



National Bank of the Kyrgyz Republic

THE FINANCIAL SECTOR STABILITY REPORT OF THE KYRGYZ REPUBLIC

H1 2012

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Other publications of the National Bank of the Kyrgyz Republic

Annual Report of the National Bank of the Kyrgyz Republic

This publication is the report of the National Bank of the Kyrgyz Republic (the NBKR) for the past year. It contains a summary of economic development of the republic and a monetary policy, financial reporting of the NBKR, an overview of NBKR activity, and statistical annexes. It is published in three languages: Kyrgyz, Russian and English.

Bulletin of the National Bank of the Kyrgyz Republic

This monthly information publication contains the statistical data on key macroeconomic indicators and economic sectors of the Kyrgyz Republic. It is published in three languages: Kyrgyz, Russian and English.

Balance of Payments of the Kyrgyz Republic

“The Balance of Payments of the Kyrgyz Republic” reflects development trends of the external sector and information about the balance of payments, foreign trade, international reserves, foreign debt and the international investment position of the Kyrgyz Republic. It is published quarterly in January, May, July, and October in Kyrgyz, Russian, and English.

Review of Inflation in the Kyrgyz Republic

The publication describes a consumer price behavior in the country and regions, an analysis of main factors of inflation, informs of monetary policy decisions of the National Bank of the Kyrgyz Republic, and provides an inflation forecast for the coming period. It is published quarterly in Kyrgyz, Russian and English.

Press Release of the National Bank of the Kyrgyz Republic

“Press Release of the NBKR” contains a chronicle of events related to the NBKR and the banking system, the basic weekly financial market data and other information for the media, businesses and individuals. It is published weekly in Kyrgyz and Russian languages.

Regulations of the National Bank of the Kyrgyz Republic

The publication is intended for official publication of NBKR regulations to provide regulatory documents and information to commercial banks and the public on activities of the NBKR, and to popularize the banking legislation of the Kyrgyz Republic. It is commonly published once a month in Kyrgyz and Russian.

Preamble

The National Bank of the Kyrgyz Republic has prepared the first Financial Sector Stability Report of the Kyrgyz Republic (hereinafter – the Report). The Report concludes the issue of the regular publication on development trends of the banking system. In order to maintain the continuity of information, this publication is consolidated into the Report.

Financial stability is a harmonious and smooth functioning of the financial system and its elements (financial institutions, markets, payment systems), which allows performing its proper functions. An essential condition for achieving and maintaining financial stability is that of the adequate regulatory policy pursued by the public authorities and the rational economic behavior of the population, as well as the reasonable risk-oriented financial policy of each institution of financial intermediation.

The Report is targeted to inform the public about risks, threats, and imbalances, identified in the economy, which could adversely affect the financial intermediation in general.

This Report, which reflects an overall assessment of the National Bank with regard to foreign and domestic economic factors affecting financial stability, state banks and other institutions of financial intermediation, as well as the analysis of the current state of financial markets and financial sector stability in Kyrgyzstan, have been prepared as the first step in the analysis of financial stability.

Results of the financial stability monitoring and analysis by the National Bank of the Kyrgyz Republic are taken into account when forming main NBKR monetary policy directions, and when developing a development strategy for financial institutions of the Kyrgyz Republic.

The Financial Sector Stability Report of the Kyrgyz Republic is oriented to financial market participants, as well as to the audience interested in financial stability.

Contents

| | |
|--|-----------|
| I. Brief Review | 7 |
| II. Financial Sector Economic Links with Other Sectors of the Economy | 11 |
| 2.1. Banking Sector Economic links with the Sectors of the Economy | 11 |
| 2.2. Economic Links of Non-Bank Financial Institutions with the Sectors of the Economy | 12 |
| III. Macroeconomic Risks..... | 14 |
| 3.1. External Conditions Governing Financial Stability..... | 14 |
| 3.2. Domestic Economic Conditions in the Kyrgyz Republic..... | 21 |
| 3.2.1. Main Economic Imbalances | 21 |
| 3.2.2. Current Economic Climate of Kyrgyzstan | 23 |
| 3.3. Corporate Sector..... | 31 |
| 3.4. Household Sector | 37 |
| 3.5. Real Estate Market | 42 |
| IV. Financial Condition and Stability of the Financial Sector | 45 |
| 4.1. Financial Sector Structure | 45 |
| 4.2. Banking Sector | 47 |
| 4.2.1. Banking Sector Structure..... | 47 |
| 4.2.2. Main Banking Sector Problems, Risks, Threats and Vulnerabilities. | 52 |
| 4.3. Other Financial Companies | 70 |
| 4.4. Payment Systems | 75 |
| V. Financial Market Conditions..... | 79 |
| 5.1. Foreign Exchange Market Condition..... | 79 |
| 5.2. Money Market Condition..... | 81 |
| 5.3. Securities Market Condition..... | 82 |
| Methodology of Analysis of Individual Financial Stability Issues | 85 |
| Glossary and Abbreviations | 89 |

List of Boxes

Box 1. Risk Assessment Map 10

Box 2. Savings and Investment in the Kyrgyz Republic 27

Box 3. Corporate Sector Financial Stability Risk Distribution 35

Box 4. Transition Matrix-Based Loan Portfolio Quality Review. 54

Box 5. Z-Score Methodology-Based Stability Review of the Banking Sector 65

Box 6. Stress-Testing Based on Credit Risk Modeling. 66

Box 7. Rating Methodology of Systemic Risk Dissemination via Interbank Links. 66

Box 8. Index Concentration-Based Banking Sector Stability Review. 66

Box 9. Banking Sector Stability Review based on Liquidity, Profitability and Leverage. 67

Box 10. Comparative Analysis of Interest Rates and Financial Intermediation Indicators in Russia, Kazakhstan and Kyrgyzstan 67

I. Brief Review¹

Despite the global financial and economic crisis and socio-political events in the country, the financial sector of the Kyrgyz Republic, as a whole, showed certain resistance to both external and internal shocks. This is related not only to a certain safety margin in the financial sector, but also to the relative isolation and low integration into global financial markets.

Overall, despite the presence of external and internal risks in the macroeconomic environment, the financial sector remained a relatively stable and lucrative sector of the economy in the period under review.

External conditions determining financial stability.

Kyrgyzstan is the small open economy vulnerable to shocks in the global markets, especially in the markets of food and raw materials. Kyrgyzstan's economy is largely dependent on changes in the economic situation in Russia, Kazakhstan and China.

Due to the continued trend of increased dependence of the economy of Kyrgyzstan on the socio-economic situation of the major trading partners (the share of the three countries in total exports of the Kyrgyz Republic is 49.1 percent, total imports is 63.5 percent, in public foreign debt is 29.0 percent and in private non-guaranteed foreign debt is 39.2 percent), the risks of food and energy security of Kyrgyzstan increase.

A slowdown in the growth of global economy, dependence on world markets, the debt crisis in the euro area, as well as the growth of credit risks at the present time are the main risks to the growth of economies of Russia, Kazakhstan and China.

Furthermore, a significant impact on the vulnerability and the development of the banking sector may be made by the prospect associated with the entry of the Kyrgyz Republic into the Customs Union, and the reduction of re-exports of goods to the Customs Union from Kyrgyzstan.

Economic conditions in Kyrgyzstan.

Savings and Investment in Kyrgyzstan. Savings and investment are key factors of long-term growth of GDP and living standards of the population. The economy of Kyrgyzstan has a gap between savings and investment as a consequence of excess of investment over savings, primarily due to budget deficit in the public sector, as well as the lack of domestic savings. The gap between savings and investment is covered by the use of foreign savings, and is reflected as a current account deficit.

The presence of “twin deficit” of the state budget and the current account led to the predominance of external funding (about 70 percent) of the private sector over the domestic one (about 30 percent) in the economy, while characterizing the Kyrgyz economy as a net borrower in relation to the rest of the world.

Main Risk Factors of the Kyrgyz Economy. Major imbalances in the economy of Kyrgyzstan are unstable economic growth, the deficit of the state budget and the current account, the sizes of public debt and foreign debt of the non-financial corporate sector.

With increasing state budget deficit, increasing import dependence of Kyrgyzstan and growth of deficit of the current account of the balance of payments, debt sustainability of the state and the corporate

¹ The publication was prepared on the basis of official statistics, excluding the shadow economy

sector in the long term could be a threat to the financial stability of the financial sector and the economy as a whole.

Influence of the “Kumtor Gold Company” CJSC. A high ratio of the gold mining “Kumtor Gold Company” CJSC in the country's GDP defined its systemic importance to the country's economic growth. Based on results of 2012, a risk of systemic dependence of the country's economy on the activities of this enterprise materialized. In particular, the reduction in production of the “Kumtor Gold Company” CJSC has caused the fall of economic growth, loss of revenues to the state budget, decline in exports, increase in the trade balance deficit and the current account balance as a whole.

The Corporate Sector. According to the Kyrgyz NSC, half of firms (50.5 percent of the total number of enterprises by the end of 2010²) in the country were not profitable. This may have occurred due to the informal economic activities, which occupy a significant share of the economy according to various estimates.

At the same time, a low level of reinvestment was noted among the profitable enterprises due to the trend of distribution of most of the profits between the owners of corporations.

A sustained increase in domestic and foreign debt of the corporate sector remains. Against this background, debt sustainability (gross debt to GDP ratio is 33.1 percent) of the corporate sector may threaten the solvency of the corporate sector in the long term. This, in turn, increases the credit risks for the banking sector, given that the corporate sector is still the main creditor and the borrower of the banking sector. Growth of foreign debt of firms occurs due to a faster pace of external financing over the domestic one in connection with the high interest rates in Kyrgyzstan compared to foreign capital markets.

Households. Households serve as the net borrower of the banking sector (loans granted to individuals exceeded the deposits from the population over the past five years, an average of 32 percent). A positive aspect for the banking system is the surplus of households' income over their spending, which led to some increase in population's savings.

Consumer focus (on average, 85-87 percent of gross income, including remittances, was sent for consumer spending³) and low propensity to save dominate in the economic behavior of households. This is related not only to the relatively low standard of living, but also to the culture (conducting of costly events, etc.). At the same time, households with high incomes increase costs for prestigious, elite consumption at a very low level of consumption by a considerable part of the population (with relatively low incomes). High consumption of certain social groups reduces aggregate savings fund and mutual lending of economic sectors.

The consumer behavior of the population also helps stimulate consumer imports into the country. The stimulation level of imports of consumer goods depends on the level of remittances from Kyrgyz migrant workers working abroad.

The Real Estate Market. At the present time, the risk to the financial sector by the real estate market is moderate. This is due to the underdeveloped mortgage lending in Kyrgyzstan and continuing decline of the share of mortgage loans in the loan portfolio of banks. At the same time, the fall in real estate prices may adversely affect the value of the mortgaged real estate in the assets of the banks.

² Recent data from the NSC of the Kyrgyz Republic

³ According to the Kyrgyz NSC integrated sample survey of household budgets and manpower and the ABD household surveys on remittances and poverty in the Kyrgyz Republic.

Main trends, risks and problems in the financial sector.

Banking Sector. Abovementioned external and internal risks in the macroeconomic environment directly or indirectly affect the financial sector in Kyrgyzstan.

Commercial banks continue to play a central role in financial intermediation of Kyrgyzstan in institutional terms, outperforming other financial intermediaries by economic potential.

A conservative lending policy of commercial banks is explained by high credit risks associated with macroeconomic risks (including political risks), and the low level of financial penetration, weak competitive environment in the banking sector and insufficient liquidity management. This is evidenced by the growth of excess liquidity in banks.

Against this background, the high level of demand for loans of the banking sector is not ensured by the adequate supply of loans. As a result, the growth of deposits is not fully transformed into the expansion of lending to the real sector.

There is high concentration of loans (short-and long-term), and concentration of bad loans in the retail industry. In this connection, vulnerability of the quality of banks' loan portfolio increases in Kyrgyzstan's accession to the Customs Union.

The volumes of foreign debt of commercial banks are moderate and do not endanger financial stability of the banking sector.

Thus, as a result of noted risks and problems in the banking sector for the enhancement of stability of the domestic banking system, increased competition in the banking sector, as well as increased efforts towards the implementation of elements of risk-based supervision in the National Bank of the Kyrgyz Republic, become relevant.

Other Financial Companies. Non-bank financial institutions outpace commercial banks by the pace of growth of the loan portfolio in the system of financial intermediation.

Concentration of loans in the agricultural sector and dependence on climatic conditions are still the risks to the portfolio of non-bank financial institutions. In addition, most of the loan portfolio is concentrated in the regions (the share of the total loan portfolio of NBFIs for the regions is 70.4 percent), where overall welfare is lower than in Bishkek and Chui region, and dependence on remittances is higher.

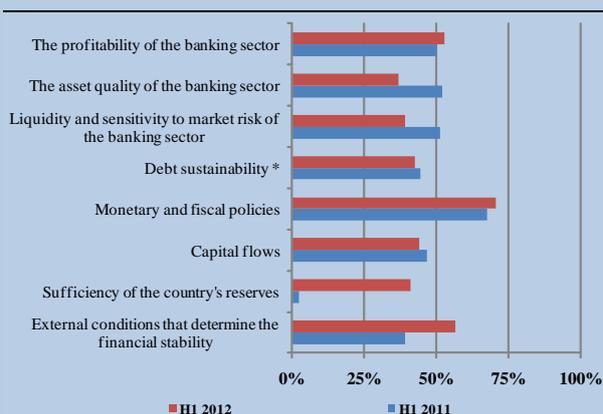
These risks, as well as the decline of the financial discipline of borrowers, affected a doubling in the share of bad loans of non-bank financial institutions in the reporting period.

Box 1. Risk Assessment Map⁴

The risk assessment map allows regular monitoring and analysis of different vulnerabilities and risks to the stability of the financial sector on the basis of a wide range of macroeconomic and prudential indicators.

As seen from the structured risk assessment map (Graph 1), high risks were observed in the “*Monetary and Fiscal Policy*” group due to the continued steady growth of ratio of public expenditure to GDP, and the increasing ratio of state budget deficit to GDP.

Graph 1. The map of the risk assessment



Source: NBKR, Kyrgyz NSC, NBKR calculations

*data at the end of 2011 was to assess the debt sustainability of the corporate sector in the 1st half of 2012

The structure of indicators of the banking sector shows the continued increase in the dynamics of non-interest expenses to gross income that, in view of a declining ratio of net interest income to gross income, caused the growing risks of “The profitability of the banking sector” group in the 1st half of 2012.

The increase in risks in the “Environmental conditions determining financial stability” is due to lower oil prices and a slowdown in the Chinese economy in the 1st half of 2012, which is one of the main trade partners of the Kyrgyz Republic.

One should also note an increase in risks in the “Adequacy of the Country’s Reserves”

group in connection with a reduced ratio of gross international reserves to imports in the 1st half of 2012.

The general dynamics for other groups was characterized by a reduction of risks in the 1st half of 2012 compared to the same period of 2011.

⁴ The methodology is presented in the appendix to Box 1 in the “Methodology of Analysis of Individual Financial Stability Issues” section

II. Financial Sector Economic Links with Other Sectors of the Economy

2.1. Banking Sector Economic links with the Sectors of the Economy

With the Non-Financial Corporate Sector

The non-financial corporate sector is a major borrower of commercial banks and the main owner of bank accounts. At the end of the first half of 2012, banking assets in the corporate sector amounted to 30.6 percent of total bank assets. Assets of banks in the corporate sector are the loans granted to non-financial companies. The share of loans of this type in the loan portfolio of the banks totaled 59.9 percent in the first half of 2012. There is a decline in the value of the marked figure due to the prevalence of cheaper external financing.

The structure of banking sector's liabilities to the corporate sector includes demand deposits and time deposits of non-financial enterprises. In the total liabilities of banks, deposits of the corporate sector amounted to 30.9 percent at the end of the first half of 2012. The share of the corporate sector in the total deposit base of banks formed at 41.4 percent. At the same time, the bulk of deposits accounted for demand deposits, forcing commercial banks to keep high liquidity reserves.

With the Household Sector

Households are the second largest creditors and borrowers of commercial banks after the corporate sector. At the end of the first half of 2012, banking assets in the household sector accounted for 16.8 percent of total bank assets. Assets of banks in the population are loans to households, whose share constituted 36.9 percent in the loan portfolio of the banks in the first half of 2012.

At the end of the period under review, banks' liabilities to the population formed at 28.2 percent of total liabilities of the banking sector. Liabilities of banks to households represent a deposit base, consisting of available funds (savings) of the population, which is one of the main sources of financing of the lending to the economy. Thus, the share of household deposits in total deposits of banks totaled 37.8 percent. At the same time, if we ignore the demand deposits, households are the largest domestic investors in the banking sector.

Since deposits are one of the main channels of the relationship between the sectors, the high share of households in banks' deposits could be a serious risk for the banks in the event of a mass early withdrawal of deposits by the population. Lack of confidence of households in the banking sector in terms of volume of investment of their savings slows the development of financial intermediation and banking in general.

Households' relationships with the banks also pass through the participation in the capital of the banking sector (the share capital of individuals).

Besides that, an additional channel of relationship is the formation of individual financial indicators of commercial banks (for example, net income, profit). Thus, interest income on loans to households constitutes 36.3 percent of the total income of banks on granted loans. Non-interest income, in particular, fee income from servicing the transactions, including the fee for money transfers from labor migrants, constitute 21.4 percent.

Thus, changes in the financial condition of households directly affect financial stability of the banking sector.

With the Public Sector

Relationships of banks with the public sector are weaker compared to the corporate sector and households. As of the end of the first half of 2012, banks owned assets in the public sector in the amount of 6.7 percent of total banking assets.

In the liabilities structure of banks, 11.5 percent of the total volume accounts for the public sector and most of which was deposits of the public sector. At the same time, deposits of the public sector are mainly funds of the Social Fund of the Kyrgyz Republic (45.3 percent).

The presence of state in the capital of the banking sector is significant and totaled 34.0 percent of paid-up equity capital of commercial banks. At the same time, 100 percent of the share capital in the two commercial banks belongs to the state.

Also, an important channel of the relationship is the government securities market, the principal members of which are commercial banks.

With the Real Estate Market

The main channel of relationships of the banking sector with the real estate market is bank mortgages and construction financing. In addition, fixed assets and collateral in the form of real estate are on the bank's balance sheet.

As of the end of the first half of 2012, the total amount of mortgage loans and loans for the construction amounted to KGS 5.1 billion (14.6 percent of the total loan portfolio).

The share of non-financial assets (fixed assets and real estate of the borrowers) in the asset structure of the banking sector amounted to 6.2 percent at the end of the 1st half of 2012.

