first half of 1997. The monthly minimum wage, to which government wages are linked, was kept unchanged at 75 som from November 1995 to June 1997; it was increased by 20 percent to 90 som as of July 1, 1997.

15. Wage statistics should be interpreted cautiously as an indicator for the standard of living, since many workers have more than one job and the practice of supplemental employment appears to be on the rise as the informal sector expands. Furthermore, workers often receive extensive supplemental income from their primary employer; such payments-in-kind can be difficult to quantify and account for up to 20 percent of the base wage.

E. Poverty

16. Social indicators have deteriorated in the period since independence, as traditional support systems from the Soviet era have broken down and the results of the macroeconomic stabilization and the structural reforms have not yet reached all segments of the population. According to the spring 1996 living standards and measurement survey (LSMS) which was undertaken by the National Statistics Committee (NSC) with World Bank assistance, the proportion of households in poverty is estimated to have risen from about 40 percent in 1993 to almost 50 percent in 1996, with roughly one fourth of households being characterized as very poor.[5] [6] During the same period, the poverty gap, which measures the depth of poverty

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[5]Under the survey, poverty was measured by reference to a low cost expenditure basket and a high cost basket to satisfy minimum nutritional requirements (with 80 percent of expenditures devoted to food). Expenditure was used as an indicator of welfare rather than income since expenditure can, apart from income, also be accommodated by running down savings or by borrowing; moreover, income tends to be under reported by survey participants.

[6]The results of the 1996 spring survey and the fall 1993 survey should be interpreted with care, given some methodological differences and seasonal factors, such as health expenses and

(continued...)

and is defined as the percentage distance between the poverty line and actual expenditure levels of households included in the survey, has increased from 12 percent to 24 percent. Poverty appears to be particularly wide-spread in rural areas, in the southern part of the country, among the Uzbek population, and among households with heads without formal education. The survey also revealed a significantly higher level of unemployment than indicated in the official statistics (see above), with males and the young (aged 16–25 years) being particularly affected. Moreover, the survey finds that the health status of the population has worsened, with life expectancy having fallen by 2.2 years between 1991 and 1996, and 17 percent of one-year old children and 11 percent of two-year olds being malnourished.

17. The existing social assistance and social insurance systems have proven inadequate to counter these trends, notwithstanding annual spending levels equivalent to about 8 percent of GDP for pensions, unemployment, disability, and medical benefits.[7] A major problem lies in the generous benefits relative to resources, which try to guarantee a minimum income level for the total population instead of ensuring a subsistence level of income for its poorest segments. The limited amount of available resources caused by collection deficiencies, the aging of the population, as well as emigration to other CIS countries and to Germany (by the large German minority), have exacerbated these problems.

18. The distribution of household expenditure and income has become more equitable during the last four years. The Gini coefficient dropped from 0.54 to 0.46 for expenditure and from 0.66 to 0.51 for income. However, expenditures of the poorest 50 percent of the population accounted for only 18 percent of total national expenditure in 1996, while the wealthiest 10 percent made up close to 34 percent of total national expenditure, providing a somewhat skewed Lorenz curve.

III. Fiscal Developments

A. Introduction and Overview

19. The public sector of the Kyrgyz Republic comprises the central (republican) government and local governments consisting of six regional oblasts and the municipality of Bishkek. In addition, there are republican and local extrabudgetary funds, as well as state enterprises. The general government budget includes the republican, oblast and Bishkek city governments, and reflects net transfers to the extrabudgetary funds and state enterprises.

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[6](...continued)
the importance of agriculture for employment, income and availability of moderately priced food items. It is also for this reason that a successor survey was undertaken in the fall of 1996 but the results are not yet finalized.

[7]For an overview of the social safety net in the Kyrgyz Republic, see Appendix I in the 1996 Report on Recent Economic Developments (SM/96/170) and Appendix I of this document.

20. The fiscal situation improved substantially over 1995–97 (Table 19). The fiscal deficit was reduced sharply; the structure and yield of direct taxes and the VAT was improved; overall expenditures were contained, especially wages and net lending; payment arrears were lowered; and budgetary procedures and intergovernmental relations were reformed. Revenue collections, which fell substantially as a share of GDP during 1991–95 (from about 36 percent in 1991 to less than 17 percent in 1995), began to rise. A new tax code, which substantially reformed the VAT and direct taxes, made the tax system more stable, efficient and equitable (see below). At the same time, intergovernmental relations were redefined and an institutional setup put in place to eliminate local wage arrears and encourage greater local revenue efforts. Problems remain in the administration and collection of indirect taxes, the structure and prioritization of expenditures, pension fund finances, and the granting of government guarantees on foreign borrowing, some of which for purely commercial purposes and at nonconcessional terms. Moreover, an increasing number of discretionary tax exemptions to VAT, customs and excise duties has eroded the tax base following the introduction of the new tax code on July 1, 1996.

B. The Fiscal Outturn in 1996

21. The **fiscal deficit**, on a cash basis, declined from 13.5 percent of GDP in 1995 to 6.3 percent in 1996.[8] This improvement was achieved primarily through compression of non-priority expenditures, as revenue collection in percent of GDP improved only marginally. As percent of GDP, domestic budgetary arrears were reduced from 1.9 percent at-end 1995 to 0.8 percent at end-1996 and domestic financing from above 8 percent to 2½ percent, respectively. The broader consolidated deficit, which also includes foreign-financed investment under the public investment program (PIP), fell from 17.2 percent of GDP in 1995 to 9.6 percent of GDP in 1996.

22. Overall **revenue** collections increased by 0.3 percentage points to 17 percent of GDP in 1996. Tax revenues fell from 14.6 percent of GDP in 1995 to 13 percent of GDP in 1996, but increases in sales of strategic stocks (1.3 percentage points of GDP), privatization receipts (0.5 percentage points), and external grants (0.6 percentage points) more than compensated for the decline in tax revenue. Tax receipts were adversely affected by difficulties in tax administration, cash-flow problems of state enterprises, and the removal of duties on all petroleum products with the exception of gasoline. Moreover, some of the taxes due in 1996 were collected in advance at end-1995, and the government collected significantly more tax arrears in 1995 (2.2 percent of GDP) than in 1996 (0.7 percent of GDP).

23. Overall **expenditures** were reduced by 7 percentage points to about 23 percent of GDP in 1996, mostly through decreases (in terms of GDP) in the wage bill, transfers and net

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[8]The budget excludes the pension fund, foreign-financed project investments, and some other extra-budgetary activities. Under the 1998 budget, foreign-financed projects are incorporated into the budget.

lending. The overall wage bill declined from 10.3 percent of GDP in 1995 to 7.5 percent in 1996 since no general wage increase was granted; the minimum wage to which most government wages are linked remained unchanged during the period. In nominal terms, the government's wage bill rose by only 1 percent, a significant reduction in real terms. A selective wage increase of 30 percent granted to central administration staff and defense in July 1996 moderately raised the wage bill by som 40 million (0.2 percent of GDP), as this group accounted for about 10 percent of total civil service only.[9] Transfer payments decreased by 2.2 percentage points to 3.1 percent of GDP through improved targeting of the Unified Cash Benefit (UCB).[10] Transfers to the Social Fund were increased by 0.6 percentage points of GDP. Capital spending and net lending to enterprises and agriculture was reduced by 3.4 percentage points of GDP, partly owing to improved efforts in collecting overdue repayments. Finally, discretionary spending was limited in the second half of 1996, and enhanced efforts were made to reduce budgetary domestic arrears.

24. On the functional side, notwithstanding the overall contraction of expenditure, the composition of expenditure in 1996 and the first half of 1997 changed only moderately relative to 1995 (Table 21). The shares of education and health in total spending increased somewhat and accounted for 23 percent and 14 percent of total expenditure in 1996, respectively. Security-related outlays were protected from nominal cuts and increased moderately as a share of total expenditures; they fell in terms of GDP from 3.6 percent in 1995 to 3.1 percent in 1996. The large contraction in "other"spending (by 3.1 percentage points to 1.5 percent of GDP in 1996) reflected partly a reclassification of some expenditures to other categories. A substantial reduction also took place in social security and welfare payments, owing to improved targeting of transfers to those in need. Spending on this category fell from 5.6 percent of GDP in 1995 to 3.9 percent of GDP in 1996.

C. Fiscal Developments in the First Half of 1997

25. The 1997 budget aims at reducing the budget deficit by close to one percentage point of GDP to 5.7 percent, eliminating domestic payments arrears, and limiting domestic financing to 0.9 percent of GDP. These objectives are to be achieved as a result of a rise in revenue

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[9]Civil servants salaries are composed of a basic wage plus wage supplements comprising "premium" and "material support". In addition to the 30 percent increase in the basic wage, the maximum number of additional payments was increased from 3 to 6 months of the average monthly wage per year. These supplements, however, are paid at the discretion of each ministry.

[10]The UCB was introduced in January 1995 as a single welfare payment to replace four general cash transfer payments (the bread compensation, child allowances, the childbirth grant, and the noncontributing social pensions). These consolidations reduced the average benefit paid by some 8 percent in 1995. Around one-fourth of the population benefits from the UCB.

collections to 17.2 percent of GDP and a further containment of expenditure to 22.9 percent of GDP.

26. Fiscal performance in the first half of 1997 was broadly in line with these targets. Total revenues (excluding grants) exceeded the target for the period, reflecting a stronger-than-expected performance in several areas: (a) direct taxes were boosted by the introduction of presumptive taxes on small retailers; (b) road and extraordinary tax collections benefitted from the pickup in economic activity and the early harvest; (c) roughly two-thirds of the yearly target for VAT receipts was collected by end-June, mainly owing to collections on imported goods; and (d) collection of arrears picked up considerably. This more than compensated for substantial shortfalls in (a) excise taxes on cigarettes and alcohol, owing to persistent administrative weaknesses; (b) local taxes (right-to-trade fees), where only 17 percent of the annual objective was collected by June due to delays in reintroducing these fees by most local parliaments; (c) petroleum taxes, owing partly to discretionary tax exemptions granted; and (d) privatization receipts, which—notwithstanding an increase from 65 percent to 80 percent in 1997 in the share of the privatization proceeds that is transferred to the budget from the State Property Fund—suffered from the suspension of the privatization of large-scale enterprises in May (see below).

27. Expenditures were kept under control during the first half of the year. The spending restraint held particularly for wages, transfers, payments to the Social Fund, and net lending to the agricultural sector. The decline in real expenditures reflected better screening and prioritizing of expenditures, as well as not raising the minimum wage from 75 to 90 som until July. Domestic payments arrears were reduced by 0.2 percentage points to 0.6 percent of GDP by end-June.

D. Taxes

28. As stated above, tax revenue in percent of GDP declined from 14.6 percent in 1995 to 13 percent in 1996, and in percent of total revenue from 87 percent to 76 percent during the period (Table 20). The VAT became by far the most important revenue source and accounted for 42 percent of total tax revenue in 1996. VAT collections benefitted from subjecting imports to the VAT under the new tax code and from administrative improvements. Conversely, the share of most other taxes fell. The share of income and profit taxes in the tax total fell from 30 percent to 23 percent, excises on imported goods declined from 8 percent to 3.5 percent, and the retail sales tax fell from 7 percent to 4 percent during the period.

29. These developments were to a large extent due to the introduction of the new tax code on July 1, 1996. The new tax code simplified the tax legislation and administrative procedures, and improved the internal consistency of the tax system. It incorporated the revised VAT legislation and stipulated new provisions for the income and profit tax, excise taxes, and tax administration. Parliament introduced some additional revisions to the tax code in December 1996. Notwithstanding the major achievements of the new tax legislation, its effectiveness was somewhat impaired by providing enterprise-specific tax exemptions; numerous exemptions to

VAT, customs and excise duties were awarded as economic incentives following passage of the tax code. The principal changes in tax legislation during 1996–97 were as follows:

- Foremost, the tax code converted the VAT into a noncascading multi-stage tax on all imported and domestic products. It is a completely invoice-based system that taxes imports from non-CIS countries fully for the first time. While the origin principle for the VAT was retained for most CIS countries, it has been converted to the destination principle for Kazakhstan and Ukraine; negotiations on such a conversion are ongoing with Russia and Uzbekistan. For non-CIS countries, the destination principle is applied, and exports are zero-rated. In the revision of the tax code in December 1996, parliament removed custom duties and excise taxes from the VAT calculation base. As mentioned above, the revenue performance of the new VAT system has been quite successful.

- Second, the tax code reformed profit and income taxes to make them compatible with a market system. The personal income tax is based on global income; under the new tax code, deductions were limited and new accounting rules introduced. The corporate tax or profit tax is a single proportional tax on legal entities. Presumptive taxes on small retailers were introduced to improve the coverage of the existing tax structure. However, the secular decline from profit and income taxes continued in 1996, falling from 4.4 percent of GDP in 1995 to 3.0 percent of GDP in 1996, which reflected both cash-flow problems of state enterprises affected by the contraction of the manufacturing sector (excluding Kumtor) and the difficulty in taxing the emerging private sector. In addition, the exemption for personal income tax was increased from two to four minimum monthly wages in December 1996. While this measure was estimated to bring about a loss of about som 83 million (0.4 percent of GDP) in 1997, income tax collections in the first half of 1997 exceeded projections, partly due to the effectiveness of presumptive taxes on small retailers.

- Third, excise taxes were changed so that rates on domestic and imported goods are harmonized for most commodities. While tax rates for vodka, wine, spirits, fermented tobacco, and, more recently, cigarettes are now identical for imported and domestic products, the rates imposed on beer, champagne, and cognac still favor domestic products.

- Fourth, the tax code provided for a revision of the land tax, which is imposed on land use. Rates are determined on the basis of soil quality, location and size of land. The tax code also stipulates the payment period and allows the government to set the tax rate. Presently under consideration in parliament is the introduction of certain exemptions from the land tax, for example for families with a large number of children for and veterans.

- Fifth, not part of the tax code but introduced later, local fees were expanded, with up to 15 new local fees being introduced in the different oblasts. The 5 percent right-to-

trade tax, essentially a local sales tax, was eliminated in March 1997. Owing to local government revenue shortfalls, the tax was reinstated in July 1997 with a permissible range between 0.5 and two percent. It was reintroduced at a rate of 2 percent in Bishkek; however, by end-August 1997, none of the other local governments had reintroduced it.

- Sixth, excise fees on petroleum products were removed in July 1996 and replaced with a customs duty on gasoline only. As a result, overall revenue collection from petroleum products was in nominal terms reduced by half in 1996. Against this background, in March 1997, the government reinstated excises on gasoline while imposing customs duties on crude oil, diesel, kerosene, and other petroleum products.[11]

- Finally, the yield of excises on cigarettes and alcoholic beverages has suffered from smuggling, administrative deficiencies, and the relatively high rate of taxation compared to the one prevailing in neighboring countries. In May 1997, in an attempt to combat smuggling, the government issued a resolution which officially defined transport routes for these products and improved customs procedures. Goods in transit on non-designated routes can be confiscated by the authorities. Finally in July 1997, the excise rate on cigarettes was decreased from US$5 to US$1.50 per thousand cigarettes to further enhance compliance incentives.

E. The Social Fund

30. The Social Fund[12] deficit increased from 0.2 percent of GDP in 1995 to 0.4 percent of GDP in 1996 (Table 22). In an effort to limit the accumulation of arrears, budget transfers to the Social Fund rose from 1.2 percent of GDP in 1995 to 1.8 percent in 1996, which included 0.4 percent of GDP of mandated pension contributions for government employees. The increase in budgetary support was necessitated by a decline in Social Fund revenues and an increase in spending. Revenue collections (excluding budgetary transfers) fell from 6.9 percent of GDP in 1995 to 6.5 percent in 1996. The decline in revenues was attributed to a

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[11]This mainly reflects a provision in the current tax administration law which grants parliament the sole right to change excise rates while custom duties can be set by the government without parliamentary approval.

[12]The Social Fund was created in 1994 by consolidating the three previously independent extrabudgetary funds (the Pension Fund, the Employment Fund, and the Social Insurance Fund) in charge of providing social protection benefits. The Social Fund provides payments of old age, survivor, and other pensions; health-related benefits; unemployment benefits; and general social support payments, such as disability pensions and family allowances. In 1997, a Medical Insurance Fund was added to the array of responsibilities.

contraction in formal sector employment, a fall in real wages, and lower compliance levels. Social Fund expenditures increased by 0.4 percentage points to 8.7 percent of GDP in 1996.

31. Budgetary support to the Social Fund in 1997 remained at about the same level in terms of GDP as in 1996. In 1997, parliament granted additional benefits to pensioners in mountain regions, and a Presidential decree issued in May 1997 raised pensions by 30 percent for pre-1994 retirees. In order to limit the financial imbalances of the Social Fund and keep arrears in check, the government decided to delay implementation of the new privileges to retirees in mountain areas, introduce a limit on large pensions, and refrain from granting a pension increase for post-1994 retirees. In addition, the Social Fund realized savings in the Medical Insurance Fund[13] and stepped up collections from local governments, agricultural workers, and the self-employed. Medium-term prospects for the Social Fund and possible reform options are discussed in Appendix I.

F. Budget and Treasury System Reforms

32. Deficiencies in the capacity for budget planning and execution, the absence of clearly defined intergovernmental expenditure and revenue responsibilities, as well as the lack of binding budget constraints on local governments, had hampered the process of fiscal adjustment and contributed to the accumulation of arrears. To remedy these problems, in 1996 the government embarked upon a comprehensive reform of the budget and treasury system, supported by an IDA adjustment credit (PSRMAC).

33. The treasury system was made operational in 1996 and integrated into the budget execution process in 1997. Control on spending by each Ministry was enhanced, and expenditure payment orders became necessary for authorization of all spending. The authorization procedures were brought in conformity with the budgetary objectives and provided more specific guidelines for expenditures. Coordination between expenditure authorization and availability of funds was improved to limit the accumulation of arrears. Finally, a new Law on the Principles of the Budget was approved by parliament in November 1997. The main procedures and institutional provisions established therein are being applied in preparing the 1998 budget, including, inter alia, the establishment of a budget commission to review the implementation of the budget; the inclusion of externally financed project loans in the budget; more detailed budget appropriation classifications for ministries, agencies, and other spending units; and the establishment of a medium-term rolling budget plan.

34. Intergovernmental arrangements have been reformulated to address previous difficulties. Wages in the education and health sectors were transferred from the local budget to the republican budget. Formula-based revenue-sharing grants were instituted to eliminate

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[13]The savings stem from a delay in the granting of benefits under the newly established Medical Insurance Fund while contributions are already being collected.

bargaining and provide economic assistance to poorer regions. Uniform tax-sharing arrangements were put in place, providing for the republican budget to retain 65 percent of the income tax, profit taxes, and excises. While VAT receipts and customs duties are to be allocated entirely to the republican budget, land taxes and rights-to-trade taxes are to revert fully to the local governments. An incentive structure was put in place that encourages more vigorous revenue collection at the local level, and the independence of the regional tax administration office from local governments was enhanced.

IV. Monetary and Exchange Rate Policies and Financial Sector Developments[14]

A. Monetary and Exchange Rate Developments in 1996 and the First Half of 1997

35. With a substantial decline in the growth of money during 1996-97, inflation fell and the exchange rate stabilized. Overall, the growth rate of broad money fell from 77 percent in 1995 to 23 percent in 1996, and to 10 percent during the first half of 1997; during the same period, the decline in reserve money growth was even more pronounced, falling from 91 percent to 24 percent and 10 percent, respectively (Table 14). While this tightening of monetary conditions eventually reduced inflation, the bunching of inflows of foreign assistance and their use by the government, together with the NBKR's limited monetary policy instruments, intermittently caused an erratic pattern of growth of money that contributed to the depreciation of the som.[15]

36. As noted earlier, monetary and fiscal policies were relaxed in late 1995 to finance higher government expenditures in the run-up to the Presidential election, with domestic budget financing by the central bank quadrupling to above 8 percent of GDP compared to 1994. In light of these developments, the exchange rate, following a long period of relative stability, began to depreciate during the fourth quarter of 1995. In response to the attendant increase in inflation, the NBKR restricted reserve money growth during the first half of 1996 by increasing its sales of foreign exchange in the auctions (Table 15),[16] reducing the credit auction volume, and limiting its credit to the government to 1.1 percent of GDP. Broad

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[14]For an overview of the institutional structure of the banking system, see SM/96/170.

[15]The exchange rate under the NBKR's managed float policy is determined in weekly foreign exchange auctions conducted with commercial banks. Active trading of foreign exchange also occurs in exchange offices and between banks and their customers. The NBKR discontinued purchasing gold as of January 1997 and no longer provides foreign exchange conversion services to Kumtor.

[16]The increase in the auction volume in the first quarter was met by a higher seasonal demand, since energy imports need to be paid for and foreign exchange receipts from agricultural exports are virtually nil.

money declined by 3 percent during the first half of 1996, and inflation fell. However, the som depreciated during the period, partly as reserve requirements were reduced from 15 percent to 13½ percent in April 1996 to help ease the financial situation of banks.

37. Monetary growth rates increased sharply in the third quarter of 1996 as the NBKR used external assistance to build up its net international reserves (NIR). To this end, the NBKR reduced its foreign exchange auction volume, falling short of fully sterilizing the use of counterpart funds by the government.[17] Interest rates rose to 67 percent on three-month treasury bills in September, compared to 39 percent at end-June. Monetary aggregates continued to grow rapidly in October and November, with the government using up the remainder of its sizable deposits, which the NBKR could only partially sterilize. Given the cumulative increase of reserve money by 22 percent over the preceding four-month period, the som-dollar exchange rate dropped sharply. The NBKR responded by increasing its intervention in the foreign exchange market and not extending any new credit to the government during the remainder of the year, thereby virtually freezing reserve money during that period. Additionally, the NBKR raised reserve requirements in 2 phases—to 15 percent as of December 1, 1996 and to 20 percent effective January 1, 1997. Inflation increased dramatically in the fourth quarter of 1996, following the growth in money and the drop in the exchange rate that had begun in the previous quarter. In total, inflation during 1996 was slightly higher than in 1995, and the exchange rate finished the year at 16.7 som per U.S. dollar, after 11.2 som at end-1995.

38. Monetary developments were less volatile in 1997. In an effort to stabilize the exchange rate and control inflation, the NBKR kept reserve money virtually unchanged during the first five months of 1997, with broad money also remaining stable during that period. Initially, however, the average monthly inflation rate remained high at 2.4 percent during the first four months of the year and the som continued to depreciate, exceeding 18 som per dollar in March and April. In April, the NBKR changed reserve regulations so that holdings of cash in foreign exchange no longer could be counted towards meeting reserve requirements, resulting in a large-scale conversion of banks' holdings of foreign cash into som and, ultimately, contributing to an appreciation of the som to 17.2 som per U.S. dollar in June, a level which also prevailed at end-September. NBKR auction sales of foreign exchange were gradually reduced in the second and third quarters of 1997, respectively, reflecting partially the shift of sterilization operations toward reverse repurchase operations, as described below. During the first nine months of 1997, the consumer price index rose by 10.3 percent, compared to 20 percent during the corresponding period a year ago.

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[17]The government used the counterpart funds to finance a five-month program to eliminate its wage and pension arrears by end-October. Arrears had expanded to 2½ percent of GDP in the first half of the year as the government's financing was limited and revenue collections were below budget targets.

39. Notwithstanding deficiencies in the estimation of GDP, velocity has fallen steadily since the som was introduced in 1993, except for a temporary surge in late 1996. The demand for money has recently been bolstered by the increasing confidence in the banking system, following its successful restructuring in 1996–97 (see below), the growing stability of the foreign exchange market, and market perception that the NBKR has become increasingly capable of conducting a proactive monetary policy through the enlargement of its set of monetary policy instruments. In line with these developments, the share of deposits in broad money rose from 28 percent to 32 percent during the first half of 1997; with the stabilization of the exchange rate, the ratio of foreign currency deposits to total deposits declined from 46 percent at end-February 1997 to 38 percent at end-September (Figure 3 and Table 17).

B. Interest Rates

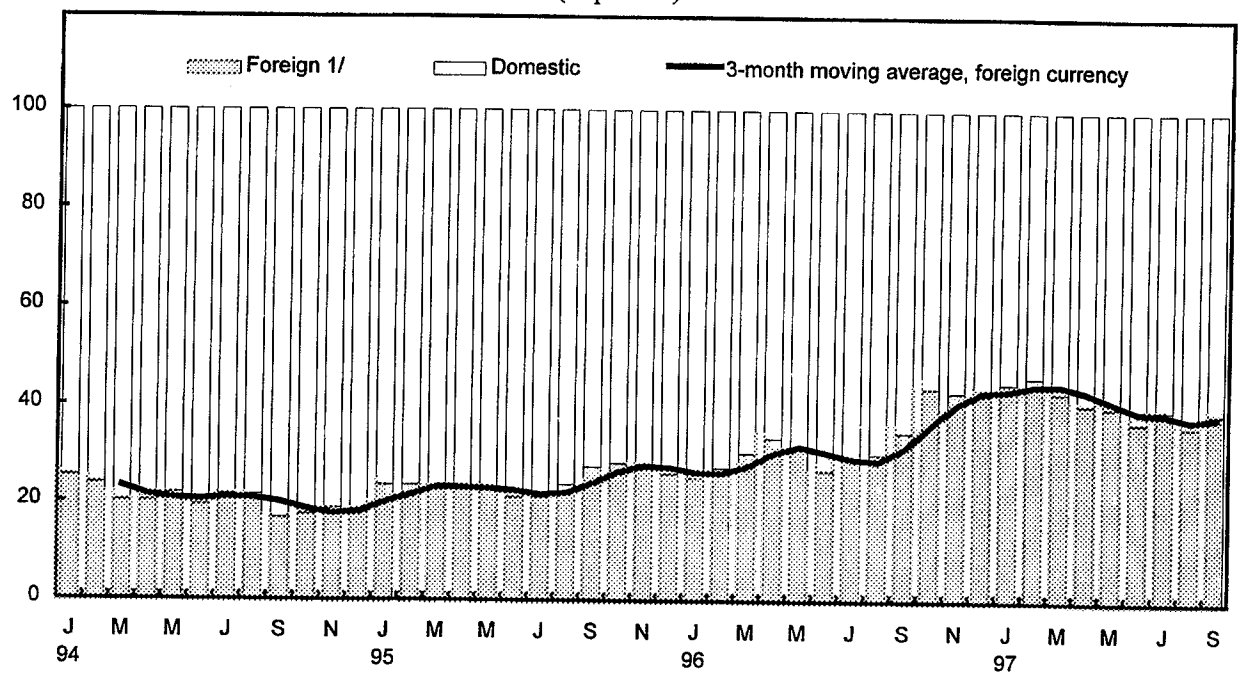
40. Interest rates on treasury bills and bank deposits, which had been negative in real terms during much of 1995, increased substantially during 1996 before declining in 1997 with the increase in demand for som money (Figure 3, and Tables 16 to 18). Interest rates exhibited a large degree of volatility during that period, which reflected the monetary and exchange rate developments described above.

41. With sales of government securities at low levels—about som 20 million per month on average—interest rates averaged 39 percent for three-month treasury bills during the first half of the 1996 and were thus positive in real terms. Average treasury bill yields increased sharply to 67 percent by the end of the third quarter of 1996 and remained high until March 1997, with, however, a large degree of volatility; in March 1997 alone, the five auctions that took place resulted in average yields between 54 percent and 98 percent. Beginning with the second quarter of 1997, treasury bill yields fell to moderate positive real rates, reaching 18 percent for three-month bills and 30 percent for six-month bills by end-July. Monthly treasury bill auctions peaked in April at close to som 30 million, before falling to below som 20 million in May and below som 15 million in August, reflecting the contraction of banks' excess reserves as a result of the change in reserve requirement regulations in late April and the introduction of reverse repurchase operations in late May.

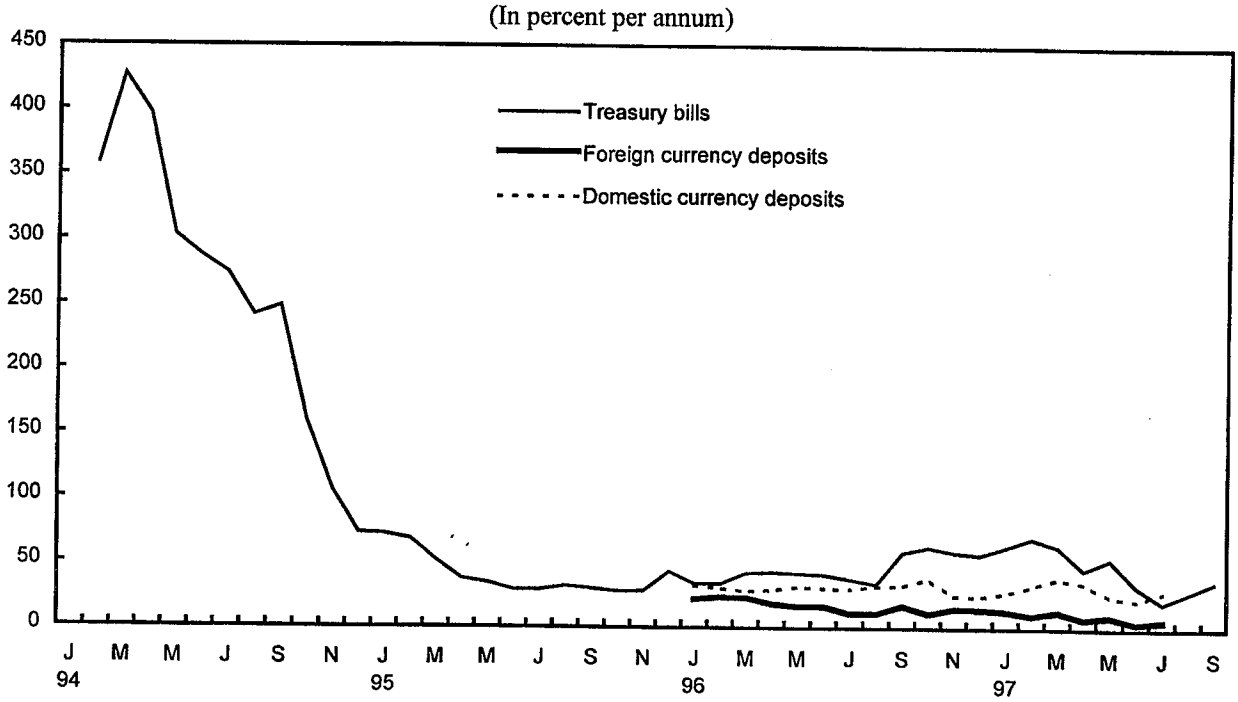
42. Interest rates on deposits and credits fluctuated in 1996 and the first half of 1997, but to a lesser extent than treasury bill rates. During 1996 and the first quarter of 1997, the average weighted interest rate on newly attracted deposits generally ranged from 25 to 35 percent for som deposits, and from 10 to 17 percent for U.S. dollar-denominated deposits; the latter fell to about 5 percent by mid-year. During the same period, newly extended credits in som cost, as a weighted average, between 54 percent and 64 percent, and comparable dollar-denominated credits ranged between 27 percent and 66 percent.

Figure 3. Kyrgyz Republic: Selected Monetary Indicators, 1994-97

Currency Composition of Deposits of the Banking System
(In percent)



Interest Rate Developments
(In percent per annum)



Sources: Kyrgyz authorities; and Fund staff estimates.
1/ Foreign currency deposits valued at actual exchange rates until November 1996 and at a constant exchange rate of som 17 per U.S. dollar thereafter.

C. Instruments of Monetary Policy and Interbank Market Activity

43. The NBKR significantly improved the sophistication and effectiveness of its monetary policy instruments over the course of 1996-97. Initially, the NBKR had no means of sterilization other than foreign exchange sales and reserve requirements; the effectiveness of the latter was somewhat impaired by allowing banks to count foreign exchange vault cash towards meeting required reserves. A variety of credit instruments existed but were hardly used.

44. This situation changed with the securitization of NBKR credits to the government. Between May and July 1997, about 10 percent of the previously extended NBKR credits to the government, amounting to som 269 million, were converted into six-month government securities (treasury bills or GKOs).[18] [19] Beginning in May 1997, the NBKR used these securities to conduct reverse repurchase operations (repos) with commercial banks, and within three months, the outstanding value of such repos exceeded som 100 million (0.4 percent of GDP). In most cases, the duration of the repo was equal to the maturity date of the underlying treasury bill, implying that the Ministry of Finance pays the interest costs of the repos, rather than the NBKR. All repos have been conducted at the interest rate of the last respective treasury bill auction. While repos initially proved very attractive to banks, the decline in yields, the restrictions on their secondary market trading,[20] as well as their long maturity, have made banks increasingly hesitant to tie up funds at these terms.

45. Numerous changes in credit instruments were introduced during 1996–97. Emergency credits (uncollateralized credits to troubled banks) were phased out in the second half of 1996, with the last credit provided in September 1996. The overdraft facility was eliminated in June 1997, after it had remained inactive for more than a year. Credit auctions were discontinued in December 1996 and formally canceled in January 1997. The Lombard facility remained in force throughout, but the collateral arrangements were tightened by excluding foreign exchange, precious metals, and securities issued by foreign governments and international

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[18]GKOs are treasury bill-like interest-bearing government securities. They differ from treasury bills in that they are issued to mature only while in the portfolio of the central bank.

[19]The securitization took place in two steps. The first conversion of direct credits amounting to som 69 million was done in May 1997. In July 1997, the Ministry of Finance provided the NBKR with an additional som 200 million in government securities. In order to help preserve the 1997 budget expenditure targets, the NBKR agreed to return all interest on these bills immediately to the Ministry of Finance, except in cases where the securities are used for sterilization purposes and therefore lead to interest payments by the NBKR.

[20]Existing regulations allow a bank to sell a repo contract only once to another bank; all additional exchanges of a repo contract in the secondary market would have to be channeled through the original bank, and all settlements must be made via the NBKR.

organizations. The penalty rate for the first use of the Lombard facility is 1.2 times the last three-month treasury bill rate, increasing to 1.4 times that rate for any subsequent access to the facility within 30 days of the previous loan being repaid. Use of the Lombard window was scarce though, with only six transactions recorded in the second half of 1996 and none in the first half of 1997.

46. The weekly foreign exchange auctions that the NBKR conducts with commercial banks have been used to determine the official exchange rate and to sterilize excess liquidity in the banking system. They were altered as of February 1997 in a way that buyers would pay their offered price if their respective bid was accepted (Dutch system); previously, all successful bidders had paid the market clearing price. Under the new auction system, the difference between the highest and lowest accepted bids has generally been below 1 percent.

47. As regards reserve requirements, the remuneration of reserve deposits was altered in February 1997 to the weighted average of commercial bank deposit rates instead of the three-month treasury bill rate. At the same time, coverage of deposits was expanded to incorporate all deposits. In April 1997, the definition of reserves was altered to include only reserve deposits at the NBKR and vault cash in som, thereby excluding foreign exchange vault cash. The penalty rate for non-compliance was raised from 1.2 to 1.4 times the three-month treasury bill rate.

48. The number and volume of transactions in the interbank money market expanded in 1996 and 1997.[21] The preferred maturities were either very short term (up to 7 days) or very long term (more than 61 days). Secondary market trading of treasury bills has expanded even more rapidly than interbank money market activity, indicating the return of confidence between banks and primary dealers after the successful restructuring of the banking system. For the eleven months leading to December 1996, total treasury bill transactions in the secondary market reached som 160 million. By contrast, during the first seven months of 1997, som 1,360 million were exchanged. This expansion also reflects the sharp increase of the volume of treasury bill issues in the primary market—the outstanding volume of treasury bills as of end-July 1997 was som 267 million, after som 178 million in December 1996[22]—as well as the role of treasury bills as a preferred asset of commercial banks in view of the still suppressed lending to the private sector.

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[21]In 1996, 66 transactions amounting to som 86 million were recorded. There were 53 transactions totaling som 104 million during the first seven months of 1997.

[22]Participants in the auctions for treasury bills seem to prefer bills with a six-month maturity; from the outstanding stock of treasury bills of som 267 million as of end-July 1997, som 79 million (30 percent) were three-month bills, som 167 million (63 percent) were six-month bills, and the remainder were twelve-month bills.

D. Financial Sector Reform

49. Considerable progress has been made in improving the soundness and stability of the banking system. A substantial restructuring of banks was undertaken in 1996, supported by an IDA Financial Sector Adjustment Credit (FINSAC), that initially shook confidence in commercial banks as deposits fell, but eventually resulted in a financially sound banking system which has enjoyed increasing public confidence. In the spring of 1996, operations of Elbank and Agropombank, the last state and largest commercial banks, were shut down. A Debt Resolution Agency (DEBRA) was setup in 1996 to help collect or write-off Agroprom's non-performing loans, and in 1997 was also given the task of liquidating Elbank's assets. A Settlements and Savings Corporation (SSC) was established to provide payments system services and a savings outlet, especially for rural areas, following the closure of Agroprombank branches. In April 1997, Promstroi Bank and AKB Bank, two other large former state banks, were recapitalized without public funds. In March 1997, the Kyrgyz Agricultural Financial Corporation (KAFC) was launched to take over lending to the agricultural sector in lieu of the former Agroprombank and of lending from the budget.

50. The bulk of the liabilities of the liquidated banks consisted of directed credits that were financed through advances from the central bank per government instructions. To compensate the NBKR for these advances, the government provided the NBKR with bonds totaling about som 1 billion, with a 30-year maturity and a 5 percent interest rate. The NBKR also financially supported the bank restructuring operations in 1996. This mainly involved three operations that increased reserve money by 5 percent. In two cases, the NBKR acquired buildings as collateral from illiquid banks that had overdue loans to the NBKR. In the third case, the NBKR provided funds to compensate Elbank depositors to secure the public's confidence in the banking system.

51. A number of key laws was enacted, comprising the new Law on Banks and Banking Activity, the new Central Bank Law, and the Law on Pledges. Complementary legislation is being prepared for depositors' insurance, as well as for the nonbank financial sector to provide a modern legal and regulatory framework for insurance companies, private pension funds, and leasing companies, which should also boost the still largely dormant financial market activity. The NBKR also introduced a new chart of accounts for itself and for five commercial banks in April 1997, which was adopted by the remaining banks in July; is in the process of modernizing the payments system which is expected to be fully operational by year-end;[23] and has been strengthening bank supervision by issuing new regulations on insider lending, foreign exchange exposure, and loan provisioning. New minimum capital requirements in line with

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[23]Under the old payment system, a payment from a customer in one bank to a customer in another bank could take up to one month to settle. In the new automated retail payment system, settlement will take one to two days. This system is based on netting. A manual large value gross payment system with same day settlement has already been established in the NBKR.

Basle standards are gradually being implemented. Seventeen out of the eighteen operating banks are currently complying with all prudential regulations, and while non-observance of reserve requirements still occasionally occurs, only one bank has persistently failed to meet such requirements in 1997. Banks have also largely succeeded in writing off their non-performing loans, mainly by injecting new capital from their owners, thereby reducing the share of sub-standard or nonperforming loans in their portfolios from 39 percent in October 1996 to 7 percent in June 1997, and of bank loans under monitoring from 13 percent to 4 percent, respectively. Three new bank licenses have been granted in 1997, of which two to banks with foreign participation.

52. Notwithstanding the success of these reforms, which brought about a strengthening of the public's confidence in the banking system, as evidenced by the rising share of deposits in broad money and the decline of foreign currency deposits in total deposits (see above), some challenges remain. Banks have not yet become an effective vehicle for mobilizing financial resources and allocating these to their most efficient uses. Private savings and financial intermediation remain low by international standards. Lending by commercial banks and credit programs[24] has as yet met only a small part of the credit needs of large segments of the population and of the developing private sector. Banks generally also lack adequately trained staff in risk analysis and business plan evaluation. Moreover, lenders, especially credit programs, are having difficulties finding qualified projects as risks of default are substantial, potential borrowers lack strong business plans, repayment culture is underdeveloped, the legal basis for collateral is still incomplete, including as regards to land, and courts have yet to adopt adequate enforcement procedures. As a consequence, lending continues to be largely short-term and often for trade purposes. Finally, the high returns on relatively risk-free treasury bills may have discouraged lending.

V. External Sector Developments

A. Balance of Payments Developments in 1996 and the First Half of 1997

53. The current account deficit rose steadily during 1995-97. It widened from US$124 million (11 percent of GDP) in 1994 to US$418 million (24 percent of GDP) in 1996 (Table 23). Imports expanded by 95 percent during the period, outpacing exports which grew by 56 percent. The increase in imports was dominated by the construction phase of the Kumtor gold project (Box 1). Import growth also reflected an increase in shuttle trade as well as large disbursements of project assistance, with tied aid-related imports accounting for about one-fifth of imports in 1995–1996. According to estimates by the National Statistics

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[24]Nineteen credit programs are currently being offered by both foreign and domestic institutions. Examples for foreign providers of such programs are the EBRD, the KFW, the CAAEF (Central Asian American Enterprise Fund), and USKAJCA (US-Kyrgyz Joint Commission of Agrobusiness and Rural Development), while domestic credit programs are offered by, inter alia, the KAFC and various ministries.

Committee (NSC) based on foreign exchange declarations of traders at the ports of exit and entry, shuttle trade amounted to US$60–70 million in 1996 alone. The Kumtor-related surge in imports, which comprised largely heavy machinery and service payments to foreign workers (mainly from Russia, Kazakhstan and Uzbekistan), amounted to 8–9 percentage points of GDP during 1995–1996. Excluding Kumtor, the current account deficit amounted to US$ 251 million (15 percent of GDP) in 1996.

54. Official statistics indicate that the composition of imports shifted from consumption goods towards investment goods and raw materials (Table 25). Machinery, industrial, and construction goods represented about 40 percent of all imports in 1996, compared to 30 percent in 1995. The share of energy in total imports fell from one third to one-fourth in 1996. However, the recorded shift in import composition may also reflect a reclassification of imports to avoid taxes, given that investment goods imported from non-CIS countries are exempt from the VAT.[25] The composition of exports moved away from industrial products and raw materials towards consumption goods and energy (Table 24). The share of energy in total exports rose from 10 percent to 14 percent, while the share of industrial and construction products fell from about 35 percent to 30 percent. The share of agricultural and food industry in total exports was about one-third in 1995–1996 and accounted for 43 percent of exports to CIS countries.

55. Trade with CIS countries surged in 1996 (Tables 23 to 31), with exports growing by 46 percent and imports by 40 percent, reflecting a re-establishment of previous trade patterns following some economic recovery in these countries. The share of exports to CIS countries in total exports rose from 66 percent in 1995 to 74 percent in 1996; agricultural and food industry exports accounted for 43 percent of exports, and energy for another 18 percent of exports. On the other hand, the share of imports from non-CIS countries in total imports grew from 41 percent in 1995 to 46 percent in 1996 as a result of Kumtor construction, project assistance, and lower oil and gas imports. Overall, the trade balance with CIS countries remained negative in 1996, mostly on account of trade with Russia and reflecting energy and food imports from neighboring countries (Table 27).

56. The Kyrgyz Republic continued to enjoy strong international support for its adjustment efforts in 1995 and 1996. Official disbursements of medium- and long-term loans during 1995 and 1996 totaled US$208 and US$174 million, respectively (Table 33). The main multilateral donors in 1996 were the World Bank (US$64 million), the ADB (US$26 million), and the EBRD (US$58 million). The main bilateral donors were Japan (US$18 million) and Germany (US$5 million). In 1996, grants were received from the United States (US$15 million), Japan ($10 million), and the Netherlands (US$5 million). The Kumtor project financing amounted to US$235 million in 1996, out of a project total of US$452 million entirely from private and multinational sources (see Box 1 for composition of Kumtor project financing). Apart from the Kumtor project, foreign investors have shown only

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[25]Imports from CIS countries are not taxed in the Kyrgyz Republic.

limited interest in the Kyrgyz Republic relative to that shown to some of the other CIS countries, given that the privatization of large- and medium-size enterprises is still at an early stage, as well as the paucity of mineral resources and the geographical distance to developed markets.

57. The current account deficit for 1997 is projected to be cut to 11 percent of GDP. This sharp decline reflects mostly the completion of Kumtor construction and the start of related exports in early 1997. The growth of other imports declined with lower project loan disbursements, a slowdown in shuttle trade, and increased import substitution. Imports of petroleum products fell during the first half of 1997 because of an increase in production by the new oil refineries at Jalalabad and Kant. Imports of raw sugar also declined considerably, with the substitution of imports of raw sugar from Brazil and Cuba with cheaper imports from India and neighboring Central Asian countries. In the first half of 1997, loan disbursements of US$68 million were received, mostly from the World Bank, and an ECU 5 million grant from the EU and a grant of US$8 million from Japan were disbursed. An estimated US$5 million have come from abroad as investment in the coupon privatization program, and one foreign company bought US$2 million in treasury bills. The overall balance of payments position is projected to be in surplus in 1997, equivalent to 1.3 percent of GDP, after a deficit of 0.7 percent of GDP in 1996.

58. The coverage of gross international reserves fell from 2.5 months of imports at end-1995 to 1.8 months of import at end-1996; in nominal terms, international reserves grew from US$114 million to US$129 million. During the course of 1996, official reserves fluctuated sharply in line with disbursements of foreign aid, debt service obligations, foreign exchange sales by the NBKR (see Chapter IV), as well as seasonal factors. Reserves fell to a low of US$83 million in April, reflecting large payments for energy needs, low exports proceeds, delays in the disbursement of World Bank assistance, and sizable foreign exchange sales for sterilization purposes. Reserves rose sharply thereafter, with seasonally low demand for foreign exchange and sizable disbursements of foreign aid. They increased to US$168 million, or 2.6 months of imports by mid-1997, mainly on account of buoyant export receipts, a slowdown of imports, and considerably scaled down foreign exchange auction sales, which accompanied the NBKR's introduction of reserve repos in May 1997. Moreover, increase in demand for soms could have resulted partly from the change in the reserve requirement regulations (which made banks convert holdings of foreign exchange vault cash into som to comply with reserve requirements) and the need for local currency to participate in the privatization coupon auctions; during May–June 1997, some valuable shares were placed in the coupon auctions which increased the price of coupons and also attracted some foreign capital inflows.

Box 1. The Kumtor Gold Project

The Kumtor Gold Company (KGC) was established in 1992 to develop the Kumtor gold mine which is located at an altitude of 4,000 meters in the remote eastern mountainous region of the Kyrgyz Republic. The gold deposit was itself discovered in 1978 and is now considered to be the eighth largest in the world.

The project comprises proven and probable gold reserves of 9.3 million ounces and has a projected mine life of 19 years. Kumtor is owned two-thirds by the government of the Kyrgyz Republic and one-third by Cameco Corporation of Canada, a Canadian mining company. The project is operated by Cameco.

The construction and investment phase of the project was substantially completed in December 1996 at a cost of US$452 million, 26 percent above the US$360 million estimated at commitment. Loans to the Kumtor gold project amounting to US$452 million were disbursed during 1995–96, consisting of (a) US$155 million in senior debt from a bank syndicate led by the Chase Manhattan Bank of New York; (b) US$122 million in subordinated debt from Cameco; (c) a senior loan investment of about US$30 million and a subordinated loan of US$10 million from the IFC; (d) an EBRD loan of US$40 million; (e) a loan of US$50 million from the Canadian Export Development Corporation (EDC); and (f) an equity investment of US$45 million from Cameco.

Kumtor started production in January 1997. While the gold recovery rate was 44 percent in January–February (against 81 percent projected at steady state), the recovery rate improved to 71 percent in May. Nevertheless, 1997 gold production in volume terms is forecast to be slightly higher than originally projected because of better-than-expected grades.

Kumtor is the largest foreign direct investment in the Kyrgyz Republic. The Kyrgyz Republic is expected to receive about US$172 million in revenue from Kumtor during 1997–2002 in the form of dividends, royalties and other taxes. Most of these receipts are expected in the later years of the project as Cameco has effectively obtained a 10-year tax holiday and project receipts will be first used to repay foreign creditors. The overall environmental performance of the project is satisfactory and in compliance with World Bank Group policies.

B. Trade and Payments System

59. The Kyrgyz Republic has maintained full current and capital convertibility. Customs duties on imports from non-CIS countries are a uniform 10 percent rate, with few

exemptions.[26] No duty rate is levied on imports from CIS countries. The average unweighted tariff rate is 4 percent.

60. As regards non-tariff barriers, the Kyrgyz Republic has neither quantitative import restrictions nor any absolute prohibitions on imports. Import licences exist for only five categories of goods and are designed to protect public health and safety, the environment, consumer welfare and national security. The Kyrgyz Republic has not imposed any anti-dumping duties.

61. The Kyrgyz Republic has no registration requirements for exports or export bans. No export duties exist—the duty on wheat, which had been temporarily introduced in late August 1996 because of concerns over the quality and quantity of the wheat seed stock, was removed in October 1996. Export licences are required only for very few items such as military arms and goods, explosives, nuclear materials, and narcotics (including those used in pharmaceuticals). In March 1996, the Kyrgyz Republic joined the customs union with Russia, Belarus and Kazakhstan, and the final draft agreement was approved by parliament and signed by the President in July 1997. In June 1996, the Kyrgyz Republic gained observer status in the WTO and the authorities are pressing ahead with the country's application for WTO membership.

C. External Debt

62. Large inflows of bilateral and multilateral official assistance during the last few years have resulted in a significant increase in the Kyrgyz Republic's external debt. Total external debt rose from virtually zero in 1991 to US$753 million at end-1996 (Table 33). As percent of GDP, the external public debt rose from 36 percent at end-1995 to 43 percent at end-1996; its net present value (NPV) grew from 29 percent to 33 percent, respectively. The debt service-to-exports ratio fell from 20 percent in 1995 to 13 percent in 1996, owing to the increasing concessional element of the contracted loans and debt rescheduling agreements with Russia and Turkey in 1996. In September 1996, obligations to the Turkish Export-Import Bank (US$41 million) were rescheduled over a 5 year-period with an interest rate of LIBOR plus 2.5 percent. In December 1996, debt to Russia (US$133 million) was rescheduled with a three year grace period, a 10 year repayment period, and interest rate of LIBOR but not exceeding 5 percent.

63. About 60 percent of official external debt is owed to multilateral creditors (including the IMF) and 40 percent to bilateral creditors. The World Bank is by far the Kyrgyz Republic's largest creditor, accounting for 27 percent of total external public debt, followed by the IMF (19 percent), Russia (18 percent), Japan (11 percent), and the Asian Development Bank (8 percent).

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[26]The few legal exemptions mainly affect goods imported in connection with humanitarian and technical aid.

VI. Structural Reforms

A. Overall Strategy

64. Since 1992, the Kyrgyz government has implemented a reform program aimed at creating a market economy. To this end, the government has liberalized prices, trade, and interest rates, and created an exchange regime that is virtually free of restrictions. It has also actively pursued the disengagement of the state from productive activities through the privatization, restructuring or liquidation of about 10,000 public enterprises, a reform of the agricultural sector, a complete overhaul of the financial system, a modernization of the legal and regulatory framework, and—recognizing the problems resulting from inefficient use of scarce public resources—a reform of the budgetary and treasury systems (see above).

B. Privatization and Enterprise Restructuring

65. In 1991, almost 10,000 Kyrgyz state enterprises were included in a comprehensive privatization program, and the State Property Fund (SPF) was established to manage the privatization process. The overall strategy for the privatization program has been similar to those followed by other economies in transition and comprised three phases. The first phase consisted of the privatization of small and easy-to-sell enterprises that did not require major preparation and time-consuming valuation of assets and liabilities; medium- and large-scale enterprises were privatized in the second phase; and the third phase focused on the large state monopolies.[27] While small enterprises have generally been sold through cash auctions, medium-size and larger enterprises have often been privatized through a combination of coupon and cash auctions. In some instances, especially at the beginning of the privatization program, the majority of shares of some public enterprises were transferred free of charge to workers.

66. Almost one half of public enterprises were privatized during 1991–93, mainly small-scale enterprises consisting mostly of family-style operations. The sale of these 4,500 enterprises yielded about som 39 million in receipts (Box 2).

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[27]An enterprise is officially classified as privatized when it has been turned into a joint-stock company. This definition implies that the government can be the sole owner of an enterprise, even though it has been labeled "privatized." Furthermore, the sale of an enterprise is registered on the day of the sale agreement, not upon payment. Some enterprises that were privatized at one stage have in the meantime reverted to government property due to non-payment by the original buyers.

Box 2. Privatization

	Number of enterprises privatized 1/	Privatization proceeds, in million som	Assets of privatized enterprises, in million som
1991	174	2	2
1992	2386	5	10
1993	1897	32	21
1994	727	48	50
1995	737	77	165
1996	314	116	769
1997 Q1+Q2	70	20	---
Total	6305	300	App.1800

Source: Kyrgyz authorities
1/ Initially, 9,989 enterprises were included in the privatization program (see Table 13).

67. In 1994, the privatization of medium- and large-scale enterprises was started under the so-called mass privatization program. About 1,300 firms were to be privatized during this phase, accounting for some 70 percent of total enterprise employment. A major objective of the mass privatization program was to ensure a wider distribution of ownership and improve the transparency and equity of the process. By mid-1997, approximately two-thirds of medium- and large-scale enterprises that were included in the mass privatization program had been sold through coupon auctions, while the remainder had been liquidated or restructured. The mass privatization program involved the distribution of about 3.5 billion coupons ("upais") to the public, which could be used to purchase up to 25 percent of each enterprise offered for sale. Another 5 percent of each enterprise was given to its employees, and the remaining shares sold in cash auctions. In 1997, some large monopolies[28] were offered for sale in the coupon auctions as part of the program, with the proportion of shares offered to the public ranging between 4 percent and 15 percent. An additional 3 percent to 5 percent of the shares of utilities was allocated to the Social Fund as settlement for the enterprises' overdue pension contributions, and some 8 percent were reserved for distribution to the socially needy. The inclusion of monopolies in the coupon auctions substantially increased the market value of the coupons, from about 1.5–2 som during the winter of 1996/97 to approximately 12 som by end-June 1997, with prices up to 18 som reported at some occasions.

[28]Comprising Kyrgyz Telecom, Kyrgyz Aba Zholdoru, Kyrgyzenergoholding, Kyrgyzmuniazat, Kyrgyzgas, Kyrgyz Insurance Co., Kyrgyzintrans, Kyrgyz Mining Combinat, and Kyrgyz Akyl.

68. Some of the enterprises to be privatized were restructured by the Enterprise Reform and Resolution Agency (ERRA), which was created with support from the World Bank to deal with the most heavily indebted enterprises. ERRA provided these enterprises with working capital, and the enterprises were given a period of less than a year to demonstrate their financial viability after which they were to be either privatized or liquidated. Of the 29 enterprises initially adopted by ERRA, 14 were sold, five were liquidated, four left the program, and six were still with ERRA by mid-1997.

69. In total, more than 1,900 enterprises were privatized between early 1994 and mid-1997, yielding som 262 million in privatization receipts. As of mid-1997, approximately 100 of the larger enterprises and about 3600 mostly small-scale enterprises were left to be sold through cash auctions. In May 1997, privatization of larger enterprises outside of the mass privatization program was halted, pending the outcome of an investigation on whether enterprises had been sold too cheaply. Upon completion of the investigation, the larger enterprises are slated to be sold on a case-by-case basis; as regards the remaining mostly small-scale enterprises, no specific plans had been developed by mid-1997.

70. Some of the privatized enterprises encountered financial difficulties or stopped operating, mostly as a result of insufficient management skills and lack of capital. Post-privatization support therefore has become a key focus of the authorities to ensure the viability and soundness of these enterprises. Supported by the World Bank and the Asian Development Bank, the government has embarked upon a program to introduce advanced management know-how and improve corporate governance, inter alia, by providing training in accounting, market analysis and marketing, as well as the development of strategic business plans.

C. Agriculture

71. The Kyrgyz Republic has made significant progress in laying the foundation for private agriculture, which contributed to the increase in agricultural output that was recorded in 1996 and 1997. Beginning in 1993, the government has distributed long-term land lease contracts, liberalized agricultural prices, and privatized agro-industries. Reforms were initiated to restructure government and public institutions that support agriculture in areas such as research, provision of information, training, and leasing of farm machinery. Following the liquidation of Agroprom Bank, which in the past had served as a key provider of agricultural credit, the Kyrgyz Agricultural Finance Corporation (KAFC) started operations in March 1997; several rural credit unions have also been established.

72. Land use rights to a little more than half of all land were distributed in 1995. These rights are for 99 years; under the Kyrgyz constitution, all natural resources (including land) are owned by the state and thus cannot be privatized. Of the remaining land, around half is owned by the National Land Fund which has yet to formulate a program to sell or distribute its land, notwithstanding a November 1996 President decree requiring that half the Fund's land be sold through auctions. The other half is largely located in the Chui oblast which, for

political reasons, has resisted the distribution of land use rights. The land that has not been allocated to individual farmers is generally under the control of collective farms. Collective farms also indirectly control around one third of the land which has been distributed, given the difficulties private farmers have encountered in obtaining machinery, seeds, and fertilizers, as well as in access to credit and marketing channels. As a result, individual farmers cultivate only about one third of all arable land, and two thirds of these farmers still work in collective farms. In addition, there is an equivalent number of individuals who have not received any land other than the so-called "enterprise plots" and function as subsistence farmers. The dominance of collective farms facilitated the politically motivated expansion of wheat production in 1997.

73. While the issue of full private ownership of land is still being debated, there is widespread consensus that the right to use land should be legally safeguarded and transformed into a right that can be freely transferred, inherited, and used as collateral. Land use rights can at this stage only be traded informally, because the necessary legislative reforms are still under preparation. As a result, private farmers have faced difficulties in obtaining credit, given the lack of assets that can be used as collateral. Access of private farmers to credit will be facilitated by a formal registry of land ownership and legislation enabling the use of land as collateral, which is being discussed by parliament. The newly established Kyrgyz Agricultural Finance Corporation (KAFC) has begun lending to individual farmers. Moreover, several leasing companies have been established by the government, with EBRD assistance, that make farm machinery available to private farmers.

74. Notwithstanding the progress achieved, problems with input and output markets still exist. The supply of agricultural inputs, especially fertilizers and high quality seeds, is difficult at times, given the dominant role of collective farms in the distribution of inputs, the restructuring and liquidity problems of some old suppliers, and the fact that new suppliers have not yet come into operation to any significant extent. Moreover, the irrigation system has not been maintained properly; the World Bank estimates that if emergency repairs were undertaken, agricultural output could be boosted by 10 percent. The marketing of agricultural products has been largely improved through the emergence of new distribution channels, such as direct marketing of fruits and vegetables in big cities and private trading activity in cash crops (e.g., cotton and wool). However, the state still plays a major role in the marketing of grain and other products that are considered important for self-sufficiency reasons; some agro-processing industries, such as sugar factories and wheat storage facilities, are still to be privatized.

D. Legal and Judicial System

75. In its quest to establish a market economy and attract both domestic and foreign investors, some major steps have been accomplished in improving the legal and regulatory framework. With the assistance of USAID, the Asian Development Bank, and the World Bank, some key business laws, such as the law on pledges and the procurement law, have been enacted. However, in several critical areas, there are still some inconsistencies

among legislation. In order to be fully conducive to private sector development, more stability and predictability is still required in the legal and regulatory framework so as to prevent ad hoc changes of laws and regulations by government or parliament.

76. Deficiencies in the application of laws are being addressed with support of donor financial and technical assistance. Efforts will focus on making court decisions more transparent and in accordance with the new laws; the training of judges, prosecutors, and lawyers; and the dissemination of information on, and access to, legislation. So far, the bankruptcy law has been applied only sporadically, as it is sometimes difficult to convince the courts that an enterprise should be declared bankrupt. Out of 250 loss-making and idle enterprises, only 14 have so far been liquidated and 25 reorganized. Moreover, given the general inexperience with commercial contracts, commercial disputes have been so far rarely settled by the courts.

APPENDIX I

Options for Pension Reform in the Kyrgyz Republic[1]

I. Introduction

1. The Kyrgyz pension system has been in deficit since independence, and it is projected to remain in deficit over the medium term under present policies. This appendix provides a financial assessment of the pension system, and presents several options to balance it. Section II describes current policies and institutional arrangements, and examines the causes of the current deficit; Section III compares the Kyrgyz pension system with systems in other countries and assesses traditional options for pension reform; and Section IV evaluates alternative policy options to reduce the deficit.

II. Institutional Features and Sources of Financial Imbalance

A. Overview of the system

2. The Social Fund (SF) comprises four funds: the Pension Fund, Social Insurance Fund, Employment Fund, and Medical Insurance Fund. The Pension Fund provides old age pensions, disability, and loss-of-breadwinner (survivor) benefits. The Social Insurance Fund (SIF) provides maternity leave, sick leave, funeral and other benefits. The Employment Fund (EF) provides unemployment compensation and related benefits. The Medical Insurance Fund (MIF) was started in 1997 to consolidate the provision of medical benefits.[2]

3. The SF is run on a pure pay-as-you-go (PAYG) basis, mostly financed by payroll taxes. The combined contributions to these funds consist of a 39 percent payroll tax on cash wages, of which 30 percent goes to the PF, 5 percent to the SIF, 2 percent to the EF, and 2 percent to the MIF (Table 1). The other source of revenue is the budget. In addition to transfers to finance some specific (social and military) pensions, the budget provides a substantial subsidy, equivalent to 1½ percent of GDP in 1996 and 1997. The PF has borrowed from the other funds to finance pensions;[3] however, its deficit has been significantly larger than the surpluses available from the other funds.

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[1]Prepared by Daniel Hewitt.

[2]In addition, the PF distributes certain government mandated pensions to persons who never paid into the system—military pensions and social pensions—but these do not effect the SF financial balance as they are financed entirely by government transfers to the SF, and the SF does not make these payments until the government transfers are received.

[3]For instance, the MIF had not begun operations at the time of this writing while contributions started being collected as of January 1, 1997.

Table 1. Kyrgyz Republic: Social Fund Contribution Rates, 1997
(In Percent of Wages)

	Enterprise, Government Self-employed	Agriculture	Charitable Organizations
Employer contribution rate	34.5	24.5	6.5
PF	29.0	20.0	2.5
SIF	4.0	3.0	2.5
EF	1.5	1.5	1.5
Employee contribution rate	2.5	2.5	2.5
PF	2.0	2.0	2.0
EF	0.5	0.5	0.5
MIF contribution rate	2.0	2.0	2.0
Total	29.0	11.0	
PF	31.0	22.0	4.5
SIF	4.0	3.0	2.5
EF	2.0	2.0	2.0
MIF	2.0	2.0	2.0

Source: Kyrgyz SF.

4. Eligibility is virtually universal (Table 2). Anyone who was officially employed during Soviet times either by the government, enterprises, or in farming is deemed to have contributed during those years (whether or not the enterprise or state farm made payments to the PF).[4] The official retirement age is 60 years for men and 55 years old for women; there are various privileged categories of workers who can retire as early as 40 years of age and some of these groups are also entitled to higher pensions.[5]

[4]Under present legislation, people who do not contribute to the system will eventually not be eligible to receive pensions. The required years of contribution has also been increased. However, this will not have an impact on the number of retirees for some time.

[5]These include workers in hazardous conditions (miners, mountain workers), unhealthy conditions (shepherds, textile workers, dairy maids, machinists, bus drivers), mothers with a large number of children, Chernoble workers, etc.

Table 2. Kyrgyz Republic: Pension Fund Recipients, 1996

Old Age Pensioners	364,000
Early Retirees	81,000
Disabled Persons	46,000
Loss of Breadwinner Recipients	46,000
Total Recipients	537,000

Source: Kyrgyz SF.

5. Benefits are not automatically indexed, but are adjusted via Presidential Decree. Individual benefits are determined by the average wage and years of service.[6] Average pensions increased from 24 percent of average wages in 1994 to 49 percent of average wages in 1996.

B. Sources of Financial Imbalance

6. A PAYG system must satisfy the following condition in order for it to be in balance:

$$t*w*L = b*N \qquad (1)$$

or equivalently,

$$t = (b/w)*(N/L) = r * d \qquad (1')$$

where
- t payroll tax rate or contribution rate
- w average wage
- L number of contributing workers
- b average pension payment
- N number of pensioners
- r replacement rate (b/w)
- d dependency ratio (N/L) or the reverse of the support ratio.

7. The equation indicates that the maximum level of benefits (replacement rate) that a pension system can afford is determined by the dependency ratio and payroll tax rate. In the Kyrgyz Republic, the average payroll tax rate is 26.2 percent and the effective support ratio (the number of SF contributors per pensioners) is 1.6. This implies that the budget balancing replacement rate—the average pension payment in percent of average wages—would be only

[6]The exact formula is: P = w*(.55 + (Y - C)/100) where w is average wage over a 5-year period, Y is the number of years of contribution and C is mandatory contribution years, currently 25 years for men and 20 for women (which are being increased).

42 percent, compared to a replacement rate of 49 percent in 1996. In order to balance the PF budget, there is a need to either increase the tax rate, decrease eligibility (to increase the support ratio), or lower the replacement rate.

8. The support ratio is determined by demographic ratios and eligibility criteria. The Kyrgyz Republic enjoys very favorable demographic ratios that would normally allow a very high support ratio under a PAYG system, as the working-age population greatly exceeds the retirement-age population (Table 3). For each person between 60 and 79, there are 4.3 persons 20 to 39 years old.

Table 3. Kyrgyz Republic: Age Cohorts, 1996

Age Group	Number of Persons
0-9	2,132,000
20-39	1,390,000
40-59	664,000
60-80	326,000
over 80	43,000
Total population	4,555,000

Source: NSC.

9. However, given generous eligibility and entitlement rules, and the fact that not everyone who is working age is a contributor, the effective support ratio is 1.6; the hypothetical maximum support ratio for the Kyrgyz Republic is 5.5.

Table 4. Kyrgyz Republic: Support Ratios, 1996
(Ratios)

Working-age population to retirement population	5.5
Employed persons to retirement population	3.7
Contributors to retirement population	2.0
Contributors to pensioners	1.6

Source: Kyrgyz SF, and staff estimates.

10. Effective contribution rates are also low relative to statutory rates. The labor force participation rate is 83 percent, but less than half of these people contribute (Table 5). The majority of noncontributors, 26 percent of the working-aged population, do not earn wages due to unemployment, subsistence farming, and lay-offs. The remaining noncontributors are mostly in agriculture, the informal private sector, or self-employed. The economic mismatch is particularly apparent in agriculture. There are only 208,000 contributing farmers who

provided contributions of only som 152 million in 1996. However, agricultural recipients numbered 260,000 and were paid a total of som 724 million in 1996.

Table 5. Kyrgyz Republic: Economic Activity of Working-Aged Population, 1996

Total working-aged population	2,160,000
Economically active	1,785,000
Noncontributing persons	950,000
Unemployed	140,000
Workers lay-off, on leave without pay, etc.	186,000
Subsistence farmers	342,000
Noncontributing farmers	122,000
Noncontributing self-employed	160,000
Contributing workers	835,000
Formal sector workers	627,000
Farmers	208,000

Source: Kyrgyz SF, and staff estimates.

11. Against this background, the question is whether the current system is too generous to pensioners given current payroll tax rates. In other words, are the contributions paid by a worker sufficient to support the pensions to be received in retirement? A simple answer to this questions can be derived in the following model that calculates the actuarial replacement rate.

12. Assume a world where each age group is precisely the same size at birth and has the same life expectancy, growth in wages each year equals the inflation rate plus the growth in productivity, and the level of productivity growth equals the interest rate. In these circumstances, the current account balance of the pension fund and the actuarial balance are the same. The dependency ratio will exactly equal the ratio of average years of retirement to years worked.[7] With these assumptions, the budget balance criteria is:

$$t = (b/w)*(R/Y) = r * d \qquad (1A)$$

where R expected duration of retirement
Y number of years worked before retirement.

13. Table 6 shows that the replacement rate of 49 percent in 1996 is about equal to lifetime contribution payments by an individual, i.e., the average actuarial replacement rate (53 percent). Compared to the 1996 replacement rate, men pay considerably more than they receive during retirement. By contrast, because women retire at an earlier age and live longer,

[7]This abstracts from morbidity during working years and survivors insurance, which tend to offset each other.

the pensions they receive are well above the payments they make. These ratios do not take into account reduced payments by certain groups, early retirement, and higher pensions awarded to special groups. But the ratios do imply that workers paying full contributions and retiring at the normal age are not receiving overly generous pension payments. However, pensions are too generous for early retirees and noncontributors.

Table 6. Kyrgyz Republic: Actuarial Replacement Rates, 1996

	Retirement		Tax		Replacement
	Age	Duration	Rate	Compliance	Rate
Women					
Non-agricultural	55	21	31	86	47
Agricultural	55	21	22	86	33
Men					
Non-agricultural	60	13	31	86	86
Agricultural	60	13	22	86	61

Average working years to years of retirement (actuarial support ratio): 2.4
Average actuarial replacement rate: 53 percent
Average system replacement rate (1996): 49 percent
Current replacement rate of new retirees (1996): 55 percent

Source: Kyrgyz SF, and staff estimates.

III. International Comparison and Standard Solutions for Pension Reform

14. This section provides a comparison of the Kyrgyz pension system with world and regional averages. The implied hypothesis is that Kyrgyz pension reforms would move towards the best practices pursued by other countries. Tables 7 and 8 indicate that the Kyrgyz pension system is highly skewed relative to world averages and in comparison to other BRO countries.

Table 7: International Comparisons, 1990

	Population 60 years and over		Retirement age		Pension Exp/ GDP	Pension Exp/ Govt. Exp.	Pension Taxes/ GDP	Covered wage bill	Contributing Workers to Workforce	Payroll Tax Rate
	1990	2015	W	M						
	(Percent)		(years)		(Percent)				(Percent)	
OECD countries	18.2	25.0	63	64	9.2	24.7	5.2	36.1	94	18.9
Latin America & Caribbean	6.9	10.8	59	61	2.0	2.8	1.5	12.9	38	10.5
Sub-Saharan Africa	4.6	4.7	56	56	0.5	1.8	0.5	8.7	6	9.1
Middle East & North Africa	7.0	9.0	58	60	2.8	7.9	2.8	15.9	41	10.6
Asia	6.3	10.1	56	57	6.3	10.1	3.2	11.7	24	13.0
Eastern Europe, CIS-B	15.3	20.0	55	60	8.0	19.1	5.4	...	...	25.5
Kyrgyz Republic (1996)	7.8	6.8	55	60	7.1	23.2	4.5	54.0	61	26.2

Source: World Bank (1994), Kyrgyz Pension Fund, and staff estimates.