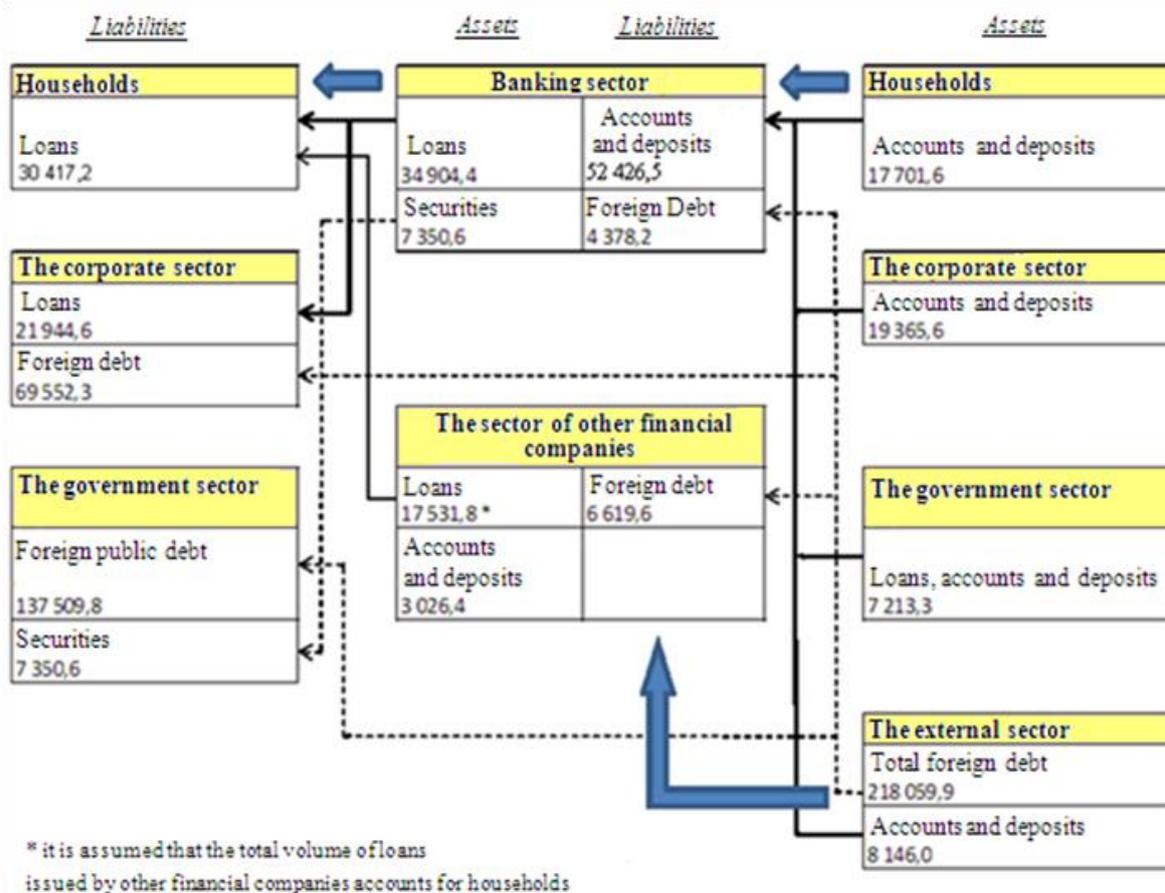
2.2. Economic Links of Non-Bank Financial Institutions with the Sectors of the Economy

Assets of non-bank financial institutions in the population are loans granted to the agricultural sector and consumer loans. Their share in the loan portfolio totaled 51.8 percent. 29.8 percent of the loan portfolio of non-bank financial institutions is concentrated in the retail industry. At the same time, financial presence of the banking sector of non-bank financial institutions is not significant.

A major part of the liabilities of non-bank financial institutions in the first half of 2012 is presented in the form of debt to non-residents by 94.2 percent. In particular, more than 80 percent of the liabilities of non-bank financial institutions to non-residents was funded by international financial institutions. A small part (0.6 percent) of liabilities of NBFIs is expressed in deposits of households and the corporate sector.

Graph 2.2.1. Financial assets and liabilities by sectors at the end of the first half of 2012

mln. KGS



Source: NBKR, Kyrgyz NSC, NBKR calculations

III. Macroeconomic Risks

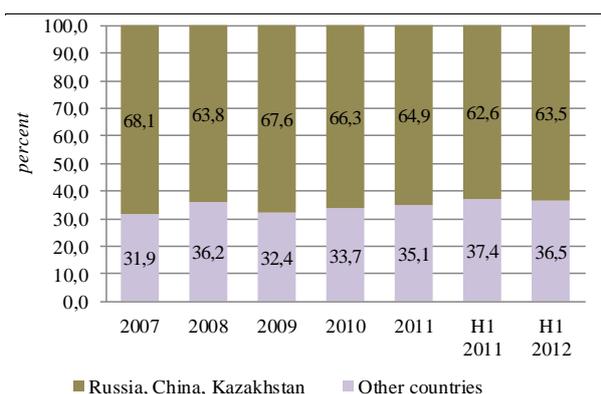
3.1. External Conditions Governing Financial Stability

Economics of major trade and economic partners of Kyrgyzstan maintained high growth rates to a greater degree due to high energy prices. Main risks to economic growth of Russia, Kazakhstan and China are dependency on the situation in world commodity markets, slowdown of the world economy, debt crisis in the euro area, as well as growth of the credit risk. One of the main risk factors of the increase in global inflation is acceleration of growth of prices for agricultural products. In addition, increased risks of a rise in prices of petroleum products also have a significant impact on the evolving dynamics of inflation.

Economic impact

Foreign Trade with Russia, Kazakhstan and China

Graph 3.1.1. The geographic structure of imports to Kyrgyzstan

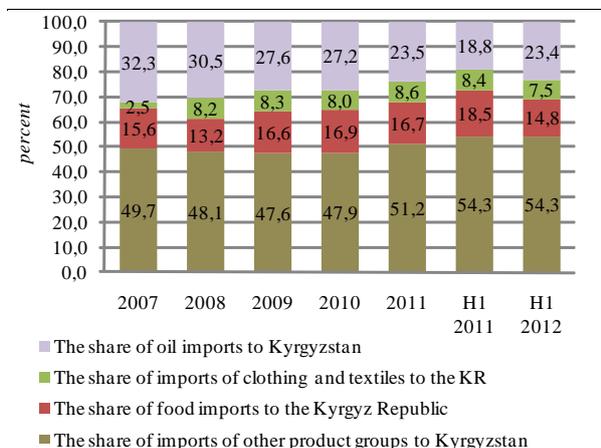


Source: Kyrgyz NSC

Main trading partners of the Kyrgyz Republic are still Russia, Kazakhstan and China. Based on the 1st half of 2012, total imports from Russia, Kazakhstan and China amounted to 63.5 percent (USD 1,478.5 million) of total imports in the Kyrgyz Republic.

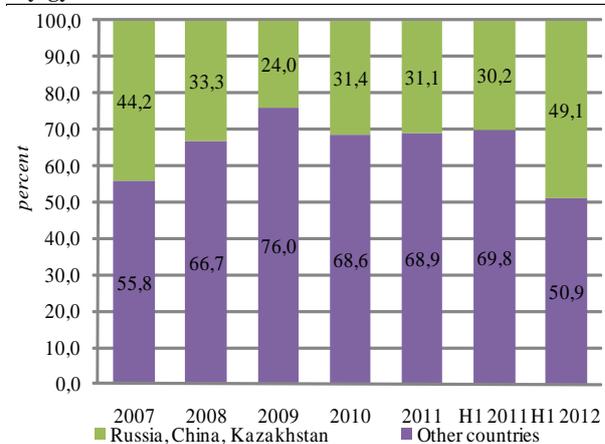
Strategically important commodity groups for the Kyrgyz Republic are petroleum products (Russia), food products (Kazakhstan), clothing and textiles (China). On average, about half of imports to Kyrgyzstan account for the above-mentioned commodity groups. The dominance of imports from the aforementioned countries poses risks to food and energy security and dependence of Kyrgyzstan on changes in the external environment.

Graph 3.1.2. The structure of imports to Kyrgyzstan by commodity groups



Source: Kyrgyz NSC

Graph 3.1.3. The geographical structure of exports from Kyrgyzstan



Source: Kyrgyz NSC

Most of the exports from Kyrgyzstan (Graph 3.1.3) is also aimed at Russia, Kazakhstan and China. Thus, the total exports to the abovementioned countries in the 1st half of 2012 amounted to 49.1 percent of total exports, or USD 366.2 million.

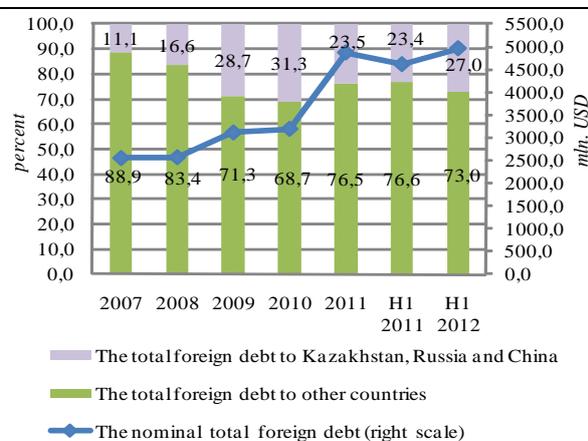
Foreign Investment and Foreign Debt of Kyrgyzstan to Russia, Kazakhstan and China

Graph 3.1.4. The geographical structure of foreign investment from Russia, Kazakhstan and China as of the end of the period



Source: Kyrgyz NSC

Graph 3.1.5. The structure of the total foreign debt



Source: Kyrgyz NSC

Another channel of economic influence on Kyrgyzstan is an increasing volume of foreign investment from major trading partners.

At the end of the 1st half of 2012, the volume of foreign investment from Russia, Kazakhstan and China amounted to 32.8 percent of total foreign investment or USD 1,183.4 million.

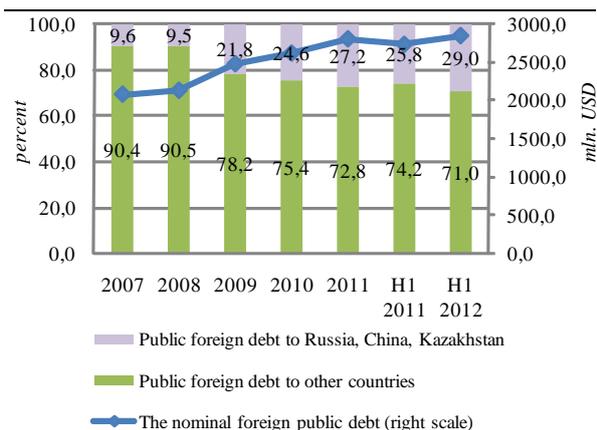
At the same time, foreign direct investment from key partner countries of Kyrgyzstan totaled USD 559.0 million (15.5 percent of total foreign investment) and other foreign investment amounted to USD 852.0 million (23.6 percent of total foreign investment). Portfolio foreign investments occupied a very little share.

In the structure of total foreign debt⁵, 32.8 percent, or USD 1,647.7 million accounted for Russia, Kazakhstan and China at the end of the 1st half of 2012.

There is still growing public foreign debt of Kyrgyzstan to major trading partners. At the end of the 1st half of 2012, in the structure of public foreign debt, which amounted to USD 2,845.1 million, 29.0 percent (there was no public foreign debt to Kazakhstan) accounted for Russia and China.

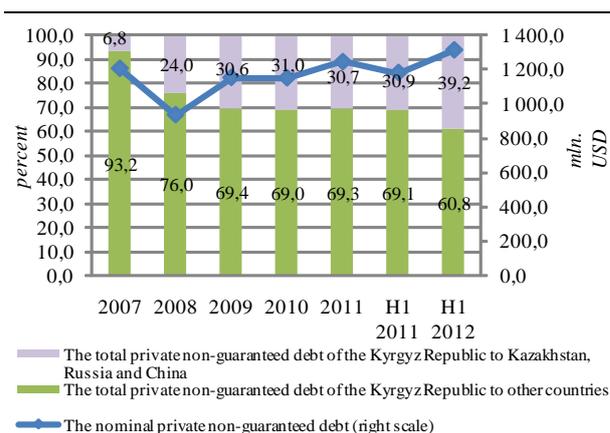
⁵ A total foreign debt is an amount of public foreign debt and private non-guaranteed debt.

Graph 3.1.6. The structure of foreign public debt



Source: Kyrgyz NSC

Graph 3.1.7. The structure of the private non-guaranteed external debt



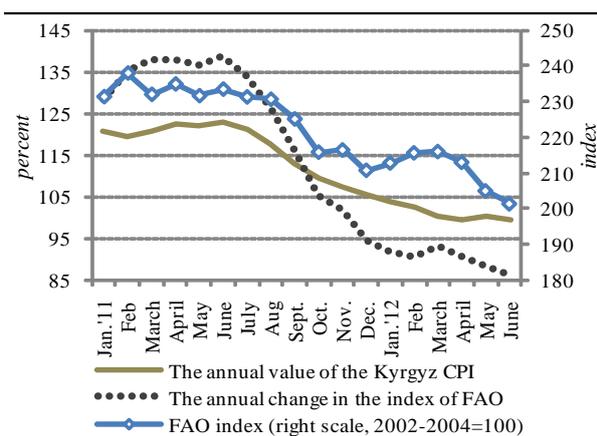
Source: Kyrgyz NSC

The volume of private non-guaranteed foreign debt to Russia, Kazakhstan and China has consistently increased and at the end of the 1st half of 2012 amounted to USD 514.4 million, or 39.2 percent of total private non-guaranteed foreign debt of Kyrgyzstan. Foreign debt of the financial sector in Kyrgyzstan amounted to USD 232.8 million in the period under review. At the same time, debt of the financial sector to the creditors of Russia, Kazakhstan and China amounted to 12.3 percent of the total volume.

Inflation in the World and the Impact on the Kyrgyz Republic

In the 1st half of 2012, inflation in both developed and developing economies declined. At the same time, there were still risks of further slowdown in economic growth left, which led to the need for the central banks of many countries to conduct monetary policies in order to promote economic growth by reducing interest rates. The easing of the monetary policy in many countries is expected before the end of 2012.

Graph 3.1.8. The dynamics of the Kyrgyz CPI and the FAO index



Source: Kyrgyz NSC, Reuters

Based on the 1st half of 2012, average FAO Food Price Index (FAO Index) reached 201 point, having decreased by 9 points (4.4 percent) compared to the beginning of the year.

Since June of this year, the wheat market began showing a significant increase in prices in response to changes in production targets, related with weather problems in the U.S. and other grain-producing regions. As a result, changes in world wheat prices were also reflected in domestic prices in Kyrgyzstan.

The current trend in prices in the grain market does not raise concerns. At the same time, risks of administrative restriction of grain supply in the region have been increasing recently. Thus, the first signal is an actual secret quoting for export of grain from Ukraine. A similar scenario is expected in Russia. If these countries impose restrictions on grain exports, domestic prices in Kyrgyzstan may rise due to the high level of dependence on imports.

IMF global inflation forecasts⁶ for 2012 and 2013 indicate a relatively modest growth in consumer prices: annual inflation for developed countries is projected at 1.7 percent, for Central and Eastern Europe it is projected at 4.8 and 4.0 percent, respectively, and for the CIS it is projected at 7.4 percent. For the upcoming period, the observed rise in prices of agricultural products is considered as one of the major risk factors for inflation. Moreover, increased risks of a rise in prices of petroleum products can also have a significant impact on the evolving dynamics of inflation, especially in the importing countries.

Given the existing relationship between the dynamics of prices for grain, petroleum, products, meat and dairy products, as well as the fact that foodstuffs occupy 46 percent in the consumer basket, favorable conditions for the abovementioned factors will be determining for the price stability in Kyrgyzstan.

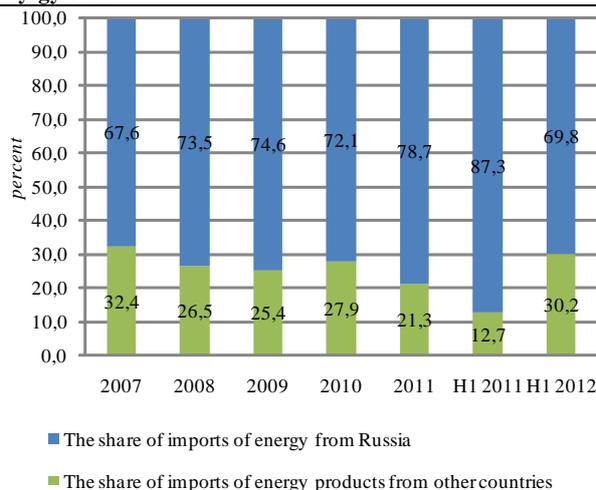
Russia

Macroeconomic Trends in Russia

Russia's economic growth in the 1st half of 2012 totaled 4.5 percent. In the period under review, there was an increase in construction (5.4 percent) and trade (7.1 percent) sectors, whereas manufacturing (4.5 percent) and agriculture (4.2 percent) showed the slowdown due to adverse weather conditions.

For January-June 2012, inflation in Russia constituted 3.2 percent (a similar indicator in 2011 was 5.0 percent) with the annual value constituting 4.3 percent (a similar indicator in 2011 was 9.4 percent).

Graph 3.1.9. The structure of imports of energy products to Kyrgyzstan



Source: Kyrgyz NSC

The volatility of oil prices, fluctuation of the ruble exchange rate and stock markets form risks to financial stability. The main budget parameters are closely linked to energy prices.

In addition, external risks associated with the strengthening of the debt crisis in the euro area have a significant impact on macroeconomic stability in Russia.

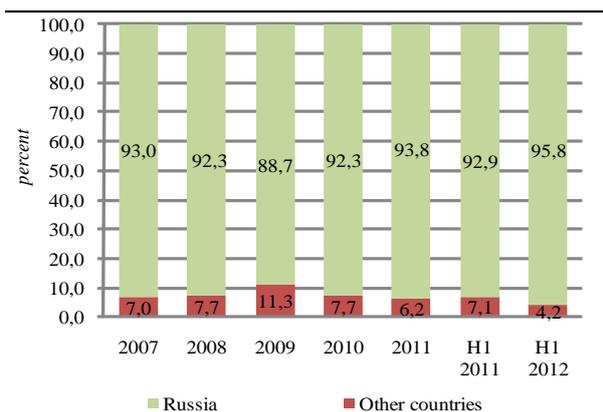
Economic Impact

Russia remains the largest foreign trade partner of Kyrgyzstan. The development of its economy has a significant impact on macroeconomic stability in Kyrgyzstan. The main channels of influence are: a) remittances, b) conditions for the supply of petroleum products, and c) demand for the products of the textile and clothing industry in Kyrgyzstan.

In the 1st half of 2012, 69.8 percent of total imports of petroleum products were supplied from Russia. The price of imported gasoline and diesel fuel is highly correlated with changes in the prices of oil in the world markets and the amount of fees imposed on the export of petroleum products. High import dependence of Kyrgyzstan on Russian energy suppliers could negatively affect the economy of Kyrgyzstan since petroleum products are used in virtually all structurally significant sectors of the economy.

⁶ World Economic Outlook (International Monetary Fund), October 2012

Graph 3.1.10. Remittances to Kyrgyzstan



Source: NBKR

Russia is also a major recipient of migrants from Kyrgyzstan. In the 1st half of 2012, net inflow of remittances of individuals received via money transfer systems from Russia amounted to USD 718.4 million (29.3 percent of GDP), having increased by 18.8 percent compared to the 1st half of 2011. On the one hand, remittances indicate a decrease in unemployment and reduction in social tensions due to migration of the workforce, and on the other hand, they indicate the strengthening of the economy's dependence on the socio-economic situation in Russia and the negative impact on the development of domestic production due to the stimulation of consumer imports.

Kazakhstan

Macroeconomic Trends in Kazakhstan

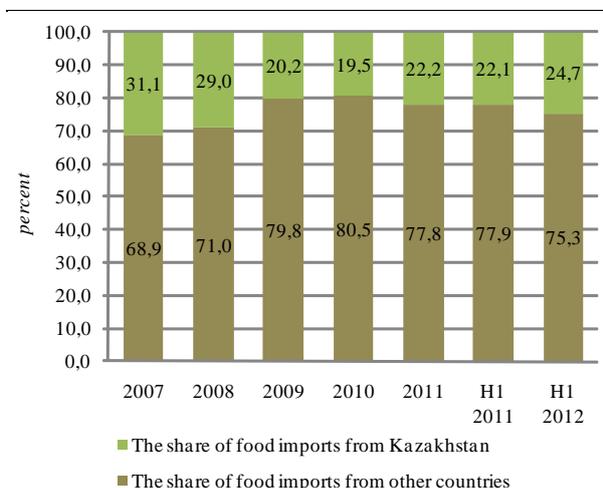
Kazakhstan's economy continues showing relatively high growth rates, which began in 2010, and which are due, above all, to high prices for raw materials. Thus, in the 1st half of 2012, the growth of the country's real GDP was 5.6 percent. Industrial production grew by 1.6 percent compared to January-June of the previous year mainly due to growth in the processing industry (4.4 percent) and electricity (4.6 percent). Adverse weather conditions of 2012 season led to reduction in the volume of gross agricultural production, which has decreased by 6.3 percent.

There has been a slight acceleration of inflation since March 2012. Inflation stood at 5.0 percent in June 2012 on an annualized basis (2.7 percent in December 2011).

The situation in the global commodity markets continued to have a significant impact on the economy of Kazakhstan. The protracted slowdown in world economic growth poses risks of slowing the economic growth in Kazakhstan.

Economic Impact

Graph 3.1.11. The structure of imports of food commodities to Kyrgyzstan



Source: Kyrgyz NSC

Kazakhstan occupies one of the leading places in the structure of foreign trade of Kyrgyzstan. Thus, 29.9 percent of total exports and 10.2 percent of total imports account for Kazakhstan. The dynamic growth of Kazakhstan's economy may have a stimulating effect on some export-oriented industries of Kyrgyzstan.