15. Against the background of Table 7, the relevance and applicability of standard solutions to financially balance a pension system are examined. Pension reforms are generally based on the following rules:

- Pension system revenue levels are to be raised if they are low as a share of GDP.
- Pension system expenditures are to be lowered if (a) the ratio of pension expenditures to GDP is high; (b) pension expenditures relative to overall government expenditures are high; (c) pension revenues to GDP are high; and (d) demographic support ratios (working-age population to retirement population) are high.
- General budgetary support to the pension system could be raised if (a) pension expenditures are low relative to GDP; (b) pension expenditures are low relative to overall government expenditures; (c) pension revenues relative to GDP are low; and (d) demographic support ratios are low.

16. In the Kyrgyz Republic, the **revenue effort** of the pension fund is high. The payroll tax rate at 26 percent is above the average rates in all regions, which are mostly in the 10 to 20 percent range. The ratio of payroll tax collections to GDP in the Kyrgyz Republic is also higher than any of the regional averages, including the average for Eastern European and CIS countries. On this basis, it would appear that raising payroll tax rates would be inappropriate.

17. The level of **pension fund expenditures** in the Kyrgyz Republic is high in relation to both GDP and total government expenditures. Moreover, overall pension revenues are high in comparison to GDP, and so are the demographic support ratios. There is, therefore, a strong

case that pension reform in the Kyrgyz Republic could concentrate on cutting expenditures. Since the retirement age in the Kyrgyz Republic is low compared to other countries, raising the retirement age could be the main element of a reform package. But there are other expenditures of the SF which might also be cut in order to limit the extent to which the retirement age needs to be increased. However, given the above analysis, cutting replacement rates, i.e. pension payments, is not warranted; on an absolute level and compared to poverty levels in the Kyrgyz Republic, pension payments are quite low.

18. A case cannot be made for raising **government subsidies** to the Kyrgyz pension system, given the high share of pension fund expenditures in GDP and in overall government expenditures. This holds even more in view of the rather high Kyrgyz demographic support ratio compared to world and regional averages, resulting from the relatively low proportion of elderly persons in the population. The PF uses nearly one fourth of total government resources when only 8 percent of the population is above 60 years old. Against this background, the government could seek to substantially reduce or eliminate the budgetary subsidy in an effort to focus its expenditures on other public services, such as education and infrastructure.

Table 8. Pension Systems in the BRO

	Retirement age		Replacement Rate	Expenditure	Revenues	Government Subsidies	Arrears	Payroll tax Rate
	Men	Wom.	(Percent)	(In percent of GDP)				(Percent)
Armenia	65	63	24	3.1	2.9	0.0	0.0	34
Azerbaijan	60.5	55.5	29	7.5	5.3	2.6	0.8	36
Belarus	60	55	41	8.4	11.0	0.9	0.3	36
Estonia	65	60	29	7.6	7.2	0.0	0.0	33
Georgia	65	60	36	1.7	2.4	0.6	0.3	33
Kazakhstan	63	58	31	5.3	7.7	0.0	1.7	32
Kyrgyz Republic	60	55	49	7.7	8.1	1.7	0.7	39
Latvia	60	55	39	10.8	9.8	0.0	...	38
Lithuania	62.5	60	31	4.8	6.2	0.0	1.7	30
Moldova	60	55	41	8.1	8.1	0.0	2.7	30
Russia	60	55	28	4.5	4.6	0.5	0.5	36
Tajikistan	60	55	62	3.0	3.0	0.0	2.7	38
Turkmenistan	60	55	53	23.0	14.9	0.0	0.0	36
Ukraine	60	55	33	8.7	8.7	0.0	1.3	52
Uzbekistan	60	55	41	6.4	6.3	0.0	1.3	41

19. It should be noted at this stage that the financial imbalances that are projected for the Kyrgyz pension system over the medium term are unique compared to the PAYG systems in other countries insofar as the deficit in the Kyrgyz Republic is entirely due to the **current** mismatch of revenues with expenditures. By contrast, in the case of other countries, a current balance in the finances often masks a future looming deficit, given the projected unfavorable demographic trends. For these countries, the main policy challenge is to bring current benefits and revenues into surplus to provide a cushion to deal with future deficits.

20. A main issue that has not been addressed in this appendix is whether or not the Kyrgyz Republic should convert its PAYG system into a funded system. There are several reasons why a country might want to take this action, such as that in the future deficits will rise due to demographic trends or that there is a need to increase the savings rates. For the Kyrgyz Republic, near-term demographic trends do not threaten the financial balance of the pension system. Calculations indicate that if policies were instituted to eliminate the current deficit and a funded system were put in place, the existing implied public pension debt would be som 75 billion (250 percent of 1997 GDP).[8] This level of pension debt is similar to the level in the U.S. and Western European countries (Chand and Jaeger (1996)). Thus, the government could issue bonds equal to 250 percent of GDP and a funded system could begin operation immediately, provided the current deficit of the PF was brought into balance.

IV. Pension Reform Options for the Kyrgyz Republic: Simulation Results

21. Simulations for the years 1998–2015 indicate that the pension fund deficit will fall from 2 percent of GDP in 1998 to 1.3 percent of GDP in 2015 on the basis of unchanged demographic trends. Thus, if current policies are maintained over the next 20 years, the financial situation of the PF will improve—the working-aged population increases more rapidly than the retirement-aged population—even though there will remain a need for government subsidies. However, this may not provide a financially sustainable option since contributors would be heavily taxed, thereby providing a major disincentive to pay dues to the fund. Moreover, should the underlying demographic trends change in line with more developed or industrial countries, corrective action would be needed.

22. The simulations focused on the impact of revenue-raising and expenditure-cutting measures. Sensitivity of the underlying macroeconomic assumptions was also tested. The results are summarized in Tables 9 to 11. Table 9 presents a menu of possible reform options to achieve a financially balanced pension fund by 2015. A reform program could consist of one or two measures only, such as freezing pensions or eliminating early retirement combined

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[8]This level was calculated in the following manner. For each age group over 18 years, pension at retirement age (1996 prices) are estimated assuming annual real growth of 2 percent per year plus annual seniority wage increases of 0.5 percent. Then Pension Fund liability per person is assumed to equal years worked over total working years times expected annual pension time expected duration of retirement. This formula abstracts from the costs of early retirement.

with raising the retirement age by one year. Alternatively, balance could be achieved by increasing wage base coverage, increasing the retirement age by one year, reducing the number of recipients of disability and survivor benefits, and halving other SF expenditures while maintaining contribution rates. In any event, the results indicate a wide range of possibilities, all of which represent politically unpopular options. While a variety of measures could lead to eliminating the deficit, the analysis shows that the main policy recommendation would be to increase the retirement age in view of the large potential savings and the relatively low retirement age by international standards.

A. Baseline Scenario

23. The baseline scenario estimates the deficit of the SF/PF assuming **no change in pension policies** except that pensions are adjusted annually for inflation, and life expectancy of the current living population follows current trends (see Box 1). Given these assumptions, the PF deficit declines as revenues remain at approximately the same level of GDP, while expenditures fall as a share of GDP since wages grow more rapidly than pensions. The simulations do not specify how the deficit would be financed. The cumulative shortfall during 1997–2015 (without any interest on arrears) is nearly som 22 billion or 14 percent of 2015 GDP.

24. The other assumptions used in the simulations were chosen to be as neutral as possible: real GDP growth of 4 percent per annum, pension levels indexed annually to average inflation during the previous year, and contributions to increase in line with the wage bill. Consequently, replacement rates (ratio of average pension to average wage) would range between 49 percent and 54 percent during 1996–2005, and fall to 50 percent by 2015. To the extent that real wages increase, the replacement rate will fall. However, the retirement of workers with higher than average pensions and the death of retirees with lower than average pensions will increase replacement rates. In 1997 the gap in pensions between new retirees and deceased retirees is 45 percent; this difference is assumed to be retained throughout the period.

Table 9. Measures to Balance the Pension Fund by 2015
(In Percent of GDP)

		Deficit reduction in 2015
Total deficit reduction required		1.3
I.	Revenue Measures	
1.	Increase compliance by 5 percent	0.3
2.	Increase number of contributors by 5 percent	0.3
3.	Increase the wage base coverage by 5 percent	0.3
4.	Increase the agricultural contribution rate	0.1
II.	Expenditure Measures	
1.	Eliminate early retirement	1.0
2.	Increase retirement age by one year	0.5
3.	Increase retirement age by two years for men and seven years for women	1.9
4.	Freeze pension levels for the next three years	1.5
5.	Flatten out pensions at 10 percent below the average level	0.7
6.	Halve SIF, EF, and MIF expenditures while maintaining the overall payroll tax rate	0.6
7.	Reduce the number of disability recipients and recipients of survivor benefits	0.2
III.	Different Macroeconomic Assumptions	
1.	Higher growth rate (to 5 percent per annum)	0.9
2.	Higher labor force participation rate (10 percent)	0.5

Source: Appendix Table 2, and staff estimates.

25. The simulations were run for 1998–2015, as no assumptions were made for future birth rates. Persons born in 1997 will just be reaching the age of 18 (the assumed average age of entry into the labor force) in 2015. The change in the financial balance in subsequent years (2016 and beyond) will depend mostly on fertility rates. Obviously, if families stay large, the deficit would remain below 1.3 percent of GDP on its own. If the fertility rate falls (rises), the deficit will rise (fall). Since the Kyrgyz fertility rate is high by world standards, it is more likely to fall than to rise.[9]

[9]The fertility rate fell from 4.0 in 1988 to 3.1 in 1994, but rose to 3.3 in 1995.

Box 1. Assumptions Under the Baseline Scenario

Macroeconomic Assumptions

- Real GDP growth of 4 percent per annum.
- Share of wage payments within GDP remains unchanged.
- Inflation falls to 5 percent per annum over the medium term.

Revenue Assumptions

- No explicit government subsidies, other than som 430 million in the 1997 budget.
- Contributions increase with the wage bill.
- Labor force participation rates and SF/PF registration rates remain unchanged.
- Existing tax arrears remain uncollectible.

Expenditure Assumptions

- Pension levels increase with inflation. For existing pensioners, the annual increase is equal to the inflation rate in the previous year and thus pensions remain unchanged in real terms.
- New pensioners receive pensions that are 40 percent larger than older pensions.
- Pensions to military and others paid exclusively by the budget fall 10 percent annually (since veterans are relatively old). This has no impact on the SF/PF deficit.
- Death rates remain unchanged.
- Disabled and loss of breadwinner recipients stay the same proportion in the total.
- Expenditures of the other funds equal their own revenues (the SIF, EF, and MIF).

B. Raising Revenue

26. As stated above, revenues of the Kyrgyz pension system and payroll contributions are high by international standards. To increase the PF revenue-to-GDP ratio, there would have to be an increase in the efficiency of collections or an expansion in the revenue base. In practice, the prospects for significantly increasing collection efficiency are limited, even over a long period of time. Moreover, the PF reports that compliance is already high, at 85 to 90 percent. Thus, major increases would have to come from expanding the number of contributors or the wage coverage. Policies being implemented to formally link pension benefits to contributions, and increase the required minimum years of contribution from 25 to 30 years for men and from 20 to 25 years for women, have already been accounted for in the simulations. Another proposal is to increase pension levels of those who voluntarily delay retirement (by 10 percent). While this may initially increase current revenues temporarily, it could prove costly in the medium term. An increase in contributors based on these policies is incorporated into the revenue base.

27. An alternative method to increase revenue would be through an increase in contribution rates. The combined contribution rate of 39 percent is obviously quite high and it would be hard to envisage any further increases. Agricultural workers, however, have a lower contribution rate. Equalizing payroll tax rates could raise revenues by an estimated 0.1 percent of GDP. Another source of revenues would be broadening the wage coverage.

28. A simulation was calculated which assumes a 5 percent increase in compliance, a 5 percent increase in participation, and a 5 percent increase in wage coverage over three years. This would raise revenues by 0.9 percent of GDP, and would eliminate about two-thirds of the deficit in 2015 (Table 9).

C. Decreasing Expenditures

29. Decreasing expenditures requires either lowering the number of recipients or lowering the average payment. By **eliminating early retirement,** the PF would lower payments and increase revenues. The savings could be as much as 1.0 percent of GDP.

30. The largest potential savings could come from **increasing the retirement age**. By delaying retirement, both the revenue base rises and expenditure commitments fall. This greatly improves the support ratio. Raising the retirement age could take time to implement for reasons of fairness and political feasibility. Most countries have phased in changes by increasing the retirement age by up to ½ year annually. A one-year increase in the retirement age of both men (to 61 years) and women (to 56 years) would lower the deficit by 0.5 percent of GDP. Alternatively, a more ambitious increase to 62 years for men (a 2-year increase) and women (a 7 year increase) completely eliminates the deficit and creates a small surplus in 2015, permitting an increase in pensions and/or a reduction in contribution rates. This has the effect of increasing the support ratio from 2 to 3 workers per pensioner under the baseline scenario.

31. An alternative measure would be to **freeze pension levels**, for instance by not providing an inflation adjustment for the next three years. This would lower the pension deficit by 1.5 percent of GDP. In this case, the replacement rate would fall by one-third to 38 percent. It should be noted, however, that pensions are widely regarded as low. The minimum pension would decrease to about 80 percent of the extreme poverty level (som 200 per month in mid-1997), and the average pension would only be slightly above the poverty level. A more equitable and feasible method might be to **put a cap on pensions**. Capping pensions at 10 percent below the 1996 average would have cut the deficit by 0.7 percent of GDP.

32. About 20 percent of pensioners are either disabled or receiving survivor benefits. There might be scope for tightening the eligibility criteria for these categories. Lowering the level of these beneficiaries by one fourth would save 0.2 percent of GDP. Finally, **reducing other payments** of the SF—SIF, EF, and MIF—by one half without lowering the combined payroll contribution rate could cut the deficit by 0.6 percent of GDP.

D. Macroeconomic Assumptions

33. If growth rates were 1 percent higher per annum, wages would grow by an additional 1 percent each year—2.8 percent per annum instead of 1.8 percent per annum under the base scenario—and SF revenues would be higher. The simulation results indicate that the PF deficit would be 0.9 percent of GDP lower in 2015. This would lessen the deficit, eliminating about two-thirds of it in the medium term. Reforms would nevertheless still be necessary in order to balance the SF finances.

34. An increase in labor force participation would lead to higher levels of contributors. With high growth rates, a greater number of people might be induced to enter formal employment, for which a higher level of participation in the PF would be expected. For instance, a 10 percent increase in participation would lead to a 0.5 percent decline in the deficit by 2015.

V. Conclusions and Summary

35. The Kyrgyz pension system has been in deficit since independence, and is projected to remain in deficit over the medium term. The main reasons for the deficit is the low retirement age (60 years for men and 55 years for women), generous early retirement provisions, universal eligibility for Soviet-era workers, and generous disability and survivor benefits. Collection levels are also low, given the relatively few contributors to the system. Only about one-third of the working-aged population contribute to the system. Almost one-half of the working-aged population does not earn an income, while farmers and private sector workers who do not contribute to the system account for one-tenth of the workforce.

36. Substantial reforms are needed to balance pension finances. The main policy recommendation is to increase the retirement age. The retirement age is low by international standards, leading to high dependency ratios, high pension expenditures relative to GDP and to total government expenditures, and high payroll tax rates. The share of pension expenditures is particularly high considering the low share of elderly persons in the population. In addition to raising the retirement age, early retirement and special low contribution rates for some segments of the population could be eliminated. International comparisons suggest lowering contribution rates once the current deficit is eliminated.

Table 10. Kyrgyz Republic: Social Fund Financial Accounts, 1994-2015

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2010	2011	2012	2013	2014	2015
											Projection							
								(In millions of som)										
Revenues (not including bank deposits)	712.3	1,313.3	1,868.9	2,356.6	2,195.0	2,427.9	2,638.1	2,869.3	3,122.5	3,399.6	3,702.5	4,033.5	6,186.7	6,729.1	7,312.4	7,939.0	8,611.9	9,338.4
Pension Fund	597.4	1,106.7	1,600.5	2,095.1	1,854.2	2,047.0	2,220.6	2,411.6	2,621.2	2,850.6	3,101.6	3,375.9	5,163.7	5,614.4	6,099.1	6,620.0	7,179.4	7,783.6
Contributions	483.2	905.0	1,014.7	1,412.6	1,692.2	1,891.0	2,073.2	2,272.3	2,489.5	2,726.2	2,984.0	3,264.8	5,079.9	5,535.2	6,024.3	6,549.4	7,112.6	7,720.4
Budget payments (mandated transfers)	37.5	111.1	104.3	117.5	162.0	156.0	147.4	139.3	131.7	124.4	117.6	111.1	83.7	79.1	74.8	70.7	66.8	63.1
Government subsidy	76.8	90.6	293.0	430.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arrears collection	...	...	188.5	135.0	0.0													
Social insurance Fund	86.8	154.6	202.0	146.0	140.0	156.4	171.5	188.0	206.0	225.5	246.9	270.1	420.3	457.9	498.4	541.8	588.4	638.7
Employment Fund	28.1	51.9	66.4	55.5	100.4	112.2	123.0	134.8	147.7	161.7	177.0	193.7	301.4	328.4	357.4	388.6	422.0	458.1
Medical insurance Fund	...	...	...	60.0	100.4	112.2	123.0	134.8	147.7	161.7	177.0	193.7	301.4	328.4	357.4	388.6	422.0	458.1
Expenditure	742.4	1,345.5	1,948.3	2,356.6	2,895.7	3,267.6	3,549.5	3,799.1	4,073.5	4,375.5	4,707.5	5,071.7	7,509.2	8,146.4	8,846.7	9,616.1	10,459.6	11,383.7
Pension Fund 1/	622.5	1,208.8	1,783.5	2,061.6	2,534.9	2,870.0	3,113.6	3,321.3	3,550.0	3,802.3	4,080.1	4,385.3	6,441.1	6,982.6	7,580.0	8,239.0	8,964.1	9,760.4
Of which																		
Budget transfers	37.5	111.1	104.3	117.5	162.0	156.0	147.4	139.3	131.7	124.4	117.6	111.1	83.7	79.1	74.8	70.7	66.8	63.1
Of which																		
Payments of arrears	...	...	32.2	79.4	0.0													
Social insurance Fund	108.1	103.0	105.8	146.0	150.0	167.6	183.8	201.4	220.7	241.7	264.5	289.4	450.3	490.7	534.0	580.5	630.5	684.4
Employment Fund	11.8	33.7	59.0	89.0	105.4	117.8	129.1	141.5	155.1	169.8	185.9	203.4	316.4	344.8	375.2	407.9	443.0	480.9
Medical insurance Fund	...	...	...	60.0	105.4	112.2	123.0	134.8	147.7	161.7	177.0	193.7	301.4	328.4	357.4	388.6	422.0	458.1
Deficit	-30.1	-32.2	-79.4	0.0	-695.7	-839.7	-911.4	-929.8	-951.0	-975.9	-1,005.0	-1,038.3	-1,322.5	-1,417.3	-1,534.3	-1,677.1	-1,847.7	-2,045.3
Pension Fund	-25.1	-102.1	-183.0	33.5	-680.7	-823.0	-893.0	-909.7	-928.9	-951.8	-978.5	-1,009.3	-1,277.5	-1,368.2	-1,480.9	-1,619.0	-1,784.6	-1,976.8
Social insurance Fund	-21.3	51.6	96.2	0.0	-10.0	-11.2	-12.3	-13.4	-14.7	-16.1	-17.6	-19.3	-30.0	-32.7	-35.6	-38.7	-42.0	-45.6
Employment Fund	16.3	18.2	7.4	-33.5	-5.0	-5.6	-6.1	-6.7	-7.4	-8.1	-8.8	-9.6	-15.0	-16.4	-17.8	-19.4	-21.0	-22.8
Arrears (generated during the year)	...	...	79.4	0.0	695.7	839.7	911.4	929.8	951.0	975.9	1,005.0	1,038.3	1,322.5	1,417.3	1,534.3	1,677.1	1,847.7	2,045.3
Cumulative arrears	...	...	...	79.4	775.1	1,614.8	2,526.2	3,456.0	4,407.0	5,382.9	6,387.9	7,426.1	13,368.9	14,786.1	16,320.4	17,997.5	19,845.2	21,890.5
								(In percent of GDP)										
Revenues (not including bank deposits)	5.9	8.1	8.3	8.2	6.3	6.2	6.2	6.1	6.1	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9
Pension Fund	5.0	6.9	7.1	7.3	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	4.9	4.9	4.9	4.9	4.9	4.9
Contributions	4.0	5.6	4.5	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Budget payments (mandated transfers)	0.3	0.7	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0
Government subsidy	0.6	0.6	1.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social insurance Fund	0.7	1.0	0.9	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Employment Fund	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Medical insurance Fund	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Expenditure	6.2	8.3	8.7	8.2	8.3	8.4	8.3	8.1	7.9	7.8	7.6	7.5	7.2	7.1	7.1	7.1	7.1	7.1
Pension Fund	5.2	7.5	7.9	7.2	7.3	7.3	7.3	7.1	6.9	6.8	6.6	6.5	6.1	6.1	6.1	6.1	6.1	6.1
Social insurance Fund	0.9	0.6	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Employment Fund	0.1	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Medical insurance Fund	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Deficit	-0.3	-0.2	-0.4	0.0	-2.0	-2.2	-2.1	-2.0	-1.8	-1.7	-1.6	-1.5	-1.3	-1.2	-1.2	-1.2	-1.3	-1.3
Pension Fund	-0.2	-0.6	-0.8	0.1	-1.9	-2.1	-2.1	-1.9	-1.8	-1.7	-1.6	-1.5	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
Social insurance Fund	-0.2	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment Fund	0.1	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arrears (new)	...	...	0.4	0.0	2.0	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.3	1.2	1.2	1.2	1.3	1.3
Cumulative arrears	...	...	...	0.3	2.2	4.1	5.9	7.4	8.6	9.6	10.4	11.0	12.7	12.9	13.1	13.3	13.5	13.7

Sources: Kyrgyz authorities; and Fund staff estimates and projections.

1/ For 1997 assumes total payments of som 134 million per month during the first half and som 178 million during the second half, plus som 138 arrear clearance, som 50 million administration, and som 34 million in additional budgetary pensions.

Table 11. Kyrgyz Republic: Social Fund Financial Accounts, 1997-2015
(In percent of GDP)

	Annual					Accumulated arrears
	1997	2000	2005	2010	2015	2015
I. Baseline						
Revenues	8.2	6.2	6.0	5.9	5.9	
Expenditures	8.2	8.3	7.5	7.2	7.1	
Deficit	0.0	2.1	1.5	1.3	1.3	13.7
Deficit (In millions of soms)	0.0	911.4	1,038.3	1,322.5	2,045.3	21,890.5
Number of pensioners (1,000)	539.0	546.0	572.0	629.8	724.2	
Ratio of workers to pensioners	1.8	1.9	2.1	2.1	2.0	
II. Increase payroll tax collections (by 5 percent for 3 years)						
Revenues	7.9	6.8	6.8	6.8	6.7	
Expenditures	7.9	8.3	7.6	7.2	7.2	
Deficit	0.0	1.6	0.7	0.4	0.4	6.2
Deficit (In millions of soms)	0.0	668.7	476.1	447.8	715.9	9,804.6
Number of pensioners (1,000)	539.0	546.0	572.0	629.8	724.2	
Ratio of workers to pensioners	1.8	1.9	2.1	2.1	2.0	
III. Higher annual economic growth (5 percent per annum compared to 4 percent)						
Revenues	7.9	6.1	5.9	5.8	5.8	
Expenditures	7.9	8.1	7.0	6.4	6.2	
Deficit	0.0	2.0	1.1	0.6	0.4	7.3
Deficit (In millions of soms)	0.0	871.8	814.8	711.1	693.7	13,870.2
Number of pensioners (1,000)	539.0	546.0	572.0	629.8	724.2	
Ratio of workers to pensioners	1.8	1.9	2.1	2.1	2.0	
V. Increase retirement age by 1 year (women to 56 years and men to 61 years old)						
Revenues	7.9	6.0	5.8	5.8	5.7	
Expenditures	7.9	7.5	6.8	6.5	6.5	
Deficit	0.0	1.5	1.0	0.8	0.8	8.8
Deficit (In millions of soms)	0.0	655.1	674.0	788.4	1,250.1	13,962.9
Number of pensioners (1,000)	539.0	515.8	536.2	585.7	669.9	
Ratio of workers to pensioners	1.8	2.0	2.2	2.3	2.2	
IV. Increase retirement age to 62 years (women by 7 years and men by 2 years)						
Revenues	7.9	6.0	5.8	5.8	5.7	
Expenditures	7.9	7.3	6.0	5.3	5.1	
Deficit	0.0	1.3	0.2	-0.5	-0.6	-1.3
Deficit (In millions of soms)	0.0	567.5	145.2	-503.1	-1,022.2	-2,022.7
Number of pensioners (1,000)	539.0	501.4	463.9	445.7	482.2	
Ratio of workers to pensioners	1.8	2.1	2.6	3.0	3.0	
VI. Freeze benefit levels for 3 years (replacement rate falls to 38 percent in 2000 compared to 54 percent)						
Revenues	7.9	6.0	5.8	5.8	5.7	
Expenditures	7.9	6.0	5.7	5.7	5.9	
Deficit	0.0	0.1	-0.1	-0.1	0.2	0.2
Deficit (In millions of soms)	0.0	34.0	-71.6	-79.4	275.9	374.5
Number of pensioners (1,000)	539.0	546.0	572.0	629.8	724.2	
Ratio of workers to pensioners	1.8	1.9	2.1	2.1	2.0	

Sources: Kyrgyz authorities; and Fund staff projections.

Bibliography

Beibfritz, Roseveare, Fore, and Wurzel, 1995, "Ageing Populations, Pension Systems and government Budgets: How Do They Affect Saving?," Organization for Economic Co-operation and Development Working Paper No. 156 (Paris).

Chand, Jaeger, 1996, "Aging Populations and Public Pension Schemes," IMF Occasional Paper 147 (Washington: International Monetary Fund).

Chu, Reddy, 1996, "Social Protection in Transition Countries: Emerging Issues," IMF Paper on Policy Analysis and Assessment 96/5 (Washington: International Monetary Fund).

Feldstein, 1996, "The Missing Piece in Policy Analysis: Social Security Reform," AEA Papers and Proceedings Vol. 86 No. 2 (Cambridge).

Feldstein, Samwick, "The Transition Path in Privatizing Social Security," NBER Working Paper Series 5761. (Cambridge).

Gramlich, 1996, "Different Approaches for Dealing with Social Security," Reforming Social Security Vol. 86 No. 2. (University of Michigan).

Heller, Mackenzie, Gerson, 1997, "Assessing the Fiscal Stance in the Context of Privatizing a Public Pension System," A note prepared by FAD. (Washington: International Monetary Fund).

Holzmann, 1996, "Pension Reform, Financial Market Development, and Economic Growth: Preliminary Evidence from Chile," IMF Working Paper 96/94. (Washington: International Monetary Fund).

Kotlikoff, 1995, "Privatization of Social Security: How it Works and Why it Matters," IED Discussion Paper Series No. 66. (Boston University).

Kotlikoff, 1996, "Privatizing Social Security at Home and Abroad," (Boston University).

Kotlikoff, 1996, "Simulating the Privatization of Social Security in General Equilibrium," NBER Working Paper No. 5776. (Boston University).

Mackenzie, Gerson, 1997, "Financing the Transition Costs of Pension Reform," A note prepared by FAD. (Washington: International Monetary Fund).

Mackenzie, 1996, "Pension Regimes and Saving," IMF Paper Prepared by FAD for Board Discussion SM/96/8 (Washington: International Monetary Fund).

Perraudin, Pujol, 1994, "Framework for the Analysis of Pension and Unemployment Benefit Reform in Poland," *Staff Papers*, International Monetary Fund, Vol. 41(December) pp. 643–674.

Peterson, 1996, "Social Insecurity," Atlantic Monthly May 1996, pp. 55–86.

Ribe, 1994, " Funded Social Security Systems: A Review of Issues in Four East Asian Countries," Paper Prepared for Delivery to the Rio Conference on Pension Systems and Reform July 28–29, 1994. (Washington: International Monetary Fund).

Sanger, 1997, "Panel on Social Security Urges Investing in Stocks, but is Split over Methods," *New York Times*, January 7, 1997.

____, 1997, "Western Europe: Pensions Debate," Available via Internet: http://www-int.imf.org/bbs/ox/031997.htm

____, "Averting the Old Age Crisis," A World Bank Policy Research Report. (Washington: The World Bank).

____, 1994, "Pensions, Price Shocks, and Macroeconomic Stability in Transition Economies - Illustrations from Belarus," IMF Working Paper 94/52. (Washington: International Monetary Fund).

___, 1994, "A Framework for the Analysis of Pension and Unemployment Benefit Reform in Poland," IMF Working Paper 94/40. (Washington: International Monetary Fund).

Determinants of the Exchange Rate and Money Demand[1]

I. Introduction

1. This appendix aims to model the exchange rate in the Kyrgyz Republic. It takes stock of exchange rate developments, and examines the factors that have affected it over the last few years. The empirical analysis looks at both the short-run and long-run determinants of the exchange rate. The results indicate that money supply is a principal determinant of the exchange rate in the Kyrgyz Republic. By contrast, interest rate differentials with foreign currencies do not seem to influence the exchange rate. Extending the analysis into a money demand framework corroborates these findings and establishes a well-defined and stable money demand function for the Kyrgyz Republic.

2. The appendix is organized as follows. Section II reviews exchange rate developments since the introduction of the som. Section III describes the modeling framework. Section IV presents the empirical results. Section V extends the analysis of the exchange rate to a money demand framework. Section VI concludes and summarizes the policy implications for both exchange rate management and monetary policy. The attachment presents the detailed econometric results and describes formally the econometric methodology employed in the appendix.

II. Background and Recent Developments in the Foreign Exchange Market

3. The som was introduced on May 10, 1993, replacing the Russian ruble as currency in the Kyrgyz Republic. The conversion rate was one som per 200 Russian rubles until May 21, 1993. As of June 24, 1993, the exchange rate was defined as the average mid-point between buying and selling rates for non-cash transactions in the Bishkek foreign exchange market, resulting in a rate of som 4.35 per U.S. dollar.

4. In the early years of the Kyrgyz Republic's transition to a market economy, the som experienced a high degree of volatility. The som appreciated very sharply immediately following the conversion, but depreciated to som 8.2 per U.S. dollar by December 1993, and to som 12.45 per U.S. dollar by May 1994. Pressures on the som were aggravated by the demand for foreign exchange by non-ethnic Kyrgyz who were emigrating in increasing numbers to Russia, Ukraine and Germany. With tight monetary and credit policies since mid-1994, inflation declined and the som appreciated to som 10.65 per U.S. dollar by December 1994.

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[1]Prepared by Lamin Leigh.

5. During the first three quarters of 1995, the som maintained a remarkable degree of stability. However, it depreciated by 5 percent during the last quarter of 1995 and by a further 9 percent during the first half of 1996, partly as a result of rapid monetary expansion in late 1995 and a decrease in reserve requirements in April 1996. National Bank sales of foreign currencies were relatively high in the first quarter of 1996, reflecting normal seasonal patterns since energy imports are needed and agricultural exports are very low that time of the year.

6. The som depreciation continued in the second half of 1996, with a 9 percent depreciation during the third quarter alone. However, NBKR interventions in the foreign exchange market declined, as the NBKR placed increased emphasis on bolstering its reserves position. Following a rapid increase in reserve money with the clearing of budgetary and pension arrears, the som depreciated by 25 percent in October–November 1996. The NBKR reacted by selling foreign exchange, freezing reserve money, and stabilizing the exchange rate.

7. The som resumed its decline in the first quarter of 1997. The NBKR increased intervention and tightened reserve requirements. The som appreciated, and has been stable since then.

8. The NBKR has in general followed a managed exchange rate policy subject to its reserve targets. The exchange rate is determined in auctions where banks submit their offers specifying the quantity demanded at different exchange rates. After examining the offers, the NBKR chooses the quantity to be sold. Up to February 1997, all transactions took place at the clearing rate. Since then, buyers pay their offer price on all successful bids. The official exchange rate is the weighted average rate of the winning bids.

III. The Basic Modeling Framework

9. This section describes both the basic theoretical apparatus and the econometric estimation technique employed in this paper.

A. Theoretical Framework

10. The exchange rate model specification is summarized in equation 1 below:

$$e_t = f(m_t\ fcs_t, \pi^e_t, (r_f - r_d)_t, cab_t) \qquad (1)$$

where e is the nominal exchange rate (som/U.S. dollar), m is the broad money supply, π^e_t is the expected inflation rate, $(r_f - r_d)$ is the foreign/domestic interest rate differential where r_f is proxied by the LIBOR rate and r_d is the treasury bill rate, fcs is the foreign exchange intervention (sales) by the NBKR and cab is the current account balance. Our basic model (equation 1) posits that the exchange rate is determined by monetary forces, inflationary developments, asset pricing influences, intervention factors, as well as current account developments.

11. The analysis below provides the theoretical underpinnings of the exchange rate model. Based on monetary equilibrium, m_t should *a priori* affect the nominal rate via its effect on the inflation rate. The role of an inflationary expectations variable in the model is two-fold. First, in many countries, inflationary expectations quickly get embodied in interest rates and wage demands and therefore affect spending behavior and the exchange rate. Second, from a more theoretical perspective, Lucas (1976) has argued that in situations where agents act rationally, their behavior will necessarily change systematically with changes in the policy regime. Thus, any inference on economic behavior based on econometric models that do not explicitly model the effect of expectations will be prone to systematic prediction errors. In this appendix, expected inflation is modeled using the adaptive expectations operator, thus:

$$\text{Expected inflation} = \pi^e_t = \lambda_1\pi_{t-1} + \lambda_2\pi_{t-2} \ \ldots\ldots\ldots + \lambda_n\pi_{t-n} \qquad (2)\ ^2$$

12. The proposition that the exchange rate is also a function of the interest rate differential is based on an asset-pricing approach and, more specifically, on dollarization or currency substitution effects. Dollarization or currency substitution is partly related to lack of confidence in the banking system, a common phenomenon in many transition economies. For instance, in both Bolivia and Georgia, currency substitution was significant in the early 1990s because of the loss of confidence in the banking system. Sophisticated savers can use foreign currency deposits to hedge against both inflation and depreciation of the currency. The rationale for the inclusion of fcs (foreign currency sales) as an argument in the exchange rate equation is that the volume of intervention by the NBKR will *a priori* influence the short-run movements in the exchange rate even if it does not affect the long-run trends. Finally, since the exchange rate is a function of net foreign asset accumulation, the current account balance is a reasonable candidate for its fundamental determinants.

B. Econometric Estimation Procedure

13. The determination of the key economic variables that underlie the dynamics of the exchange rate is the key empirical issue in this appendix. Consequently, the question that arises is which econometrics framework to employ that conforms to the basic features of the above-described theoretical framework. The first step in the model building is the identification and estimation of a long-run relationship between the exchange rate and its fundamental macroeconomic determinants.

14. Cointegration techniques provide a natural useful framework for examining the long-run relationship between a set of integrated economic variables which are individually non-

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[2]A more appealing expectations assumption is that of rational expectations with some of learning embedded. The learning adjusted-model of inflation expectations specification in Baba, Hendry and Starr (1992) was also tried here but in the final econometric model of the exchange rate, the adaptive expectations variable was found to be the dominant expectations model based on its explanatory power in the exchange rate model.

stationary. In the case of the exchange rate, the presence of short-run factors, as described in section A above, as well as cyclical factors, may cause the exchange rate to deviate from its long-run sustainable equilibrium path. The deviation is a function of the nonstationarity of the individual fundamental variables of interest. This estimation technique therefore generates empirical estimates for the long-run sustainable path of the exchange rate.

15. Cointegration analysis of the exchange rate model provides the first step of the modeling strategy employed. This appendix uses the multivariate maximum likelihood estimation (MLE) cointegration technique proposed by Johansen and Juselius (1990).[3] The technique does not assume a unique equilibrium relationship between data variables and can thus handle multiple cointegrating relationships between data variables. The vector autoregression (VAR) version of the theoretical model specification is described in equation 6 in the attachment. The cointegration analysis is based on this VAR. An attractive feature of this econometrics method is that it also facilitates computing the short-run dynamic behavior of chosen exchange rates whilst allowing for deviation from the long-run equilibrium.

16. Charts of the raw data, which are all on monthly basis, are presented in the next few pages. The top chart in Figure 1 presents the nominal exchange rate and foreign exchange sales by the NBKR,[4] while the bottom chart shows broad money (M2) and consumer price inflation. The top chart in Figure 2 shows the domestic treasury bill rate and the foreign interest rates represented by the LIBOR rate. The domestic treasury bill rate decreased from nearly 475 percent in March 1994 to about 65 percent by December 1996. Due to lack of data on U.S. dollar deposit rates in the Kyrgyz Republic for the full sample period (1993–96), LIBOR was chosen as the representative rate on dollar-denominated assets. The bottom chart in Figure 2 indicates the current account balance[5] and the industrial production index. The current account deficit has increased, particularly in 1996 as a result of the construction of the foreign-financed Kumtor gold project. Table 1 in the attachment presents estimates of volatility for the exchange rate. It shows that the som/U.S. dollar rate was most volatile during 1996, and least volatile during 1995 and so far in 1997.

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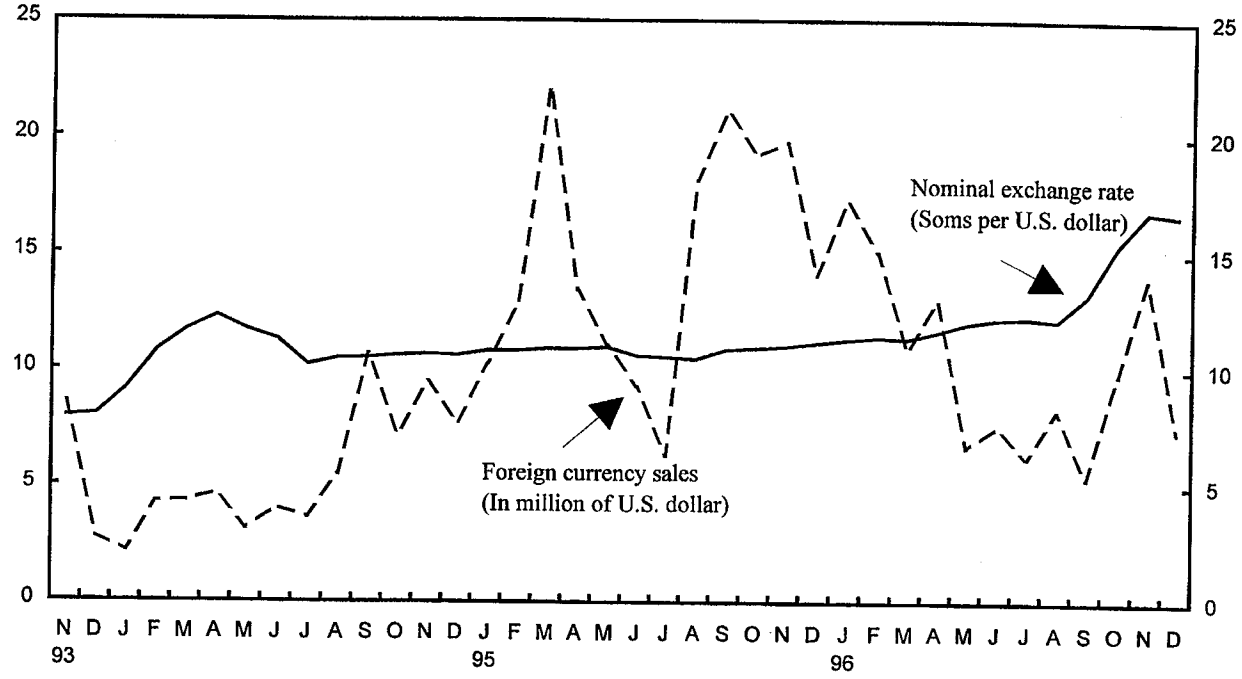
[3]A detailed description of this cointegration methodology is presented in the attachment.

[4]This refers to sales at NBKR auctions.

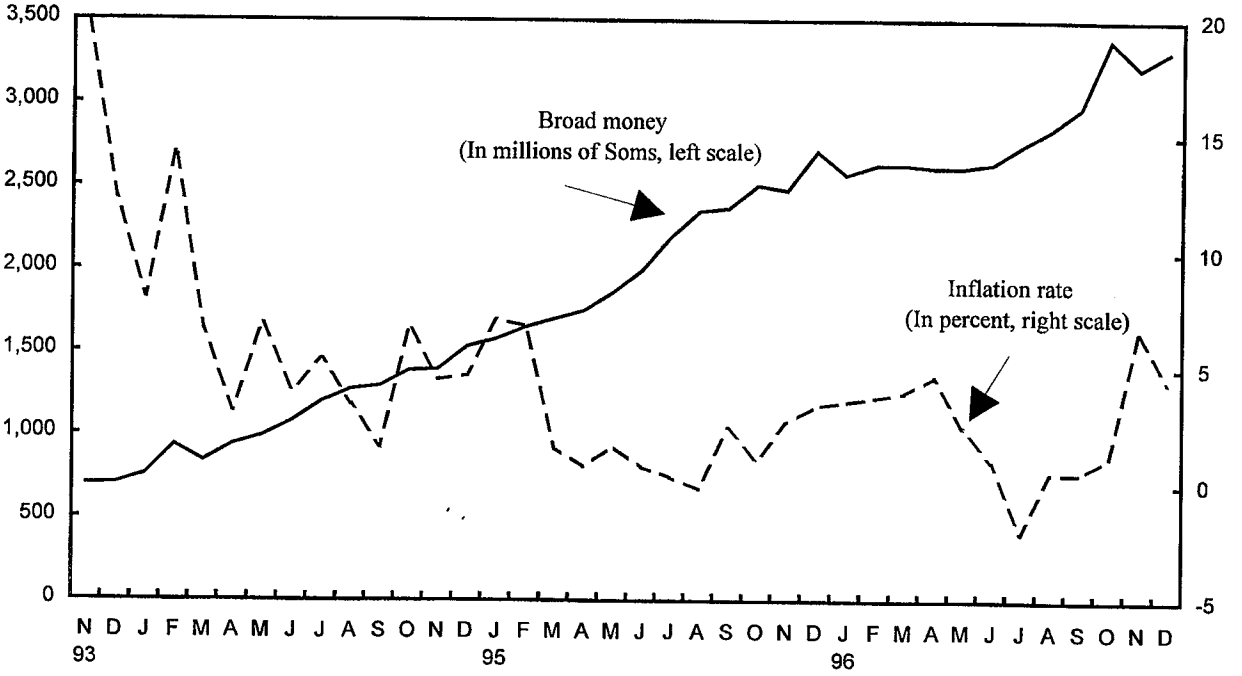
[5]Due to lack of monthly data on the current account balance (cab), the quarterly estimates were interpolated into monthly series. While there is no universally accepted method for generating data series through interpolation, this paper has employed Maddala's (1977, pp. 205–207) interpolation method, a variant of Friedman's (1962) procedure.

Figure 1. Kyrgyz Republic: Selected Indicators, 1993-96

Nominal Exchange Rate and Foreign Currency Sales

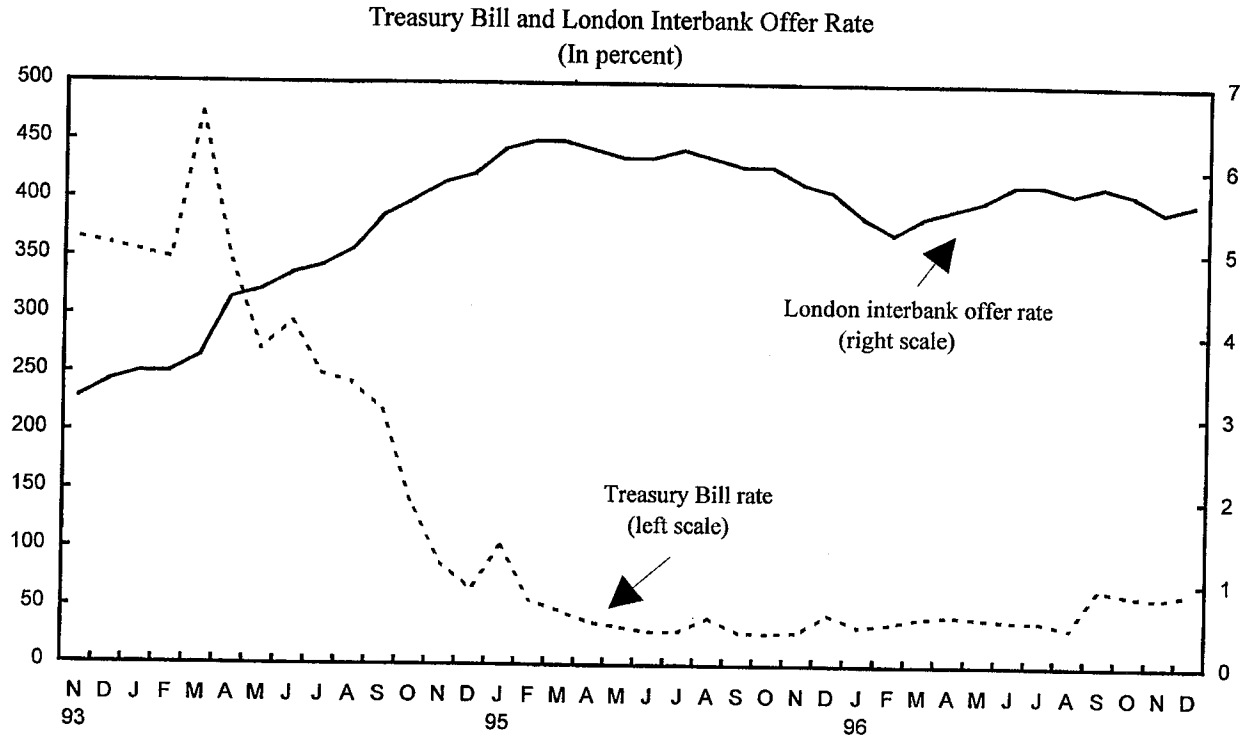


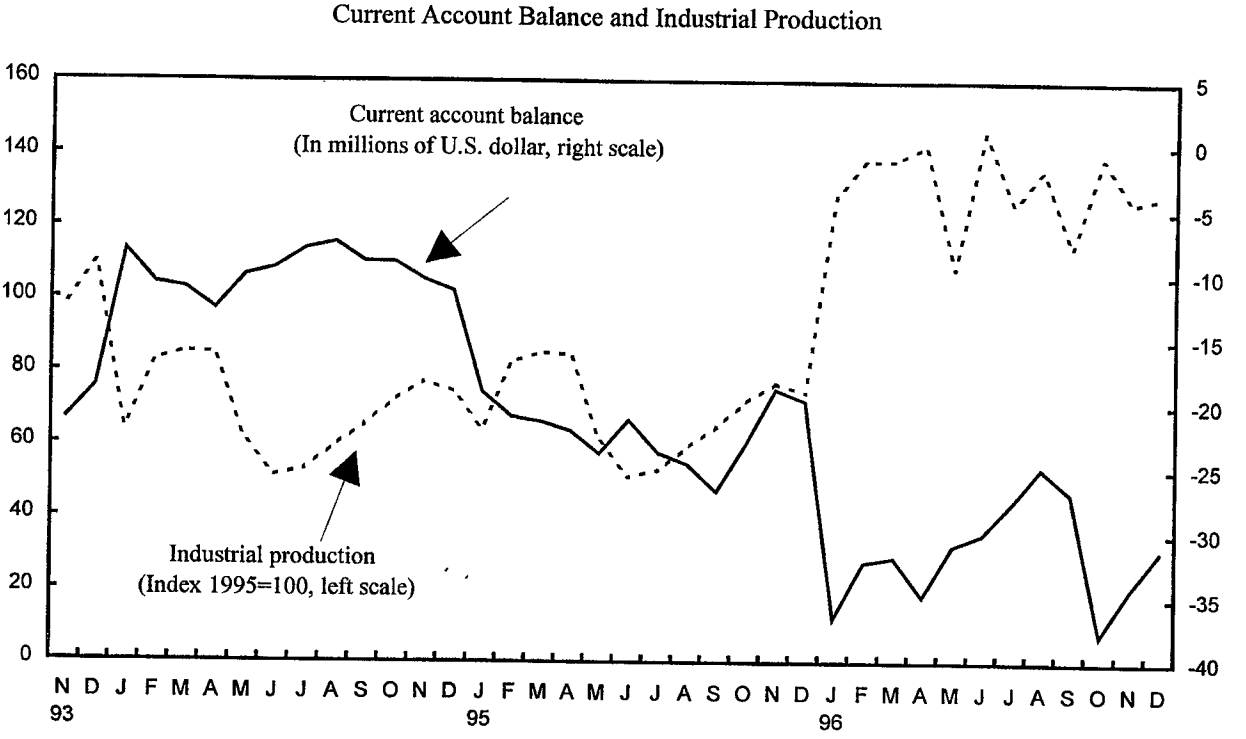
Broad Money and Inflation Rate



Sources: Data provided by the Kyrgyz authorities; and Fund staff estimates.

Figure 2. Kyrgyz Republic: Selected Economic Indicators, 1993-96





Sources: Data provided by the Kyrgyz authorities; and Fund staff estimates.

IV. Empirical Results

17. This section presents the univariate unit-root tests and the cointegration analysis of the estimated VAR model. It also estimates an error-correction model (ECM) of the exchange rate and gauges its outside sample forecasting performance.

A. Stationarity and Cointegration Analysis

18. Recent advances in time series econometrics modeling have established that the stationarity status of data variables should be identified before running a regression model. A data series is said to be stationary if the mean and variance are invariant to time. If the issue of nonstationarity is not addressed, empirical inferences, and the policy prescriptions that are drawn from them may be invalid.

19. Table 3 in the attachment reports results of stationarity (unit-roots) test. In identifying the order of integration of each data variable, two unit roots tests are applied. In general, both unit-roots tests indicate that all our data variables are non-stationary (integrated of order 1). Since the data series are on a monthly basis, tests for seasonal nonstationarity status were conducted as well. Table 4 reports the seasonal unit-root tests of the data variables; the test results confirm that the data variables are seasonally stationary.[6]

20. Having established the stationarity status of the data variables used, the test for cointegration was conducted. Following Johansen and Juselius (1990), a vector autoregression (VAR) with a constant, a trend, and a full set of seasonal dummies are estimated. The results of the cointegration analysis are reported in Table 5 in the attachment. There are two significant cointegrating vectors with only the first being economically interpretable. The first significant cointegrating vector is represented by β' 1 in the eigenmatrix β'. This long-run exchange rate equation accords with the expected theoretical priors. It indicates that in the long run, the exchange rate of the som is mainly influenced by money supply, the inflation rate and the current account balance. However, the estimated long-run solution suggests that the interest rates differential and foreign exchange intervention do not significantly influence the nominal rate in the long-run. The cointegrating equation also suggests homogeneity between the nominal exchange rate and money supply.[7] Thus, as theory

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[6]However, the relatively short sample and high frequency nature of our data set call for caution when interpreting the unit-root tests results.

[7]Homogeneity in this context implies that a 1 percent increase in the money supply leads to 1 percent depreciation in the nominal exchange rate of the som.

would predict, there are long-run relationships between the exchange rate and economic fundamentals such as money supply, inflation and the current account balance.[8]

B. The Error-Correction Model (ECM) of the Exchange Rate

21. On the basis of the foregoing stationarity and cointegration analysis, and adopting a *general-to-specific* modeling procedure, an estimated error-correction model (ECM) of the exchange rate is presented in Table 1.[9]

22. The error-correction model utilizes all available information in the error term of the estimated long-run cointegrated model to approximate deviations from the equilibrium and estimate the short-run response necessary to move back towards equilibrium. It uses this information in the residual term of the estimated long-run cointegrated equilibrium equation from the VAR to develop consistent short-run parameter estimates. Throughout the modeling process, various parameterizations of the variables were considered, but the specification adopted and reported here outperformed all other alternative specifications. The final estimated parsimonious model of the exchange rate is reported in Table 1.

23. In terms of economic interpretation, the estimated exchange rate model shows that monetary shocks do influence the exchange rate significantly, both in the short and long run. The lag effect takes place within two months. Foreign exchange intervention by the NBKR is also a significant variable in the determination of the nominal exchange rate. However, the effect of the interest rate differential on the nominal exchange rate is insignificant. This is not surprising, given the low level of capital mobility in the Kyrgyz Republic, which reflects the lack of development of domestic financial markets. The estimated model also indicates that expected inflation is an important determinant of short-run movements in the nominal exchange rate.[10] Thus the results suggest that inflationary expectations affect the exchange rate both in the short- and long-run. The summer and winter seasonal dummy variables are also both found to be significant, indicating seasonality in the exchange rate.

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[8]All numerical results reported here were obtained using the PcGive Professional Versions 8.15 (Doornik and Hendry (1994)).

[9]All the data variables are monthly time series and the sample period is 1993 November to 1996 December.

[10]The apparent lack of multicollinearity between expected inflation and lagged money growth variables in the estimated exchange rate equation suggests two things. First, money growth rates is not the only information variable on which agents in the Kyrgyz Republic base their expectations of inflation. Second, the exchange rate itself is a another important variable of interest for modeling thoroughly inflation expectations in the Kyrgyz Republic.

24. Movements in the current account balance do not seem to affect the nominal exchange rate. This is not atypical. Other empirical studies have found that the current account balance does not influence short-run movements in the nominal exchange rate (IMF Survey August 18, 1997). Nevertheless, these results for the Kyrgyz Republic are in direct contrast with the evidence in Johnston and Sun (1997), who found that the current account balance does not affect the exchange rate in the long-run but is significant in the short-run. However, Johnson and Sun (1997) focused on industrial countries with high capital mobility where, in a long-run *a priori*, the exchange rate is largely a function of "monetary factors." The Kyrgyz Republic has underdeveloped financial markets and a low degree of capital mobility; in the long-run the exchange rate is a function of both "monetary" and "real factors." A sensitivity analysis of the impact of the current account balance (cab) on the exchange rate was carried out by replacing it in the model with the net foreign assets (NFA). This gave rise to a multicollinearity problem between the NFA variable and the foreign exchange sales (fcs) variable. Both the cab and the fcs variables were then excluded from the model, and replaced with the NFA variable. This gave rise to a significant t-ratio for the NFA, but with worse diagnostic statistics. Further model comparative analysis via the use of "encompassing tests" of Doornik and Hendry (1994) indicated that the estimated exchange rate model with the current account balance dominates the model with the NFA variable embedded. Ultimately, the exchange rate model with the current account balance was reported.[11]

25. The stability of the above-estimated exchange rate model was confirmed by the recursive residuals test, which employs one-step-ahead forecast errors (recursive residuals) for a small sample of high frequency data. The recursive residuals have a zero mean and constant variance which reinforces the above stability test. Furthermore, no residuals fall outside the band of two standard errors. Noticeably, the nominal exchange rate seems to fluctuate a lot around its fundamental equilibrium long-run path identified by the previous cointegration analysis.

26. To subject the estimated model to more robust tests, we carried out an *ex ante* forecast analysis for the first 6 months of 1997. Figure 3 reports actual exchange rate changes and forecast exchange rate changes, along side their standard error bounds. As the figure shows, the model forecasts track the actual changes in the exchange rate well during the first six months of 1997, with the standard error bounds converging over time.

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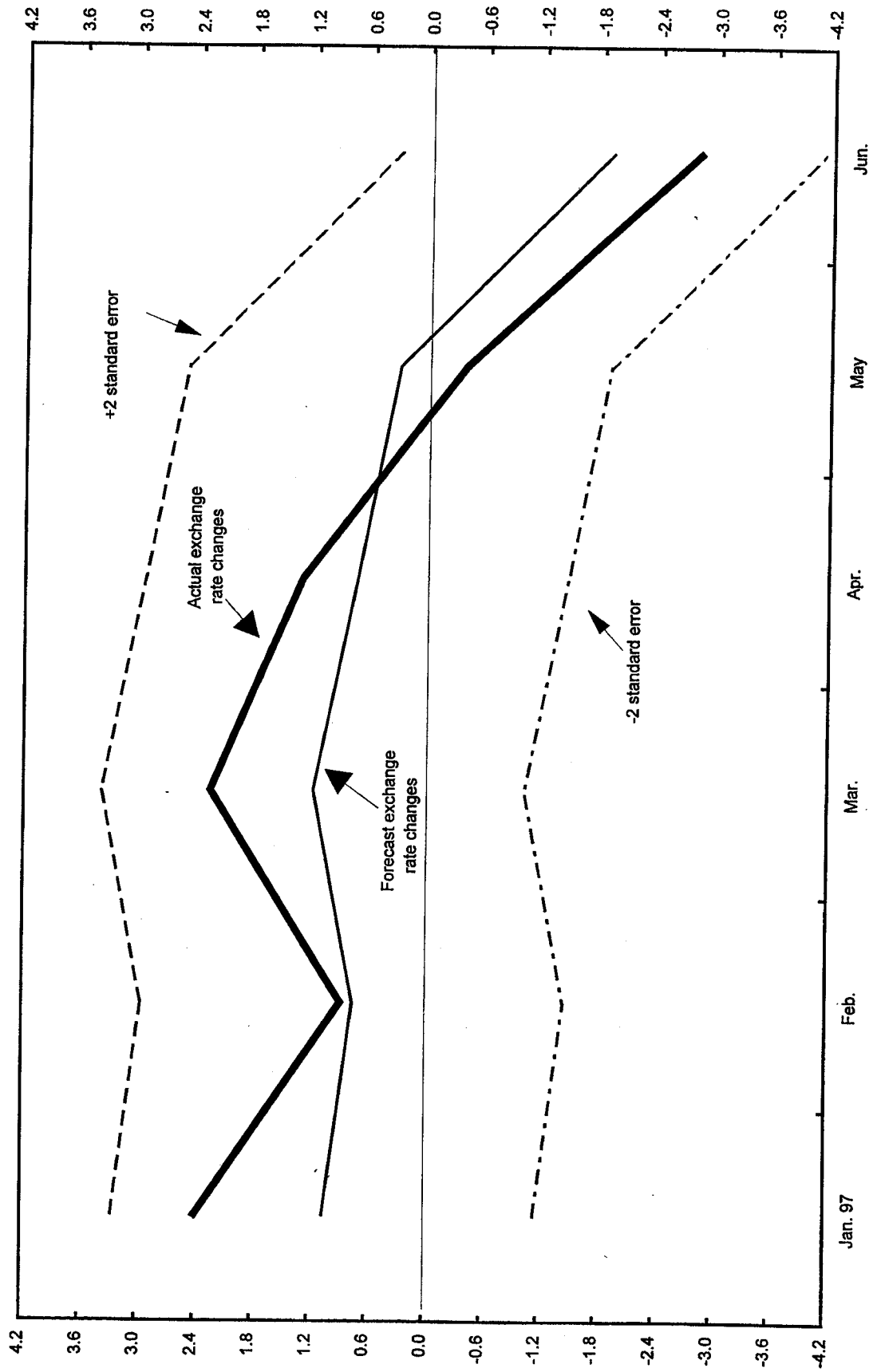
[11]The details of the exchange rate model as well as the theoretical properties of the various econometric tests employed by the paper are reported in the attachment.

Figure 3. Kyrgyz Republic: Forcast Analysis of the Estimated Exchange Rate Model, 1997
(In percent)



Source: IMF staff estimates.

APPENDIX II

Table 1. The Estimated Exchange Rate Model for the Kyrgyz Republic
(Sample period: 1993 November–1996 December)

Variable	Model coefficient estimates	T-ratios
Constant	0.212	1.249
Broad money growth (1 month lag)	0.095	2.546*
Broad money growth (2 months lag)	0.670	2.987*
Expected inflation	0.157	2.409*
Interest rate differential (1 month lag)	0.336	1.629
Current account balance (2 months lag)	-1.260	-1.902
Foreign exchange intervention (1 month lag)	-0.110	-3.005**
Foreign exchange intervention (2 months lag)	-0.093	-2.756*
Error-correction term	-0.069	-4.762**
Seasonal dummy (6)	-0.022	-2.022*
Seasonal dummy (12)	0.064	3.240**

Diagnostics statistics

R-squared	0.592
Durbin-Watson	2.141
Parameter constancy	1.322
Forecast Efficiency	1.211
Normality	1.288
Autocorrelation	1.307
Heteroscedasticity	0.359
RESET	2.466*

* and ** denote significance at the 5 percent and 1 percent levels, respectively. All data variables are expressed in logarithmic terms.

General Exchange Rate Model

$$A(L)\Delta e_t = \alpha_0 + B(L)\alpha_1 \Delta m2_t + C(L)\alpha_2 \Delta fcs_t + D(L)\alpha_3 \Delta \pi^e_t + E(F)\alpha_4 \Delta(rd - rf)_t + F(L)\alpha_5 \Delta cab_t + \alpha_6 ECM_{t-1} + Qi + \mu_t \quad (3)$$

where A(L).....F(L) are polynomials of the form $\sum \alpha_0 L^r$, in which L is a lag operator such that $L^i x_t = x_{t-1}$, α_0 is a constant term, ECM is the error-correction term and Q_{is} are the seasonal dummies and μ_t is the regression residual.

V. Extension to a Money Demand Analysis

27. This section extends the foregoing analysis to a money demand framework. Following the traditional literature, the money demand function was specified as

$$(m - p)_t = f(y_t, \pi_t, (r_d - r_o)_t, r_f, e_t) \qquad (4)$$
$$\quad +\ -\ \ -\ \ -\ \ -$$

where (m - p) is real money balances, y is real income, π is the inflation rate, r_d represents the domestic treasury bill rate, r_o is the own rate of return on money proxied by the deposit rate, e is the nominal exchange rate and r_f is the foreign interest rate proxied by LIBOR. The theoretical priors (expected signs) are denoted below each variable in the money demand function. The model posits that the demand for money is an outcome of the interaction between the transactions demand for money and portfolio considerations. As in the previous analysis of the exchange rate, the monetary aggregate is M2. The income variable is proxied by the index of industrial production.[12] The inflation rate, based on the consumer price index (CPI), is taken as an opportunity cost in our money demand model. In specifying the other opportunity cost variables, namely the vector of interest rates, three representative rates were chosen—the own rate of return on broad money, the yield on domestic financial assets, and the yield on foreign assets; domestic interest rates have been specified in terms of the spread between the treasury bill rate and the deposit rate. *A priori*, the elasticity of the demand for money with respect to its own rate of return is expected to be positive, and negative with respect to competing domestic financial assets such as the T-bill rate. The foreign rate of return is proxied by LIBOR on U.S. dollar deposits for reasons explained earlier in Section III. The foreign interest rate and exchange rate are expected to capture the effect of currency substitution or dollarization on the demand for money in the Kyrgyz Republic.

28. Following the nomenclature in the previous analysis, the error-correction model of the demand for money is specified as presented in equation 5 in Table 2. The estimated money demand function indicates that the t-statistics of the key variables are all significant. The income variable (index of industrial production), the inflation rate, the exchange rate and the error-correction term are all significant with the expected theoretical priors. The coefficient on the error-correction term implies that the speed of adjustment within a year is 16 percent, which is low.

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[12]GDP in the Kyrgyz Republic may be an unreliable proxy for detecting the income effect on the demand for money. Moreover, the share of agriculture in total deposits of the banking system is quite low even though agriculture's share in GDP is very high (45 percent in 1996). Private sector demand for money in Bishkek is dominated by enterprise cash transactions, and the share of industry in total deposits of the banking system is high. The index of industrial production series was thus used as an income variable in the money demand function.

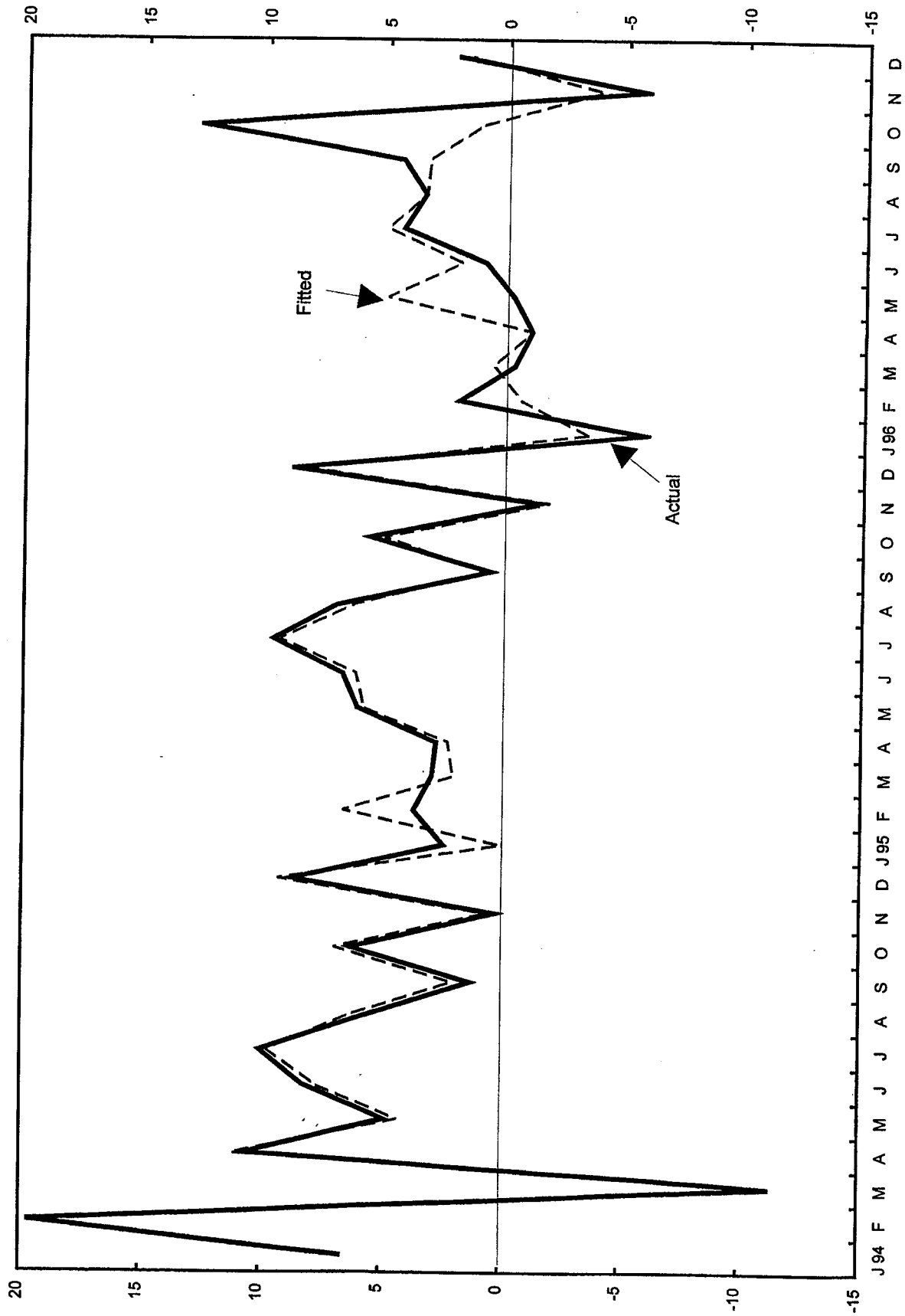
29. The consistent lack of significance of domestic/foreign interest rate differential implies that the demand for soms is not responsive to rates of return on foreign assets. It therefore reflects the low degree of capital mobility. It may also reflect the low level of development of the financial and capital markets in the Kyrgyz Republic, notwithstanding the fact that the Kyrgyz Republic has maintained full capital account convertibility. The own rate of return was not significant. A "learning adjusted" FINSAC dummy was incorporated in the money demand model, covering the period when banks were first closed in 1996 to capture the increase in liquidity of bank deposits after the banks were closed and depositors were paid previously frozen balances. Its significance in estimated money demand function suggests the extent to which banking sector problems in 1996 have affected the evolution of money demand in the Kyrgyz Republic.

30. The estimated money demand is a function of income growth, inflation and the exchange rate. The inflation rate is significant in both the estimated long-run money function and the final estimated error-correction model of money demand (see the attachment). Finally, the estimated model indicates that exchange rate changes affect the demand for money with a lag of 3–4 months.

31. For purposes of comparison, a conventional money demand equation was estimated and a partial adjustment model (the conventional model with a lagged dependent variable, $(m- p)_t$). In general, the error-correction model (ECM) reported here outperformed the conventional model. The robustness of the estimated money demand model for the Kyrgyz Republic was further gauged by subjecting the model to several tests involved in model design, namely: model stability, one-step equation residuals, parameter constancy of the significant variables, and the relationship between the actual and fitted values of money demand. Both the one-step Chow test and the recursive equation residuals indicate a high degree of model stability. Moreover, all the coefficients of the significant regressors of the estimated money demand model are well inside the *ex-ante* standard errors with the standard error bounds converging over time. Figure 4 indicates that the fitted changes in real money balances derived from the estimated model follow closely the actual changes in the demand for real money balances.