Kazakhstan is a major supplier of grain, flour and food to Kyrgyzstan. At the end of the 1st half of 2012, 24.7 percent of the total imports of grain and food products in the Kyrgyz Republic accounted for the share of imports of flour and food from Kazakhstan. The domestic prices of food and food security in general depend on an uninterrupted supply of these products.

At the end of the 1st half of 2012, exports from Kyrgyzstan to Kazakhstan totaled USD 222.7 million (29.9 percent of gross exports), which 2 times more is higher than in the 1st half of 2011.

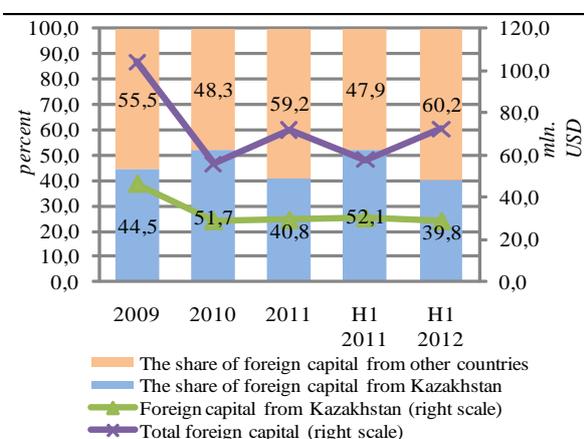
It should also be noted that according to official data, about 100 thousand of Kyrgyz citizens enters Kazakhstan annually⁷, which is also one of the factors of dependence of Kyrgyzstan on the socio-economic situation in Kazakhstan. At the same time, the official registered remittances of individuals received via money transfer systems were insignificant from this country (2.1 percent of the total amount of remittances for the 1st half of 2012).

At the end of the 1st half of 2012, foreign direct investment from Kazakhstan amounted to 8.4 percent of the total foreign direct investment in the Kyrgyz Republic.

Financial Impact

At the end of the 1st half of 2012, Kazakhstan’s banking sector has not fully recovered from the effects of the global financial and economic crisis, as indicated by the relatively high proportion of non-

Graph 3.1.12. The structure of foreign capital of banks



Source: NBKR

performing loans of banks (29.4 percent of the total loan portfolio). The level of reserves to cover potential losses on overdue loans of Kazakh banks totaled 36.0 percent of total loans. At the same time, relatively high rates of economic growth in Kazakhstan and increased lending to the economy by Kazakh banks (16.6 percent) are noted.

However, a significant outflow of capital of Kazakhstan banks from the banking sector of Kyrgyzstan was recorded in 2010, which amounted to 47.1 percent compared to the same indicator in 2009. At the end of the 1st half of 2012, there was a renewed inflow of capital from Kazakhstan. At the same time, the share of foreign capital from Kazakhstan in the joint capital of Kyrgyz banks in the period under review amounted to 15.4 percent. Thus, financial stability of the banking system of Kazakhstan will have certain impact on sustainable development of the banking sector in Kyrgyzstan.

China

Macroeconomic Trends in China

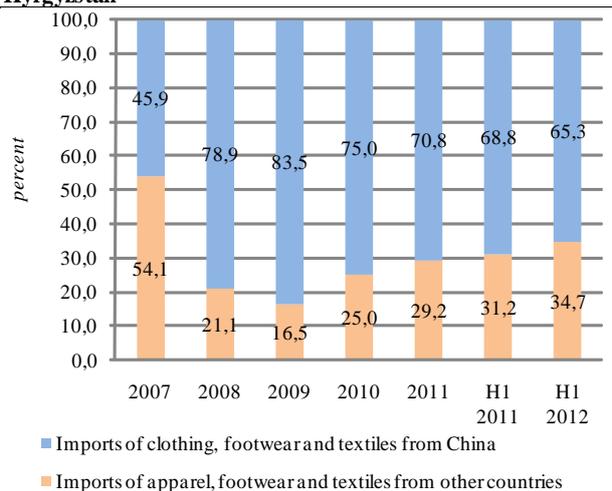
In the 1st half of 2012, China's GDP amounted to 22.7 trillion yuan (USD 3.6 trillion), having increased by 7.8 percent compared to the same period in 2011. Industrial production in constant prices increased by 10.5 percent. The volume of grain harvest amounted to 130.0 million tons, which is by 3.6 million tons (or 2.8 percent) more than in the summer of 2011.

There is a tendency in the country to reduce the rate of price increase. The annual inflation rate in June 2012 constituted 2.2 percent (the same indicator as at end of June 2011 was 6.4 percent).

High dependence of the Chinese economy on exports and foreign direct investment in the light of the deteriorating situation in the global economy, in particular, related to the continuing problems in the euro area and the U.S., could lead to a slower growth of economic performance of China.

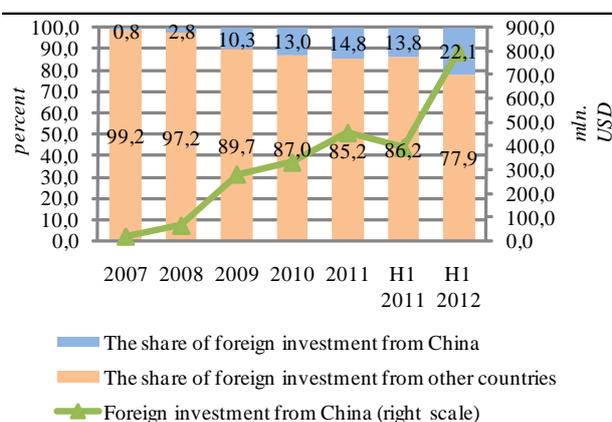
⁷ According to the Ministry of Internal Affairs of Kazakhstan. At the same time, the exact number of migrant workers is unknown, as many work seasonally or move constantly

Graph 3.1.13. Imports of clothing, footwear and textiles to Kyrgyzstan



Source: Kyrgyz NSC

Graph 3.1.14. The geographical structure foreign investment as of the end of the period



Source: Kyrgyz NSC

On international commodity markets, risks of the rise in prices of Chinese imports items such as copper and iron ore widely used in domestic production remain. *The continued growth in commodity prices* may lead to the increase in production costs and, thus, inflation in China.

Economic Impact

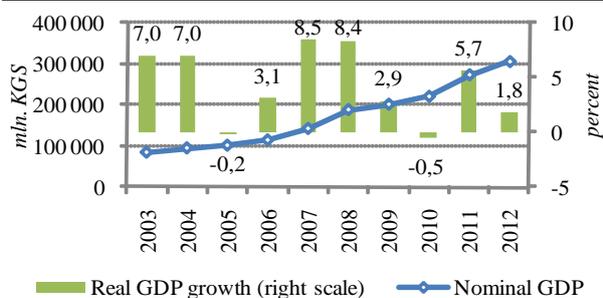
There is continued dependence of the textile industry of Kyrgyzstan on the supply of fabrics and accessories from China. In the structure of imports from China in the 1st half of 2012, 25.0 percent of total imports from China accounted for the share of clothing and fabrics, which accounted for the most (69.8 percent) of the total imports of clothing and fabrics to Kyrgyzstan.

In the period of 2007 – 1st half of 2012, there has been a significant increase in foreign investment from China. At the end of the 1st half of 2012, the volume of foreign investment from China amounted to USD 797.3 million, or 22.1 percent of total foreign investment. Private non-guaranteed foreign debt to China amounted to USD 415.1 million. Public foreign debt to China also increased, constituting USD 335.0 million or 11.8 percent of total public foreign debt as of the end of 1st half of 2012.

3.2. Domestic Economic Conditions in the Kyrgyz Republic

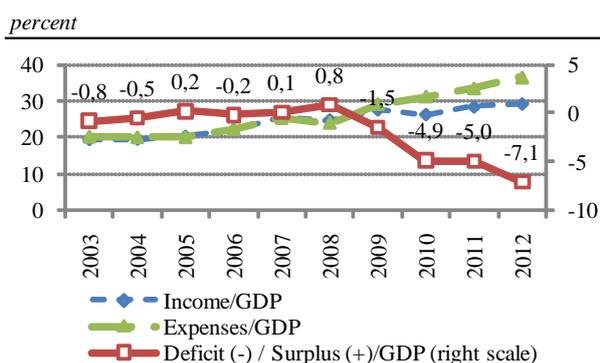
Domestic economic conditions are characterized by a volatile economic growth, high inflation backdrop and foreign debt burden. However, the gap of savings and investment in the Kyrgyz Republic defined by the consumer behavior of the private and public sectors has had a retarding effect on the increase in the level of financial intermediation.

Graph 3.2.1.1. The dynamics of GDP



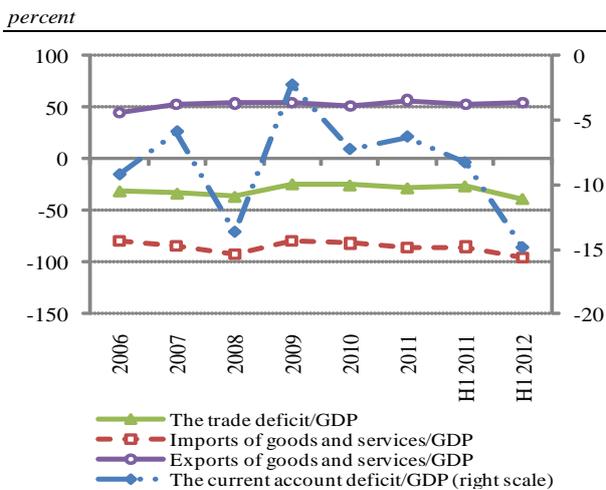
Source: Kyrgyz NSC

Graph 3.2.1.2. Public budget gap



Source: Ministry of Finance of the Kyrgyz Republic

Graph 3.2.1.3. Stability of the balance of payment



Source: NBKR

3.2.1. Main Economic Imbalances⁸

The analysis of the extended time range identified imbalances in many areas of the economy. First of all, one should note imbalances in the economic growth of the Kyrgyz Republic, which are manifested by relatively high volatility of GDP (Graph 3.2.1.1), due to the influence of internal and external social, economic and political factors.

One of the major imbalances in the economy is also growing state budget deficit (Graph 3.2.1.2), which has a negative impact on the gap of national savings and investment, as well as on stability of the country's financial sector.

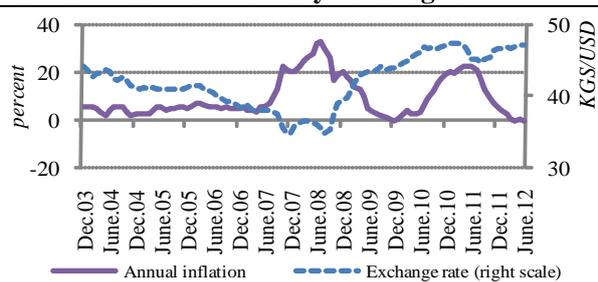
Another problem is the chronic deficit of the current account of the balance of payments, which characterizes the economy of Kyrgyzstan as a net borrower to the rest of the world (Graph 3.2.1.3). The current account deficit is also a result of savings and investment gap.

There are also imbalances in the foreign trade sector as evidenced by indicators of stability of the balance of payment. Thus, the ratio of imports of goods and services to GDP for the period under review increased by 10.4 percentage points relative to the same figure in the first half of 2011. The dynamics of the figure shows increasing economic dependence and reflects strengthening import dependence of the country. It should be noted that the major share accounts for the import of consumer goods and petroleum products, creating significant risks in food and energy security and dependence of Kyrgyzstan on external shocks. The ratio of exports of goods and services to GDP for the period under review increased by 1.7 percentage points relative to the same figure in the first half of 2011. The increase of this increased reflects the growth of the

⁸ In the graphs, data for 2012 are forecast

economy's capacity to compensate for the possible outflow of capital.

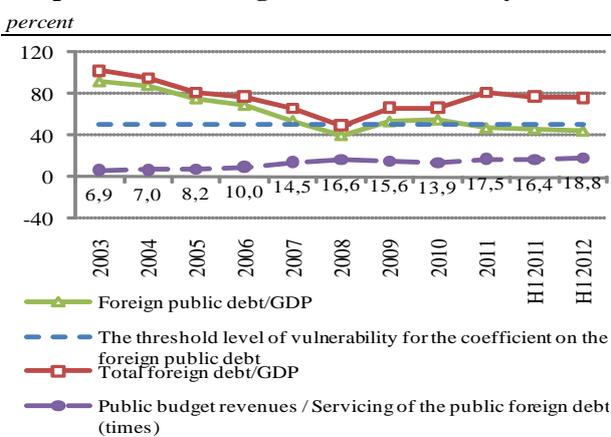
Graph 3.2.1.4. The dynamics of annual inflation and the domestic currency exchange rate



Source: Kyrgyz NSC, NBKR

The growth of loans and the inflow of foreign direct investment in the form of foreign currency put certain pressure on the exchange rate of the domestic currency (Graph 3.2.1.4). As the domestic economy is characterized by high import dependence, depreciation of the exchange rate is one of the factors determining the dynamics of domestic prices of imported goods and, as a consequence, the level of inflation.

Graph 3.2.1.5. Foreign debt sustainability



Source: NBKR

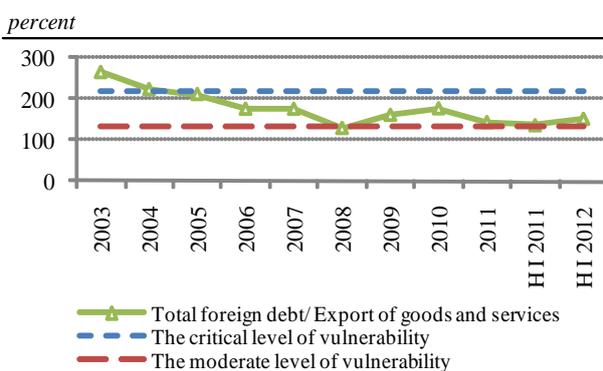
Note: The level of vulnerability on the foreign public debt is defined according to the World Bank estimates at 50 percent of GDP

Risks of Debt Sustainability in Kyrgyzstan.

One should note certain risks of foreign debt sustainability of the country. Thus, in the first half of 2012, there was an increase in ratio of total foreign debt to GDP by 2.9 p.p. compared to the same figure for the first half of 2011 (Graph 3.2.1.5). The ratio of total foreign debt to exports of goods and services, reflecting the risk accumulation of external liabilities, amounted to 151.7 percent, exceeding moderate vulnerability by 19.7 p.p. (Graph 3.2.1.6). The formed dynamics indicates a reduced ability of the country to service its foreign debt. At the same time, the sharp growth of the figure in 2009 is explained by large payments of the

private sector to service foreign debt (Graph 3.2.1.7).

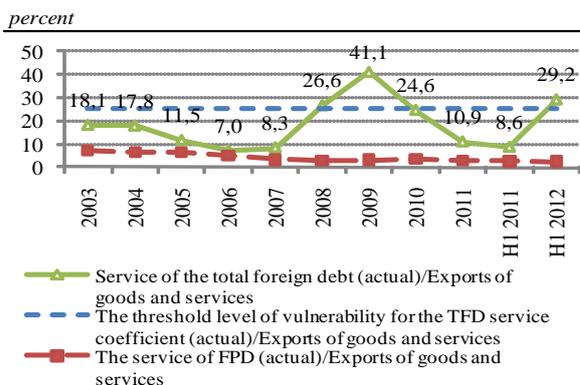
Graph 3.2.1.6. indicators of foreign debt sustainability



Source: NBKR

Note: The levels of vulnerability are determined according to World Bank estimates

Graph 3.2.1.7. Foreign debt sustainability



Source: NBKR

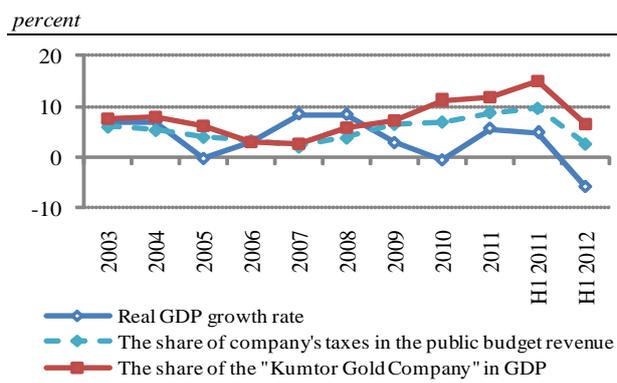
Note: The levels of vulnerability are defined according to the World Bank estimates

In the first half of 2012, the ratio of foreign debt to GDP has not exceeded the threshold of vulnerability, but remained at a sufficiently high level. A high level of public debt implies an increase in the cost of its service, at the same time reducing the domestic financing of the economy. The ratio of the

public foreign debt service to exports of goods and services has formed at a level of 2.5 percent, which is 0.1 p.p. lower than in the first half of 2011. This figure shows the burden of servicing external public debt as a share of revenue from exports, which potentially would have to be spent to pay off foreign debt.

Overall, for the period under review, state revenues exceeded the value of the figure of public foreign debt service 13.2 times on average, which reflects the public sector's ability to service current debt obligations at the expense of state budget revenues.

Graph 3.2.1.8. Indicators of the "Kumtor Gold Company" CJSC



Source: Kyrgyz NSC, the website of the "Kumtor Gold Company" CJSC

"Company" (Graph 3.2.1.8). The share of taxes in the state budget receipts has decreased from 9.7 percent (in the first half of 2011) to 2.8 percent. The company's contribution to GDP relative to the first half of 2011 has also decreased more than two times (in the first half of 2011, the contribution to GDP was 14.9 percent).

Effect of the "Kumtor Gold Company" CJSC on the Kyrgyz Economy.

The strategic company for the economy of the country is still the "Kumtor Gold Company" CJSC. Its work has a systemic effect on the indicators of economic growth, tax revenues to the state budget and social sector.

In the first half of 2012, there was a decline in production on gold deposits compared to the same period last year, which led to a decrease in the real GDP growth rate (up to -5.6 percent) and the amount of tax revenues by the "Kumtor Gold

3.2.2. Current Economic Climate of Kyrgyzstan

Gross Domestic Product.

In the first half of 2012, economic growth in Kyrgyzstan was negative and a decrease in real GDP amounted to -5.6 percent. The main contribution to a decrease in GDP was made by industrial enterprises (-8.1 percentage points), mainly due to a decline in production at the "Kumtor" gold deposit. Services had a positive impact, whose contribution for the period under review amounted to 2.3 percentage points. However, there was a 1.4 percent decrease in the "Financial Activities" segment.

Nominal GDP constituted KGS 114.9 billion. Excluding "Kumtor" gold deposit companies, GDP rose by 3.9 percent in the first half of 2012. According to preliminary data for the first half of 2012, GDP deflator was at the level 13.7 percent against 16.7 percent in January-June 2011.

Table 3.2.2.1. The contribution of individual activities in the growth/ decline in GDP

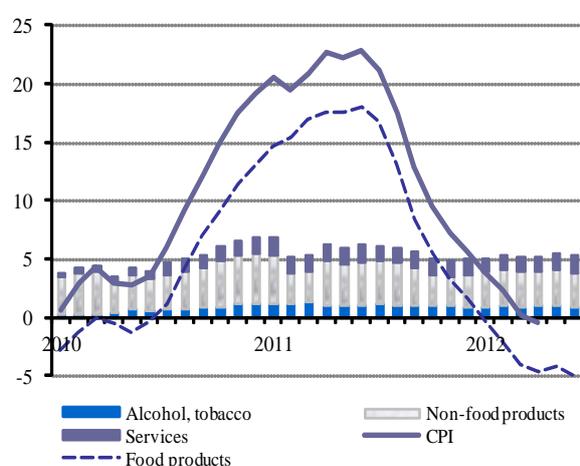
| | Jan.-June 2011 | | Jan.-June 2012 | |
|--|----------------------|------------------------------|----------------------|------------------------------|
| | growth rate, percent | contribution to growth, p.p. | growth rate, percent | contribution to growth, p.p. |
| Gross domestic product | 4.9 | 4.9 | -5.6 | -5.6 |
| Gross value added | 4.9 | 4.3 | -5.6 | -5.0 |
| Agriculture, hunting and forestry | 1.3 | 0.1 | 1.2 | 0.1 |
| Mining | 11.3 | 0.1 | 6.6 | 0.1 |
| Processing | 12.9 | 2.5 | -42.6 | -8.7 |
| Production and distribution of energy, gas and water | 26.8 | 1.1 | 13.0 | 0.5 |
| Construction | -28.4 | -1.4 | 20.0 | 0.7 |
| Trade, repairs | 3.1 | 0.5 | 8.1 | 1.3 |
| Hotels and restaurants | 7.5 | 0.1 | 8.8 | 0.1 |
| Transport and communication | 12.9 | 1.2 | 6.9 | 0.7 |
| Financial activities | 8.1 | 0.0 | -1.4 | 0.0 |
| Real estate, renting | -1.6 | -0.1 | -4.5 | -0.2 |
| Government regulation | 4.6 | 0.2 | 2.6 | 0.2 |
| Education | -1.2 | -0.1 | 5.6 | 0.3 |
| Healthcare and social services | 1.9 | 0.1 | 2.4 | 0.1 |
| Utilities and personal services | 0.2 | 0.0 | -5.0 | -0.1 |
| Net taxes on products | 4.9 | 0.5 | -5.6 | -0.7 |

Source: Kyrgyz NSC

Inflation.

In general, the first half of 2012 was characterized by the decrease in the overall price level in the Kyrgyz Republic on the back of decreased global prices for basic food commodities (grains, oilseeds, sugar). However, in June 2012, amid heightened fears of grain and oilseed harvest in the current year, there has been a significant increase in world wheat prices, which continued in the following months.

Graph 3.2.2.1. Annual dynamics of CPI and its components



Source: Kyrgyz NSC

The annual index of consumer prices in June 2012 (by June 2011) fell by 0.5 percent, while the corresponding figure in 2011 increased by 22.8 percent. In the structure of the CPI basket, the decrease in prices of the food commodities group was 10.3 percent, whereas non-food prices rose by 9.8 percent in annual terms; prices of alcoholic beverages and tobacco products increased by 10.0 percent, and prices of paid services increased by 11.7 percent.

Despite the decline in headline inflation, core inflation has stood at around 10 percent since the beginning of the year, which indicates a continuing high inflation situation in the country.

According to the NSC's publication, the "Bulletin on Food Security and Poverty," import dependence of the economy on food commodities has grown substantially, creating significant risks to domestic food security. Thus, the food balance of Kyrgyzstan for the 2nd quarter of 2012 shows that import dependence for bread products constituted 73.2 percent against 42.4 percent in the same period in 2011 as a result of an extremely poor harvest in the country and, consequently, the increase in imports; for vegetable fats – by 63.9 percent (+14.3 percentage points), for sugar and confectionery products – by 84.4 percent (+8.4 percentage points).

Table 3.2.2.2. Food balance of Kyrgyzstan on basic food

thousand tons

| | Breadstuffs* | | Vegetable oils | | Sugar and confectionery | |
|---|----------------|----------------|----------------|-------------|-------------------------|-------------|
| | II'2011 | II'2012 | II'2011 | II'2012 | II'2011 | II'2012 |
| Received | 1,680.1 | 1,671.2 | 59.7 | 53.6 | 56.3 | 54.9 |
| Stocks at the beginning of the year | 1,453.8 | 1,295.6 | 36.0 | 26.4 | 15.9 | 10.4 |
| Produced in the country | 14.6 | 4.6 | 8.1 | 6.8 | 0.0 | 0.0 |
| Imported | 211.7 | 371.0 | 15.6 | 20.4 | 40.4 | 44.5 |
| Consumption | 1,102.2 | 1,096.1 | 31.4 | 31.9 | 53.5 | 53.0 |
| Expenses for seeds | 76.1 | 87.7 | - | - | - | - |
| For cattle's food | 454.3 | 470.0 | - | - | - | - |
| Losses | 29.1 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Exported | 43.3 | 25.3 | 0.0 | 0.0 | 0.4 | 0.3 |
| Consumption by the population | 499.4 | 506.7 | 31.4 | 31.9 | 53.1 | 52.7 |
| Stocks at the end of the year | 577.9 | 575.1 | 28.3 | 21.7 | 2.8 | 1.9 |
| The share of imports in total consumption, percent | 42.4 | 73.2 | 49.7 | 63.9 | 76.1 | 84.4 |

* calculated as grains

**calculated as sugar

Graph 3.2.2.2. The rate of change in the discount rate of the U.S.

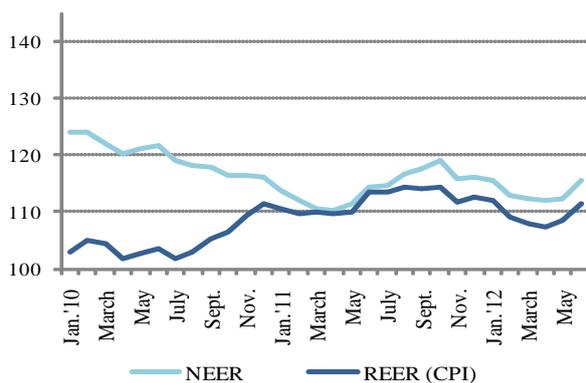
percent



Source: NBKR

Graph 3.2.2.3. Dynamics of NEER and REER indices

percent



Source: NBKR

Exchange Rate.

Continued stability of the foreign exchange market in this period has allowed the National Bank to minimize its presence in the foreign exchange market.

The nominal effective exchange rate (NEER) of the som has decreased by 0.5 percent since the beginning of 2012 and constituted 115.6 at the end of June. The decrease occurred due to the depreciation⁹ of the som in June 2012 compared to the average rate for December 2011 in relation to the Turkish lira by 3.5 percent, to the U.S. dollar – by 1.2 percent, to the Kazakh tenge – by 0.7 percent, to Chinese yuan – by 1.0 percent. At the same time, the som exchange rate has appreciated to the euro and the Russian ruble (by 4.0 and 2.8 percent, respectively).

Along with the devaluation of the som NEER index, smaller inflation¹⁰ in Kyrgyzstan led to a decrease in the index of the real effective exchange rate (REER), which in December 2011 decreased by 1.1 percent and amounted to 111.3 at the end of June 2012.

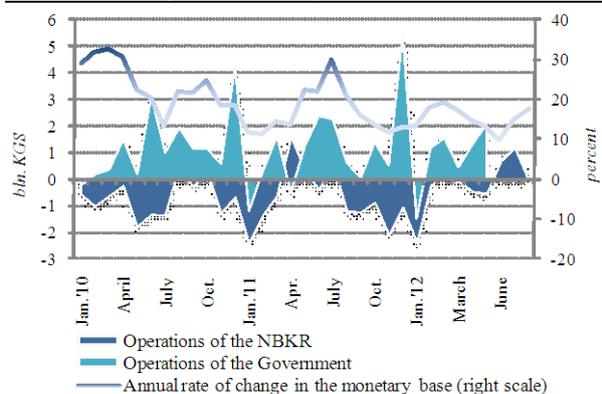
⁹ The data on the nominal bilateral exchange rate of the som are given; 2000 is used as the base period for the index calculation,

¹⁰ Inflation in the Kyrgyz Republic for January - June 2012 was 0.9 percent, while the average inflation main trading partner countries was 1.5 percent

Public Budget.

According to preliminary data of the Central Treasury of the Ministry of Finance, the public budget deficit for January-June 2012 amounted to KGS 3.9 billion or 3.4 percent of GDP (in January-June 2011, the budget ran a deficit of 0.2 percent of GDP).

Graph 3.2.2.4. The contribution of the operations of the Govt and the NBKR to the change in the monetary base



Source: NBKR

Final consumption expenditures by governmental bodies in the GDP structure continued an upward trend, having increased by 2.9 percent according to data for the first half of 2012 compared to the same figure last year. Despite the ongoing reforms to improve the efficiency of a fiscal policy and optimization of intergovernmental relations, further action on the part of fiscal policy is needed to curb inflation in the country. Uneven budget spending during the year and, as a consequence, increased expenditures at the end of the year are the drivers of inflation. Moreover, a large part of the budget expenditures is still going into consumption and covering of running costs, which are not reduced in view of the availability of structural problems, which will mainly have an impact on the change in the cash component of the money supply in the country.

Box 2. Savings and Investment in the Kyrgyz Republic

The condition of savings and investment (gap) in the Kyrgyz Republic ¹¹.

An economic theory states that savings equals investment in a closed economy. The equality is achieved in the regulation of the interest rate in the domestic financial market (according to the classical economic theory, saving and investment are a function of an interest rate). However, in an open economy, there is a gap between the amount of savings and investments (hereinafter, the gap), against external financing. For example, in the Kyrgyz Republic, the gap in relation to GDP over the period under review (2006-2011¹²) had a decreasing trend, falling by 12.7 percentage points¹³ in six years (Table 1, Graph 1). One of the main reasons for the downward trend of the gap was the dynamics to narrow the gap in private savings and investment, due to the increase in private savings (Table 2).

Table 1. The ratio of main indicators to GDP

percent to GDP

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------------|-------|------|-------|------|------|------|
| Current account/GDP | -9.2 | -5.9 | -13.7 | -2.3 | -7.3 | -6.3 |
| Gap/GDP | -14.9 | -7.9 | -13.2 | -2.4 | -7.9 | -2.2 |
| Savings/GDP | 9.3 | 18.7 | 15.8 | 24.8 | 19.5 | 23.2 |
| Investment/GDP | 24.2 | 26.6 | 28.9 | 27.3 | 27.4 | 25.3 |

Source: data on savings and Investment of the Kyrgyz NSC on SNS, estimates of NBKR

Graph 1. The ratio of the main indicators to GDP

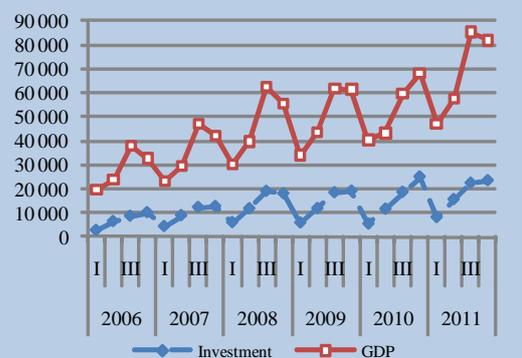
percent



Source: Kyrgyz NSC, NBKR calculations

Graph 2. Quarterly dynamics of investment and GDP

mln. KGS



Source: Kyrgyz NSC

The “savings/GDP” index has increased from 9.3 to 23.2 percent in six years. At the same time, please note the decline in 2010 amid slowing growth in the deposit base and reduced rate of growth of the economy.

At the same time, the main component, which has a negative impact on total savings, is the dynamics of government (public) savings¹⁴ (Table 2).

¹¹ In order to analyze the gap of savings and investment (hereinafter, the gap), data sets were collected and analyzed based on information of the Kyrgyz NSC and the NBKR.

¹² Data up to 2011 inclusive were used in this study due to the lack of data of the NSC for 2012.

¹³ Please note the statistical error in the calculations, since some calculations are based on preliminary data of the Kyrgyz NSC.

¹⁴ Government savings means savings of the government administration sector

Table 2. The structure of savings and investment

mln. KGS

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011* |
|---|----------|----------|----------|---------|----------|---------|
| Gap | -16979.7 | -11200.9 | -24732.6 | -4913.5 | -17489.0 | -5875.9 |
| The gap in public savings and investment | -1383.4 | -4082.7 | -1797.5 | -5890.9 | -6074.3 | -8520.0 |
| The gap in private savings and investment | -15596.3 | -9234.7 | -22935.1 | 977.8 | -11414.7 | 2644.1 |

Source: NSC publication "National Accounts of the Kyrgyz Republic 2006-2010

* - calculations of the NBKR

The behavior of the corporate sector and households.

The analysis of financial and economic activities of the corporate sector in terms of savings and investments has showed an asymmetry in the distribution of net profit of corporations. Thus, in 2011, about half of net income of corporations is used to pay property income (dividends, interest, etc.).¹⁵ At the same time, for example, in 2010, 38.6 percent of profit was invested in fixed capital. According to Table 3, there has been volatility in the value of retained earnings from 2006 to 2011. In some periods (2006 and 2008), this figure was negative, and its share in net profit decreased from 49.2 percent in 2007 to 38.6 percent in 2010, i.e. a significant portion of net profit was distributed among owners. Thus, corporate income paid in the form of interest and dividends is reinvested in household income and can be used for final consumption or saved. The share of profits paid as interest and dividends is decreasingly reinvested in production.

Table 3. The use of net profit of corporations

mln. KGS

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|--------|--------|--------|--------|--------|---------|
| 1. Net corporate income (after income taxes) | 3684.3 | 7561.1 | 3684.4 | 996.3 | 7657.5 | 17988.7 |
| 2. Property income paid | 3112.2 | 3842.1 | 2902.9 | 1781.5 | 4703.6 | 8334.3 |
| 3. Undistributed profit | -572.1 | 3725.0 | -781.5 | 2777.8 | 2953.9 | 9654.4 |
| 4. Undistributed profit as % of net profit | -15.5 | 49.2 | -21.2 | 278.8 | 38.6 | 53.7 |

Source: Kyrgyz NSC, NBKR calculations

In general, the economic behavior of households in the Kyrgyz Republic is characterized by the consumer focus of expenditures (consumer behavior).¹⁶

Lack of confidence in the banking system affects the economic behavior of households in the allocation of available funds. Households invest the greater part of the available funds in other sectors of the economy (shuttle trade, economic activity of Dordoi and Kara-Suu markets, etc.), bypassing the banking sector.

Dynamics of investment and economic growth¹⁷.

In the structure of investment, investments from the non-financial corporate sector occupy the largest share by the sources of financing (38.2 percent of the total investments), whereas the second place is taken by the household sector (23.0 percent of the total investments) (Table 4). An increase in

¹⁵ The "payments of property income" indicator is calculated by the NBKR based on NSC data on financial companies of the Kyrgyz Republic

¹⁶ Details are given in section 3.4. "The household sector"

¹⁷ Materials in article of V. Manevich ("Business and Banks" magazine) were used

investment at the expense of households was registered in the Kyrgyz Republic in 2011. Besides, there is a positive rate of growth of investment at the expense of the corporate sector. Thus, the average annual growth rate of this figure over the last two years has constituted 57.3 percent.

Table 4. Investments by source of funding

mln. KGS

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Total | 27534.8 | 37805.8 | 54421.7 | 54874.2 | 60384.7 | 69205.5 |
| Internal Investment | 19642.4 | 29617.5 | 36141.9 | 36216.0 | 45200.3 | 50469.5 |
| Government sector | 1487.1 | 4229.9 | 7313.6 | 7334.6 | 5206.9 | 7710.3 |
| Non-financial corporate sector | 12653.0 | 16770.5 | 15779.3 | 11255.2 | 21702.4 | 26420.7 |
| Financial sector | n/a | n/a | 369.6 | 3804.4 | 4045.5 | 450.9 |
| Household sector | 5502.3 | 8617.0 | 12679.5 | 13821.8 | 14245.5 | 15887.7 |
| External investment | 7892.4 | 8188.3 | 18279.8 | 18658.2 | 15184.4 | 18736.0 |
| Foreign debt | 3520.5 | 4256.0 | 6953.5 | 12064.4 | 6169.2 | 11090.7 |
| Foreign direct investment | 1909.5 | 2559.3 | 9513.3 | 4947.0 | 5494.3 | 4272.9 |
| Foreign grants and humanitarian aid | 2462.4 | 1373.0 | 1813.0 | 1646.8 | 3521.0 | 3372.3 |

Source: Kyrgyz NSC, NBKR calculations

Main investment wise attractive activities are transport and communication, mining; about half (49.5 percent) of all investments (calculations for 2011) (Table 5) pours in these sectors.

Table 5. Investment in fixed assets by industries in the Kyrgyz economy

percent

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|------|------|------|------|------|------|
| Transport and communications | 25.1 | 16.7 | 22.0 | 17.9 | 17.9 | 28.3 |
| Mining | 16.9 | 13.3 | 6.6 | 8.1 | 24.9 | 21.2 |
| Processing | 10.8 | 13.9 | 11.6 | 9.9 | 6.3 | 3.8 |
| Trade, car repairs etc. | 5.7 | 5.0 | 3.4 | 3.0 | 3.2 | 2.2 |
| Real estate, renting and customer services (including exploration companies) | 2.1 | 5.2 | 11.2 | 12.1 | 1.7 | 0.8 |
| Other industries | 39.4 | 45.8 | 45.2 | 49.0 | 45.9 | 43.7 |

Source: Kyrgyz NSC

At the end of 2011, a major part of foreign loans accounts for “Real estate operations, leasing and consumer services” – 60.6 percent (exploration). This suggests that primary sectors of the economy are financed, while the processing industry and infrastructure, providing the main contribution to economic growth, are under-funded. This fact can also be seen in the analysis of GDP by economic sectors. It follows the conclusion that the economy of Kyrgyzstan is still an agrarian and raw material economy.

The results of calculations of GDP growth by the fundamental equation of the economic dynamics¹⁸ are shown in Table 6. The absolute values of GDP and net capital formation are presented in constant prices of 2008. The last row of the table contains official data on the rate of GDP growth in the same years, which somewhat differ from the growth rate calculated in accordance with the fundamental equation of economic dynamics. These differences can be explained by inaccuracies in the calculation of output and income at constant prices.

¹⁸The methodology is presented in the appendix to Box 2 in the “Methodology of Analysis of Individual Financial Stability Issues” section

Table 6. The calculation of the rate of growth of GDP in 2006-2011. *

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-----------|-----------|-----------|------------|------------|-----------|
| GDP (in 2008 prices) (Y), million KGS | 159 838.0 | 173 424.3 | 187 991.9 | 193 443.66 | 192 476.44 | 203 447.6 |
| GDP growth (ΔY), million KGS | 4 806.0 | 13 586.2 | 14 567.6 | 5451.8 | -967.2 | 10 971.2 |
| Net fixed capital formation (S), mln. KGS | 27 534.8 | 37805.8 | 54421.7 | 54874.2 | 60384.7 | 69205.5 |
| Share of net fixed capital formation in GDP ($s = S/Y$) | 0.172 | 0.218 | 0.289 | 0.284 | 0.314 | 0.340 |
| Capital intensity coefficient ($C=S/\Delta Y$) | 5.729 | 2.783 | 3.736 | 10.065 | | 6.308 |
| GDP growth rate ($G=s/C$),% | 3.0 | 7.8 | 7.7 | 2.8 | | 5.4 |
| GDP growth (calculations based on official data),% | 3.1 | 8.5 | 8.4 | 2.9 | -0.5 | 5.7 |

*- there is no feasibility in the calculation of the capital intensity ratio of GDP growth for 2010 due to a negative growth rate of GDP

Source: Kyrgyz NSC, NBKR calculations

The share of savings to GDP is inversely related to the share of final consumption and in direct proportion to the share of the net profit and transfers from abroad. The dynamics of GDP during the financial crisis (2008-2010) had a significant negative impact on the volume of final consumption, while the amount of savings and net profit received from abroad had relatively stable values. According to Table 7, the share of net profit and capital inflows from abroad exceeds the net capital formation in the country. Assuming that the net flow of profit and capital is reduced to a minimum, fixed capital formation can be also reduced (there is a direct correlation between the marked figures).

Table 7. Net fixed capital formation and net inflow of income and capital

percent to GDP

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-------|-------|------|-------|-------|-------|
| Net capital formation | 17.2 | 21.8 | 28.9 | 28.4 | 31.4 | 34.0 |
| Net income and transfers | 17.7 | 20.8 | 24.7 | 22.7 | 25.9 | 29.7 |
| Total, the net inflow of income and capital | 24.9 | 40.2 | 27.2 | 35.7 | 37.5 | 43.6 |
| The net inflow of income and capital as a percentage of net fixed capital | 144.7 | 184.4 | 93.8 | 125.9 | 119.5 | 128.1 |

Source: NBKR calculations

Consumer behavior and lack of confidence in the banking system on the part of the population reduce the possibility of financial intermediaries to increase lending to the economy and raise the level of financial intermediation in the long run.

It should also be noted that the negative level of government savings and the relatively low level of private savings together with high interest rates in the domestic capital market determine the policies of the corporate sector to external borrowing.

In addition, the low level of savings and, consequently, increase in the gap can also affect economic slowdown.