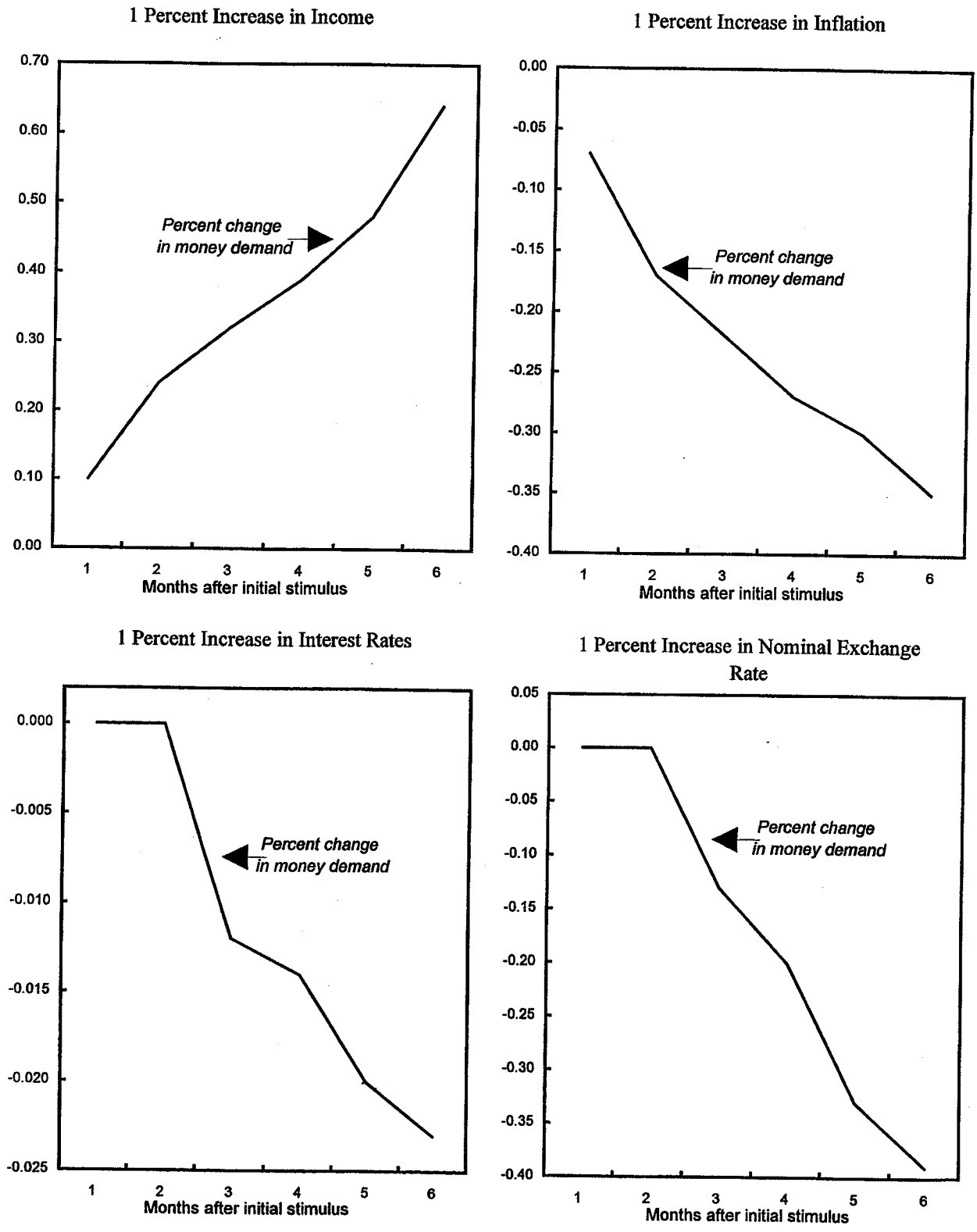
32. To examine further policy implications of the estimated money demand model, the impulse response of money demand to changes in exogenous variables was analyzed (Figure 5). One interesting result from this analysis is that there is an overshooting of long-run equilibrium in most cases. This suggests that the return toward the long-run path takes more time than indicated by our initial error-correction term in Table 2.

Figure 4. Kyrgyz Republic: Actual and Fitted Values of the Estimated Money Demand Model, 1994-96
(In percent)



Source: IMF staff estimates.

Figure 5. Kyrgyz Republic: Simulation Experiments for the Demand for Money



Source: Fund staff calculations.

APPENDIX II

Table 2. The Estimated Money Demand Model for the Kyrgyz Republic
(Sample period: 1993 November–1996 December)

Variable	Model coefficient estimates	T-ratios
Constant	1.343	0.923
Income (1 month lag)	0.133	2.231*
Inflation (1 month lag)	-0.245	-2.566*
Inflation (2 months lag)	-0.238	-2.453*
Interest rate spread (2 months lag)	-0.106	-2.031*
Exchange rate (3 months lag)	-0.011	-2.114*
Exchange rate (4 months lag)	-1.003	-1.995*
FINSAC DUMMY	0.145	1.982*
Error-correction term	-0.013	-3.881**
Seasonal dummy (6)	0.004	1.997*
Seasonal dummy (12)	0.010	2.045*

Diagnostics statistics

R-squared	0.526
Durbin-Watson	2.171
Parameter constancy	1.770
Forecast Efficiency	1.891
Normality	0.672
Autocorrelation	1.870
Heteroscedasticity	0.551
RESET	1.802

* and ** denote significance at the 5 percent and 1 percent levels, respectively. All data variables are expressed in logarithmic terms.

General Money Demand Model

$$A(L)\Delta(m - p)_t = \alpha_0 + B(L)\alpha_1 \Delta y_t + C(L)\alpha_2 \Delta\pi_t + D(L)\alpha_3\Delta(rd - ro)_t + E(F)\alpha_4 \Delta r_{ft} + F(L)\alpha_5\Delta e_t + \alpha_6 ECM_{t-1} + Qi + \mu_t \quad (5)$$

where a(L).....F(L) are polynomials of the form $\sum\alpha_0 L^r$, in which L is a lag operator such that $L^i x_t = x_{t-1}$, α_0 is a constant term, ECM is the error-correction term and Q_{is} are the seasonal dummies and μ_t is the regression residual.

VI. CONCLUSIONS

33. This appendix developed an econometric model of the nominal exchange rate model in the Kyrgyz Republic. The estimated model suggests that monetary shocks do influence significantly exchange rate movements in the Kyrgyz Republic in both the short and long run. The impact of monetary shocks on the exchange rate was found to take place within 2 months. Inflationary expectations were also found to affect the exchange rate. Thus, policies that are directed at dampening inflationary expectations should help stabilize the exchange rate. The volume of foreign exchange intervention by the NBKR also seems to be an important determinant of short-run exchange rate fluctuations. By contrast, interest rate differentials (interest rates in the Kyrgyz Republic versus foreign rates) did not have a significant effect on the nominal exchange rate. Movements in the current account balance do affect the exchange rate but only in the long-run. Seasonal factors were found to be important in determining the short-run movements in the exchange rate.

34. An estimation of a money demand function identified a stable relationship between real money balances, income, inflation, interest rates and the exchange rate. This, together with the ongoing restructuring and modernization of the financial sector, should enable the monetary authorities in the Kyrgyz Republic to use a wider range of monetary instruments to meet specific targets for monetary aggregates and thus the inflation objective. While it is encouraging to note that there is an identified stable relationship between real money balances, income, inflation, interest rates and the exchange rate, the forecasting performance of the model suggests that there is still room for improvement. This suggests that the estimated money demand model reported here for the Kyrgyz Republic will need to be periodically examined and modified in the context of future monetary programming exercises.

35. Finally, archetypical evidence from the Kyrgyz Republic's economy, considered as one of the frontrunners of reforms amongst the transition economies, will provide a basis for the study of the evolution of exchange rate and money demand in the neighboring BRO transition economies.

REFERENCES

Adam, C., Benno, N. And Sowa, N.K. (1992). *"Liberalization and Seigniorage Revenue in Kenya, Ghana and Tanzania"*, Journal of Development Studies, pp: 531–53.

Baba, Y., Hendry, D.F. and Starr, R.M. (1992). *The Demand for M1 in the U.S.: 1960–88*, Review of Economic Studies, Vol. 59, pp: 25–61.

Baillie, R. and McMahon, P., 1992, *The foreign exchange market-theory and econometrics evidence*, Cambridge University Press (CUP).

Banerjee, a., J.J. Dolado, J.W. Galbraith, and D.F. Hendry, 1993, *Cointegration, Error-Correction and the Analysis of Non-Stationary Data*, Oxford: Oxford University Press.

Banerjee, a., J.J. Dolado, D.F. Hendry, and G.W. Smith, 1986, *Exploring Equilibrium Relationships in Econometrics Through Static Models: Some Monte Carlo Evidence*, Oxford Bulletin of Economics and Statistics, Vol. 48, pp. 253–377.

Charemza, W.W. and D.F. Deadman, 1992, *New Directions in Econometrics Practice*, University of Leicester.

Dickey, D.A. and W.A. Fuller, 1981, *Likelihood Ratio Statistics for Autoregressive Time series with a unit-root*, Econometrica, Vol. 50, pp. 1057–72.

Dickey, D.A., H.P. Hasza, and W.A. Fuller, 1984, *Testing for unit roots in seasonal time series*, Journal of American Statistical Association, 79, pp. 355–367.

Dekle, R. and M. Pradhan, 1997, *Financial Liberalization and Money Demand in ASEAN Countries: Implications for Monetary Policy*, IMF Working Paper (WP/97/36).

Dolado, J.J., T. Jenkinson, and S. Sosvilla-Rivero, 1990, *Cointegration and Unit Roots*, Journal of Economic Surveys, Vol. 4, No. 3, pp. 249–273.

Engle, R.F. and C.W.J. Granger, 1987, *Cointegration and Error Correction: Representation, Estimation and Testing*, Econometrica, Vol. 55, pp. 251–76.

Ericsson, N.R. and S. Sharma, 1996, *Broad Money Demand and Financial Liberalization in Greece*, IMF Working Paper, (WP/96/62).

Frankel, J.A., 1993, *On Exchange Rates*, Massachusetts Institute of Technology (MIT) Press.

Halpern, L. and C. Wyplosz, 1996, *Equilibrium Exchange Rates in Transition Economies*, IMF Working Paper (WP/96/125).

Hendry, D.F. and J.A. Doornik, 1993, *PC-GIVE (7.00): An Interactive Econometrics Modeling System*, Institute of Economics and Statistics, Oxford.

——, 1994, *PC-FIML (7.01): An Interactive Econometrics Modeling System*, Institute of Economics and Statistics, Oxford.

Hendry, D.F. and G.E. Mizon, 1990, *Evaluating Dynamic Econometrics Models by Encompassing the VAR*, University of Oxford Applied Economics Discussion Paper, Vol. 102. Revised in (1993) as Ch. 18 in P.C.B. Phillips (ed), Models, Methods and Applications of Econometrics, Oxford: Basil Blackwell.

Johansen, S., 1992, *An I(2) Cointegration Analysis of the Purchasing Power Parity between Australia and the USA*, unpublished paper, Institute of Mathematical Statistics, University of Copenhagen.

Johansen, S. and K. Juselius, 1990, *Maximum Likelihood Estimation and Inference on Cointegration - with applications to Demand for Money*, Oxford Bulletin of Economics and Statistics, Vol. 52, pp. 169–210.

——1995, *Identification of the Long-run and Short-run Structure- An Application to the ISLM Model*, Journal of Econometrics, Vol. 42, pp. 42–50.

Johnston R. B. and Sun, Y., 1997. *Some Evidence on Exchange Rate Determination in Major Industrial Countries.* IMF Working Paper (WP/97/98).

Leigh, L., 1995, *An open economy model of money demand, the case for Singapore*, Chapter 6 in Ph. D. Thesis, Nuffield College, Oxford University.

Leigh, L., 1996, *The Transmission Mechanism Between Money and Inflation in Ghana*, Ghana, RED (SM/96/130).

Lucas, R.E. (1976). *Econometric Policy Evaluation: A Critque*, in The Phillips Curve and Labor Markets, ed. K.Brunner and A.H. Meltzer, Amsterdam: Canergie Rochester Conference Series on Public Policy, Vol. 1 (1976), pp: 19–46.

MacDonald, R., 1997. *What determines Real Exchange Rates ? The Long and Short of It.* IMF Working Paper (WP/97/21).

Moser, G., 1997, *Money demand in Nigeria, 1970–94*, Appendix in the IMF Occasional Paper No. 148.

Sahay, R. and C. Vegh, 1996, *Dollarization in Transition Economies: Evidence and Policy Implications*, IMF Working Paper (WP/95/96).

Treichel, V., 1997, *Broad Money Demand and Monetary Policy in Tunisia*, IMF Working Paper (WP/97/22).

APPENDIX II
ATTACHMENT

Table 1. Volatility of the Exchange Rate for Various Sub-Periods in the Kyrgyz Republic

Sample Period	Volatility (measured by varaince)
1993November - 1994 December	1.524
1995January - 1995 December	0.038
1996January - 1996 December	3.935
1997January - 1997 August	0.074

Table 2. Unit-Roots Tests of the Data Variables, Augmented Dickey-Fuller (ADF) and Cointegrating Regression Durbin-Watson Statistics (CRDW)- (1993Nov. - 1996Dec)

Variable	ADF coefficient	T-Statistic	Longest Lag	CRDW
e	-0.0876	-0.808	3	0.121
Δe	-0.8338	-3.608*	2	1.166
m	-0.0765	-0.869	3	0.023
Δm	-1.2483	-3.787*	1	2.061*
π^e	-0.2301	-2.622	2	0.344
$\Delta\pi^e$	-0.9564	-3.765*	3	1.987**
(rf-rd)	-0.0814	-0.815	3	0.099
Δ(rf-rd)	-2.0525	-7.585**	5	1.153*
fcs	-0.2445	-1.482	3	0.545
Δfcs	-2.1171	-4.482**	6	2.371**
cab	-0.3267	-2.097	3	0.139
Δcab	-1.1237	-4.249*	1	2.928*
(m2-p)	-0.1456	-1.234	2	0.167
Δ(m2-p)	-0.0985	-3.456*	4	0.976*

* For all the data variables, Δ denotes a first difference operator.

Table 3. Seasonal Unit Root Tests of the Data Variables

Variable	T-Statistic (Null- I(1,1))	T-Statistic (Null- I(1,1))
e	-4.543**	-5.211**
m	-3.976**	-4.673**
π^e	-3.875**	-4.634**
(rf-rd)	-5.387**	-7.615**
fcs	-3.807**	-4.518**
cab	-3.946**	-4.372**
(m2-p)	-4.408**	-5.785**

The Exchange Rate VAR (Vector autoregression) Model

$$\begin{bmatrix} e_t \\ m_t \\ \pi_t^e \\ (r_f - r_d)_t \\ fcs_t \\ cab_t \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} & a_{15} & a_{16} \\ a_{21} & a_{22} & a_{23} & a_{24} & a_{25} & a_{26} \\ a_{31} & a_{32} & a_{33} & a_{34} & a_{35} & a_{36} \\ a_{41} & a_{42} & a_{43} & a_{44} & a_{45} & a_{46} \\ a_{51} & a_{52} & a_{53} & a_{54} & a_{55} & a_{56} \\ a_{61} & a_{62} & a_{63} & a_{64} & a_{65} & a_{66} \end{bmatrix} \begin{bmatrix} e_{t-i} \\ m_{t-i} \\ \pi_{t-i}^e \\ (r_f - r_d)_{t-i} \\ fcs_{t-i} \\ cab_{t-i} \end{bmatrix} \qquad (6)$$

Table 4. The Johansen Procedure: Estimated Exchange rate VAR with Three Lags, a Constant, Trend, and Seasonal Dummies (Sample is 1993Nov.-1996Dec.)

The Test Statistics: [1] [2]
(testing the number of cointegrating vectors)

Test	ρ=0	ρ≤1	ρ≤2	ρ≤3	ρ≤4	ρ≤5
μ_i	0.833	0.622	0.494	0.362	0.213	0.009
Trace	145.1**	82.4**	48.31*	24.47	8.73	0.332
5%CV	94.2	68.5	47.2	29.7	15.4	3.8
μmax	62.68**	34.09*	23.84	15.74	8.40	0.332
5%CV	39.4	33.5	27.1	21.0	14.1	3.8

The Eigenmatrix β′

β′	*e*	*m*	*fcs*	π^e	*(rd−rf)*	*cab*
1	1.00	-1.161	0.005	-0.049	-0.001	0.124
2	0.543	1.00	0.405	-0.025	0.002	1.059
3	3.260	-1.064	1.00	-0.051	0.001	-0.57
4	26.4	-9.26	2.48	1.00	-0.057	5.96
5	111.4	201.7	112.8	19.29	1.00	-32.7
6	11.49	0.34	-0.91	0.29	-0.008	1.00

[1] Trace is equivalent to $-T\sum\log(1 - \mu_i)$.

[2] μmax is equivalent to $-T\log(1 - \mu_i)$.

A Dynamic Error-Correction Model (ECM) of Exchange Rate for the Kyrgyz Republic [3]

$$\Delta e_t = \underset{[1.249]}{0.2122} + \underset{[2.546]}{0.0947\Delta m_{t-1}} + \underset{[2.987]}{0.670\Delta m_{t-2}}$$

$$+ \underset{[1.629]}{0.336\Delta(r_f - r_d)_{(t-1)}} - \underset{[-1.902]}{1.260\Delta cab_{t-2}} - \underset{[-3.005]}{0.11\Delta fcs_{t-1}}$$

$$- \underset{[-2.756]}{0.093\Delta fcs_{t-2}} + \underset{[2.409]}{0.157\Delta\pi_t^e} - \underset{[-4.762]}{0.069ECM_{t-1}}$$

T = 1993(11) - 1996(12) *less* 5 *forecasts*,

R^2 = 0.592, σ = 0.0899, *DW* = 2.14,

Chow $F(10,30)$ = 1.32, *Forecast* $\chi^2(5)/5$ = 1.211,

Normality $\chi^2(2)$ = 1.288, *AR* 1-4 $F(4,26)$ = 1.307,

ARCH $F(4,22)$ = 0.39, X_iX_j $F(9,19)$ = 0.36, *RESET* $F(1,29)$ = 2.466*

[3] Δ denotes a difference operator.

Table 5. The Johansen Procedure: Estimated Money Demand VAR with Three Lags, a Constant, Trend, and Seasonal Dummies (Sample is 1993Nov.-1996Dec.)

The Test Statistics: [4] [5]
(testing the number of cointegrating vectors)

Test	ρ=0	ρ≤1	ρ≤2	ρ≤3	ρ≤4	ρ≤5
μ_i	0.689	0.438	0.329	0.262	0.107	0.016
Trace	120.6**	81.08**	49.74*	25.56	12.63	1.299
5%CV	94.2	68.5	47.2	29.7	15.4	3.8
μmax	39.48*	31.34	24.18	12.92	11.34	1.299
5%CV	39.4	33.5	27.1	21.0	14.1	3.8

The Eigenmatrix β′

β′	*(m2-p)*	*y*	π	*e*	*(rd-ro)*	*rf*
1	1.00	-1.223	2.150	0.244	0.003	-0.280
2	0.655	1.00	0.453	0.018	-0.013	-0.523
3	1.896	-0.762	1.00	0.004	-0.005	1.04
4	-11.2	20.45	0.44	1.00	0.026	10.13
5	-421.8	180.6	-20.96	-20.43	1.00	-12.3
6	14.51	3.435	-3.451	0.462	-0.010	1.00

[4] Trace is equivalent to $-T\sum\log(1 - \mu_i)$.

[5] μmax is equivalent to $-T\log(1 - \mu_i)$.

A Dynamic Error-Correction Model (ECM) of Money Demand for the Kyrgyz Republic[6]

$$\Delta(m-p)_t = \underset{[0.923]}{1.3425} + \underset{[2.231]}{0.1332\Delta y_{t-1}} - \underset{[-2.566]}{0.145\Delta\pi_{t-1}}$$

$$- \underset{[-2.031]}{0.106\Delta(r_d-r_o)_{(t-2)}} - \underset{[-2.114]}{0.110\Delta e_{t-3}} - \underset{[-1.995]}{0.243\Delta e_{t-4}}$$

$$+ \underset{[1.982]}{0.145FINSAC} - \underset{[-2.453]}{0.138\Delta\pi_{t-2}} - \underset{[-3.881]}{0.013ECM_{t-1}}$$

T = 1993(11) - 1996(12) *less* 5 *forecasts*,

R^2 = 0.526, σ = 0.106, *DW* = 2.17

Chow $F(10,30)$ = 1.77, *Forecast* $\chi^2(5)/5$ = 1.891,

Normality $\chi^2(2)$ = 0.672, *AR* 1-4 $F(4,26)$ = 1.87,

ARCH $F(4,22)$ = 0.67, X_iX_j $F(9,19)$ = 0.55, *RESET* $F(1,29)$ = 1.8

[6] Δ denotes a difference operator.

Description of the Econometrics Methodology

Following Johansen and Juselius (1990), consider a VAR of the form,

$$X_t = \Pi_1 X_{t-1} + \ldots\ldots + \Pi_k X_{t-k} + \mu + \Theta D_t + \epsilon_t \quad (t = 1, \ldots T) \tag{7}$$

where X_t is a sequence of I(1) vectors with components $(X_{1t}, \ldots\ldots X_{pt})$, μ is a vector of constants, D is a vector of centered seasonal dummies and the innovations to this process $\epsilon_1 \ldots\ldots \epsilon_T$, are IN(0, Ω). Using the difference operator, equation (1) can be reparameterized as,

$$\Delta X_t = \Gamma_1 \Delta X_{t-1} + \ldots. + \Gamma_{k-1} \Delta X_{t-k+1} + \Pi X_{t-k} + \mu + \Theta D_t + \epsilon_t \tag{8}$$

where $\Gamma = -(I - \Pi_1 - \ldots - \Pi_i)$ $(I = 1 \ldots . k - 1)$
and $\Pi = -(I - \Pi_1 - \ldots\ldots - \Pi_k)$.

Equation (8) combines both short-run and long-run dynamics and it is the matrix Π that conveys information about the long-run relationship between the X variables. The X_t vector processes are assumed to be integrated of order one- I(1), but the number of cointegrating vectors v, and hence the number of unit-roots N - v, is unknown. The distributions of statistics are non-standard in such a setting and require special critical values. Testing the size of v is equivalent to testing whether $\Pi = \alpha\beta'$, where β and α are N × v matrices. Since the likelihood function depends on the normal distribution, it can be concentrated with respect to Ω, ϕ and $(\Pi_1 - \ldots\ldots - \Pi_{t-k})$, the last by obtaining residuals R_{ot} and R_{pt} from regressing ΔX_t and X_{t-p} respectively on $\{\Delta X_{t-I}\}$. Denote the second moment matrices from these residuals by S_{oo}, S_{op}, S_{po} and S_{pp} where $S_{ij} = T^{-1} \sum R_{it} R_{jt}'$ for I, j = 0 and p. Then v is determined by the largest eigenvalues $\mu_1 \geq \ldots\ldots \geq \mu_v \ldots\ldots \geq \mu_N$ of,

$$\left| \mu S_{pp} - S_{po} S^{-1}_{oo} S_{op} \right| = 0 \tag{9}$$

and β' by the corresponding eigenvectors. The maximized likelihood is given by,

$$L(\beta') = A - \tfrac{1}{2} T \sum_{i=1}^{v} \ln(1 - \mu_i) \tag{10}$$

and tests of the hypothesis that there are $0 \leq v \leq N$ cointegrating vectors can be based on,

$$\text{Trace} = -T \sum_{i=1}^{v} \ln(1 - \mu_i) \tag{11}$$

(twice the logarithm of the likelihood ratio for restricting Π) with v being selected via the first significant statistic of the trace. Alternatively, sequential tests of significance of the largest $\{\mu_v\}$ can be based on the *maximal eigenvalue* which is given by $-T \ln (1 - \mu_v)$. Under the null hypothesis that the eigenvalues are zero, both the *trace* and *maximal eigenvalue* have distributions which are functionals of Brownian motion but the critical values for these tests can be found in Johansen & Juselius (1990) and Osterwald-Lenum (1990) *inter alia*.

Cointegration may be detected by examining the Π matrix. The number of cointegrating vectors, v, between the elements of X, will therefore determine the rank of the matrix Π. There are three alternative situations depending on the rank of Π. If Π is of full rank then the matrix is stationary, and the data not I(1). If the rank is zero, then the variables are all individually I (1) but not cointegrated, in which case an error-correction (ECM) isomorphism cannot be employed. If the rank is greater than zero but less than p, there are v cointegrated vectors which can be identified and embedded in an error-correction model (ECM). When $0 < v < p$, Π can be factorized as $\Pi = \alpha\beta'$ where α and β are $v \times p$, with β' containing the v cointegrating vectors and α their corresponding adjustment or feedback coefficients. The matrix β' represents the parameters of economic interest in the VAR and its vectors constitute the long-run (levels) relationships between the variables. The cointegration combinations derived from the eigenmatrix β' form the basis of defining the error-correction model (ECM). Moreover, α reveals the importance of each cointegrating combination in each equation of the VAR. If a given ECM enters more than one equation, then the parameters are cross-linked between such equations, violating weak exogeneity and entailing joint estimation for efficient inference (Hendry and Mizon (1990, 1993)).

To identify the order of integration of the data variables, we use two unit-roots tests namely the Augmented Dickey-Fuller test (ADF) and the Sargan-Bhargava (1983) cointegrating regression Durbin-Watson statistic (CRDW). Standard ADF test for say variable X involves the following regression,

$$\Delta X_t = \alpha_0 + (\alpha_1 - 1)X_{t-1} + \alpha_2 TREND + \sum_{i=1}^{N} \alpha_i \Delta X_{t-I} + \epsilon_t \qquad (12)^7$$

The Sargan-Bhargava (1983) Durbin Watson test is based on the standard Durbin-Watson statistic but the test is applied not to the residuals of the regression as usual but on the level of each individual series. The test statistic is defined as a ratio of the form,

$$DW(X) = \sum(X_t - X_{t-1}) / \sum(X_t - \bar{X}_t)^2 \qquad (13)$$

where $\bar{X}$ is the arithmetic mean (average) of the data series X.

[7]Note that the TREND term is deterministic and not stochastic in nature.

Kyrgyz Republic: Summary of the Tax Structure and Changes Introduced from 1996 to July 1997

Tax	Nature of Tax	Rates	Changes introduced	Exemptions
Income tax	• Comprehensive encompassing all sources of global income (both monetary and in-kind). • For nonresidents, applicable to income earned in the Kyrgyz Republic only. • Tax revenues are allocated to Republican budget (65 percent) and local budgets (35 percent).	• Up to 4 min. wage: nil • 4–10 min. wages: 10 percent • 10–20 min.wages: 15 percent over 10 min. wages. • 20–30 min.wages: 20 percent over 20 min. wages. • Over 30 min.wages: 30 percent over 30 min. wages. • Over 40 min.wages: 40 percent over 30 min. wages.	• Increased exemption from 2 to 4 minimum monthly wages (effective January, 1997).	• State allowances, stipends, salaries from internships, alimonies, pensions, and unemployment benefits. • Income derived from the extraction of precious metals. • Compensation payments for work accidents. • Income from the sale of apartments, residential houses, cars, jewelry, artwork with value of less than 500 minimum wages. • Inheritance, lottery winnings; • Interest income, insurance compensations, in-kind gifts from enterprises, emergency financial assistance, moving allowances for workers, separation and severance payments. • Housing and food allowances. • Income from agricultural activity during the first two years of the existence of a farm. • Salaries earned abroad within established limits. • Dividends reinvested in an enterprise for technical reconstruction, income from sales of privatization coupons. • Income for performing compulsory military service, for being a hero of social labor, for being invalid, for being a veteran of World War II or the Afghan war.

Tax	Nature of Tax	Rates	Changes introduced	Exemptions
Payroll tax	• Levied on wages and salaries. • Consists of contributions to the Pension Fund, Unemployment Fund and Health Insurance Fund. • Collected and managed by the Social Fund.	***Employers***: **36** percent *of which:* • 33 percent to the Pension Fund. • 1.5 percent to the Unemployment Fund. • 1.5 percent to the Health Insurance Fund. ***Employees***: **3** percent *of which:* • 2 percent to the Pension Fund. • 0.5 percent to the Unemployment Fund. • 0.5 percent to the Health Insurance Fund.	• Rates increased by 2 percent to cover new health insurance effective January, 1997. 1.5 percent contributed by employers and 0.5 percent by employees.	• In the agricultural sector, employers' contribution is 23 percent to the Pension Fund. • Although legally introduced in January 1997, the increased rates for health insurance have not been collected so far.

Tax	Nature of Tax	Rates	Changes introduced	Exemptions
Profit tax	• Complex cash basis tax applicable to all legal entities engaged in business activity in Kyrgyz Republic. • Tax Base is defined as total revenue minus total expenses. • Deduction allowed subject to restrictions: (1) Traveling expenses are only deductible within an amount fixed by the Government; (2) Deduction of interest paid on a credit can not exceed the sum of the taxpayer's interest income plus 50 percent of the taxable income; (3) No deduction is allowed for the cost of acquisition or installation of capital assets; and (4) 10 restrictions imposed on the computation of the aggregate income. • Losses can be carried over for five years as a deduction. • ***Depreciation***: currently five categories (in percent per year): (1) Automobiles - 30 percent (2) Automotive fleets - 25 percent (3) Depreciable assets and expenses of the same status not included in another category - 15 percent (4) Railroad, sea and river transportation equipment - 10 percent (5) Transmission and communication devices - 7 percent	•30 percent for taxable profit. •15 percent for dividends. •15 percent on interest income.		• Exemptions apply to (1) Non-profit organizations for income from charity activities, (2) Legal entity in which the blind and the deaf comprise over 70 percent of the total employees; (3) Registered enterprises with foreign capital participation based on the foreign investment law as follows: (a) during the first 5 years for profits from activities in the area of industry or construction; (b) during the first 3 years for profits from mining and processing of natural resources, agriculture, transport or communications; (c)during the first 2 years for tourism, trade, banking or insurance activities. • Tax reductions are available to enterprises with foreign capital invested upon the expiration of exemption period: (1) by 50 percent for reinvested profits; (2) by 25 percent, if no less than 50 percent of manufactured production and services is exported; (3) by 25 percent, if no less than 50 percent of the production is manufactured from imported raw materials; (4) by 25 percent, if no less than 20 percent of the profit is used for professional training.

Tax	Nature of Tax	Rates	Changes introduced	Exemptions
VAT	• Credit-invoice method. • Applicable to any legal entities. • Turnover threshold for registration: 30,000 soms • Provision for voluntary registration. • Credit allowed for VAT acquired on material resources (including raw materials and equipment, fuel, spare parts, etc.). Credit arises upon shipment of goods (accrual principle). • Excess credits are carried forward to the next VAT tax period and may be offset against other tax liabilities. • Origin basis for trade within CIS, and destination principle for non-CIS trade.	20 percent flat.	• Invoice accounting based on destination principle (origin principle for trade with countries in the Customs Union) effective July, 1996. • Exclusion of customs and excise taxes from the tax base - Revision of the Tax code effective December, 1996. • Converted to destination principles for trade with Kazakstan and Ukraine in 1997. • Ongoing negotiation with Uzbekstan to convert to destination principles.	•***Zero rated***: (1) exports to another CIS countries, and (2) diplomatic privileges. •***Exemptions***: 10 categories: (1) Land and buildings, (2) Financial services, (3) Insurance and pension services, (4) Postal services, (5) Municipal transport services, (6) Privatization, (7) Supplies by non-profit organizations, (8) Gambling (9) Specified imports goods, (10) Imports by taxable subjects of fixed assets for direct use. .
Right-to-trade	• Local tax.	•Uniform 4 percent.	•Abolished in March, 1997 by local parliaments but reintroduced in July giving each oblast the right to charge a rate between .5 and 2 percent. •Bishkek reintroduced at 2 percent rate.	

Tax	Nature of Tax	Rates	Changes introduced	Exemptions
Excises	• Cover alcohol beverages, tobacco, coffee, tea, carpets, crystal, electronic goods, jewelry, leather goods, fur, firearms and gas weapons, gasoline and distilled petroleum products. • The taxable base for domestic goods is given by wholesale price excluding other taxes. For imported goods it is the customs value of the goods. • Rates are determined by parliament.	• Vodka: US$0.9/liter • Wine: US$0.35/liter • Spirits: US$1.4/liter • Beer: - Domestic - US$0.072/liter - Imported - US$0.25/liter • Champagne: - Domestic - US$0.4/liter - Imported - US$0.45/liter • Fermented tobacco: 12 percent • Cognac: - Domestic - US$0.6/liter - Imported - US$0.8/liter • Cigarettes: US$1.5/thousand • Gasoline and petroleum distilled products: US$45/ton	• Harmonization of rates for certain products (vodka, wine, spirits, etc). • Rates decreased for some domestic products and increased for some imported goods. (Champagne, cognac and beer). • Tax on gasoline converted back to excises after parliament revoked it in June, 1996. • Introduction of excise tax on distilled petroleum products. • New rates introduced effective January, 1997. • Rates on imported cigarettes was recently decreased (July, 1997) from US$5/thousand to US$1.5/thousand to reduce smuggling incentives.	• Exports of excisable goods if exported to CIS countries. • Goods imported by physical persons in limited amounts set by the Government. • For the following imported goods: - Goods necessary for operation of vehicles for international cargoes, transportation etc. - Goods damaged before crossing the border. - Humanitarian assistance - Charity purposes, including technical assistance by the state, government and international agencies. - For use by foreign officials, members of the diplomatic corps. - Goods in transit due to reexport.
Customs duties	• Levied on non-excisable goods.	• 10 percent flat rate for non-oil goods. • US$25/ton for diesel, kerosene, crude oil, and mazut.	• Reintroduction of tax on diesel, kerosene and mazut. • Ongoing negotiations with WTO.	•Goods imported from CIS-countries if produced within the CIS. • Goods produced by companies located in Free Economic Zones. •Imports of property for the use of an enterprise with foreign participation according to the Foreign Investment Law.

Tax	Nature of Tax	Rates	Changes introduced	Exemptions
Land tax	• Applicable to physical and legal land users. • 75 percent of the tax obligation is collected during the third and fourth quarter of the current year (before December 25th) from the current year's crop. • 25 percent is collected from the previous year's crop during the first quarter. (before March 25th). • Local taxes.	• For agricultural areas, the amount of the tax is determined based on quality (fertility) of soils, location and area of the land lot. • For non-agricultural use areas, the infrastructure and town planning potential is also take into account.	• New rates effective January, 1997. • For the agricultural sector the land tax represents the only tax. Previously the sector was subject to income, profit, road and VAT.	• Tax reduction of 50 percent for areas rated as difficult lots with unfavorable natural and climatic conditions by the Government of the Kyrgyz Republic. • ***Exemptions***: - national parks and sites with historical significance or used for cultural purposes etc. - cemeteries. - cattle tracks and cattle stopping places. -land used by enterprises subsidized or financed by the budget. -land used by organizations of invalids, or participants of the war. -land belonging to the Society of the Deaf and the Blind. -land reclaimed for agriculture in a previously barren condition (requiring recultivation) for a period set by the local Kenesh.
Extraordinary Fund	• Applied to enterprises, associations and organizations as a percentage of turnover.	• 1.5 percent of turnover.		
Road tax	• Applied to enterprises, associations and organizations, based on turnover on manufacturing and construction enterprises, and commodity turnover, for warehouses.	• 0.8 percent of turnover: for manufacturing and construction enterprises. • 0.08 percent of commodities turnover: for warehouses.		
Privatization proceeds	• Managed by Social Property Fund.	• 80 percent of total privatization receipts are transferred to the budget.	• Increase in the percentage of the proceeds transferred to the budget from 65 to 80 percent in 1997.	