3.3. Corporate Sector¹⁹

The corporate sector is still the main creditor and borrower of the banking sector. Continuing relatively low profitability of enterprises²⁰ due to unsustainable profit poses the risk to financial stability of the corporate sector. After a significant reduction of financial stability indicators in 2009 as a result of reducing corporate profits, since 2010, there has been a gradual recovery in growth despite the socio-political events of 2010.

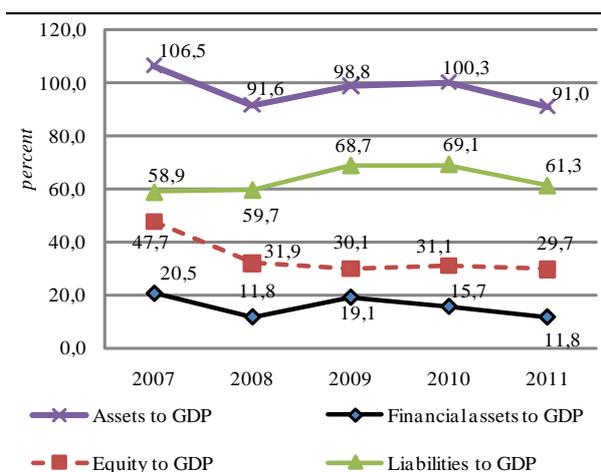
Domestic and foreign debt of enterprises continue to demonstrate strong growth, which in turn implies an increase in financial vulnerability for both the corporate sector and the banking sector through the appropriate channels of existing interdependence between the sectors.

Financial Condition

At the end of 2011, there has been an overall reduction in the basic balance sheet ratios of the corporate sector.

In 2008-2009, revenue and profit of enterprises from operating activities showed a mixed trend (revenue grew, profit declined), indicating a gradual decrease in the effectiveness of financial and economic activities of enterprises. As a result, the ratio of profit to revenue in 2009 amounted to less than 1 percent.

Graph 3.3.1. The dynamics of the corporate sector balance sheet



Source: Kyrgyz NSC, NBKR calculations

(4.4 percent of the total enterprises).

In the period 2010-2011, there was an increase in profitability of enterprises, as a result of which the ratio of profit to revenue in 2011 totaled 7.9 percent. Generally, the continuing fairly low ratio of profit to the enterprise's revenue emphasizes structural vulnerability of the revenue side of the corporate sector.

It should be noted that at the end of 2011, the share of enterprises with a negative return on investment (losses) accounted for 32.6 percent of the total number of working enterprises. The main part of the unprofitable enterprises included enterprises in the sector of agriculture (2.3 percent of the total number of enterprises), trade (3.5 percent of the total number of companies) and real estate operations, leasing and consumer services

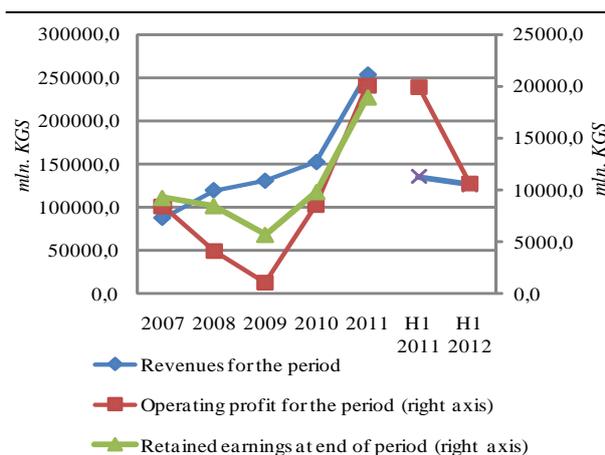
¹⁹ The Kyrgyz NSC has no statistical data on the assets, liabilities and capital goods (balance sheet) of enterprises at the semi-annual basis

²⁰ Return on assets (ROA) is a financial measure, which is characterized by the ratio of income before tax to total assets of the enterprise.

Return on equity (ROE) is a financial measure, which is characterized by the ratio of income before tax to equity of an enterprise

Return on sales is a financial measure, which is characterized by the ratio of income before tax of the enterprise to its revenue

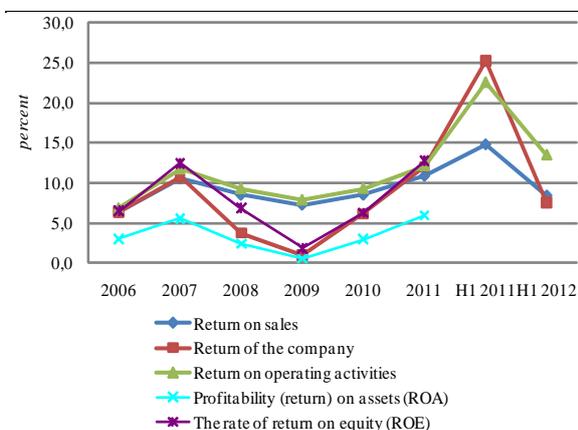
Graph 3.3.2. The dynamics of gross revenue and profits of the real sector



Source: Kyrgyz NSC, NBKR calculations

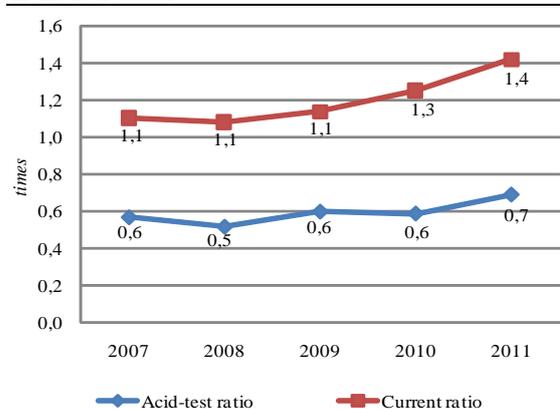
Sufficiently high credit risks for the banking sector are posed by processing enterprises, which had the lowest level of liquidity²¹ and profitability in 2011.

Graph 3.3.3. Profitability indicators of the real sector



Source: Kyrgyz NSC, NBKR calculations

Graph 3.3.4. Indicators of liquidity of companies in the real sector



Source: Kyrgyz NSC, NBKR calculations

Debt Sustainability

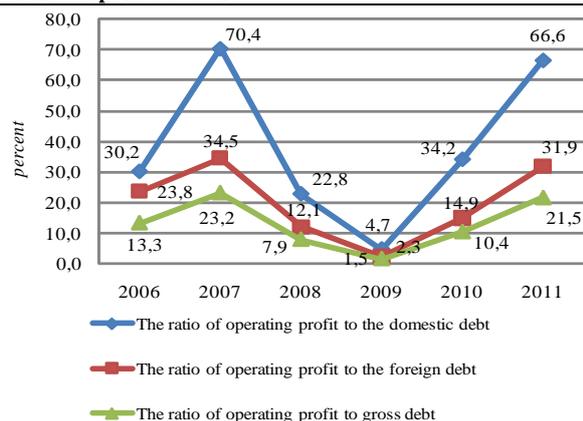
Gross debt of enterprises amounted to KGS 92.8 billion or 34.0 percent to GDP by the end of 2011, having increased by KGS 10.8 billion or 12.4 percent compared to the same period of 2010. The major share of the gross debt of enterprises was the long-term debt (KGS 70.4 billion or 75.9 percent of the gross debt of enterprises).

It should be noted that given the limited working capital of enterprises and high interest rates in the domestic capital market, the main source of financing of the corporate sector is external borrowing from foreign creditors.

²¹ Current ratio is a financial ratio, which is characterized by the ratio of current assets to current liabilities of an enterprise.

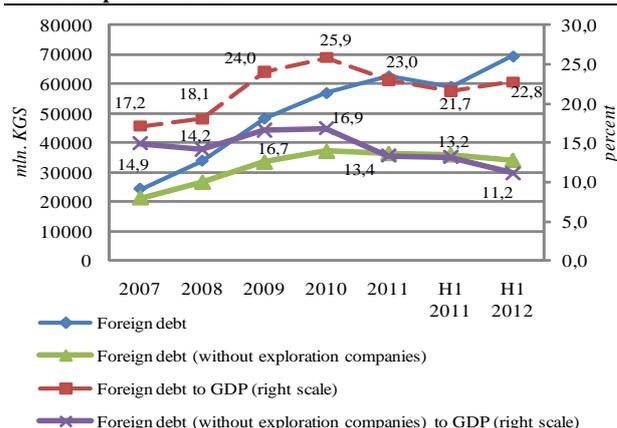
Quick ratio is a financial ratio, which is characterized by the ratio of highly liquid current assets to current liabilities of an enterprise

Graph 3.3.5. Indicators of debt sustainability of the corporate sector



Source: Kyrgyz NSC, NBKR calculations

Graph 3.3.6. Indicators of debt sustainability of the corporate sector *

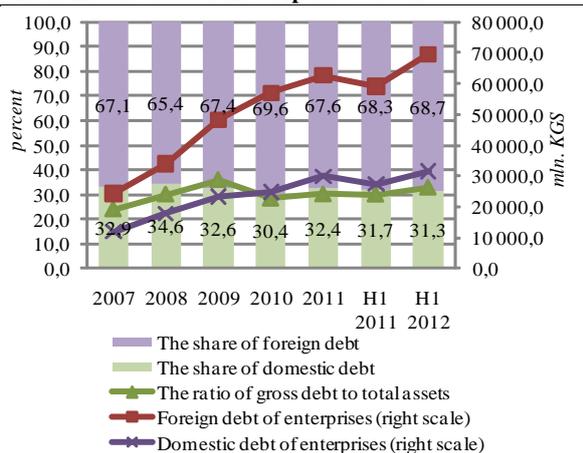


Source: Kyrgyz NSC, NBKR calculations

* to forecast annual GDP

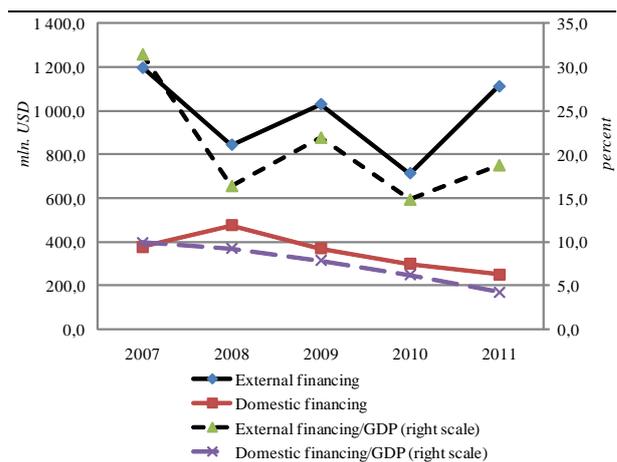
Since the beginning of 2008, there has been a trend of progressive reduction of domestic financing of the corporate sector (Graph 3.3.8), which totaled USD 251.7 million in 2011. At the same time, the external financing of the real sector has 4.4 times exceeded the internal one, reaching USD 1,112.6 million.

Graph 3.3.7. The dynamics of changes in foreign and domestic debt of the corporate sector



Source: Kyrgyz NSC, NBKR calculations

Graph 3.3.8. Financing of the corporate sector



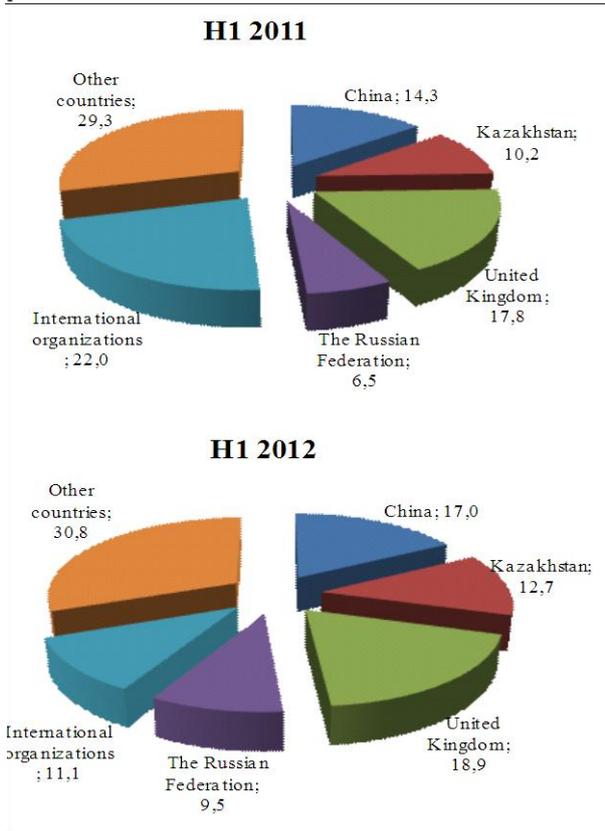
Source: Kyrgyz NSC, NBKR calculations

In the 1st half of 2012, foreign debt of the corporate sector has increased by 16.0 percent to KGS 69.6 billion or 22.8 percent to GDP over the same period last year.

Foreign debt is mainly represented by debt of exploration enterprises (more than half of the total foreign debt), the specific activity of which involves risk-taking by foreign investors financing geological works.

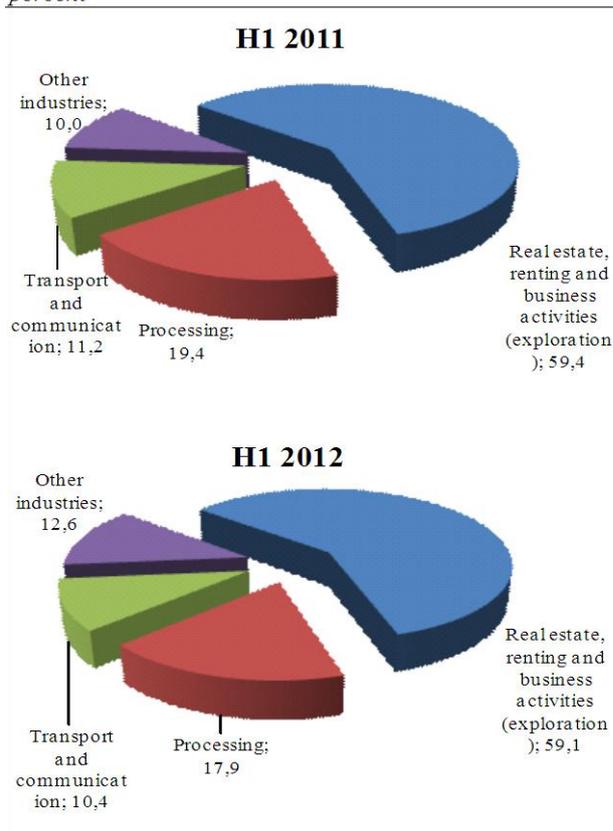
The geographic structure of foreign debt of the corporate sector is quite diversified. At the end of the 1st half of 2012, the bulk of foreign debt accounted for the UK (18.9 percent), China (17.0 percent) and Kazakhstan (12.7 percent). In the period under review, there was a decline in the share of foreign debt to international organizations.

Graph 3.3.9. The geographic structure of the foreign debt of the corporate sector
percent



Source: Kyrgyz NSC

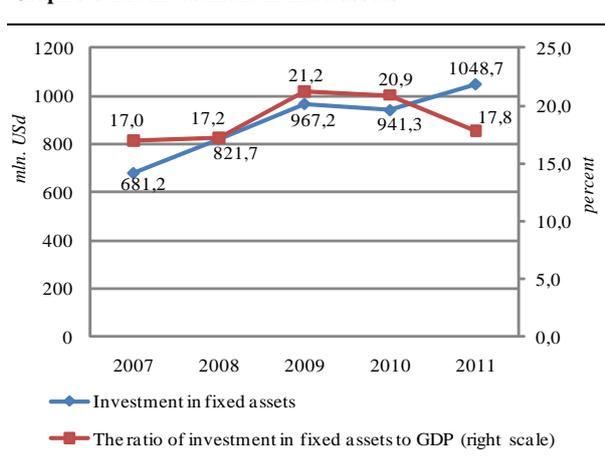
Graph 3.3.10. The sectoral structure of the foreign debt
percent



Source: Kyrgyz NSC

Thus, foreign debt of enterprises amounted to 68.7 percent of total gross debt of the corporate sector at the end of the 1st half of 2012. Domestic debt amounted to KGS 31.7 billion at the end of the 1st half of 2012, having increased from KGS 27.5 billion of the same period last year.

Graph 3.3.11. Investment in fixed assets



Source: Kyrgyz NSC, NBKR calculations

In turn, internal debt of the corporate sector is still concentrated in the sectors of trade, industry and real estate operations, leasing and consumer services.

For the period 2007-2011, there was an increase in investment in the corporate sector. The major share of investment accounted for the mining industry, construction and industry.

At the same time, investment in housing construction in the background of the general downturn in the real estate market in 2008-2009 was associated with a high share of long-term investment projects, which started in the period of active growth of the real estate market since the early 2000s.

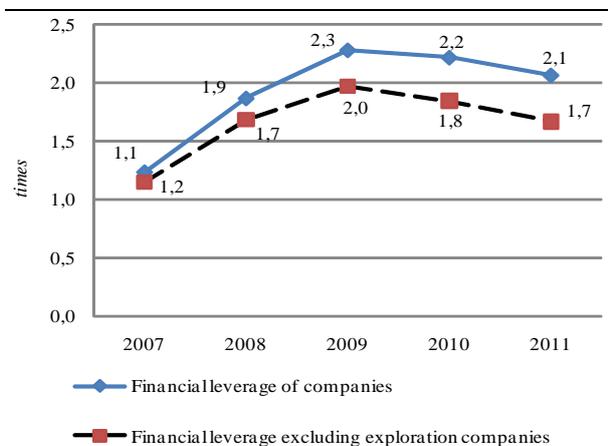
A key factor in debt vulnerability of the corporate sector is the indicator of financial leverage.²² Given that the major share of total debt of the corporate sector (about 34 percent) is accounted for by

²² Financial leverage is a financial measure which is characterized by the ratio of general obligations of the enterprise to equity

exploration enterprises, the value of financial leverage of the corporate sector is at an acceptable level, reaching 1.7 (excluding exploration companies) at the end of 2011.

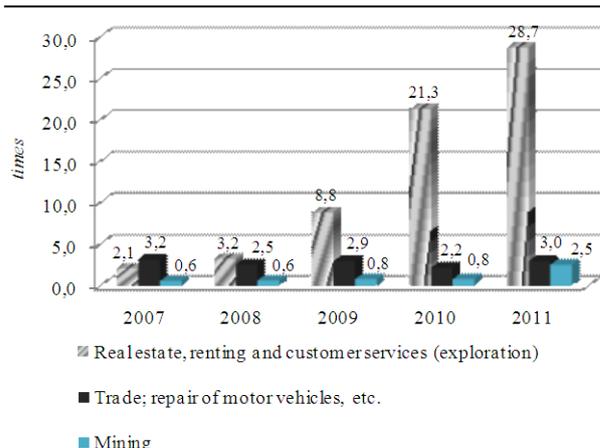
Thus, financial leverage of the corporate sector (excluding exploration companies) for 2007-2011 has increased by 54.5 percent.

Graph 3.3.12. Financial leverage of companies



Source: Kyrgyz NSC, NBKR calculations

Graph 3.3.13. The sectoral structure of financial leverage of the corporate sector

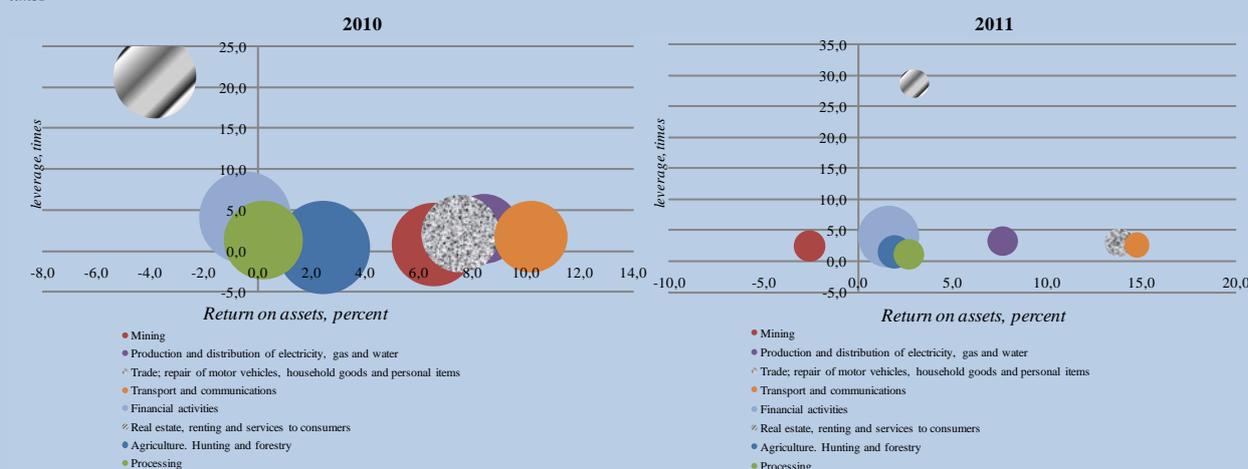


Source: Kyrgyz NSC, NBKR calculations

Box 3. Corporate Sector Financial Stability Risk Distribution²³

Among the enterprises of the corporate sector by the end of 2011, in general, negative return was shown by the mining industry, which also has low current liquidity. At the same time, debt of enterprises in this industry to the financial sector accounted for less than 2.5 percent. Also, the group of enterprises with two risk factors (high leverage and low current liquidity) included enterprises involved in real estate operations, leasing and consumer services and, as was noted, explained by high foreign debt of exploration enterprises. It should be noted that enterprises in this industry are the most numerous in the structure of the corporate sector (22.7 percent of large and medium enterprises), and at the end of 2011, had 9.8 percent of total debt to the financial sector.

Graph 1. Risk distribution by sector for the year 2011



²³ This analysis was conducted based on data from large and medium-sized enterprises of the corporate sector.

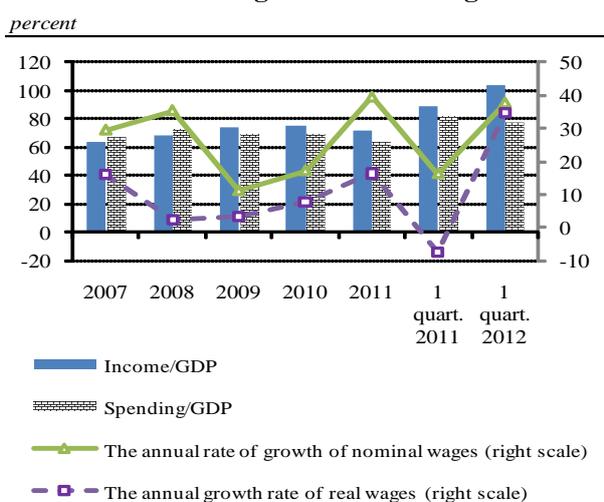
At the end of 2011, there were two risk factors (low profitability and current liquidity) in enterprises of agricultural and processing industries. Enterprises in these industries constitute 28.6 percent of large and medium-sized enterprises. The greatest debt to the financial sector by the end of 2011 is accounted for by the manufacturing industry – 27.3 percent (KGS 6.5 billion). Enterprises in this industry in 2010 also showed low levels of profitability, which is an indicator of financial difficulties of enterprises, and which potentially carries high credit risks for the financial sector.

It should be noted that negative profitability of enterprises in the corporate sector may also be the result of informal economic activities, which, according to various sources, have a significant stake in the real sector of the economy.

3.4. Household Sector²⁴

One can observe improved sustainability in the budget of households and financial stability²⁵ primarily due to an increase in gross revenue, including average nominal wage. In the meantime, one of the main problems of the household sector is structural vulnerability of costs; the consumer cost structure continues to dominate, while the costs for investments still constitute a small proportion. In general, the degree of “depth” of relationship and, as a result, the relationship between households and the banking sector continue to grow consistently.

Graph 3.4.1. Sustainability of the budget of households and the growth rate of wages



Source: Kyrgyz NSC, NBKR calculations

savings is growing in real terms (Graph 3.4.1).

Amid the growing loan portfolio of commercial banks and the level of savings and business growth, debt burden of the household sector also increases. In particular, there is an increase in the ratio of debt to GDP²⁶ by 0.5 percentage points and the ratio of debt to disposable income by 0.9 percentage points (Table 3.4.1). At the same time, amid high budget surplus (revenues exceed costs by 33.7 percent), savings increase and the overall financial position of the sector as a whole improve (the standard of living of the population rises), which has a positive effect on financial stability and solvency of households. One of the main factors in the growing level of savings is the average nominal wage (the growth rate in annual terms amounted to 37.8 percent). Moreover, due to the weakening inflationary background, the level of

²⁴ The analysis of the sector used data from the NBKR and data from the Kyrgyz NSC integrated sample survey of household budgets and manpower. Hereinafter, the figures for the first quarter of 2012 are derived due to a lack of data for the first half of 2012.

²⁵ *Financial Soundness Indicators:*

Financial assets/GDP, where financial assets include bank deposits and government securities held by households;

Assets/GDP, where assets are the sum of non-financial (residential properties multiplied by the average value of the property) and financial assets;

Debt/GDP, where debt is loans from commercial banks or loans to individuals;

Debt/Gross income, where gross income is all income received by households;

Debt/Disposable income, where disposable income is the difference between gross income and taxes

²⁶ To forecast annual GDP

Table 3.4.1. Indicators of financial stability of households

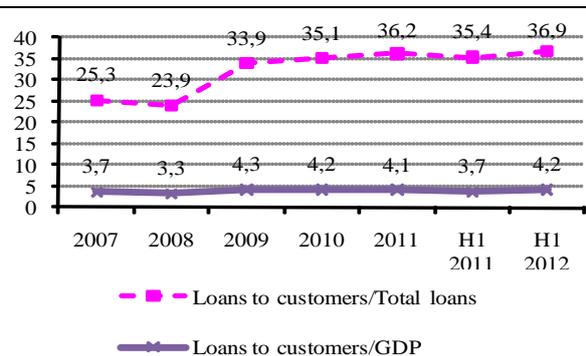
percent

| | 2007 | 2008 | 2009 | 2010 | 2011 | 1 quart. 2011 | 1 quart. 2012 |
|------------------------|------|------|-------|-------|-------|------------------|------------------|
| Asset/GDP | n/a | n/a | 540.8 | 616.5 | 595.4 | n/a | n/a |
| Financial assets/GDP | 4.4 | 3.7 | 4.8 | 5.1 | 5.6 | 4.5 | 5.4 |
| Debt/Financial Assets | 84.4 | 88.3 | 88.9 | 82.5 | 74.3 | 77.8 | 72.5 |
| Debt/Gross Income | 5.8 | 4.7 | 5.7 | 5.6 | 5.8 | 4.9 | 5.8 |
| Debt/Disposable income | 6.1 | 5.0 | 6.0 | 6.0 | 6.1 | 5.2 | 6.1 |
| Debt/GDP | 3.7 | 3.3 | 4.3 | 4.2 | 4.1 | 3.5 | 3.9 |

Source: Kyrgyz NSC, SRS GKR, NBKR calculations

Graph 3.4.2. The share of loans to households in the loan portfolio of the banking sector

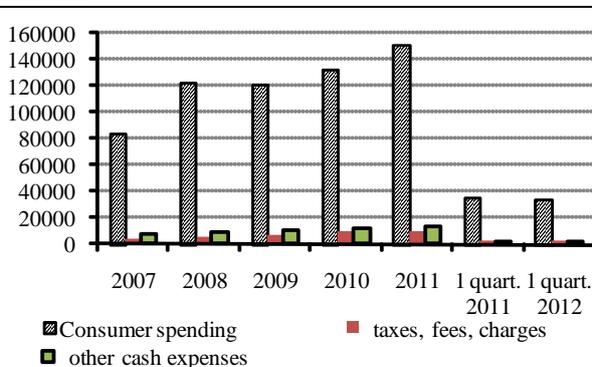
percent



Source: NBKR calculations

Graph 3.4.3. The structure of expenditures of households

mln. KGS



Source: Kyrgyz NSC

The trend of some increase in savings against a budget surplus of households is one of the main reasons for the growth of retail deposits, which indirectly indicates some trends of growing confidence in banks. In particular, the ratio of retail deposits to assets of the banking system is increasing annually and at the end of the first half of 2012 amounted to 23.1 percent, of which 12.8 percentage points account for time deposits.

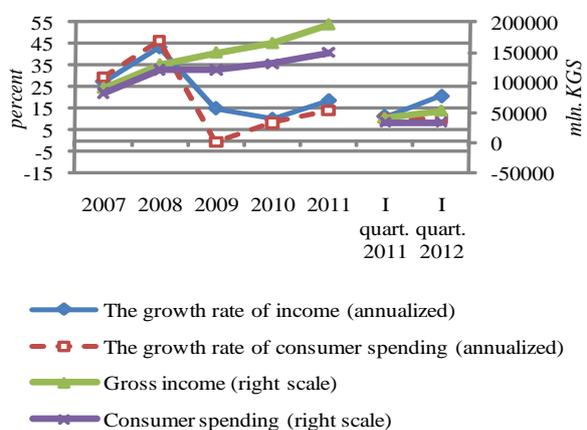
Households are the second largest borrower of funds from the banking sector after the corporate one. At the end of the first half of 2012, the share of loans to households (individuals) in the total loan portfolio of the banking sector amounted to 36.9 percent (Graph 3.4.2). It should be noted that a significant increase in the share of loans to households in 2009 (by 10.0 percentage points) is associated with reduction in the share of loans to the corporate sector (by 9.8 percentage points) of the total loan portfolio.

Thus, given the role of households not only as investors but also as borrowers, changes in their economic behavior caused by high debt burden or internal and external shocks can have a significant impact on the development of the financial sector as a whole.

Behavior and structural vulnerability of costs.

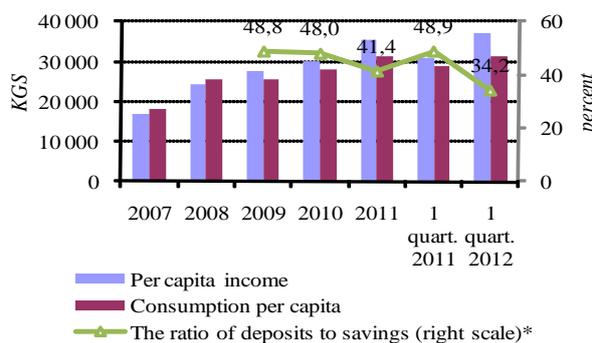
Consumer behavior (“decumulation” of income) remains one of the major problems of the household sector. Thus, the bulk of expenditures is still used for consumption, about 87.2 percent on average (Graph 3.4.3), which in turn is supported by

Graph 3.4.4. The structural vulnerability of the budget expenditures



Source: Kyrgyz NSC, NBKR calculations

Graph 3.4.5. Factors of financial stability of the balance of the population



* - According to NSC, there were no household savings until 2009

Source: Kyrgyz NSC, NBKR calculations

the ADB study on remittances²⁷ (consumer spending of total remittances from abroad is 78.4 percent, expenditures for investment purposes (business, entrepreneurship) total 3.1 percent). At the same time, cost of investment and savings continues to be a small portion, which is explained as relatively low wealth of citizens (despite an increase in both total and per capita wealth) on the one hand, and the lack of confidence in the banking system and other institutions of financial intermediation in general on the other hand.

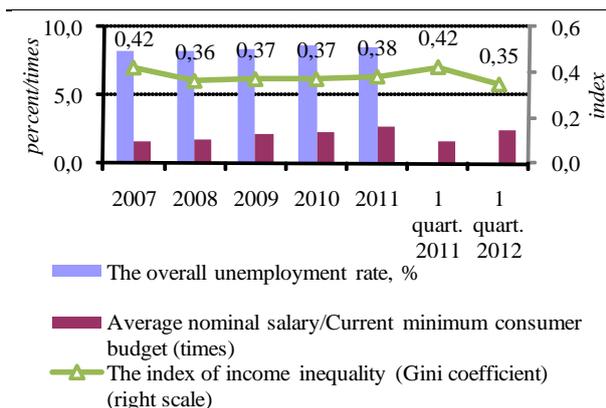
However, the growth rate of gross revenues outpaces the growth of household consumption expenditures (Graph 3.4.4), affecting some growth of household savings.

At the same time, the share of food commodities in total expenditures is 47.5 percent on average and 54.5 percent in consumer spending, while maintaining relatively high vulnerability of households, in case of threats to food security.

Thus, structural vulnerability of the budget of the population (most of income is spent on consumption, about a third of revenue comes from external sources) indicates a risk for the loan portfolio of the financial sector in case of shocks negatively affecting the socio-economic situation in the country.

²⁷ The ADB household survey on remittances and poverty in the Kyrgyz Republic, 2007

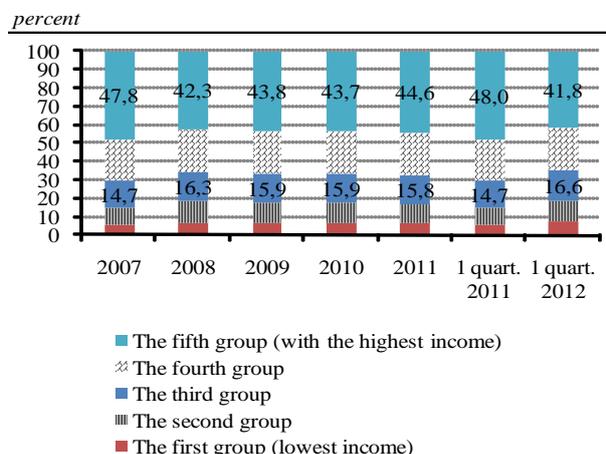
Graph 3.4.6. Social sustainability indicators*



* data on unemployment are calculated by the NSC on an annual basis

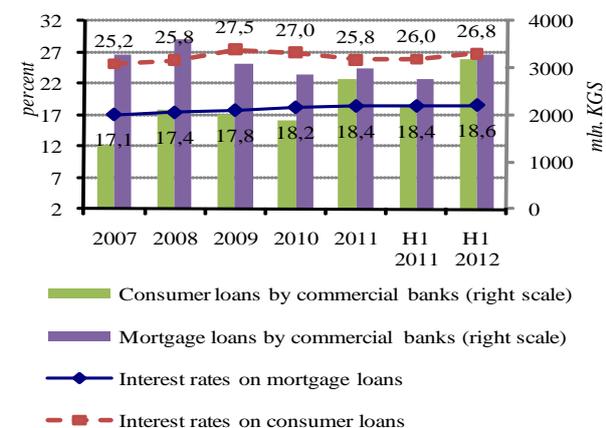
Source: Kyrgyz NSC, NBKR calculations

Graph 3.4.7. The structure of the population income by quintile groups



Source: Kyrgyz NSC

Graph 3.4.8. The dynamics of interest rates and the volumes of mortgage and consumer loans granted by banks



Source: NBKR

The Social Sphere.

Index of inequality of income in the household sector (the Gini coefficient)²⁸ for the first quarter of 2012 identified reduction in concentration and increase of income diversification (Graph 3.4.6). The estimated ratio of average nominal wage to the minimum consumer budget allowing estimating the excess of nominal income over minimum costs totaled 2.4 times.

The structure of the population income by quintile groups indicates concentration of income in the group of the most advantaged groups (Graph 3.4.7).

Consumer and Mortgage Loans to the Population.

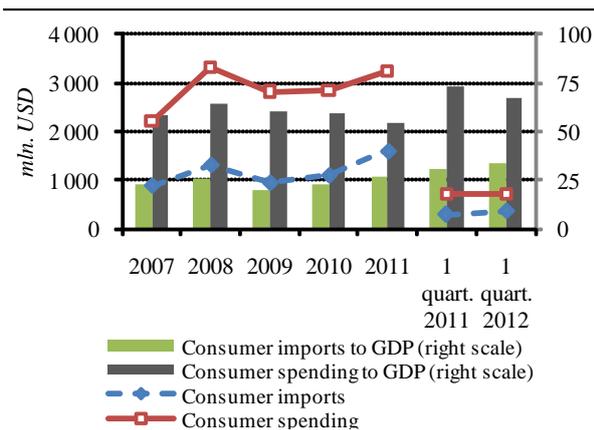
The growing demand for durable goods and the relative availability of loans (in the first half of 2012, the interest rate on consumer loans formed below the maximum of 2009) create additional demand for consumer loans. On this basis, the share of consumer loans in the loan portfolio of commercial banks, which are of high quality (the proportion of bad loans for this type of lending was 2.6 percent), increases. The analysis of the mortgage market of households did not reveal high elasticity of lending on interest rates (Graph 3.4.8).

²⁸ The Gini index with a value of 0 indicates perfect equality of income, with a value of 1 – to perfect inequality (concentration) of income.

Factors of external vulnerability.

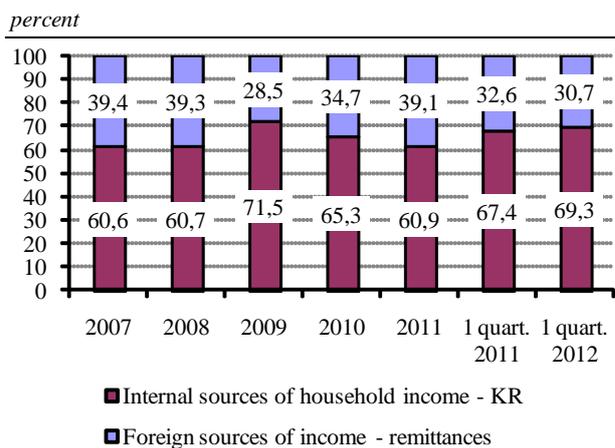
Increasing since 2009, consumer spending creates additional supply on the domestic market of goods, spurring consumer imports. This, in turn, increases vulnerability of households from the shocks of the external sector, in particular, the price spikes and shortages of food. Consumer imports to GDP amounted to 33.9 percent at the end of the first quarter 2012 (Graph 3.4.9).

Graph 3.4.9. Factors of external vulnerability of the budget expenditures of households



Source: Kyrgyz NSC and NBKR

Graph 3.4.10. The structure of household income by source



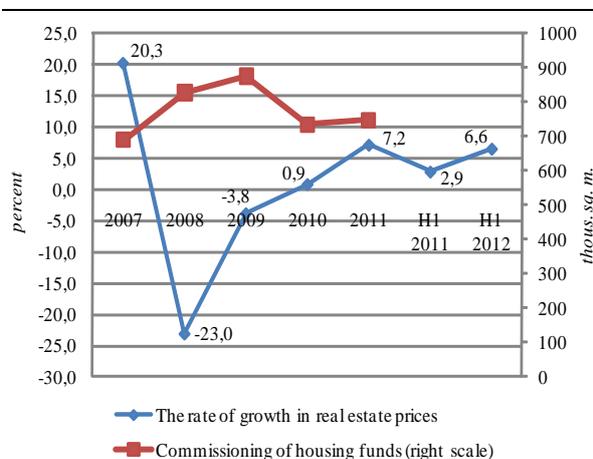
Source: Kyrgyz NSC, NBKR calculations

3.5. Real Estate Market

After a significant decline in 2008, there has been a rise in prices in the real estate market. Factors contributing to the rise in prices in 2011 included reduction in the supply of new housing, reduction in the total residential properties and growing demand for real estate in the city of Bishkek and Chui region.

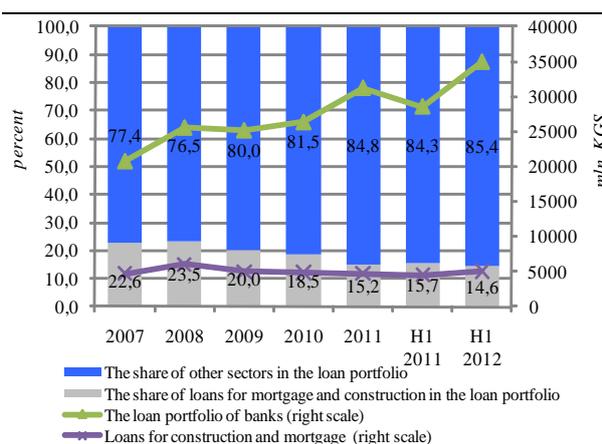
Stabilization of real estate prices in 2011-2012 contributed to an increase in mortgage lending and construction financing. Moreover, there is a decrease of mortgage loans and loans for the construction in the portfolio of classified loans of banks, which shows a decline in the credit risk to the financial sector due to the condition of the real estate market.