Table 1. Kyrgyz Republic: GDP by Sectors of Origin, 1991-96

	1991	1992	1993	1994	1995	1996
	(In millions of soms; at current prices)					
GDP	92.6	741.3	5,354.7	12,019.2	16,145.1	22,467.8
Manufacturing	25.4	238.3	1,344.5	2,461.7	1,931.3	2,676.1
Construction	5.9	29.1	289.6	408.9	992.5	1,183.1
Forestry	0.2	2.1	3.4	9.8	16.6	21.6
Agriculture	32.6	276.2	2,090.6	4,601.3	6,551.5	10,464.0
Other commodity sectors	0.4	2.4	13.2	33.2	36.8	48.7
Transport and communication	1.9	12.3	162.1	331.6	313.8	465.3
Trade and catering	3.9	26.1	349.9	1,162.4	1,774.4	2,372.0
Procurement	0.3	2.4	12.9	10.5	7.6	9.2
Supplies	0.7	12.6	52.0	36.3	53.7	74.4
Information, computing services	0.1	0.4	1.7	4.5	9.0	11.8
Real estate	...	0.2	0.9	5.0	8.6	11.3
Commerce	...	6.5	44.3	22.7	56.8	75.9
Geological services	0.4	1.3	13.1	15.2	40.1	52.2
Market services	3.7	26.6	182.5	600.4	906.8	1,211.3
Banking services	0.5	5.9	129.2	298.0	293.9	323.0
Non-market services	12.2	64.9	416.3	1,290.7	1,967.5	2,056.7
Taxes on products	4.3	33.8	248.6	740.1	1,184.3	1,411.2
	(In percent of GDP)					
GDP	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	27.5	32.1	25.1	20.5	12.0	11.9
Construction	6.3	3.9	5.4	3.4	6.1	5.3
Forestry	0.2	0.3	0.1	0.1	0.1	0.1
Agriculture	35.3	37.3	39.0	38.3	40.6	46.6
Other commodity sectors	0.5	0.3	0.2	0.3	0.2	0.2
Transport and communication	2.0	1.7	3.0	2.8	1.9	2.1
Trade and catering	4.2	3.5	6.5	9.7	11.0	10.6
Procurement	0.3	0.3	0.2	0.1	0.0	0.0
Supplies	0.8	1.7	1.0	0.3	0.3	0.3
Information, computing services	0.1	0.1	0.0	0.0	0.1	0.1
Real estate	...	0.0	0.0	0.0	0.1	0.1
Commerce	...	0.9	0.8	0.2	0.4	0.3
Geological services	0.4	0.2	0.2	0.1	0.2	0.2
Market services	4.0	3.6	3.4	5.0	5.6	5.4
Banking services	0.5	0.8	2.4	2.5	1.8	1.4
Non-market services	13.2	8.8	7.8	10.7	12.2	9.2
Taxes on products	4.7	4.6	4.6	6.2	7.3	6.3

Sources: National Statistical Commitee; and Fund staff estimates.

Table 2. Kyrgyz Republic: GDP by Expenditure and Income Categories, 1991-96

	1991	1992	1993	1994	1995	1996
	(In millions of soms; at current prices)					
GDP at factor cost	88.2	707.4	5,106.1	11,279.1	14,960.8	21,056.5
Plus taxes net of subsidies	4.3	33.8	248.6	740.1	1,184.3	1,411.2
GDP	92.6	741.3	5,354.7	12,019.2	16,145.1	22,467.7
Final consumption	79.5	682.7	5,139.2	11,693.9	15,265.1	21,979.6
Private consumption	59.3	524.3	4,053.1	9,421.8	12,110.6	18,352.7
Households	56.6	501.9	3,897.8	9,066.1	11,761.7	17,929.2
NPISHs	2.7	22.4	155.3	355.7	348.9	423.5
Government consumption	20.2	158.4	1,086.2	2,272.2	3,154.4	3,626.9
Individual	11.3	90.4	545.6	1,217.8	1,781.6	2,013.7
Collective	8.9	68.0	540.6	1,054.4	1,372.8	1,613.2
Gross fixed capital formation	16.2	108.1	714.5	1,492.7	3,290.0	4,503.6
Changes in inventories	-1.9	39.6	-89.8	-409.3	-328.9	844.0
Net exports	-4.2	-4.5	-50.2	-758.0	-2,081.1	-4,859.5
Exports	32.7	263.8	1,795.5	4,057.9	4,757.5	6,503.8
Imports	-33.9	-352.9	-2,204.8	-4,815.9	-6,838.6	-11,363.3
Total income by category	92.6	741.3	5,354.7	12,019.2	16,145.1	22,467.8
Compensation of employees	43.6	288.9	1,866.0	4,096.4	6,104.0	6,747.3
Taxes on production	6.2	67.2	449.3	1,178.9	1,795.2	2,551.5
Subsidies	0.7	20.6	89.4	61.2	165.9	190.9
Gross operating surplus of enterprises	43.5	405.7	3,128.9	6,805.1	8,411.8	13,359.9
	(In percent of GDP)					
GDP	100.0	100.0	100.0	100.0	100.0	100.0
Final consumption	85.9	92.1	96.0	97.3	94.5	97.8
Private consumption	64.1	70.7	75.7	78.4	75.0	81.7
Households	61.1	67.7	72.8	75.4	72.8	79.8
NPISHs	3.0	3.0	2.9	3.0	2.2	1.9
Government consumption	21.8	21.4	20.3	18.9	19.5	16.1
Individual	12.2	12.2	10.2	10.1	11.0	9.0
Collective	9.6	9.2	10.1	8.8	8.5	7.2
Gross fixed capital formation	17.5	14.6	13.3	12.4	20.4	20.0
Changes in inventories	2.1	5.3	1.7	3.4	2.0	3.8
Net exports	4.5	0.6	0.9	6.3	12.9	21.6
Exports	35.3	35.6	33.5	33.8	29.5	28.9
Imports	36.6	47.6	41.2	40.1	42.4	50.6
Total income by category	100.0	100.0	100.0	100.0	100.0	100.0
Compensation of employees	47.1	39.0	34.8	34.1	37.8	30.0
Taxes on production	6.7	9.1	8.4	9.8	11.1	11.4
Subsidies	0.8	2.8	1.7	0.5	1.0	0.8
Gross operating surplus of enterprises	47.0	54.7	58.4	56.6	52.1	59.5

Source: National Statistical Committee.

Table 3. Kyrgyz Republic: Agricultural Production by Farm Type, 1990-96

	1990			1991			1992			1993			1994			1995			1996		
	State	Farmers	Households	State	Farmers	Households	State	Farmers	Households	State	Farmers	Households	State	Farmers	Households	State	Farmers	Households	State	Farmers	Households
										(In thousands of tons)											
Grains	1,505.4	...	67.5	1,371.3	3.9	70.4	1,449.7	86.4	65.5	1,378.0	159.6	58.6	874.9	109.4	78.2	620.0	258.5	102.7	702.5	572.7	148.5
Wheat	509.6	...	0.8	463.3	0.7	0.8	649.3	28.9	0.8	802.7	79.6	2.8	537.4	55.2	15.8	464.6	175.4	37.0	566.0	419.6	54.9
Barley	630.4	...	0.9	592.1	3.1	0.9	570.5	49.2	0.8	435.6	72.2	1.8	257.6	47.9	4.5	117.7	49.8	5.8	97.1	77.1	8.5
Corn	341.2	...	64.8	296.6	0.1	67.7	209.4	8.1	63.2	125.5	5.0	53.2	65.8	6.1	57.4	28.4	29.9	57.7	32.6	68.2	81.3
Rice	1.9	...	0.3	2.4	...	0.3	3.3	0.1	0.1	2.3	0.3	0.1	4.2	0.1	0.1	3.6	2.4	1.6	2.5	5.7	2.4
Cotton	80.9	...	...	62.4	...	...	50.2	2.2	...	45.9	3.3	...	52.0	1.5	...	54.2	20.3	...	38.4	34.7	...
Sugarbeet	1.7	...	...	12.7	...	...	125.2	9.4	...	200.8	19.3	0.1	98.7	15.1	0.4	77.6	29.2	0.6	136.6	53.2	...
Tobacco	53.8	...	0.1	49.0	0.2	0.1	42.2	0.8	0.1	45.8	2.7	0.1	35.0	1.3	0.1	9.0	8.4	0.2	7.1	9.8	1.0
Vegetable oil crop	9.6	...	0.7	4.3	0.0	0.5	5.5	0.2	0.6	6.4	0.4	0.3	12.6	1.2	0.4	10.1	8.5	1.6	11.9	16.4	6.6
Potatoes	176.0	...	189.1	130.9	0.3	195.1	109.4	13.2	239.4	82.4	10.4	215.5	55.5	14.0	241.5	39.7	27.5	364.4	40.3	71.5	450.6
Vegetables	289.1	...	198.2	225.0	0.1	173.9	214.5	8.1	181.4	107.6	5.6	146.1	91.9	11.6	162.1	62.5	42.0	213.9	67.4	72.4	228.7
Melons	56.6	...	14.8	37.5	0.0	16.7	18.9	0.5	15.2	7.2	1.1	10.3	10.3	4.3	4.3	9.0	11.1	3.1	13.9	21.6	5.0
Fruits and berries	50.7	...	90.2	20.2	0.0	65.1	42.0	0.6	74.8	7.7	0.1	37.3	18.6	0.2	60.3	13.2	1.7	52.4	19.1	8.0	55.7
Grapes	36.6	...	6.7	21.8	...	7.5	24.5	...	6.5	8.6	...	0.6	13.8	...	3.8	13.1	0.9	5.7	6.5	1.4	6.4
Hay	1,009.2	...	88.7	910.2	4.4	71.6	770.6	166.3	64.7	639.3	224.9	79.1	523.8	221.8	111.1	377.3	333.8	195.6	321.0	515.6	119.2
Forage	3,588.1	...	...	3,261.2	1.1	...	3,283.5	32.0	...	2,698.3	17.7	...	1,849.5	3.0	72.2	993.4	5.5	10.7	698.3	10.7	25.0
										(In percent of total)											
Grains	95.7	...	4.3	94.9	0.3	4.9	90.5	5.4	4.1	86.3	10.0	3.7	82.3	10.3	7.4	63.2	26.3	10.5	49.3	40.2	10.4
Wheat	99.8	...	0.2	99.7	0.2	0.2	95.6	4.3	0.1	90.7	9.0	0.3	88.3	9.1	2.6	68.6	25.9	5.5	54.4	40.3	5.3
Barley	99.9	...	0.1	99.3	0.5	0.2	91.9	7.9	0.1	85.5	14.2	0.4	83.1	15.5	1.5	67.9	28.7	3.3	53.1	42.2	4.7
Corn	84.0	...	16.0	81.4	0.0	18.6	74.6	2.9	22.5	68.3	2.7	29.0	50.9	4.7	44.4	24.5	25.8	49.7	17.9	37.5	44.6
Rice	86.4	...	13.6	88.9	...	11.1	94.3	2.9	2.9	85.2	11.1	3.7	96.1	1.8	2.1	47.4	31.6	21.1	23.6	53.8	22.6
Cotton	100.0	...	...	100.0	...	...	95.8	4.2	...	93.3	6.7	...	97.2	2.8	...	72.8	27.2	...	52.5	47.5	...
Sugarbeet	100.0	...	...	100.0	...	...	93.0	7.0	...	91.2	8.8	0.0	86.4	13.2	0.4	72.3	27.2	0.6	72.0	28.0	...
Tobacco	99.8	...	0.2	99.4	0.4	0.2	97.9	1.9	0.2	94.2	5.6	0.2	96.2	3.6	0.2	51.1	47.7	1.1	39.7	54.7	5.6
Vegetable oil crop	93.2	...	6.8	89.2	0.4	10.4	87.3	3.2	9.5	90.1	5.6	4.2	88.7	8.5	2.8	50.0	42.1	7.9	34.1	47.0	18.9
Potatoes	48.2	...	51.8	40.1	0.1	59.8	30.2	3.6	66.1	26.7	3.4	69.9	17.8	4.5	77.7	9.2	6.4	84.4	7.2	12.7	80.1
Vegetables	59.3	...	40.7	56.4	0.0	43.6	53.1	2.0	44.9	41.5	2.2	56.3	34.6	4.4	61.0	19.6	13.2	67.2	18.3	19.6	62.1
Melons	79.3	...	20.7	69.2	0.0	30.8	54.6	1.4	43.9	38.7	5.9	55.4	54.5	22.8	22.8	38.8	47.8	13.4	34.3	53.3	12.3
Fruits and berries	36.0	...	64.0	23.7	0.0	76.3	35.8	0.5	63.7	17.1	0.1	82.8	23.5	0.3	76.2	19.6	2.5	77.9	23.1	9.7	67.3
Grapes	84.5	...	15.5	74.4	...	25.6	79.0	...	21.0	93.5	...	6.5	78.4	...	21.6	66.5	4.6	28.9	45.5	9.8	44.8
Hay	91.9	...	8.1	92.3	0.4	7.3	76.9	16.6	6.5	67.8	23.8	8.4	61.1	25.9	13.0	41.6	36.8	21.6	33.6	53.9	12.5
Forage	100.0	...	...	100.0	0.0	...	99.0	1.0	...	99.3	0.7	...	96.1	0.2	3.8	98.4	0.5	1.1	95.1	1.5	3.4

Sources: National Statistical Committee, and Fund staff estimates.

Table 4. Kyrgyz Republic: Production of Animal Products by Farm Type, 1990-96

	Total	State	Farmers	Households	Total	State	Farmers	Households
	(In thousands of tons, except where otherwise noted)				(In percent of total)			
1990 Live weight	451.1	248.6	...	202.5	100.0	55.1	...	44.9
Slaughtered weight	254.1	140.1	...	114.0	100.0	55.1	...	44.9
Beef	91.2	50.7	...	40.5	100.0	55.6	...	44.4
Pork	40.5	23.1	...	17.4	100.0	57.0	...	43.0
Sheep	77.2	43.6	...	33.6	100.0	56.5	...	43.5
Chicken	33.3	18.3	...	15.0	100.0	55.0	...	45.0
Horse	9.4	4.4	...	5.0	100.0	46.8	....	53.2
Rabbits	2.5	...	...	2.5	100.0	...	...	100.0
Milk	1185.0	574.8	...	610.2	100.0	48.5	...	51.5
Eggs (millions)	713.8	465.6	...	248.2	100.0	65.2	...	34.8
Wool	39.0	27.0	...	12.0	100.0	69.2	...	30.8
1991 Live weight	404.8	196.4	0.4	208.0	100.0	48.5	0.1	51.4
Slaughtered weight	229.7	110.5	0.2	119.0	100.0	48.1	0.1	51.8
Beef	87.5	41.8	0.1	45.6	100.0	47.8	0.1	52.1
Pork	32.8	13.8	0.1	18.9	100.0	42.1	0.3	57.6
Sheep	70.8	36.4	...	34.4	100.0	51.4	...	48.6
Chicken	28.8	14.5	...	14.3	100.0	50.3	...	49.7
Horse	8.3	4.0	...	4.3	100.0	48.2	...	51.8
Rabbits	1.5	...	....	1.5	100.0	...	...	100.0
Milk	1131.4	501.8	0.3	629.3	100.0	44.4	0.0	55.6
Eggs (millions)	649.9	408.2	0.1	241.6	100.0	62.8	0.0	37.2
Wool	36.5	23.6	...	12.9	100.0	64.7	...	35.3
1992 Live weight	401.6	137.1	32.2	232.3	100.0	34.1	8.0	57.8
Slaughtered weight	228.0	77.6	15.7	134.7	100.0	34.0	6.9	59.1
Beef	87.8	31.5	2.6	53.7	100.0	35.9	3.0	61.2
Pork	35.6	9.8	...	25.8	100.0	27.5	...	72.5
Sheep	70.3	24.3	11.4	34.6	100.0	34.6	16.2	49.2
Chicken	22.2	9.0	0.2	13.0	100.0	40.5	0.9	58.6
Horse	11.0	3.0	1.5	6.5	100.0	27.3	13.6	59.1
Rabbits	1.1	...	...	1.1	100.0	...	...	100.0
Milk	960.9	363.8	21.7	575.4	100.0	37.9	2.3	59.9
Eggs (millions)	591.0	313.5	1.7	275.8	100.0	53.0	0.3	46.7
Wool	33.7	17.0	5.3	11.4	100.0	50.4	15.7	33.8
1993 Live weight	393.8	105.7	69.7	218.4	100.0	26.8	17.7	55.5
Slaughtered weight	214.3	57.3	34.4	122.6	100.0	26.7	16.1	57.2
Beef	87.8	25.0	8.9	53.9	100.0	28.5	10.1	61.4
Pork	24.8	5.4	...	19.4	100.0	21.8	...	78.2
Sheep	81.6	20.7	23.3	37.6	100.0	25.4	28.6	46.1
Chicken	9.3	3.6	0.0	5.7	100.0	38.6	0.2	61.2
Horse	10.3	2.6	2.2	5.5	100.0	25.2	21.4	53.4
Rabbits	0.5	...	...	0.5	100.0	...	...	100.0
Milk	946.0	284.9	53.9	607.2	100.0	30.1	5.7	64.2
Eggs (millions)	388.9	155.3	4.5	229.1	100.0	39.9	1.2	58.9
Wool	31.2	12.7	5.1	13.4	100.0	40.7	16.3	42.9
1994 Live weight	358.0	83.5	46.6	227.9	100.0	23.3	13.0	63.7
Slaughtered weight	197.2	45.4	24.8	127.0	100.0	23.0	12.6	64.4
Beef	82.3	22.1	8.5	51.7	100.0	26.9	10.3	62.8
Pork	18.0	3.1	1.5	13.4	100.0	17.2	8.3	74.4
Sheep	76.4	16.1	11.6	48.7	100.0	21.1	15.2	63.7
Chicken	7.2	1.2	0.6	5.4	100.0	16.7	8.3	75.0
Horse	12.7	2.9	2.6	7.2	100.0	22.8	20.5	56.7
Rabbits	0.6	...	...	0.6	100.0	...	...	100.0
Milk	871.6	194.9	39.4	637.3	100.0	22.4	4.5	73.1
Eggs (millions)	201.6	41.8	2.4	157.4	100.0	20.7	1.2	78.1
Wool	21.2	7.5	2.6	11.1	100.0	35.4	12.3	52.4
1995 Live weight	321.4	47.3	41.7	232.4	100.0	14.7	13.0	72.3
Slaughtered weight	179.9	26.1	21.9	131.9	100.0	14.5	12.2	73.3
Beef	84.7	14.8	8.4	61.5	100.0	17.5	9.9	72.6
Pork	27.9	1.7	0.2	26.0	100.0	6.1	0.7	93.2
Sheep	54.1	7.4	9.4	37.3	100.0	13.7	17.4	68.9
Chicken	2.7	0.2	0.1	2.4	100.0	7.4	3.7	88.9
Horse	10.2	2.0	3.8	4.4	100.0	19.6	37.3	43.1
Rabbits	0.3	...	...	0.3	100.0	...	...	100.0
Milk	864.2	110.4	101.4	652.4	100.0	12.8	11.7	75.5
Eggs (millions)	146.7	6.9	6.9	132.9	100.0	4.7	4.7	90.6
Wool	14.8	2.8	2.5	9.5	100.0	18.9	16.9	64.2
1996 Live weight	323.4	25.8	69.6	228.0	100.0	8.0	21.5	70.5
Slaughtered weight	185.5	14.6	38.0	132.9	100.0	7.9	20.5	71.6
Beef	86.3	8.5	18.3	59.5	100.0	9.8	21.2	68.9
Pork	28.7	1.2	0.5	27.0	100.0	4.2	1.7	94.1
Sheep	54.2	3.4	13.1	37.7	100.0	6.3	24.2	69.6
Chicken	3.0	0.1	0.2	2.7	100.0	3.3	6.7	90.0
Horse	13.1	1.4	5.9	5.8	100.0	10.7	45.0	44.3
Rabbits	0.2	..	...	0.2	100.0	...	...	100.0
Milk	885.3	63.1	170.2	652.0	100.0	7.1	19.2	73.6
Eggs (millions)	159.6	1.3	17.4	140.9	100.0	0.8	10.9	88.3
Wool	12.2	1.2	3.5	7.5	100.0	9.8	28.7	61.5

Sources: National Statistical Committee; and Fund staff estimates.

Table 5. Kyrgyz Republic: Agricultural Production, 1990-96

	1990	1991	1992	1993	1994	1995	1996
	(In thousands of tons, execpt when otherwise noted)						
Grains	1,572.9	1,445.6	1,601.7	1,596.2	1,062.6	981.2	1,423.7
Wheat	510.4	464.9	679.0	885.1	608.4	677.0	1,040.5
Barley	631.4	596.1	620.5	509.6	309.6	1,173.3	182.8
Corn	406.0	364.5	280.7	183.8	129.3	116.1	182.2
Rice	2.2	2.7	3.5	2.7	4.3	7.6	10.5
Cotton	80.8	62.4	52.4	49.2	53.5	74.5	73.1
Sugarbeet	1.7	12.7	134.6	220.2	114.2	107.4	189.8
Tobacco	53.9	49.3	43.2	48.6	36.4	17.6	17.9
Vegetable oil crop	10.3	4.8	6.3	7.2	14.2	20.1	34.9
Potatoes	365.1	326.3	362.0	308.3	310.9	431.6	562.4
Vegetables	487.3	398.9	404.0	259.3	265.6	318.4	368.5
Melons	71.4	54.2	34.6	18.6	18.9	23.3	40.5
Fruits and berries	140.9	85.3	117.5	45.1	79.1	67.3	82.7
Grapes	43.3	29.3	31.0	9.2	17.6	19.7	14.3
Hay	1,097.9	986.2	1,001.6	943.2	856.8	906.8	955.8
Forage	3,588.1	3,262.3	3,315.5	2,716.0	1,924.7	1,009.6	734.0
Meat (slaughtered)	254.1	229.7	228.0	214.3	197.2	179.9	185.5
Milk	1,185.0	1,131.4	960.9	946.0	871.6	864.2	882.3
Eggs (millions)	713.8	649.8	591.0	388.9	201.6	146.7	159.4
Wool	39.0	36.5	33.7	31.2	21.2	14.8	12.1
	(Percentage change from previous year)						
Grains	...	-8.1	10.8	-0.3	-33.4	-7.7	45.1
Wheat	...	-8.9	46.1	30.4	-31.3	11.3	53.7
Barley	...	-5.6	4.1	-17.9	-39.2	279.0	-84.4
Corn	...	-10.2	-23.0	-34.5	-29.7	-10.2	56.9
Rice	...	22.7	29.6	-22.9	59.3	76.7	38.2
Cotton	...	-22.8	-16.0	-6.1	8.7	39.3	-1.9
Sugarbeet	...	647.1	959.8	63.6	-48.1	-6.0	76.7
Tobacco	...	-8.5	-12.4	12.5	-25.1	-51.6	1.7
Vegetable oil crop	...	-53.4	31.3	14.3	97.2	41.5	73.6
Potatoes	...	-10.6	10.9	-14.8	0.8	38.8	30.3
Vegetables	...	-18.1	1.3	-35.8	2.4	19.9	15.7
Melons	...	-24.1	-36.2	-46.2	1.6	23.3	73.8
Fruits and berries	...	-39.5	37.7	-61.6	75.4	-14.9	22.9
Grapes	...	-32.3	5.8	-70.3	91.3	11.9	-27.4
Hay	...	-10.2	1.6	-5.8	-9.2	5.8	5.4
Forage	...	-9.1	1.6	-18.1	-29.1	-47.5	-27.3
Meat (slaughtered)	...	-9.6	-0.7	-6.0	-8.0	-8.8	3.1
Milk	...	-4.5	-15.1	-1.6	-7.9	-0.8	2.1
Eggs	...	-9.0	-9.0	-34.2	-48.2	-27.2	8.7
Wool	...	-6.4	-7.7	-7.4	-32.1	-30.2	-18.2

Source: National Statistical Committee.

Table 6. Kyrgyz Republic: Yields of Major Commodities, 1990-96
(100 Kilogram per hectare)

	1990	1991	1992	1993	1994	1995	1996
Grains	29.3	26.0	27.8	25.6	18.1	19.5	24.0
Wheat	26.4	24.0	27.3	26.2	18.3	19.9	24.0
Barley	23.7	20.6	23.6	21.6	15.0	14.1	18.4
Corn	61.8	58.5	51.3	45.2	35.3	37.4	43.2
Rice	17.9	15.5	14.7	11.1	14.2	17.5	20.1
Cotton	27.3	24.5	24.4	24.2	20.2	22.4	23.1
Sugarbeet	168.5	155.7	213.3	188.2	116.2	123.1	152.1
Tobacco	21.6	21.2	20.8	21.9	19.2	20.8	21.1
Vegetable oil	13.2	10.3	7.8	4.9	4.7	4.6	5.3
Potatoes	136.0	137.0	124.0	108.0	90.0	99.0	115.0
Vegetables	196.0	180.0	154.0	140.0	115.0	103.0	113.0
Melons	131.0	103.0	76.0	66.0	72.0	65.0	83.0
Fruits and berries	41.2	25.9	35.4	14.2	20.1	21.1	24.1
Grapes	63.2	45.3	50.6	15.9	25.6	29.6	22.4
Hay	58.2	53.1	53.1	51.3	42.8	42.6	45.3
Forage	229.3	204.1	219.7	200.0	163.9	139.3	150.8

Source: National Statistical Committee.

Table 7. Kyrgyz Republic: Industrial Production by Sector, 1989-96
(Percent change)

	1989	1990	1991	1992	1993	1994	1995	1996 Prel.
All industry	5.2	-0.6	-0.3	-26.4	-25.3	-27.9	-12.5	3.9
Electricity	7.4	-9.4	5.1	-13.5	-9.4	7.5	1.0	10.1
Fuel industry	-1.2	-5.2	-6.2	-38.3	-24.9	-31.7	-25.7	37.4
Ferrous and nonferrous metallurgy	4.7	7.1	0.5	-10.6	-22.7	-0.2	-16.9	2.8
Chemicals and petrochemical industry	-2.0	-7.2	1.7	-33.4	-55.0	-45.5	-16.0	-1.8
Machine building and metalworking	0.5	-1.3	3.2	-35.2	-39.4	-54.3	-15.3	3.4
Forestry, woodworking, pulp and paper industry	0.2	-4.7	12.0	-12.1	-35.2	-57.8	-29.3	-38.6
Construction materials	2.3	0.9	-2.0	-33.6	-54.6	-39.8	-19.9	1.4
Light industry	5.4	-0.5	5.0	-11.6	-12.0	-36.8	-35.7	-4.9
Textiles	4.1	-2.1	2.2	-10.2	-10.9	-32.7	-35.2	...
Clothing	8.5	4.6	22.0	-15.4	-11.8	-57.7	-49.1	...
Leather and shoe	12.6	3.7	0.4	-24.1	-25.4	-43.6	-25.6	...
Agriculture/food processing	9.0	4.1	-9.9	-42.8	-28.6	-31.5	-21.5	-0.9
Food processing	13.6	7.0	3.6	-46.0	-19.3	-30.1	-17.7	...
Meat and dairy products	0.2	-2.1	-23.1	-35.2	-41.7	-40.1	-37.7	...
Fish	5.5	0.3	-30.0	-24.0	-46.8	-45.5	-16.0	...

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 8. Kyrgyz Republic: Output of Selected Industrial and Manufacturing Products, 1989-96

	1989	1990	1991	1992	1993	1994	1995	1996 Prel.
Coal (thousand tons)	3,997	3,742	3,473	2,151	1,721	793	413	432
Oil (including condensate) (thousand tons)	165	155	143	113	88	88	89	84
Natural gas (million m3)	105	96	83	72	42	39	36	26
Electric engines (AC) (thousand)	327	275	235	172	222	56	49	44
Steel-cutting machines (units)	1,311	1,342	1,146	789	266	69	27	17
Stamping machines (units)	335	317	324	245	51	1	...	...
Centrifugal pumps (thousand)	51	49	45	43	45	25	12	8
Trucks (thousand)	24	25	24	15	5	...	...	...
Hay-compacting machines (thousand)	25	23	20	12	7	1	...	...
Cement (thousand tons)	1,408	1,387	1,320	1,096	672	426	310	546
Window glass (million m2)	8	1	...	8	7	4	2	...
Roofing sheets (millions of pieces)	174	178	175	176	169	136	66	102
Rugs (thousand m2)	1,955	2,004	1,661	1,700	1,609	1,082	979	756
Textiles (thousand m2)	...	134,251	142,778	123,781	89,138	62,144	23,490	29,550
Knitted fabrics (thousand pieces)	...	19,977	19,497	19,106	14,450	4,328	1,403	1,010
Shoes (thousand pairs)	...	11,125	9,504	5,343	3,528	1,438	536	546
Stockings and socks (thousand pairs)	...	33,593	26,480	29,694	24,171	14,873	8,573	12,580
Washing machines (thousand)	...	234	209	94	77	17	4	3
Light bulbs (millions)	...	320	299	320	260	84	138	156

Sources: National Statistical Committee; and Fund staff estimates.

Table 9. Kyrgyz Republic: Consumer and Producer Prices, 1993-97

	Consumer Price Index		Producer Price Index	
	Percent change	Index (1992=100)	Percent change	Index (1992=100)
1993 Average 1/	772.4	872.4	649.7	749.7
1994 Average 1/	228.7	2,867.2	211.6	2,335.7
1995 January	7.1	3,900.0	4.2	2,914.6
February	6.8	4,165.8	6.7	3,108.9
March	1.6	4,231.3	-0.2	3,102.7
April	0.8	4,264.1	1.0	3,132.2
May	1.6	4,333.3	-2.2	3,062.6
June	0.8	4,366.1	1.6	3,110.4
July	0.3	4,380.6	0.4	3,121.6
August	-0.2	4,369.7	2.4	3,196.0
September	2.5	4,478.9	3.5	3,307.5
October	1.1	4,526.3	1.8	3,367.4
November	2.7	4,646.5	0.8	3,395.1
December	3.4	4,803.0	3.6	3,517.3
Average 1/	52.5	4,372.1	36.8	3,194.7
1996 January	3.6	4,975.9	2.1	3,591.3
February	3.8	5,163.3	2.0	3,662.5
March	4.0	5,369.8	0.5	3,679.0
April	4.7	5,619.5	3.1	3,793.2
May	2.5	5,758.8	5.8	4,012.3
June	1.0	5,816.5	5.0	4,213.9
July	-2.1	5,696.4	1.2	4,264.6
August	0.5	5,725.2	11.0	4,735.5
September	0.5	5,754.0	-3.4	4,574.0
October	1.2	5,821.3	0.2	4,581.8
November	6.6	6,205.5	2.6	4,698.8
December	4.5	6,484.1	5.7	4,966.6
Average 1/	30.4	5,699.2	32.4	4,231.1
1997 January	3.4	6,702.2	4.0	5,165.3
February	2.2	6,850.4	2.6	5,299.6
March	1.4	6,948.2	2.3	5,421.5
April	2.5	7,122.1	-0.5	5,394.4
May	2.7	7,314.2	-0.5	5,367.4
June	0.7	7,368.7	2.2	5,485.5
July	-1.2	7,280.6	-2.1	5,370.3
August	-1.8	7,248.0	1.2	5,418.6
September	0.1	7,255.2	...	...
October	0.5	7,291.5	...	...

Sources: National Statistical Committee; and Fund staff estimates.
1/ Year-on-year averages.

Table 10. Kyrgyz Republic: Nominal and Real Wages, 1993-97

	Nominal wages (som) 1/ 2/		Index of real wages (1992=100)	
	Average	Minimum	Average	Minimum
1993 Average	80.4	21	85.8	77.2
1994 Average	234.2	57	76.1	62.8
1995 January	319.0	68	76.2	55.1
February	331.0	68	74.0	51.6
March	351.5	68	77.4	50.8
April	342.2	68	74.8	50.4
May	357.1	68	76.8	49.6
June	393.7	68	84.0	49.2
July	380.6	68	81.0	49.0
August	386.0	68	82.3	49.1
September	408.2	68	84.9	47.9
October	409.2	68	84.2	47.4
November	431.6	75	86.6	51.0
December	573.4	75	111.2	49.3
Average	390.3	69	83.2	50.0
1996 January	423.5	75	79.3	47.6
February	423.9	75	76.5	45.9
March	458.1	75	79.5	44.1
April	449.3	75	74.5	42.1
May	458.2	75	74.1	41.1
June	483.7	75	77.5	40.7
July	495.8	75	81.1	41.6
August	496.1	75	80.7	41.4
September	504.6	75	81.7	41.2
October	519.2	75	83.1	40.7
November	523.0	75	78.5	38.2
December	689.7	75	99.1	36.5
Average	493.7	75	80.7	41.6
1997 January	522.3	75	72.6	35.3
February	539.0	75	73.3	34.6
March	559.2	75	75.0	34.1
April	558.4	75	73.1	33.3
May	567.4	75	72.3	32.4
June	616.8	75	78.0	32.1

Sources: Kyrgyz authorities; and Fund staff estimates.

1/ Wages in rubles through March 1993 and soms thereafter.

2/ The December average wage reflects year-end bonus, typically one month's wage.