Graph 3.5.1. Dynamics of changes in real estate prices and commissioning of housing stock in the Kyrgyz Republic



Source: SRS GKR, NBKR calculations

Graph 3.5.2. The total share of loans for mortgage and construction in the loan portfolio of banks



Source: NBKR

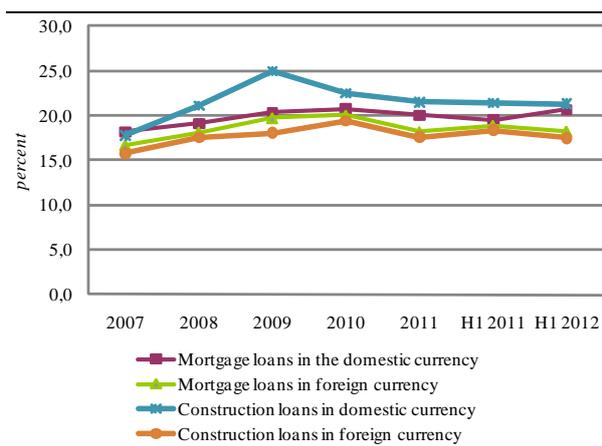
Assets in the form of real estate (fixed assets) are one of the major components of the property of the private sector.

Volatility of real estate prices in Kyrgyzstan is caused by various reasons. Real estate markets are illiquid; the agreement on each sale is made with high transaction costs. The supply is inelastic in the short term due to the fact that the project preparation and completion of construction require time. Construction is often subject to the effects of different legal and other constraints, such as the shortage of urban land (for example, the capital of the Kyrgyz Republic) that may be subject to construction. In these conditions, influence of changes in demand on prices enhances.

The relative recovery in lending for mortgages and construction in 2006-2007 was caused by a sharp recovery in real estate since around 2002, which was characterized by rapid growth in real estate prices.

In the future, due to the impact of the financial crisis, which strongly affected the mortgage market and the construction sector in Kazakhstan, there was a decrease of mortgage lending and financing of construction of the Kazakh banks in Kyrgyzstan due to the lack of liquidity in the parent banks and the increasing risk in the real estate market. This influenced the sharp drop in market prices in 2008 (Graph 3.5.1).

Graph 3.5.3. Interest rates on bank loans for construction and mortgage loans



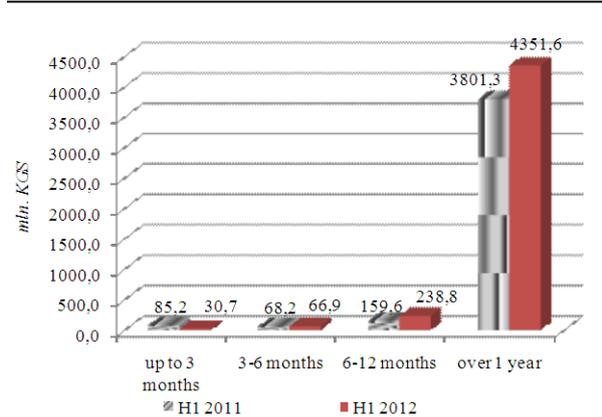
Source: NBKR

Graph 3.5.4. The share of mortgages and loans for the construction in the loan portfolio



Source: NBKR

Graph 3.5.5. The loan portfolio for construction and mortgage loans by maturity



Source: NBKR

of the 1st half of 2012, their total volume amounted to KGS 4.4 billion, having increased from KGS 3.8 billion at the end of the 1st half of 2011 (mainly due to mortgage loans).

There is continued geographic concentration of real estate purchase and sale transactions in the city of Bishkek and Chui region, which accounted for 61.0 percent of total real estate purchase and sale transactions in the country for the 1st half of 2012.

Due to reduction in market prices of real estate, the situation was exacerbated by lowering the cost of collateral security in the form of mortgage, especially in cases where it had fallen to a level below the cost of loans provided under this security.

A decline in the real estate market in Kazakhstan also had a negative impact on the construction industry of the Kyrgyz Republic. Introduction of new residential property in 2010-2011 decreased by almost 40 percent. 748.3 thousand sq. meters (with required 2 million square meters per year) of new residential property was introduced in 2011. In addition, after social and political events of 2010, there has been some reduction in real estate fund (a decline of 6.8 percent).

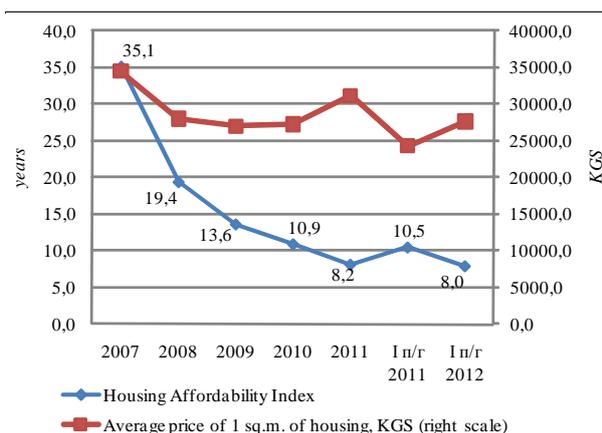
Currently, there is reduction in price volatility in the real estate market. Since 2011, real estate prices have shown steady growth due to the growing demand for real estate in the city of Bishkek and Chui region, as well as low rates of commissioning of residential property (of which about 80 percent annually accounts for the household sector at own costs and loans received).

The rise in prices in the 1st half of 2012 was observed in the real estate market segments such as apartments, social and commercial real estate. At the same time, prices for individual houses dropped. This trend, along with seasonal fluctuations, is related to the limited extension of real estate segments.

At the end of the 1st half of 2012, in the loan portfolio of banks, construction loans held 5.3 percent of the loan portfolio, whereas mortgage loans had 9.4 percent. Total loans for the construction and the mortgage increased to KGS 5.1 billion for the first time in 3 years, showing an increase compared to the 1st half of 2011 by 12.8 percent.

Most mortgage loans and loans for construction are medium- and long term. At the end

Graph 3.5.6. Dynamics of Housing Affordability Index



Source: Kyrgyz NSC and SRS GKR, NBKR calculations

The main volume of purchase and sale transactions accounted for the share of the residential real estate segment (apartments and individual houses). In the first half of 2012, the share of this segment constituted 56.0 percent.

Housing affordability index, reflecting the condition of the housing market in terms of the possibility of acquiring housing by households, has declined significantly due to a decline in real estate prices in 2008 and increase in average wages in 2011.

In general, the value of this indicator continues to reflect the substantial gap between income of the population and the cost of real estate.

Table 3.5.1. The volume of transactions on the security of real estate

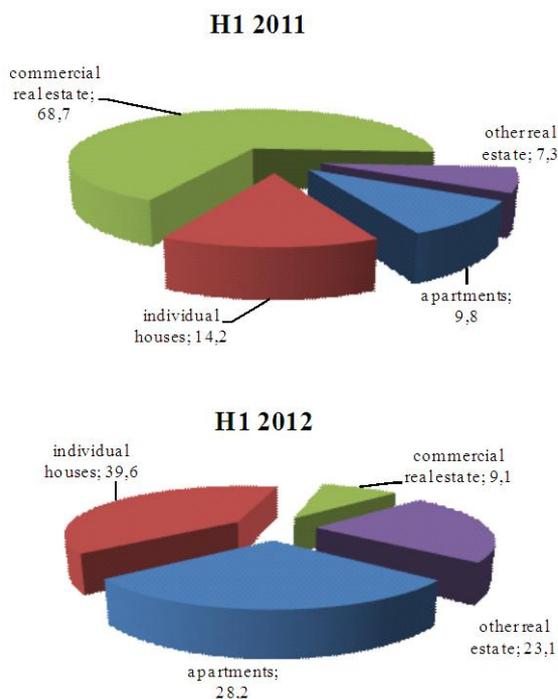
| | 2008 | 2009 | 2010 | 2011 | HI 2011 | HI 2012 |
|--|----------|----------|----------|---------|----------|---------|
| The volume of transactions on real estate mortgage, million KGS | 11 640.6 | 14 734.6 | 18 890.8 | 54942.7 | 40 422.0 | 15547.0 |
| The volume of transactions on real estate mortgage to GDP, percent | 6.2 | 7.3 | 8.6 | 20.1 | 37.7 | 13.5 |

Source: State Registration Service under the Government of the Kyrgyz Republic, NBKR calculations

There is an increase in the volume of transactions on the real estate mortgage with the growth of real estate prices.

In the 1st half of 2012, a major share of mortgaged property was residential real estate as the most liquid and therefore less subject to price volatility.

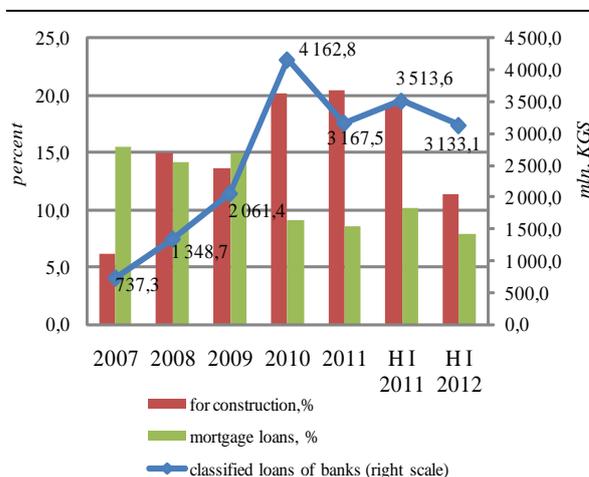
Graph 3.5.7. The structure of the transactions on real estate mortgage by segments percent



Source: SRS GKR, NBKR calculations

At the end of the 1st half of 2012, the share of mortgage loans and loans for the construction in the portfolio of bad loans of banks decreased by 9.9 percent (KGS 420.5 million) and amounted to 19.3 percent or KGS 605.8 million.

Graph 3.5.8. The structure of classified loans for construction and mortgage lending



Source: NBKR

IV. Financial Condition and Stability of the Financial Sector

4.1. Financial Sector Structure

The institutional structure of the financial sector of the Kyrgyz Republic is represented by commercial banks and other financial companies (non-bank financial institutions, insurance companies, investment and pension funds, stock exchanges).

Table 4.1.1. The institutional structure of the financial sector

(the number of financial institutions)

| Financial Institutions | 2007 | 2008 | 2009 | 2010 | 2011 | H1 2011 | H1 2012 |
|---|-------------|-------------|-------------|------------|------------|------------|------------|
| Commercial banks | 22 | 21 | 22 | 22 | 22 | 22 | 22 |
| Other financial companies, including: | 1031 | 1117 | 1234 | 936 | 958 | 935 | 918 |
| <i>Non-bank financial institutions (NBFI), including:</i> | 1005 | 1089 | 1203 | 906 | 931 | 907 | 893 |
| Microfinance organizations, including: | 233 | 291 | 359 | 397 | 454 | 424 | 433 |
| microcredit companies | 103 | 170 | 226 | 266 | 340 | 304 | 337 |
| microcredit agencies | 128 | 119 | 129 | 127 | 110 | 116 | 91 |
| microfinance companies | 2 | 2 | 4 | 4 | 4 | 4 | 5 |
| SFBR LLC | - | - | 1 | 1 | - | 1 | - |
| Development Fund CJSC | - | - | 1 | - | - | - | - |
| FKKS OJSC | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Credit unions | 272 | 248 | 238 | 217 | 197 | 207 | 189 |
| Exchange offices | 318 | 353 | 372 | 290 | 279 | 274 | 270 |
| Insurance companies | 16 | 18 | 19 | 19 | 16 | 18 | 14 |
| Investment funds | 5 | 5 | 6 | 6 | 8 | 6 | 8 |
| Stock exchanges | 3 | 3 | 3 | 2 | 1 | 2 | 1 |
| Pension funds | 2 | 2 | 3 | 3 | 2 | 2 | 2 |

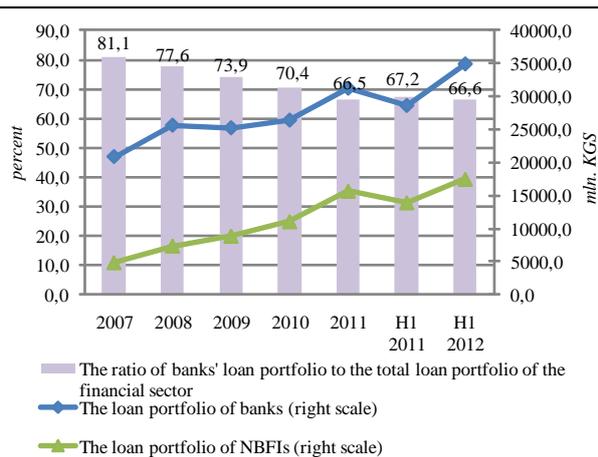
Source: NBKR, Kyrgyz NSC

At the end of the 1st half of 2012, financial assets of the financial sector amounted to KGS 85.9 billion or 28.1 percent of GDP, having increased by KGS 16.7 billion compared to the same period in 2011.

The share of the banking sector in total assets of the financial sector accounted for 74.3 percent. The share of NBFIs and other financial companies accounted for 24.3 percent and 1.4 percent respectively.

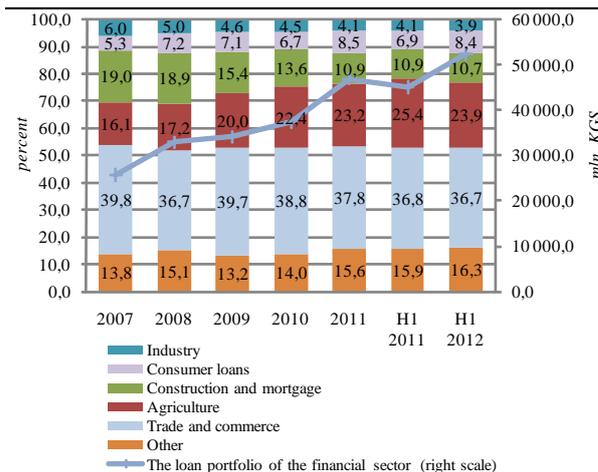
The share of banks' loans in the loan portfolio of the financial sector for the period 2007-1st half of 2012 decreased significantly and reached 66.6 percent. Also note reduction in the ratio of the loan portfolio of banks to the loan portfolio of NBFIs from 4.3 to 2.0 times.

Graph 4.1.1. The structure of the loan portfolio of the financial sector



Source: NBKR

Graph 4.1.2. The sectoral structure of the loan portfolio of the financial sector



Source: NBKR

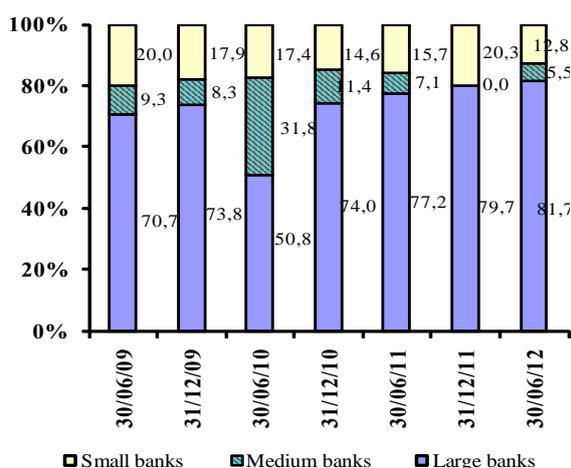
With the increase in the loan portfolio of the financial sector, the concentration of the loan portfolio is still preserved in the trade sector (banks) and agriculture (NBFI). The total share of the loan portfolio of the financial sector in trade and agriculture at the end of the 1st half of 2012 amounted to 60.6 percent of total loans issued. At the same time, main growth can be seen in agriculture due to an increase in the lending to this industry by NBFIs. For the period 2007 – 1st half of 2012, the share of agriculture in the loan portfolio of the financial sector increased by 7.8 percent and totaled 23.9 percent by the end of the 1st half of 2012.

4.2. Banking Sector

4.2.1. Banking Sector Structure

Amid existing imbalances in the economy, there is a trend of expansion and development of the banking sector, as evidenced by the growth of total and operating assets. The majority of the loan portfolio is provided by loans to the corporate sector, and term deposits mostly account for the household sector. There is an increase in lending to the economy despite the relatively high cost of borrowed funds.

Graph 4.2.1.1. Changes in the structure of the banking system by groups of banks



As of June 30, 2012²⁹, 22 commercial banks (including the Bishkek branch of the National Bank of Pakistan) and 264 of their branches worked on the territory of the Kyrgyz Republic among which there are 14 banks with foreign participation in the capital, including 10 foreign banks with foreign participation in the amount of more than 50 percent. All banking institutions of the country are universal by the type of business.

The preservation regime was used in four troubled banks, Akyl Investment Joint Stock Commercial Bank OJSC, Manas Bank CJSC, KyrgyzCreditBank OJSC, Issyk-Kul IB OJSC.

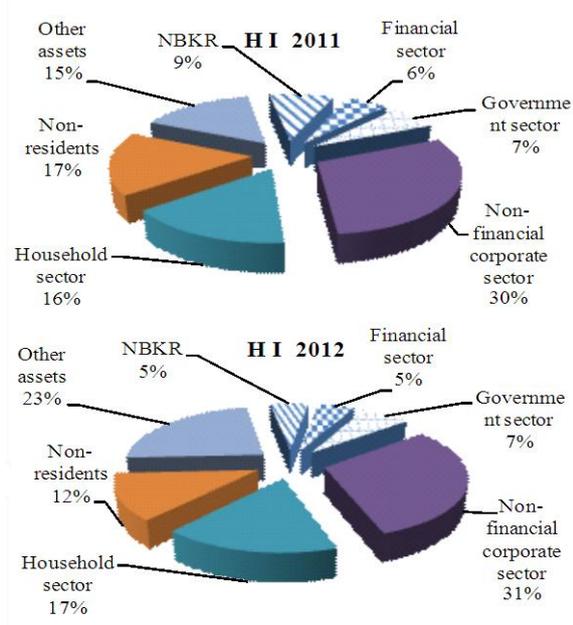
Other banks that formed the largest pool of the banking system functioned normally, providing customers with a core set of banking services and products.

The analysis of the structure of the banking system in terms of the market segment³⁰ (Graph 4.2.1.1) indicates an increase in the market share of “large” banks.

The segment of “large” banks is presented by four banks, occupying 81.7 percent of the market share of the banking sector. At the same time, the total market share of the group of “small” banks (12.8 percent) was lower than the market share of one bank in the group of “large” banks with the lowest market share (15.6 percent).

The structure of total assets of the banking system by economic sectors is by 30.6 percent

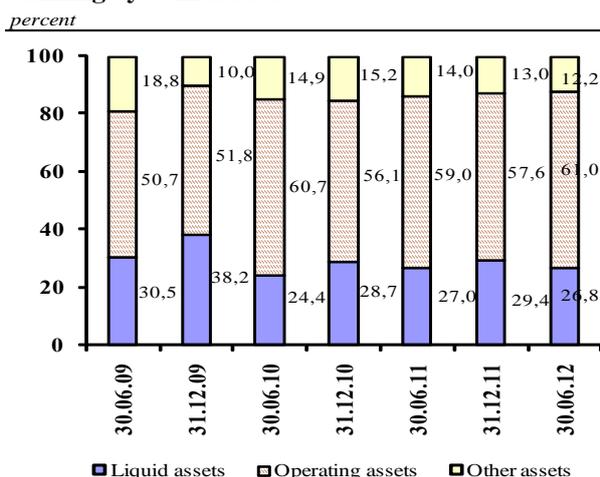
Graph 4.2.1.2. The structure of the total assets of the banking sector



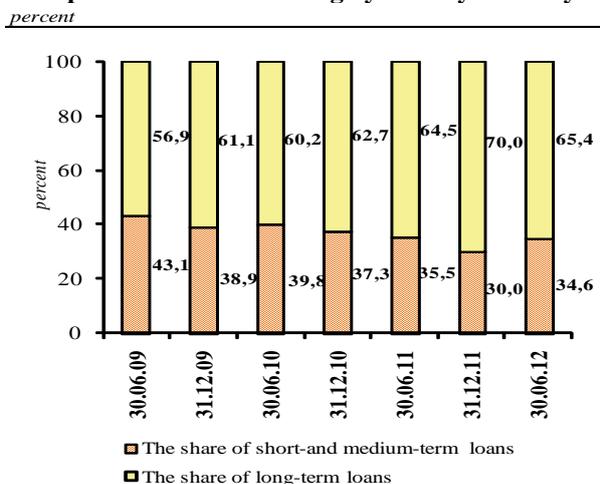
²⁹ Data are given according to the Periodic Regulatory Reporting of commercial banks

³⁰ For purposes of the analysis in this publication, “large” banks are known as banks, the market share of which in the banking market (average squared share in total assets, loans, deposits and liabilities) exceeds 10%, “medium” banks - from 5% to 10% and “small” banks - less than 5%

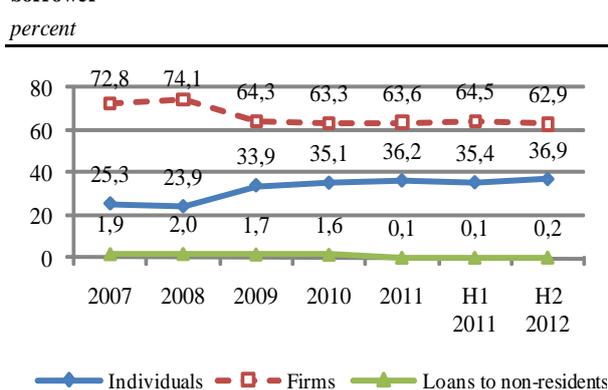
Graph 4.2.1.3. Changes in the structure of the banking system assets



Graph 4.2.1.4. Changes in the structure of the loan portfolio of the banking system by maturity



Graph 4.2.1.5. The structure of the loan portfolio by type of borrower



represented by assets attributable to the corporate (real) sector (Graph 4.2.1.2). The “Other assets” article is followed by the household sector, which accounts for 16.8 percent of assets.