Table 11. Kyrgyz Republic: Average Wages by Economic Sector, 1991-96
(As a percent of total average wage)

	1991	1992	1993	1994	1995	1996
Average wage	100.0	100.0	100.0	100.0	100.0	100.0
Industry	122.3	137.4	148.9	149.5	139.9	134.7
Of which						
Fuels and energy	178.3	204.3	211.2	...	...	...
Metallurgy	160.5	213.9	241.3	...	...	...
Engineering	129.5	129.6	143.9	...	...	...
Chemicals	128.0	116.5	145.1	...	...	...
Minerals	...	...	...	...	...	...
Wood and paper	122.4	116.5	112.1	...	...	...
Light industry	115.2	126.1	144.0	...	...	...
Food processing	101.3	130.4	131.5	...	...	...
Agriculture	94.3	101.7	71.7	54.8	64.3	85.0
Of which						
State and co-operative farms	96.8	104.3	71.6	49.4	...	...
Forestry	59.4	50.4	48.9	46.8	57.7	48.9
Transport	97.7	98.3	108.8	118.6	119.3	121.0
Communication	106.3	105.2	112.3	172.3	166.9	144.4
Construction	120.6	128.7	145.6	146.2	158.5	164.9
Trade and communal catering	85.1	69.6	24.1	76.0	71.4	65.6
Supplies	...	115.7	158.9	175.7	133.2	124.5
Procurement	...	106.1	99.6	78.8	97.3	76.8
Computing services	102.0	89.6	121.6	140.8	121.8	150.8
Real estate	...	...	...	...	...	197.1
Commerce	...	...	92.1	68.3	84.5	152.6
Geology, meterology	...	125.2	168.4	195.3	175.0	161.3
Other sectors of material production	...	72.2	66.7	92.0	87.5	78.8
Housing and communal services	80.0	83.5	85.0	99.2	104.5	110.0
Health and physical welfare services	76.0	67.0	62.3	92.2	79.2	63.8
Education	76.6	67.0	65.3	102.0	84.0	70.1
Culture	69.7	61.7	54.4	87.2	80.8	66.3
Art	71.4	59.1	58.4	90.1	82.2	...
Science and scientific services	109.7	99.1	99.4	122.6	121.0	110.1
Banking and insurance services	190.3	186.1	207.4	258.0	206.8	197.5
Government	112.6	121.7	107.6	133.0	127.2	135.9
Minimum monthly wage	43.1	29.5	25.9	25.6	17.7	15.2
Average pension, year end	112.3	89.8	68.3	36.8	49.2	49.6

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 12. Kyrgyz Republic: Employment by Sector, 1990-96

	1990	1991	1992	1993	1994	1995	1996
			(In thousands of workers)				
Total employment	1,747.9	1,754.1	1.835.9	1,680.6	1,645.4	1,641.7	1,651.5
Industry	334.4	318.7	299.6	269.6	241.2	205.0	182.8
Construction	152.8	147.0	114.2	89.4	77.1	65.7	57.9
Agriculture	569.1	619.5	696.2	651.2	684.7	771.0	773.5
Forestry	2.9	3.2	4.4	4.2	6.1	5.4	5.1
Transport	79.3	78.5	78.6	72.1	71.3	62.7	67.5
Communication	14.7	15.0	15.4	14.2	13.2	13.7	13.7
Wholesale trade	59.3	59.9	...	...	...	...	...
Retail trade and catering	28.1	28.0	86.8	69.3	113.1	103.8	145.0
Information and computational services	4.6	4.2	3.3	1.9	1.4	1.3	1.0
Housing and communal services	36.8	31.9	42.1	35.8	32.6	27.7	24.7
Health and physical welfare services	104.6	107.4	142.4	124.7	102.1	101.3	93.9
Education	192.7	189.9	193.8	176.3	169.2	155.9	138.9
Culture and art	22.8	22.6	22.7	22.6	16.4	14.0	12.7
Science and scientific services	34.6	27.4	13.9	10.9	8.5	6.9	6.9
Insurance services	7.0	7.2	7.9	8.5	7.8	6.9	9.1
General administration and defense	42.5	36.6	50.2	52.0	58.0	59.6	62.2
Other	61.7	57.1	64.4	77.9	42.7	40.8	56.6
			(As percent of total employment)				
Industry	19.1	18.2	16.3	16	14.6	14.6	11.1
Construction	8.7	8.4	6.2	5.3	4.7	4.7	3.5
Agriculture	32.6	35.3	37.9	38.7	41.6	41.6	46.8
Forestry	0.2	0.2	0.2	0.2	0.4	0.4	0.3
Transport	4.5	4.5	4.3	4.3	4.3	4.4	4.1
Communication	0.8	0.9	0.8	0.8	0.8	0.8	0.8
Wholesale trade	3.4	3.4	...	...	...	...	...
Retail trade and catering	1.6	1.6	4.7	4.1	6.9	6.8	8.8
Information and computational services	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Housing and communal services	2.1	1.8	2.3	2.1	2	1.9	1.5
Health and physical welfare services	6	6.1	7.8	7.4	6.2	6.3	0.0
Education	11	10.8	10.6	10.5	10.3	10.4	5.7
Culture and art	1.3	1.3	1.2	1.3	1	0.9	8.4
Science and scientific services	2	1.6	0.8	0.6	0.5	0.5	0.8
Insurance services	0.4	0.4	0.4	0.5	0.5	0.5	0.4
General administration and defense	2.4	2.1	2.7	3.1	3.5	3.5	0.6
Other	3.5	3.3	3.5	4.6	2.6	2.6	3.8

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 13. Kyrgyz Republic: Privatization by Type of Property, 1991-97
(End-of-period; number of enterprises)

	Initial stock	1991	1992	1993	1994	1995	1996	1997	
								June	Remaining stock
Industry	602	9	118	264	324	462	484	492	110
Competitive bidding		0	0	0	5	9	12	12	
Sale to individual		0	0	4	10	18	18	19	
Lease with option to buy		3	7	7	7	7	8	8	
Formation of joint-stock company		5	96	201	235	339	354	360	
Auction sales		0	0	0	6	15	16	16	
Sale to labor collectives		1	10	32	38	48	49	49	
Formation of limited liability company		0	5	20	23	25	26	27	
Other methods		0	0	0	0	1	1	1	
Consumer services	1,919	94	1,344	1,840	1,877	1,897	1,912	1,918	1
Competitive bidding		7	489	524	524	526	529	529	
Sale to individual		1	408	674	696	707	713	718	
Lease with option to buy		3	13	13	14	14	16	17	
Formation of joint-stock company		1	12	33	35	36	36	36	
Auction sales		82	160	160	161	167	171	171	
Formation of limited liability company		0	1	7	8	8	8	8	
Sale to labor collectives		1	262	430	440	440	440	440	
Other methods		0	0	0	0	0	0	0	
Nonproductive sphere	1,253	2	5	27	225	444	463	470	783
Competitive bidding		0	0	0	4	5	8	8	
Sale to individual		0	0	5	18	30	37	41	
Lease with option to buy		1	1	1	1	1	2	2	
Formation of joint-stock company		1	1	2	122	311	313	313	
Auction sales		0	0	0	11	25	29	30	
Formation of limited liability company		0	0	3	48	48	48	48	
Sale to labor collectives		0	3	16	21	24	26	28	
Other methods		0	0	0	0	0	0	0	
Trade and catering	1,945	60	905	1,631	1,750	1,799	1,880	1,895	50
Competitive bidding		4	342	513	537	542	577	582	
Sale to individual		0	110	242	272	289	300	307	
Lease with option to buy		0	38	38	38	38	41	41	
Formation of joint-stock company		2	75	202	210	212	213	213	
Formation of limited liability company		0	5	45	51	52	52	52	
Auction sales		54	94	94	101	120	149	151	
Sale to labor collectives		0	241	497	541	546	548	549	
Other methods		0	0	0	0	0	0	0	
Agriculture	855	0	59	233	320	343	353	354	501
Competitive bidding		0	1	1	1	1	1	1	
Sale to individual		0	5	12	23	28	30	30	
Lease with option to buy		0	3	3	3	3	3	3	
Formation of joint-stock company		0	16	66	113	122	125	126	
Formation of limited liability company		0	1	4	7	8	8	8	
Auction sales		0	0	0	1	3	6	6	
Sale to labor collectives		0	33	147	172	178	180	180	
Other methods		0	0	0	0	0	0	0	
Construction	730	5	80	233	318	391	413	417	313
Competitive bidding		0	0	1	1	3	3	3	
Sale to individual		0	1	5	7	10	13	13	
Lease with option to buy		0	2	2	2	2	2	2	
Formation of joint-stock company		5	55	166	226	282	294	298	
Formation of limited liability company		0	1	9	18	21	22	22	
Auction sales		0	0	0	2	7	11	11	
Sale to labor collectives		0	21	50	62	66	68	68	
Other methods		0	0	0	0	0	0	0	
Transport	295	0	18	80	101	134	141	153	142
Competitive bidding		0	0	0	0	0	0	0	
Sale to individual		0	0	0	2	2	3	3	
Lease with option to buy		0	0	0	0	0	0	0	
Formation of joint-stock company		0	18	70	88	120	125	136	
Formation of limited liability company		0	0	4	4	4	4	4	
Sale to labor collectives		0	0	6	7	8	9	10	
Other methods		0	0	0	0	0	0	0	
Other branches	2,390	4	31	149	269	451	589	606	1,764
Competitive bidding		2	6	17	19	22	28	28	
Sale to individual		0	0	18	53	133	165	169	
Lease with option to buy		1	2	2	2	9	24	25	
Formation of limited liability company		0	1	9	15	17	24	24	
Formation of joint-stock company		1	16	38	48	55	90	91	
Auction sales		0	0	0	8	51	75	77	
Sale to labor collectives		0	6	65	124	164	183	191	
Other methods		0	0	0	0	0	0	1	
Total 1/	9,989	174	2,560	4,457	5,184	5,921	6,235	6,305	3,684

Source: Kyrgyz authorities.
1/ Excluding privatized housing.

Table 14. Kyrgyz Republic: Summary Monetary Accounts, 1995-97
(In millions of soms)

	1995 1/				1996 1/				1997 2/		
	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.
					National Bank						
Net foreign assets	-505.2	-433.5	-455.3	-497.8	-692.7	-503.1	-309.0	-303.8	-441.6	48.7	-244.5
Net international reserves	-41.6	-68.4	-87.3	-111.1	-291.2	-75.6	125.6	-191.9	-329.6	160.7	-132.6
Claims on other CIS countries 3/	-463.6	-365.0	-368.0	-386.7	-401.5	-427.5	-434.6	-111.9	-111.9	-112.0	-112.0
Medium-term NBKR obligations	-287.1	-289.8	-354.2	-436.4	-415.1	-499.6	-567.8	-748.0	-850.0	-832.4	-854.8
Net domestic assets	1,977.4	2,176.4	2,534.7	2,978.4	3,053.9	2,962.7	3,242.0	3,606.9	3,795.3	3,577.1	3,857.0
Credit to government, net	984.6	1,304.5	1,643.5	2,033.9	2,148.4	1,969.9	2,226.3	3,785.2	4,005.8	3,786.7	4,107.0
Direct credits, net of budget account deposits	962.7	1,077.0	1,433.7	1,601.0	1,742.0	1,839.7	1,940.5	2,059.0	2,250.1	2,206.3	1,925.4
Counterpart funds	-265.1	-62.2	-141.7	-0.8	-4.6	-362.4	-267.5	-0.1	-49.4	-271.1	-0.8
Government bonds 4/	0.0	0.0	0.0	0.0	0.0	0.0	0.0	985.5	1,002.0	1,017.8	1,003.4
Treasury bills (actual value)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	69.1	414.4
Turkish loan	287.1	289.8	351.5	433.6	411.0	492.6	553.3	740.7	803.2	764.6	764.6
Credit to other government, net	-2.1	-2.5	-2.9	-2.0	-2.7	-0.6	-3.0	-6.5	-2.1	0.0	0.0
Credit to banks	1,271.5	1,217.6	1,200.1	1,178.7	1,107.4	1,105.3	1,084.4	123.7	123.5	108.5	120.9
Other items, net	-276.6	-343.2	-305.9	-232.2	-199.1	-306.4	-65.8	-295.4	-331.9	-318.1	-370.9
Liabilities	1,185.2	1,453.1	1,725.2	2,044.2	1,946.0	1,960.0	2,365.3	2,555.1	2,503.7	2,793.4	2,757.7
Currency in circulation	1,035.8	1,312.6	1,595.5	1,963.2	1,834.3	1,862.8	2,271.7	2,439.0	2,361.8	2,541.4	2,506.5
Reserves	149.4	140.5	129.7	81.0	111.7	97.2	93.6	116.1	141.9	252.0	251.2
					Banking System						
Net foreign assets	-303.4	-297.8	-265.2	-329.5	-481.2	-357.9	-147.0	-41.4	-260.8	253.9	-23.1
Medium-term NBKR obligations	-287.1	-289.8	-354.2	-436.4	-415.1	-499.6	-567.8	-748.0	-850.0	-832.4	-854.8
Net domestic assets	2,290.2	2,579.0	2,988.0	3,484.4	3,527.1	3,496.8	3,707.8	4,117.9	4,352.5	4,229.5	4,547.2
Credit to government, net	1,075.8	1,422.3	1,771.6	2,174.1	2,264.2	2,116.0	2,397.6	3,974.6	4,230.8	4,083.8	4,336.1
Credit from the NBKR 4/	984.6	1,304.5	1,643.5	2,033.9	2,148.4	1,969.9	2,226.3	3,785.2	4,005.8	3,786.7	4,107.0
Credit from commercial banks	91.2	117.8	128.0	140.2	115.8	146.1	171.3	189.4	225.0	297.1	229.1
Credit to other government, net	-56.3	-74.5	-69.9	-60.7	-54.4	-57.7	-58.8	-47.9	-38.2	-55.5	0.0
Credit to rest of the economy 4/	2,049.4	2,139.8	2,180.8	1,949.7	1,915.1	1,940.2	1,896.9	862.5	765.2	852.9	858.8
Other items, net	-778.6	-908.6	-894.5	-578.7	-597.8	-501.8	-527.9	-671.3	-605.3	-651.7	-647.7
Liabilities	1,699.7	1,991.5	2,368.6	2,718.5	2,630.7	2,639.4	2,993.0	3,328.5	3,241.7	3,650.9	3,669.3
Currency outside banks	1,014.8	1,292.3	1,573.3	1,937.6	1,791.8	1,837.2	2,233.1	2,398.0	2,300.7	2,494.9	2,433.2
Deposits	684.9	699.2	795.2	780.8	838.9	802.1	759.9	930.5	941.1	1,156.1	1,236.1
Memorandum items:											
Velocity	10.0	9.0	8.5	7.8	7.3	7.1	7.3	7.5	7.7	7.4	7.5
Quarterly CPI Inflation (in percent)	16.2	3.2	2.6	7.4	11.8	8.4	-1.1	12.7	7.2	6.0	-1.2
Quarterly growth rate of:											
Broad money	11.1	17.2	18.9	14.8	-3.2	0.3	13.4	11.2	-3.2	12.6	0.5
Contribution from NFA 5/	-9.4	0.2	-1.6	-6.2	-4.8	1.5	5.4	-2.5	-11.8	16.4	-0.1
Contribution from NDA 5/	20.5	17.0	20.5	21.0	1.6	-1.2	8.0	13.7	8.6	-3.8	0.6
Reserve money	11.0	22.6	18.7	18.5	-4.8	0.7	20.7	8.0	-1.2	11.6	-1.3
Contribution from NFA 5/	-21.9	5.8	-5.9	-7.2	-8.5	5.4	6.4	-7.4	-5.5	20.3	0.5
Contribution from NDA 5/	32.9	16.8	24.7	25.7	3.7	-4.7	14.2	15.4	4.3	-8.7	-1.8
Currency outside banks	1.3	27.3	21.7	23.2	-7.5	2.5	21.5	7.4	-4.1	8.4	-2.5
Yearly growth rate of:											
Broad money	...	...	...	76.7	...	...	...	22.4	...	...	...
Reserve money	...	...	...	91.4	...	...	...	25.0	...	...	...
Currency outside banks	...	...	...	32.0	...	...	...	23.8	...	...	...

Sources: National Bank of the Kyrgyz Republic; and Fund staff estimates and projections.
1/ Current exchange rate.
2/ Foreign exchange assets and liabilities are valued at 17.0 soms per U.S. dollar, and gold at US$ 350 per Troy ounce.
3/ From December 1996 onwards, incorporates a revaluation of claims and liabilities vis-a-vis other CIS countries .
4/ From December 1996 onwards, reflects the acquisition of government bonds by the NBKR as part of the restructuring of the financial sector, leading to a corresponding reduction in credit to the economy.
5/ In percent of beginning of period money stock.

Table 15. Kyrgyz Republic: U.S. Dollar Auction Exchange Rate, 1994-97
(In soms per U.S. dollar)

	Average clearing rate
1994 January	8.51
February	10.19
March	11.66
April	12.30
May	12.23
June	11.33
July	10.97
August	10.27
September	10.59
October	10.65
November	10.61
December	10.66
1995 January	10.76
February	10.80
March	10.89
April	10.90
May	10.94
June	10.79
July	10.56
August	10.47
September	10.68
October	10.93
November	10.97
December	11.23
1996 January	11.22
February	11.28
March	11.37
April	11.56
May	12.06
June	12.25
July	12.17
August	12.20
September	12.84
October	14.03
November	15.84
December	16.83
1997 January	17.05
February	16.90
March	17.61
April	17.87
May	17.89
June	17.26
July	17.28
August	17.25
September	17.50

Sources: National Bank of the Kyrgyz Republic; and Fund staff estimates.

Table 16. Kyrgyz Republic: Three-month Treasury Bill Auctions, 1994-97

Auction date		Total number of bids accepted	Total amount sold	*Of which* Nonbank	Average annual yield
			(In millions of soms)		(In percent)
1994	February	9	0.40	0.00	358.3
	March	45	1.48	0.00	426.8
	April	78	31.93	0.00	396.7
	May	58	38.00	0.33	303.4
	June	60	48.00	0.24	287.5
	July	41	35.00	1.12	274.3
	August	63	31.00	1.78	241.4
	September	105	43.00	6.02	248.6
	October	25	23.50	10.62	159.7
	November	43	10.00	1.62	105.6
	December	59	9.00	0.31	73.1
1995	January	59	9.00	1.71	72.1
	February	26	3.50	0.87	68.2
	March	27	9.99	3.62	51.9
	April	32	13.50	0.70	37.4
	May	38	12.00	0.01	34.4
	June	36	18.00	0.11	29.2
	July	37	20.00	0.00	29.1
	August	39	24.93	0.00	32.0
	September	26	7.50	0.00	30.2
	October	32	14.00	0.38	28.2
	November	76	26.88	0.00	28.3
	December	58	13.53	0.04	43.4
1996	January	21	5.00	0.16	34.1
	February	71	14.00	0.11	34.1
	March	49	17.50	0.57	42.1
	April	58	20.50	0.35	43.0
	May	78	27.00	0.66	42.2
	June	51	24.00	0.43	41.1
	July	84	29.50	4.35	37.8
	August	46	23.50	0.84	34.1
	September	91	25.00	2.28	58.7
	October	65	16.00	2.95	63.0
	November	31	19.00	2.55	58.9
	December	54	26.50	3.79	57.0
1997	January	71	21.50	2.99	63.1
	February	79	20.00	2.08	69.8
	March	36	19.00	4.48	63.8
	April	30	26.50	6.54	45.7
	May	62	28.00	1.12	54.1
	June	36	19.00	4.13	33.3
	July	63	30.50	2.62	20.3
	August	72	24.00	0.22	28.1
	September	55	20.00	2.29	36.3

Sources: National Bank of the Kyrgyz Republic; and Fund staff estimates.

Table 17. Kyrgyz Republic. Interest Rates on Domestic and Foreign Currency Credits, 1996-97 1/
(In percent)

	U.S. Dollars	Soms
1996 January	49.97	60.78
February	49.61	56.70
March	42.67	60.69
April	52.48	60.48
May	37.61	62.50
June	43.46	64.49
July	26.54	52.08
August	46.99	60.34
September	66.58	54.16
October	66.00	55.32
November	44.00	56.97
December	37.18	58.24
1997 January	43.52	54.27
February	54.03	59.27
March	54.11	71.55
April	59.02	56.78
May	41.27	58.89
June	61.81	62.68
July	48.86	74.06

Source: National Bank of the Kyrgyz Republic.
1/ Rates refer to new credits extended during the month.

Table 18. Kyrgyz Republic. Interest Rates on Domestic and Foreign Currency Deposits, 1996-97 1/
(In percent)

	U.S. Dollars	Soms	Memorandum item: 3-month Treasury bills
1996 January	22.08	32.28	34.09
February	23.64	30.60	34.08
March	23.16	28.20	42.10
April	18.63	29.28	43.04
May	16.80	32.04	42.23
June	16.68	30.84	41.15
July	11.40	30.36	37.79
August	11.28	32.52	34.10
September	17.53	33.09	58.69
October	11.47	38.83	63.02
November	15.22	25.52	58.89
December	14.71	24.76	56.99
1997 January	13.36	27.76	63.15
February	10.19	33.16	69.77
March	13.37	39.09	63.78
April	7.70	35.20	45.71
May	9.98	25.50	54.14
June	4.46	22.13	33.30
July	6.37	28.95	20.30

Source: The National Bank of the Kyrgyz Republic.
1/ Rates refer to new deposits attracted during the month.

Table 19. Kyrgyz Republic: Summary of General Government Financial Operations, 1993-97

	1993	1994	1995	1996					1997			
				Q1	Q2	Q3	Q4	Year	Q1 Prel.	Q2 Prel.	Q3 Prel.	Q1-Q3 Prel.
				(In million of soms)								
Total revenue and grants	1,318	2,503	2,703	690	762	989	1,385	3,826	939	1,002	1,247	3,188
Total revenue	856	2,201	2,648	613	745	973	1,293	3,625	840	1,002	1,247	3,188
Current revenue	848	2,148	2,599	585	677	812	1,141	3,216	822	996	1,231	3,072
Tax revenue	776	1,638	2,363	549	629	761	983	2,923	672	996	1,228	3,046
Income tax	300	653	713	156	143	172	198	669	172	781	1,026	2,479
VAT	233	519	705	185	223	326	501	1,235	255	163	157	493
Customs and excise	103	218	432	91	116	106	136	449	121	342	494	1,092
Land tax	4	58	73	16	17	47	42	122	31	143	182	446
Road tax and Extraordinary Fund 1/	87	62	217	43	46	73	76	239	65	37	76	144
Other 2/	48	129	222	58	85	37	29	209	28	72	84	220
Nontax revenue	72	509	236	36	48	51	158	293	150	23	33	84
Capital revenue	9	53	49	28	68	162	152	409	18	215	202	567
Grants	462	303	55	77	16	16	93	201	99	6	3	26
Total expenditure	2,091	3,431	4,881	919	1,055	1,381	1,889	5,244	1,206	0	17	116
Current expenditure	1,607	2,752	4,164	741	1,008	1,335	1,934	5,019	1,217	1,539	1,651	4,396
Wages 3/	281	1,046	1,665	242	351	503	586	1,682	367	1,485	1,551	4,254
Transfers 4/	904	818	863	83	108	197	300	688	95	556	446	1,369
Social Fund	...	77	91	15	48	101	129	293	71	168	67	330
Interest	37	24	68	32	52	79	121	284	104	85	87	243
Foreign interest	2	24	59	27	47	66	63	203	68	128	133	365
Domestic interest (including FINSAC)	34	0	9	5	5	13	59	81	36	71	44	183
Other	385	787	1,478	369	450	454	797	2,071	580	57	89	182
Net lending	474	563	556	158	23	26	-106	101	-45	548	818	1,946
Lending	...	...	...	163	77	32	10	282	3	18	25	-2
Repayment	...	...	...	-5	-54	-6	-116	-182	-42	84	75	162
Capital investment	29	117	161	20	23	20	62	125	34	-72	-50	-164
Surplus(+) / Deficit (-)	-773	-928	-2,178	-229	-293	-392	-504	-1,418	-268	36	75	145
Total financing	773	928	2,178	229	293	392	504	1,418	268	-537	-404	-1,208
External financing	688	705	857	120	535	186	40	881	47	537	404	1,208
Disbursements (BOP support)	353	515	1,293	94	476	316	0	885	0	651	-13	684
Turkish loan	335	189	143	22	50	10	21	102	72	724	0	724
Total amortization	0	0	-579	-17	-12	-160	0	-188	-25	0	9	81
Arrears and rescheduling	...	...	...	21	21	20	19	82	...	-73	-22	-120
Domestic financing	85	224	1,321	109	-242	206	464	537	221	...	...	...
NBKR, *of which:*	39	160	1,252	131	-260	196	386	453	158	-114	417	524
Direct loans granted	86	208	1,002	155	120	146	179	600	93	-181	383	361
Drawdown of budgetary deposits	-48	-49	0	-20	-22	-45	-60	-147	98	-39	0	54
Drawdown of counterpart funds 5/	...	...	...	-4	-358	95	267	1	-49	-5	112	205
Commercial banks	47	64	70	-24	30	25	18	49	36	-222	271	0
Nonbank	0	0	0	2	-12	-15	60	35	27	72	31	139
Memorandum items:										-5	3	24
Fiscal savings	-751	-552	-1,516	-128	-263	-362	-641	-1,394	-377	-484	-321	-1,181
Loan financed PIP	...	469	610	240	95	215	189	739	211	137	329	677
Of which												
German loan	0	0	0	0	0	0	0	0	10	0	9	19
Arrears (stock at end period) 6/	...	346	302	580	745	441	176	176	243	171	290	290
Education expenditure	224	704	1,051	158	290	355	425	1,228	236	389	306	931
Health expenditure	139	387	590	107	167	200	264	738	138	198	202	538
GDP	5,355	12,019	16,145	3,106	4,101	7,926	7,334	22,468	4,088	5,289	10,017	19,394

Table 19. Kyrgyz Republic: Summary of General Government Financial Operations, 1993-97, (concluded)

	1993	1994	1995	1996					1997			
				Q1	Q2	Q3	Q4	Year	Q1 Prel.	Q2 Prel.	Q3 Prel.	Q1-Q3 Prel.
				(In percent of GDP)								
Total revenue and grants	24.6	20.8	16.7	22.2	18.6	12.5	18.9	17.0	23.0	18.9	12.5	16.4
Total revenue	16.0	18.3	16.4	19.7	18.2	12.3	17.6	16.1	20.5	18.9	12.3	15.8
Current revenue	15.8	17.9	16.1	18.8	16.5	10.2	15.6	14.3	20.1	18.8	12.3	15.7
Tax revenue	14.5	13.6	14.6	17.7	15.3	9.6	13.4	13.0	16.4	14.8	10.2	12.8
Income tax	5.6	5.4	4.4	5.0	3.5	2.2	2.7	3.0	4.2	3.1	1.6	2.5
VAT	4.4	4.3	4.4	5.9	5.4	4.1	6.8	5.5	6.2	6.5	4.9	5.6
Customs & Excise	1.9	1.8	2.7	2.9	2.8	1.3	1.8	2.0	3.0	2.7	1.8	2.3
Land tax	0.1	0.5	0.5	0.5	0.4	0.6	0.6	0.5	0.7	0.7	0.8	0.7
Road tax and Extraordinary Fund 1/	1.6	0.5	1.3	1.4	1.1	0.9	1.0	1.1	1.6	1.4	0.8	1.1
Other 2/	0.9	1.1	1.4	1.9	2.1	0.5	0.4	0.9	0.7	0.4	0.3	0.4
Nontax revenue	1.3	4.2	1.5	1.2	1.2	0.6	2.2	1.3	3.7	4.1	2.0	2.9
Capital revenue	0.2	0.4	0.3	0.9	1.7	2.0	2.1	1.8	0.4	0.1	0.0	0.1
Grants	8.6	2.5	0.3	2.5	0.4	0.2	1.3	0.9	2.4	0.0	0.2	0.6
Total expenditure	39.1	28.5	30.2	29.6	25.7	17.4	25.8	23.3	29.5	29.1	16.5	22.7
Current expenditure	30.0	22.9	25.8	23.9	24.6	16.8	26.4	22.3	29.8	28.1	15.5	21.9
Wages 3/	5.2	8.7	10.3	7.8	8.6	6.3	8.0	7.5	9.0	10.5	4.5	7.1
Transfers 4/	16.9	6.8	5.3	2.7	2.6	2.5	4.1	3.1	2.3	3.2	0.7	1.7
Social Fund	0.0	0.6	0.6	0.5	1.2	1.3	1.8	1.3	1.7	1.6	0.9	1.3
Interest (including FINSAC)	0.7	0.2	0.4	1.0	1.3	1.0	1.7	1.3	2.5	2.4	1.3	1.9
Other	7.2	6.5	9.2	11.9	11.0	5.7	10.9	9.2	14.2	10.4	8.2	10.0
Net lending	8.8	4.7	3.4	5.1	0.6	0.3	-1.4	0.4	-1.1	0.3	0.2	0.0
Capital investment	0.5	1.0	1.0	0.6	0.6	0.3	0.8	0.6	0.8	0.7	0.7	0.7
Surplus(+) / Deficit (-)	-14.4	-7.7	-13.5	-7.4	-7.1	-4.9	-6.9	-6.3	-6.5	-10.2	-4.0	-6.2
Total financing	14.4	7.7	13.5	7.4	7.1	4.9	6.9	6.3	6.5	10.2	4.0	6.2
External financing	12.8	5.9	5.3	3.9	13.0	2.3	0.5	3.9	1.1	12.3	-0.1	3.5
Domestic financing	1.6	1.9	8.2	3.5	-5.9	2.6	6.3	2.4	5.4	-2.1	0.0	2.7
Memorandum items:												
Fiscal savings	-14.0	-4.6	-9.4	-4.1	-6.4	-4.6	-8.7	-6.2	-9.2	-9.1	-3.2	-6.1
Loan financed PIP	...	3.9	3.8	7.7	2.3	2.7	2.6	3.3	5.2	2.6	3.3	3.5
Of which												
German loan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.1
Turkish loan	6.3	1.6	0.9	0.7	1.2	0.1	0.3	0.5	1.8	0.0	0.1	0.4
Arrears (stock at end period) 6/	...	2.9	1.9	2.6	3.3	2.0	0.8	0.8	0.8	0.6	1.0	1.0
Education expenditure	4.2	5.9	6.5	5.1	7.1	4.5	5.8	5.5	5.8	7.3	3.1	4.8
Health expenditure	2.6	3.2	3.7	3.4	4.1	2.5	3.6	3.3	3.4	3.7	2.0	2.8

Sources: Kyrgyz authorities; and Fund staff estimates.

1/ Both turnover taxes.

2/ Includes right-to-trade and other small taxes on forest and water resources.

3/ Includes social contributions.

4/ Includes UCB, student stipends, military pensions and housing subsidies.

5/ In 1993 and 1994, drawdown of counterpart funds and deposits are accounted together.

6/ Includes wage, transfers and pension arrears. The GDP ratio is calculated relative to the full calendar year GDP, in contrast to the other GDP ratios that are relative to that period's GDP.

Table 20. Kyrgyz Republic: Government Revenues, 1993-97

	1993	1994	1995					1996					1997			
			Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1 Prel.	Q2 Prel.	Q3 Prel.	Q1-Q3 Prel.
								(In million of soms)								
Total revenue and grants	1,318	2,503	523	619	744	817	2,703	690	762	989	1,385	3,826	939	1,002	1,247	3,188
Total revenue	856	2,201	468	619	744	817	2,648	613	745	973	1,293	3,625	840	1,002	1,231	3,072
Current revenue	848	2,148	453	611	741	794	2,599	585	677	812	1,141	3,216	822	996	1,228	3,046
Tax revenue	776	1,638	408	534	666	755	2,363	549	629	761	983	2,923	672	781	1,026	2,479
Income tax	300	653	138	177	178	220	713	156	143	172	198	669	172	163	157	493
Income tax	72	225	62	61	74	87	284	52	60	83	94	288	75	71	74	221
Profit tax	229	426	72	111	100	131	415	100	81	83	100	365	94	88	79	261
Domestic taxes on goods and services	397	887	241	313	445	493	1,491	354	425	537	704	2,019	474	565	788	1,827
VAT	233	519	116	130	208	251	705	185	223	326	501	1,235	255	342	494	1,092
Retail sales tax 1/	0	53	32	36	50	50	167	41	48	21	5	114	0	0	0	0
Excises	72	173	38	72	98	90	298	57	78	53	55	243	96	90	107	293
Right-to-trade	0	3	2	0	2	2	6	6	7	6	8	27	15	14	19	48
Land tax	4	58	7	12	18	36	73	16	17	47	42	122	31	37	76	144
Road tax	33	62	11	17	25	24	77	13	17	29	21	80	22	25	29	75
Extraordinary Fund	54	0	26	40	38	36	140	30	29	44	56	159	43	47	55	145
Other 2/	0	20	8	7	5	4	24	5	5	11	17	39	13	9	8	30
Customs	31	46	26	38	35	35	134	34	38	53	81	206	26	53	75	153
Other 3/	48	53	4	5	9	6	24	6	24	-1	0	29	0	0	6	6
Nontax revenue	72	509	45	77	75	39	236	36	48	51	158	293	150	215	202	567
Government fees	0	38	12	16	19	22	69	0	0	0	0	81	26	35	11	73
Special resources	0	0	0	0	0	0	0	0	0	0	0	71	64	123	184	370
Arrears collection	0	0	18	31	35	-25	60	5	9	8	6	28	36	24	1	61
Other nontax revenue 4/	72	472	15	30	21	41	107	31	39	43	152	113	24	33	6	63
Capital revenue	9	53	15	8	3	23	49	28	68	162	152	409	18	6	3	26
Grants	462	303	55	0	0	0	55	77	16	16	93	201	99	0	17	116
Memorandum item:																
Nominal GDP	5,355	12,019	2,502	3,040	5,677	4,927	16,145	3,106	4,101	7,926	7,334	22,468	4,088	5,289	10,017	19,394

Table 20. Kyrgyz Republic: Government Revenues, 1993-97, (concluded)

	1993	1994	1995					1996					1997		
			Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1 Prel.	Q2 Prel.	Q3 Prel.
								(In percent of GDP)							
Total revenue and grants	24.6	20.8	20.9	20.4	13.1	16.6	16.7	22.2	18.6	12.5	18.9	17.0	23.0	18.9	12.5
Tax revenue	14.5	13.6	16.3	17.6	11.7	15.3	14.6	17.7	15.3	9.6	13.4	13.0	16.4	14.8	10.2
Income taxes	5.6	5.4	5.5	5.8	3.1	4.5	4.4	5.0	3.5	2.2	2.7	3.0	4.2	3.1	1.6
Income tax	1.3	1.9	2.5	2.0	1.3	1.8	1.8	1.7	1.5	1.0	1.3	1.3	1.8	1.4	0.7
Profit tax	4.3	3.5	2.9	3.7	1.8	2.7	2.6	3.2	2.0	1.0	1.4	1.6	2.3	1.7	0.8
Domestic taxes on goods and services	7.4	7.4	9.6	10.3	7.8	10.0	9.2	11.4	10.4	6.8	9.6	9.0	11.6	10.7	7.9
Of which															
VAT	4.4	4.3	4.6	4.3	3.7	5.1	4.4	5.9	5.4	4.1	6.8	5.5	6.2	6.5	4.9
Retail sales tax 1/	0.0	0.4	1.3	1.2	0.9	1.0	1.0	1.3	1.2	0.3	0.1	0.5	0.0	0.0	0.0
Excises	1.3	1.4	1.5	2.4	1.7	1.8	1.8	1.8	1.9	0.7	0.7	1.1	2.3	1.7	1.1
Customs	0.6	0.4	1.0	1.3	0.6	0.7	0.8	1.1	0.9	0.7	1.1	0.9	0.6	1.0	0.7
Other 2/	0.9	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.6	0.0	0.0	0.1	0.0	0.0	0.1
Nontax revenue	1.3	4.2	1.8	2.5	1.3	0.8	1.5	1.2	1.2	0.6	2.2	1.3	3.7	4.1	2.0
Capital revenue	0.2	0.4	0.6	0.3	0.1	0.5	0.3	0.9	1.7	2.0	2.1	1.8	0.4	0.1	0.0
Grants	8.6	2.5	2.2	0.0	0.0	0.0	0.3	2.5	0.4	0.2	1.3	0.9	2.4	0.0	0.2
								(In percent of revenue)							
Total revenue and grants	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Tax revenue	58.9	65.5	78.0	86.2	89.5	92.5	87.4	79.6	82.6	76.9	71.0	76.4	71.6	77.9	82.2
Income taxes	22.8	26.1	26.4	28.7	23.9	27.0	26.4	22.6	18.8	17.4	14.3	17.5	18.4	16.3	12.6
Income tax	5.4	9.0	11.8	9.9	9.9	10.6	10.5	7.5	7.9	8.4	6.8	7.5	8.0	7.1	5.9
Profit tax	17.3	17.0	13.8	17.9	13.5	16.1	15.3	14.5	10.7	8.4	7.3	9.5	10.0	8.8	6.3
Domestic taxes on goods and services	30.1	35.4	46.0	50.5	59.8	60.4	55.2	51.3	55.8	54.3	50.8	52.8	50.5	56.4	63.2
Of which															
VAT	17.7	20.7	22.2	21.0	27.9	30.8	26.1	26.8	29.3	32.9	36.2	32.3	27.2	34.2	39.6
Retail sales tax 1/	0.0	2.1	6.2	5.8	6.7	6.1	6.2	5.9	6.3	2.1	0.3	3.0	0.0	0.0	0.0
Excises	5.4	6.9	7.3	11.7	13.1	11.0	11.0	8.3	10.3	5.4	4.0	6.4	10.2	9.0	8.6
Customs	2.3	1.8	4.9	6.2	4.7	4.3	5.0	4.9	5.0	5.4	5.8	5.4	2.7	5.3	6.0
Other 2/	3.6	2.1	0.7	0.9	1.2	0.8	0.9	0.9	3.1	-0.1	0.0	0.8	0.0	0.0	0.5
Nontax revenue	5.4	20.4	8.6	12.5	10.0	4.7	8.7	5.2	6.3	5.1	11.4	7.7	15.9	21.5	16.2
Capital revenue	0.7	2.1	2.9	1.3	0.4	2.8	1.8	4.0	8.9	16.3	10.9	10.7	1.9	0.6	0.2
Grants	35.0	12.1	10.5	0.0	0.0	0.0	2.0	11.1	2.1	1.6	6.7	5.3	10.6	0.0	1.3

Sources: Kyrgyz authorities; and Fund staff estimates.

1/ Abolished as of January 1997.

2/ Includes Mineral taxes, water fees and forest fees.

3/ Includes Social ProtectIon tax in 1993 and 1994, productive property tax.

4/ Includes automobile registration, penalties and sanctions.

Table 21. Kyrgyz Republic: Government Expenditure by Functional Classification, 1993-97

	1993	1994	1995					1996 1/					1997			
			Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1 Prel.	Q2 Prel.	Q3 Prel.	Q1-Q3 Prel.
								(In milions of soms)								
Total expenditures	2,091.1	3,431.4	968.3	1,014.0	1,298.2	1,600.7	4,881.2	919.1	1,054.6	1,381.0	1,889.3	5,244.0	1,206.2	1,538.8	1,651.2	4,396.2
General public services	164.3	259.8	74.9	107.1	120.8	59.2	362.0	71.9	159.7	144.0	179.9	555.4	108.2	191.7	247.0	546.9
Defense	38.3	104.9	27.8	26.8	62.2	120.3	237.1	39.2	64.1	95.7	91.9	291.0	68.0	119.9	131.8	319.8
Public order and safety affairs	44.6	168.8	55.4	47.6	117.3	113.8	334.1	66.9	89.0	95.7	152.2	403.8	79.9	88.2	114.5	282.5
Education	224.4	703.9	200.1	267.1	270.8	313.3	1,051.3	157.7	289.9	355.3	425.5	1,228.4	236.5	388.6	306.0	931.0
Health	139.4	386.7	125.1	144.9	132.9	187.5	590.5	107.0	166.6	200.4	264.4	738.4	138.2	198.0	201.7	537.8
Social security and welfare affairs	148.6	367.1	91.5	200.6	224.6	382.6	899.3	83.2	152.0	282.9	367.2	885.0	143.1	199.0	196.1	538.2
Social insurance	122.6	337.4	65.3	153.2	204.1	373.0	795.7	72.6	121.8	261.5	343.5	799.1	128.7	168.7	162.2	459.6
Social security	26.0	29.7	26.2	47.4	20.5	9.6	103.7	10.6	30.2	21.4	23.6	85.9	14.4	30.3	33.9	78.6
Housing and community services	30.7	94.2	24.5	46.5	46.9	64.9	182.8	36.8	58.1	61.6	139.7	296.1	37.8	49.3	76.6	163.7
Recreational, cultural and religious activities	18.2	73.2	28.8	36.1	39.2	23.2	127.3	17.5	35.5	32.1	40.7	125.8	19.5	27.2	34.5	81.1
Energy complex (electricity production)	0.1	0.1	0.3	0.3	0.3	0.3	1.2	...	...	...	...	0.1	0.1	0.2	0.3	0.6
Agriculture, water resources, forestry	236.7	99.2	36.4	28.9	38.5	67.4	171.2	49.7	44.4	37.4	63.8	195.3	21.6	48.2	56.6	126.3
Mining and mineral resources	51.2	41.6	13.5	11.1	17.2	19.2	60.9	14.2	16.2	21.3	7.0	58.7	8.7	9.0	12.4	30.1
Transportation and communication	15.7	67.0	5.0	14.0	19.9	30.9	69.8	11.8	25.1	29.9	35.8	102.5	20.5	3.9	93.7	118.1
Other economic affairs and services	21.8	12.2	5.0	8.0	24.5	12.1	49.7	8.6	15.1	-3.5	14.3	34.6	5.7	11.4	111.8	128.9
Other	957.1	1,052.7	279.8	75.0	183.2	206.0	744.0	254.6	-61.2	28.3	106.9	328.9	318.4	204.3	68.3	591.1
Interest payments	36.5	24.2	0.0	32.5	14.1	21.3	67.9	32.1	51.9	78.9	121.4	284.3	104.1	128.4	132.8	365.3
Foreign interest payments	2.4	24.2	0.0	30.3	10.4	17.8	58.5	27.1	47.1	66.3	62.7	203.2	67.7	71.4	44.3	183.4
Domestic interest payments	34.1	0.0	0.0	2.2	3.7	3.5	9.4	5.0	4.8	12.6	58.7	81.1	36.4	57.0	88.5	181.9
Net lending 2/	473.7	562.6	176.4	53.8	148.7	177.1	556.0	158.1	22.9	25.7	-106.2	100.5	-45.0	17.9	24.9	-2.2
Unspecified expenditures	446.9	465.9	103.4	-11.3	20.4	7.6	120.1	64.5	-136.0	-76.4	91.7	-55.9	259.3	58.0	-89.4	228.0
Memorandum items:																
Public investment program	...	469	...	...	...	...	610	240	95	215	189	739	211	137	329	677
Nominal GDP	5,355	12,019	2,502	3,040	5,677	4,927	16,145	3,106	4,101	7,926	7,334	22,468	4,088	5,289	10,017	19,394

Table 21. Kyrgyz Republic: Government Expenditure by Functional Classification, 1993-97, (concluded)

	1993	1994	1995					1996 1/					1997			
			Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1 Prel.	Q2 Prel.	Q3 Prel.	Q1-Q3 Prel.
								(In percent of GDP)								
Total expenditures	39.1	28.5	38.7	33.4	22.9	32.5	30.2	29.6	25.7	17.4	25.8	23.3	29.5	29.1	16.5	22.7
General public services	3.1	2.2	3.0	3.5	2.1	1.2	2.2	2.3	3.9	1.8	2.5	2.5	2.6	3.6	2.5	2.8
Defence	0.7	0.9	1.1	0.9	1.1	2.4	1.5	1.3	1.6	1.2	1.3	1.3	1.7	2.3	1.3	1.6
Public order and safety affairs	0.8	1.4	2.2	1.6	2.1	2.3	2.1	2.2	2.2	1.2	2.1	1.8	2.0	1.7	1.1	1.5
Education	4.2	5.9	8.0	8.8	4.8	6.4	6.5	5.1	7.1	4.5	5.8	5.5	5.8	7.3	3.1	4.8
Health	2.6	3.2	5.0	4.8	2.3	3.8	3.7	3.4	4.1	2.5	3.6	3.3	3.4	3.7	2.0	2.8
Social security and welfare affairs	2.8	3.1	3.7	6.6	4.0	7.8	5.6	2.7	3.7	3.6	5.0	3.9	3.5	3.8	2.0	2.8
Social insurance	2.3	2.8	2.6	5.0	3.6	7.6	4.9	2.3	3.0	3.3	4.7	3.6	3.1	3.2	1.6	2.4
Social security	0.5	0.2	1.0	1.6	0.4	0.2	0.6	0.3	0.7	0.3	0.3	0.4	0.4	0.6	0.3	0.4
Housing and community services	0.6	0.8	1.0	1.5	0.8	1.3	1.1	1.2	1.4	0.8	1.9	1.3	0.9	0.9	0.8	0.8
Recreational, cultural and religious activities	0.3	0.6	1.2	1.2	0.7	0.5	0.8	0.6	0.9	0.4	0.6	0.6	0.5	0.5	0.3	0.4
Agriculture, water resources, forestry	4.4	0.8	1.5	0.9	0.7	1.4	1.1	1.6	1.1	0.5	0.9	0.9	0.5	0.9	0.6	0.7
Mining and mineral resources	1.0	0.3	0.5	0.4	0.3	0.4	0.4	0.5	0.4	0.3	0.1	0.3	0.2	0.2	0.1	0.2
Transportation and communication	0.3	0.6	0.2	0.5	0.3	0.6	0.4	0.4	0.6	0.4	0.5	0.5	0.5	0.1	0.9	0.6
Other economic affairs and services	0.4	0.1	0.2	0.3	0.4	0.2	0.3	0.3	0.4	0.0	0.2	0.2	0.1	0.2	1.1	0.7
Other	17.9	8.8	11.2	2.5	3.2	4.2	4.6	8.2	-1.5	0.4	1.5	1.5	7.8	3.9	0.7	3.0
								(In percent of expenditure)								
Total expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
General public services	7.9	7.6	7.7	10.6	9.3	3.7	7.4	7.8	15.1	10.4	9.5	10.6	9.0	12.5	15.0	12.4
Defence	1.8	3.1	2.9	2.6	4.8	7.5	4.9	4.3	6.1	6.9	4.9	5.5	5.6	7.8	8.0	7.3
Public order and safety affairs	2.1	4.9	5.7	4.7	9.0	7.1	6.8	7.3	8.4	6.9	8.1	7.7	6.6	5.7	6.9	6.4
Education	10.7	20.5	20.7	26.3	20.9	19.6	21.5	17.2	27.5	25.7	22.5	23.4	19.6	25.3	18.5	21.2
Health	6.7	11.3	12.9	14.3	10.2	11.7	12.1	11.6	15.8	14.5	14.0	14.1	11.5	12.9	12.2	12.2
Social security and welfare affairs	7.1	10.7	9.5	19.8	17.3	23.9	18.4	9.1	14.4	20.5	19.4	16.9	11.9	12.9	11.9	12.2
Social insurance	5.9	9.8	6.7	15.1	15.7	23.3	16.3	7.9	11.5	18.9	18.2	15.2	10.7	11.0	9.8	10.5
Social security	1.2	0.9	2.7	4.7	1.6	0.6	2.1	1.2	2.9	1.5	1.3	1.6	1.2	2.0	2.1	1.8
Housing and community services	1.5	2.7	2.5	4.6	3.6	4.1	3.7	4.0	5.5	4.5	7.4	5.6	3.1	3.2	4.6	3.7
Recreational, cultural and religious activities	0.9	2.1	3.0	3.6	3.0	1.4	2.6	1.9	3.4	2.3	2.2	2.4	1.6	1.8	2.1	1.8
Agriculture, water resources, forestry	11.3	2.9	3.8	2.8	3.0	4.2	3.5	5.4	4.2	2.7	3.4	3.7	1.8	3.1	3.4	2.9
Mining and mineral resources	2.4	1.2	1.4	1.1	1.3	1.2	1.2	1.5	1.5	1.5	0.4	1.1	0.7	0.6	0.8	0.7
Transportation and communication	0.8	2.0	0.5	1.4	1.5	1.9	1.4	1.3	2.4	2.2	1.9	2.0	1.7	0.3	5.7	2.7
Other economic affairs and services	1.0	0.4	0.5	0.8	1.9	0.8	1.0	0.9	1.4	-0.3	0.8	0.7	0.5	0.7	6.8	2.9
Other	45.8	30.7	28.9	7.4	14.1	12.9	15.2	27.7	-5.8	2.0	5.7	6.3	26.4	13.3	4.1	13.4

Sources: Kyrgyz authorities; and Fund staff estimates.

1/ Includes special resources for functional categories starting in 1996.

2/ Includes loans to agriculture and loans from Turkey.

Table 22. Kyrgyz Republic: Social Fund Financial Accounts, 1994-96

	1994	1995	1996
		(In millions of soms)	
Revenues	712.3	1,313.3	1,868.9
Pension Fund	597.4	1,106.7	1,600.5
Contributions	483.2	905.0	1,014.7
Budget payments (mandated transfers)	37.5	111.1	104.3
Government subsidy	76.8	90.6	293.0
Arrears collection	...	...	188.5
Social insurance Fund	86.8	154.6	202.0
Employment Fund	28.1	51.9	66.4
Expenditure	742.4	1,345.5	1,948.3
Pension Fund	622.5	1208.8	1,783.5
Of which			
Budget transfers	37.531	111.1	104.3
Of which			
Payments of arrears	...	...	32.2
Social insurance Fund	108.1	103.0	105.8
Employment Fund	11.8	33.7	59.0
Deficit	-30.1	-32.2	-79.4
Pension Fund	-25.1	-102.1	-183.0
Social insurance Fund	-21.3	51.6	96.2
Employment Fund	16.3	18.2	7.4
Arrears (generated during the year)	...	...	79.4
		(In percent of GDP)	
Revenues	5.9	8.1	8.3
Pension Fund	5.0	6.9	7.1
Contributions	4.0	5.6	4.5
Budget payments (mandated transfers)	0.3	0.7	0.5
Government subsidy	0.6	0.6	1.3
Social insurance Fund	0.7	1.0	0.9
Employment Fund	0.2	0.3	0.3
Expenditure	6.2	8.3	8.7
Pension Fund	5.2	7.5	7.9
Social insurance Fund	0.9	0.6	0.5
Employment Fund	0.1	0.2	0.3
Deficit	-0.3	-0.2	-0.4
Pension Fund	-0.2	-0.6	-0.8
Social insurance Fund	-0.2	0.3	0.4
Employment Fund	0.1	0.1	0.0
Arrears (new)	...	...	0.4

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 23. Kyrgyz Republic: Balance of Payments, 1994-96

(In millions of U.S. dollars)

	1994	1995	1996
Current account balance 1/	-124.2	-242.2	-418.2
Trade balance	-119.0	-179.0	-362.7
Exports, fob	339.9	409.0	531.1
CIS countries	222.8	269.3	393.9
Energy	72.6	45.5	78.0
Other	150.2	223.8	315.9
Other countries (including Baltics)	117.1	139.7	137.2
Of which			
Kumtor gold project	0.0	0.0	0.0
Imports, fob	458.9	588.0	893.8
CIS countries	264.0	346.4	484.9
Energy	183.2	180.6	234.9
Other	80.8	165.8	250.0
Of which			
Kumtor	0.0	23.7	30.4
Other countries (including Baltics)	194.9	241.6	408.9
Of which			
Kumtor	0.0	20.7	46.7
Services (net)	-34.6	-141.8	-149.4
Of which			
Technical assistance	-29.5	-45.3	-44.8
Interest (net)	-17.4	-28.6	-32.6
Kumtor services	0.0	-69.8	-77.4
Transfers (net)	29.4	78.6	93.9
Official (net)	75.4	98.6	117.1
Private	-46.0	-20.0	-23.2
Capital account balance	158.3	248.5	368.3
Direct foreign investment	44.9	96.1	46.3
Of which			
Kumtor	0.0	92.5	-2.3
Medium-and long-term loans, net	108.6	200.0	309.7
Disbursement	109.2	272.2	360.2
CIS countries	10.6	0.0	0.0
Others (including Baltics)	98.6	272.2	360.2
Of which			
Kumtor	0.0	89.7	197.6
Amortization	0.6	72.2	50.5
Commercial banks	4.8	-3.3	-0.5
Accounts held abroad and other assets	0.0	-44.3	12.8
Errors and omissions and short term capital	21.6	-86.3	37.1
Overall balance	55.7	-79.8	-12.7
Financing	-55.7	79.8	12.7
Gross official reserves (- increase) 2/	-32.1	0.3	-20.1
IMF	13.8	46.6	19.6
Purchases and disbursements	13.8	46.6	23.5
Repurchases and repayments	0.0	0.0	-3.9
Accumulation of arrears	11.7	30.8	-41.0
CIS	10.2	29.3	-41.0
Others (including Baltics)	1.5	1.5	0.0
Interrepublican enterprise arrears 3/	-31.2	-0.6	-3.9
Debt conversion and rescheduling 4/	-0.2	2.2	58.1
Reduction in NBKR liabilities	-17.7	0.5	0.0
Memorandum items:			
Current account deficit/GDP			
With (kumtor gold project)	-11.2	-16.2	-24.0
Without (kumtor gold project)	-11.2	-8.6	-14.6

Source: Kyrgyz authorities.

1/ Includes both official and private transfers.

2/ Includes monetization of gold.

3/ Represents external payments arrears not guaranteed by the Government.

4/ For 1995, reflects rescheduled payments to Russia of US$32.1 million, and US$6.6 million due to Kazakhstan that were offset against Kyrgyz claims. For 1996, it reflects rescheduled payments to Russia and Turkey.

Table 24. Kyrgyz Republic: Exports of Goods, 1992-96

	1992	1993	1994	1995	1996
	(In millions of U.S. dollars)				
Total exports	288.6	339.6	339.9	408.9	531.1
Industry	280.9	331.4	329.2	366.1	467.3
Electric energy	13.7	23.3	63.5	41.0	73.5
Oil and gas industry	1.1	3.0	6.3	1.4	1.6
Coal industry	4.6	5.1	2.8	3.1	3.5
Ferrous metallurgy	4.7	41.2	9.3	10.4	9.7
Nonferrous metallurgy	49.3	37.0	52.2	62.7	80.8
Chemical and petrochemical	6.1	5.4	6.7	20.3	26.8
Machine building	100.7	87.1	33.7	44.5	50.7
Lumber and paper	3.5	1.8	1.2	1.8	2.0
Industrial construction materials	6.5	13.4	17.6	11.6	12.1
Light industry	67.0	64.4	77.8	82.6	90.2
Food industry	17.8	47.3	56.3	82.8	111.7
Other industry	5.9	2.4	1.8	3.8	4.7
Agriculture	3.7	8.1	10.6	42.9	63.8
Other	4.0	0.2	0.1	0.0	0.0
	(In percent of total)				
Total exports	100.0	100.0	100.0	100.0	100.0
Industry	97.3	96.6	96.8	89.5	88.0
Electric energy	4.8	6.9	18.7	10.0	13.8
Oil and gas industry	0.4	0.9	1.9	0.3	0.3
Coal industry	1.6	1.5	0.8	0.8	0.7
Ferrous metallurgy	1.6	12.1	2.7	2.5	1.8
Nonferrous metallurgy	17.1	10.9	15.4	15.3	15.2
Chemical and petrochemical	2.1	1.6	2.0	5.0	5.0
Machine building	34.9	25.7	9.9	10.9	9.5
Lumber and paper	1.2	0.5	0.3	0.4	0.4
Industrial construction materials	2.3	3.9	5.2	2.8	2.4
Light industry	23.2	19.0	22.9	20.2	17.0
Food industry	6.2	13.9	16.6	20.3	21.0
Other industry	2.0	0.7	0.5	0.9	0.9
Agriculture	1.3	2.4	3.1	10.5	12.0
Other	1.4	0.0	0.0	0.0	0.0

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 25. Kyrgyz Republic: Imports of Goods, 1992-96

	1992	1993	1994	1995	1996
	(In millions of U.S. dollars)				
Total imports (f.o.b.)	377.0	365.3	315.8	522.3	893.8
Industry	345.6	352.0	287.8	505.3	840.3
Electric energy	0.0	0.0	0.0	8.6	26.7
Oil and gas industry	88.5	157.6	96.6	162.4	182.3
Coal industry	9.6	13.4	30.7	17.0	25.1
Ferrous metallurgy	19.4	21.0	7.7	17.8	8.9
Nonferrous metallurgy	11.4	11.0	4.5	11.2	21.9
Chemical and petrochemical	44.3	20.0	19.3	30.1	58.2
Machine building	80.7	51.1	58.0	103.6	225.1
Lumber and paper	9.7	10.5	5.0	19.8	47.5
Industrial construction materials	3.3	4.1	4.9	10.1	30.2
Light industry	35.2	23.1	17.3	23.2	59.6
Food industry	40.5	38.9	42.4	96.7	137.6
Other industry	3.0	1.1	1.4	4.8	17.2
Agriculture	30.9	13.0	27.8	17.0	53.5
Other	0.5	0.3	0.2	0.0	0.0
	(In percent of total)				
Total imports	100.0	100.0	100.0	100.0	100.0
Industry	91.7	96.3	91.1	96.8	94.0
Electric energy	0.0	0.0	0.0	1.9	3.0
Oil and gas industry	23.5	43.1	30.6	31.1	20.4
Coal industry	2.5	3.7	9.7	3.3	2.8
Ferrous metallurgy	5.1	5.7	2.4	3.4	1.0
Nonferrous metallurgy	3.0	3.0	1.4	2.1	2.5
Chemical and petrochemical	11.8	5.5	6.1	5.8	6.5
Machine building	21.4	14.0	18.4	19.8	25.2
Lumber and paper	2.6	2.9	1.6	3.8	5.3
Industrial construction materials	0.9	1.1	1.5	1.9	3.4
Light industry	9.3	6.3	5.5	4.4	6.7
Food industry	10.7	10.7	13.4	18.5	15.3
Other industry	0.8	0.3	0.4	0.9	1.8
Agriculture	8.2	3.6	8.8	3.3	6.0
Other	0.1	0.1	0.1	0.0	0.0

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 26. Kyrgyz Republic: Exports of Goods to CIS Countries, 1992-96

	1992	1993	1994	1995	1996
	(In millions of U.S. dollars)				
Total exports	212.1	227.5	222.8	269.2	393.9
Industry	208.3	222.7	218.8	231.1	333.5
Electric energy	13.7	23.3	63.5	41.0	73.5
Oil and gas industry	1.1	3.0	6.3	1.5	1.6
Coal industry	4.6	5.1	2.8	3.1	3.5
Ferrous metallurgy	0.8	0.5	0.3	3.0	3.8
Nonferrous metallurgy	9.9	8.1	4.8	11.9	24.4
Chemical and petrochemical	3.0	1.8	5.2	9.1	14.9
Machine building	94.4	64.7	32.8	39.5	47.3
Lumber and paper	1.4	1.3	1.1	1.3	1.7
Industrial construction materials	6.5	12.8	17.4	11.4	11.8
Light industry	50.9	55.2	29.7	28.2	38.5
Food industry	16.1	44.5	53.1	77.9	108.1
Other industry	5.9	2.4	1.8	3.3	4.4
Agriculture	3.6	4.5	3.9	38.2	60.4
Other	0.3	0.2	0.1	0.0	0.0
		(In percent of total)			
Total exports	100.0	100.0	100.0	100.0	100.0
Industry	98.2	97.9	98.2	85.8	84.7
Electric energy	6.5	10.2	28.5	15.2	18.7
Oil and gas industry	0.5	1.3	2.8	0.6	0.4
Coal industry	2.1	2.2	1.3	1.2	0.9
Ferrous metallurgy	0.4	0.2	0.1	1.1	1.0
Nonferrous metallurgy	4.7	3.6	2.2	4.4	6.2
Chemical and petrochemical	1.4	0.7	2.3	3.4	3.8
Machine building	44.5	28.4	14.7	14.7	12.0
Lumber and paper	0.6	0.6	0.5	0.4	0.4
Industrial construction materials	3.1	5.6	7.8	4.2	3.0
Light industry	24.0	24.3	13.3	10.5	9.8
Food industry	7.6	19.6	23.8	28.9	27.4
Other industry	2.8	1.1	0.8	1.2	1.1
Agriculture	1.7	2.0	1.7	14.2	15.3
Other	0.1	0.1	0.0	0.0	0.0

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 27. Kyrgyz Republic: Imports of Goods from CIS Countries, 1992-96

	1992	1993	1994	1995	1996
	(In millions of U.S. dollars)				
Imports from CIS (f.o.b.)	303.6	316.6	208.3	353.5	484.9
Industry	286.5	305.4	206.8	349.8	476.2
Electric energy	0.0	0.0	0.0	8.6	26.7
Oil and gas industry	88.5	157.6	96.1	159.9	164.2
Coal industry	9.6	13.4	30.7	17.0	25.1
Ferrous metallurgy	19.3	20.8	7.6	16.3	8.1
Nonferrous metallurgy	11.3	11.0	4.5	10.1	19.6
Chemical and petrochemical	32.5	18.7	13.6	22.8	31.2
Machine building	75.7	44.1	22.8	46.6	80.4
Lumber and paper	9.2	9.7	4.4	15.8	34.1
Industrial construction materials	3.3	3.8	4.2	8.2	16.3
Light industry	20.3	13.0	10.8	16.0	32.8
Food industry	13.7	12.5	11.8	25.2	30.1
Other industry	3.0	0.8	0.4	3.5	7.6
Agriculture	16.7	10.9	1.4	3.8	8.7
Other	0.5	0.3	0.2	0.0	0.0
	(In percent of total)				
Total Imports	100.0	100.0	100.0	100.0	100.0
Industry	94.3	96.4	99.3	99.0	98.3
Electric energy	0.0	0.0	0.0	2.4	5.5
Oil and gas industry	29.2	49.8	46.1	45.2	33.9
Coal industry	3.2	4.2	14.7	4.8	5.2
Ferrous metallurgy	6.3	6.6	3.6	4.6	1.7
Nonferrous metallurgy	3.7	3.5	2.2	2.9	4.0
Chemical and petrochemical	10.7	5.9	6.5	6.4	6.4
Machine building	24.9	13.9	10.9	13.2	16.6
Lumber and paper	3.0	3.1	2.1	4.5	7.0
Industrial construction materials	1.1	1.2	2.0	2.3	3.4
Light industry	6.7	4.1	5.2	4.5	6.8
Food industry	4.5	3.9	5.7	7.1	6.2
Other industry	1.0	0.2	0.2	1.0	1.6
Agriculture	5.5	3.5	0.7	1	1.7
Other	0.2	0.1	0.1	0.0	0.0

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 28. Kyrgyz Republic: Direction of Trade with CIS Countries, 1993-96
(In millions of U.S. dollars)

	1993			1994			1995			1996		
	Imports	Exports	Trade balance	Imports	Exports	Trade balance	Imports	Exports	Trade balance	Imports	Exports	Trade balance
Total	316.6	217.5	-89.1	208.3	222.8	14.5	353.5	269.2	-84.3	484.9	393.9	-91.0
Russia	147.5	105.9	-46.1	69.2	58.2	-11.0	114.3	104.8	-9.5	178.2	161.8	-16.4
Ukraine	6.4	13.1	6.7	3.0	9.0	6.0	4.9	8.3	3.4	7.5	10.4	2.9
Belarus	2.9	4.5	1.6	2.5	3.8	1.2	5.0	5.0	...	8.9	8.6	-0.3
Uzbekistan	54.2	22.1	-32.1	62.4	44.8	-17.6	88.9	70.0	-18.9	118.6	95.1	-23.5
Kazakhstan	90.4	67.0	-23.4	57.8	96.4	38.6	112.5	66.8	-45.7	125.7	87.9	-37.8
Georgia	0.6	0.3	-0.4	0.2	0.2	-0.1	0.3	0.7	0.4	1.1	1.4	0.3
Azerbaijan	2.0	3.3	1.3	0.6	1.6	1.0	3.3	2.1	-1.2	3.2	2.0	-1.2
Moldova	0.5	1.0	0.5	0.1	0.5	0.4	0.2	1.0	0.8	0.4	1.1	0.7
Tajikistan	1.4	5.8	4.4	1.1	3.0	2.0	4.8	8.3	3.5	10.2	16.5	6.3
Armenia	0.3	0.1	-0.2	0.0	0.1	0.1	0.6	...	-0.6	5.6	0.2	-5.4
Turkmenistan	6.7	8.1	1.5	9.9	8.4	-1.6	18.6	2.2	-16.4	25.5	8.9	-16.6

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 29. Kyrgyz Republic: Exports of Goods to Other Countries, 1992-96

	1992	1993	1994	1995	1996
	(In millions of U.S. dollars)				
Total exports	76.5	112.2	117.1	139.7	137.2
Industry	72.6	108.7	110.4	135.0	133.8
Ferrous metallurgy	3.9	40.7	9.0	7.4	5.9
Nonferrous metallurgy	39.4	28.9	47.4	50.7	56.4
Chemical and petrochemical	3.1	3.6	1.5	11.2	11.9
Machine building	6.3	22.4	1.0	5.0	3.4
Lumber and paper	2.1	0.4	0.1	0.6	0.3
Industrial construction materials	0.0	0.0	0.6	0.2	0.3
Light industry	16.1	9.2	48.1	54.4	51.7
Food industry	1.7	2.8	3.2	4.9	3.6
Other industry	0.0	...	...	0.6	0.3
Agriculture	0.1	3.5	6.8	4.7	3.4
Other	3.8	0.0	0.0	0.0	0.0
	(In percent of total)				
Total exports	100.0	100.0	100.0	100.0	100.0
Industry	95.0	96.9	94.2	96.6	97.5
Ferrous metallurgy	5.1	36.3	7.7	5.3	4.3
Nonferrous metallurgy	51.5	25.8	40.5	36.3	41.1
Chemical and petrochemical	4.1	3.3	1.3	8.0	8.7
Machine building	8.3	20.0	0.8	3.6	2.5
Lumber and paper	2.8	0.4	0.1	0.4	0.2
Industrial construction materials	0.0	0.0	0.5	0.2	0.1
Light industry	21.1	8.2	41.0	38.9	37.7
Food industry	2.2	2.5	2.7	3.5	2.7
Other industry	0.0	...	...	0.4	0.2
Agriculture	0.2	3.1	5.8	3.4	2.5
Other	5.0	0.0	0.0	0.0	0.0

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 30. Kyrgyz Republic: Imports of Goods from Other Countries, 1992-96

	1992	1993	1994	1995	1996
	(In millions of U.S. dollars)				
Total imports (f.o.b.)	73.4	48.7	107.5	168.8	408.9
Industry	59.2	46.6	81.0	155.5	364.1
Electric energy	0.0	0.0	0.0	0.0	0.0
Oil and gas industry	0.0	0.0	0.6	2.6	18.1
Coal industry	0.0	0.0	0.0	0.0	0.0
Ferrous metallurgy	0.1	0.2	0.1	1.5	0.8
Nonferrous metallurgy	0.1	0.1	...	1.1	2.3
Chemical and petrochemical	11.8	1.4	5.7	7.3	27.0
Machine building	5.0	7.0	35.2	57.0	144.7
Lumber and paper	0.6	0.8	0.5	4.0	13.4
Industrial construction materials	0.0	0.3	0.7	1.9	13.9
Light industry	14.9	10.1	6.5	7.2	26.8
Food industry	26.7	26.4	30.7	71.6	107.5
Other industry	0.0	0.3	1.0	1.4	9.6
Agriculture	14.2	2.1	26.4	13.3	44.8
Other	0.0	0.0	0.0	0.0	0.0
	(In percent of total)				
Total imports	100.0	100.0	100.0	100.0	100.0
Industry	80.7	95.7	75.4	92.1	89.0
Electric energy	0.0	0.0	0.0	0.0	0.0
Oil and gas industry	0.0	0.0	0.0	1.5	4.4
Coal industry	0.0	0.0	0.0	0.0	0.0
Ferrous metallurgy	0.1	0.4	0.1	0.9	0.2
Nonferrous metallurgy	0.1	0.1	...	0.7	0.6
Chemical and petrochemical	16.1	2.8	5.3	4.3	6.6
Machine building	6.8	14.3	32.7	33.8	35.3
Lumber and paper	0.8	1.6	0.5	2.4	3.3
Industrial construction materials	0.0	0.6	0.7	1.1	3.4
Light industry	20.3	20.8	6.1	4.3	6.6
Food industry	36.4	54.3	28.5	42.4	26.3
Other industry	0.0	0.7	0.9	0.8	2.3
Agriculture	19.3	4.3	24.6	7.9	11.0
Other	0.0	0.0	0.0	0.0	0.0

Sources: Kyrgyz authorities; and Fund staff estimates.

Table 31. Kyrgyz Republic: Direction of Trade with Other Countries, 1994-96
(In millions of U.S. dollars)

	1994	1995	1996
		Exports	
Total	117.1	139.7	137.2
China	56.7	68.5	73.1
United Kingdom	29.3	27.4	25.6
United States	0.6	4.0	1.8
France	2.2	3.6	3.8
Turkey	4.0	3.2	3.6
Italy	1.8	2.9	2.7
Germany	6.4	2.1	2.3
Poland	0.6	1.3	0.5
Other	15.5	26.7	23.8
		Imports	
Total	107.5	168.8	408.9
Turkey	14.4	38.3	50.5
Cuba	11.4	22.7	60.2
United States	3.5	19.1	44.6
Germany	6.8	18.7	21.9
Japan	2.8	7.2	15.2
China	10.8	6.3	20.6
Canada	1.6	5.9	17.6
Other	56.2	50.6	178.3

Source: Data provided by the Kyrgyz authorities.
1/ Import data for 1994 and 1995 do not incorporate estimate of unrecorded imports.

Table 32. Kyrgyz Republic: Production, Imports and Exports of Energy Products, 1991-96

	1991	1992	1993	1994	1995	1996 Prel.
1. Natural gas (million m3)						
Domestic production	83.2	72.4	41.6	39.0	36.0	26.0
Imports	2,128.5	1,815.4	1,363.2	856.1	846.6	1,027.3
Exports	55.1	12.2	0.0	10.1	0.0	0.0
2. Liquefied gas (thousand tons)						
Domestic production	0.0	0.0	0.0	0.0	0.0	0.0
Imports	132.7	75.2	35.4	4.8	9.5	18.8
Exports	0.0	0.0	0.0	0.0	0.0	0.0
3. Coal (thousand tons)						
Domestic production	3,473.0	2,151.0	1,721.0	793.0	413.0	432.0
Imports	2,107.6	1,338.6	1,028.4	1,355.4	499.7	737.8
Exports	1,230.6	1,024.5	531.2	170.6	170.6	192.6
4. Petroleum products (thousand tons)						
Domestic production						
Crude petroleum	142.7	113.0	87.6	88.2	88.5	84.0
Gasoline	0.0	0.0	0.0	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0	0.0	0.0	0.0
Mazut	0.0	0.0	0.0	0.0	0.0	0.0
Imports						
Crude petroleum	0.0	0.0	0.0	0.0	2.9	161.3
Gasoline	624.6	296.0	272.5	81.8	231.0	174.4
Kerosene	349.0	60.5	16.3	12.1	62.2	75.0
Mazut	885.0	498.3	254.8	94.6	92.0	165.3
Exports						
Crude petroleum	0.0	0.0	0.0	0.0	24.6	2.1
Gasoline	14.1	4.7	0.1	0.5	0.5	0.8
Kerosene	0.1	0.0	0.0	0.0	0.0	0.0
Mazut	0.0	0.2	0.0	0.3	0.0	0.0

Source: Kyrgyz authorities.

Table 33. Kyrgyz Republic: External Public Debt, 1994-96 1/
(In millions of U.S. dollars)

	1994	1995	1996
Debt outstanding	413.8	584.7	752.6
Multilateral	161.5	300.9	447.5
Concessional	70.8	234.0	348.1
IDA	57.2	139.6	204.0
ESAF	13.6	60.4	83.9
Others	0.0	34.0	60.2
Non-concessional	90.7	66.9	99.4
IBRD	0.0	0.0	0.0
IMF	62.9	66.6	62.7
Others	27.8	0.3	36.7
Bilateral	252.3	283.8	305.1
CIS	181.0	167.5	156.8
Non-CIS	71.3	116.3	148.3
Concessional	41.0	78.9	107.3
Non-concessional	30.3	37.4	41.0
Disbursements	122.8	207.7	174.0
Multilateral	50.2	162.7	142.1
Concessional	50.2	162.7	116.1
IDA	36.6	82.4	64.4
ESAF	13.6	46.3	23.5
Others	0.0	34.0	28.2
Non-concessional	0.0	0.0	26.0
IBRD	0.0	0.0	0.0
IMF	0.0	0.0	0.0
Others	0.0	0.0	26.0
Bilateral	72.6	45.0	31.9
CIS	10.5	0.0	0.0
Non-CIS	62.1	45.0	31.9
Concessional	41.0	37.9	23.0
Non-concessional	21.1	7.1	8.9
Interest payments due	17.4	22.2	22.1
Multilateral	6.0	6.4	5.4
IDA/IBRD	0.2	0.6	0.4
IMF	3.2	3.9	3.1
Others	2.6	1.9	1.9
Bilateral	11.4	15.8	16.7
CIS	10.6	13.9	9.7
Non-CIS	0.8	1.9	7.0
Amortization due	0.6	37.3	54.4
Multilateral	0.0	0.0	3.9
IDA/IBRD	0.0	0.0	0.0
IMF	0.0	0.0	3.9
Others	0.0	29.4	0.0
Bilateral	0.6	37.3	50.5
CIS	0.0	37.3	49.1
Non-CIS	0.6	0.0	1.4

Sources: Kyrgyz authorities; and Fund staff calculations.

1/ Includes only public and publicly guaranteed debt.