An increase in assets of the banking system in the 1st half of 2012 amounted to 13.5 percent. In the structure of total assets, 61.0 percent of assets were operating³¹, and their share increased by 3.4 percentage points compared with the results of the 2nd half of 2011. The share of liquid assets³² in total assets of the banking system decreased by 2.6 percentage points and amounted to 26.8 percent (Graph 4.2.1.3).

In the 1st half of 2012, there has been a continuing declining trend in the share of “other assets”, which began in the 1st half of 2011 to the level of 12.2 percent of total assets of the banking system, which also characterizes improved allocation of assets of the banking system.

There are continued operations in accordance with the Islamic principles of banking and finance. The volume of active operations in accordance with the Islamic principles of banking (murabaha, mudaraba, shariqa, etc.) in the H1 2012 amounted to KGS 1,312.2 million (as of 12/31/2011 amounted to KGS 1,119.1 million), i.e. an increase for the H1 2012 was 17.3 percent.

The total loan portfolio³³ of the banking system grew by 11.8 percent to KGS 34.8 billion in the 1st half of 2012. In the 1st half of 2012, the share of long-term loans³⁴ decreased from 70.0 to 65.4 percent, and the decline amounted to KGS 0.9 billion in absolute terms (Graph 4.2.1.4). The share of loans with terms of less than one year in the 1st half of 2012 rose to 34.6 percent of the share of the loan portfolio of the banking system.

In the first half of 2012, most loans in the total loan portfolio are still accounted for by the corporate sector. At the same time, the share of

³¹ Operating assets represent balances of loans, deposits with FI, securities and other placements of banks, interest-bearing.

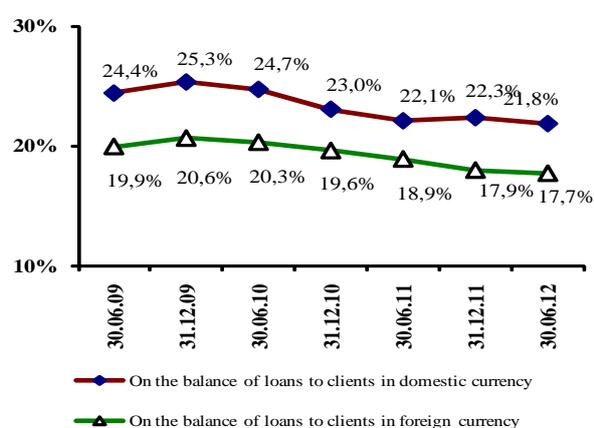
³² Liquid assets mean the funds of banks in cashier’s offices and in correspondent accounts.

³³ Hereinafter, this category does not include the appropriate discount on all loans, and loans to banks and other FI. Loans are given with loss provisions.

³⁴ Long-term loans mean loans for a period of 1 year.

loans to households tends to increase (Graph 4.2.1.5). In addition to the economic impact, note the role of the loan portfolio in the formation of financial performance (revenue, profit). Thus, the share of interest

Graph 4.2.1.6. The dynamics of interest rates on loan balances



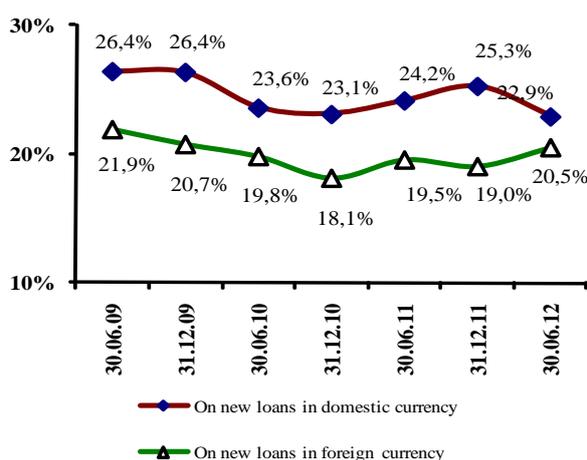
income on loans to the corporate sector constituted 56.8 percent of revenue of banks on loans, and loans to households – 36.3 percent. In general, there is decreased concentration of the loan portfolio by type of the borrower.

The share of loans to financial and credit institutions decreased to 5.0 percent of the total loan portfolio.

At the end of 1st half of 2012, weighted average interest rates *on loans* in domestic currency amounted to 22.9 percent and 20.5 percent in foreign currency. At the same time, in the first half of 2012, there is a marked volatile trend in the interest rate on loans by the type of currency. It

should be noted that in the period 2009 – 1st half of 2009, interest rates on loans in the domestic currency in the 1st half of 2012 were the lowest.

Graph 4.2.1.7. The dynamics of interest rates on issued loans

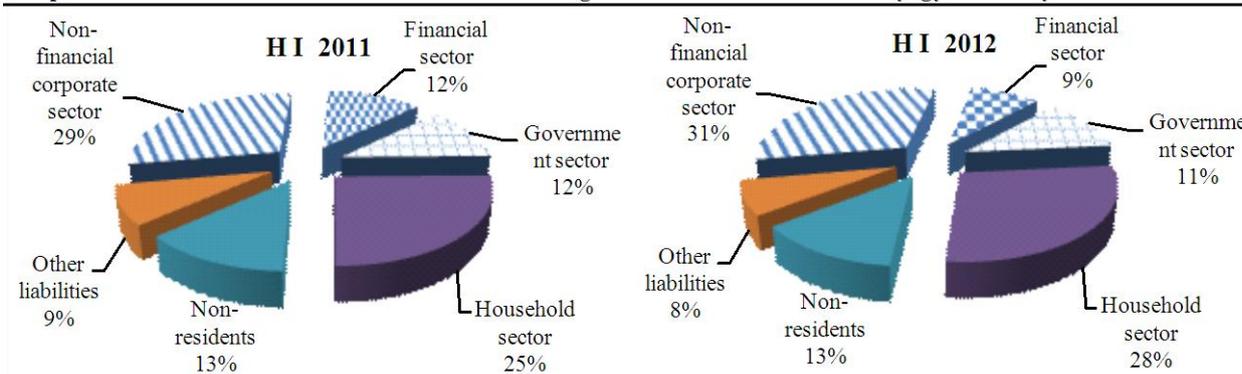


Dynamics of average interest rates in the 1st half of 2012 *on the credit balance* reflects a downward trend in interest rates, both in national (0.5 percentage points) and in foreign currencies (by 1.5 percentage points) as well as reduction in interest rates on the credit balances in relation to interest rates on new loans (Graph 4.2.1.6).

The growth of a weighted average interest rate on loans in foreign currency (an increase of 1.5 percentage points in the 1st half of 2012) may be indicative of the growth of estimates of the currency risk degree on the part of commercial banks (Graph 4.2.1.7).

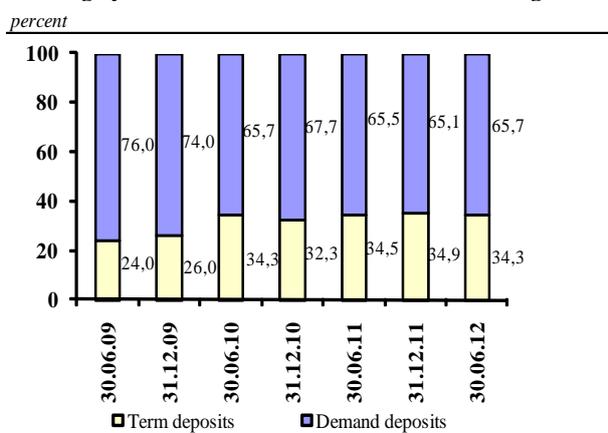
The liability structure of the banking sector did not change at the end of the first half of 2012 in relation to the structure at the end of the first half of 2011. Thus, 30.9 percent of the liabilities accounted for the corporate sector, in particular, accounts and deposits of companies, whereas 28.2 percent accounted for the household sector (Graph 4.2.1.8). In general, liabilities of banks have become more diversified.

Graph 4.2.1.8. The structure of liabilities of the banking sector to the sectors of the Kyrgyz economy



In the 1st half of 2012, growth of the deposit base of the banking system amounted to 20.4 percent in volume and totaled KGS 48.5 billion. In the structure of deposits and the population, the proportion of

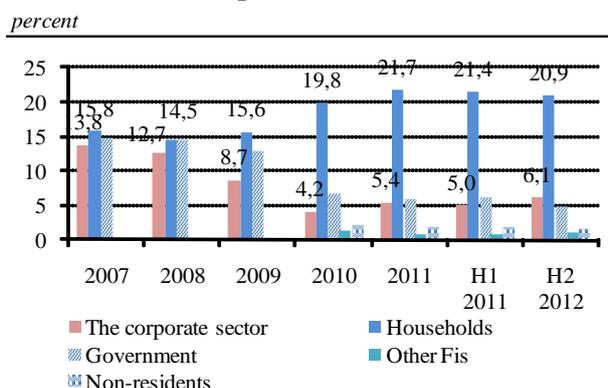
Graph 4.2.1.9. Changes in the structure of deposits of the banking system in the context of term of borrowings



individuals' deposits amounted to 47.8 percent (a decrease by 2.4 percentage points compared to the 2nd half of 2011), while the increase in the volume of individual deposits in the 1st half of 2012 was 16.0 percent.

The share of corporate deposits for the 1st half of 2012 increased from 49.8 percent to 52.2 percent to KGS 20.4 billion, while the growth of corporate deposits in the 1st half of 2012 amounted to 27.3 percent. There has been a slight decline in the share of time deposits from 34.9 to 34.3 percent of the total deposits of enterprises and population (Graph 4.2.1.9).

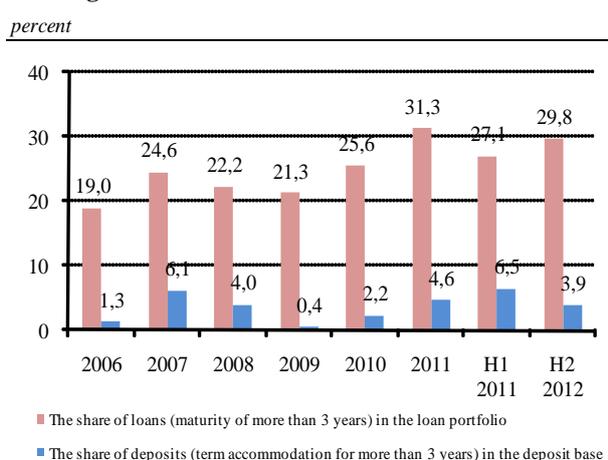
Graph 4.2.1.10. The structure of time deposits relative to total deposit base



The main share of the deposit base of banks is taken by accounts and demand deposits, forcing commercial banks to keep a high volume of liquid assets, constraining the potential financing of the economy.

The share of long-term deposits (over 1 year), which have a positive effect on the long-term development of the banking system, was 9.8 percent on average for the period. In the first half of 2012, this figure was formed in the average value and was 9.7 percent, having decreased by 2.7 percentage points in the same period of 2011.

Graph 4.2.1.11. Long-term deposits and loans of the banking sector



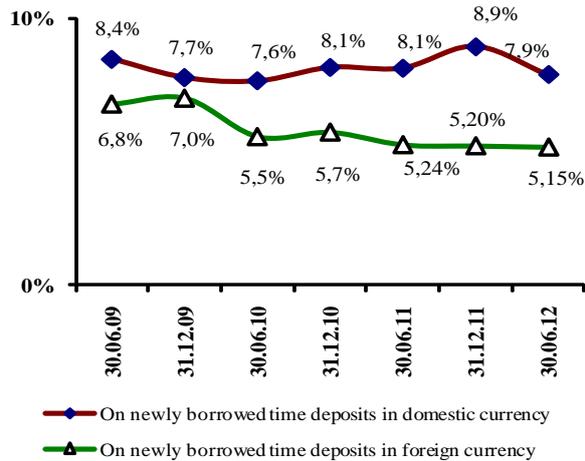
The structure of the deposit base by sectors of the economy indicates a gradual leveling and reducing of imbalances in the functioning of the banking sector in terms of attracting money (deposits). The share of term deposits of households still holds a dominant position (Graph 4.2.1.10).

The share of long-term deposits (over 3 years) accounted for a small portion of the deposit base. In turn, long-term loans (over 3 years) occupy a significant share in the total loan portfolio. The figure indicates a favorable trend of increasing long-term lending of the economy by the banking sector (Graph 4.2.1.11).

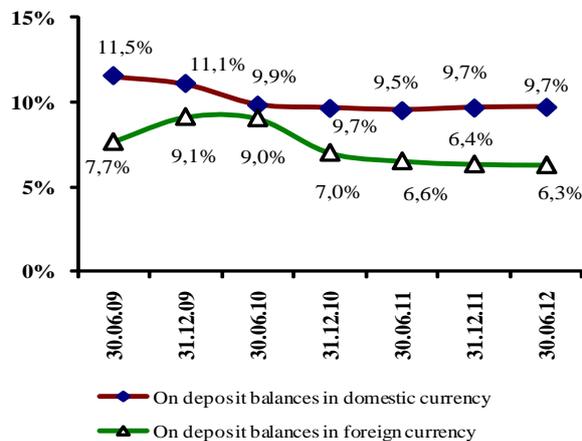
At the end of the 1st half of 2012, *the weighted average interest rates on newly attracted deposits*³⁵:

³⁵ The weighted average interest rates on term deposits and loans up to 1 year, calculated as the average value in this half of the year, were used for purposes of this analysis.

Graph 4.2.1.12. The dynamics of interest rates on newly borrowed term deposits



Graph 4.2.1.13. The dynamics of interest rates on deposit balances



- in domestic currency, fell to 7.9 percent, which may subsequently be a factor in reducing the volume of attracted deposits in domestic currency;
- in foreign currency, the weighted average interest rate amounted to 5.15 percent and remained almost unchanged in the period from the 1st half of 2011 (Graph 4.2.1.12).

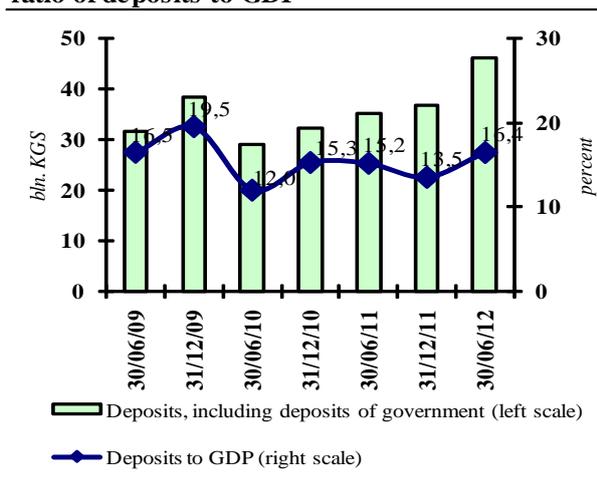
Interest rates on the deposit balance in the period from the 2nd half of 2010 show a flat trend with a tendency to increase the interest rate in domestic currency and lower in foreign currency. The latter fact may indicate that a significant change in interest rates on newly issued deposits in certain periods had no significant impact on the formed level of average interest rates on the balances of deposits (Graph 4.2.1.13).

It is noted that in the observed period, from the 1st half of 2009, interest rates on balances of deposits are higher than on newly attracted deposits, both in foreign and national currencies, indicating that there is a common trend to reduce the current level of interest rates on deposits in all currencies.

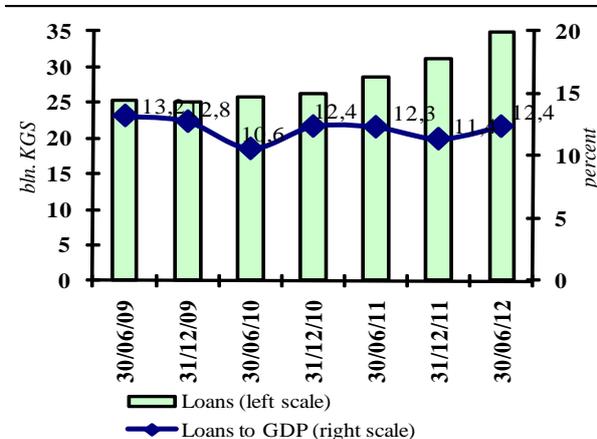
4.2.2. Main Banking Sector Problems, Risks, Threats and Vulnerabilities.

The expansion of banking has identified a certain growth of threats and risks to commercial banks. In particular, there is still a risk of loan portfolio concentration in the trading industry. There is an increase in the gap in maturity payments, which is a prerequisite for maintaining a sufficiently high level of liquidity in the banking system. In general, the level of capital adequacy of the banking system reflects the possibility of further expansion of active operations of banks.

Graph 4.2.2.1. The dynamics of deposits and the ratio of deposits to GDP



Graph 4.2.2.2. The dynamics of loans and the ratio of loans to GDP



Indicators of Financial Intermediation.

The role of the banking sector as a financial intermediary, accumulating financial resources for their further redistribution among creditworthy borrowers and sectors of the economy, directly depends on the level of development and efficiency of banks.

The ratio of deposits³⁶ to the size of GDP³⁷ amounted to 16.4 percent at the end of the 1st half of 2012 (13.5 percent in 2011 (Graph 4.2.2.1).

The growth of this figure occurred to rapid rates of growth of deposits of the banking system (33.1 percent) compared to the growth rate of nominal GDP (7.3 percent since the beginning of 2012³⁸).

The ratio of total loans to clients to GDP was 12.4 percent, having increased by 1.0 percentage points over the end of 2011, which was also a consequence of the rapid growth of the loan portfolio of the banking system, as compared with the growth rate of GDP (Graph 4.2.2.2).

As of 06/30/2012, the volume of loans to customers of the banking system amounted to KGS 34.8 billion, having increased by 11.8 percent since the beginning of 2012.

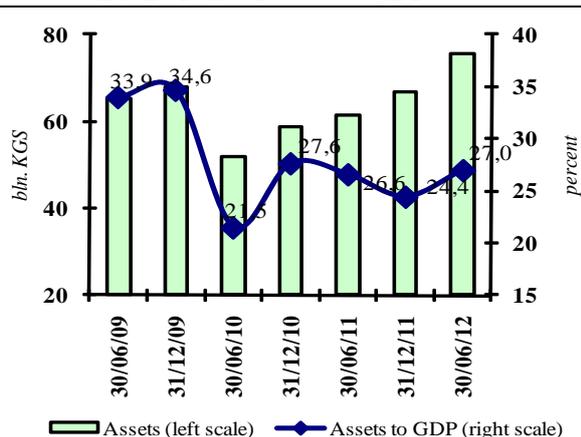
There was growth of overall financial intermediation of the banking system (ratio of total assets to GDP), which was a result of growth of aforementioned composite indicators of financial intermediation – deposits to GDP and loans to GDP against a decrease in real GDP (Graph 4.2.2.3).

³⁶ In this section, deposits means deposits of enterprises and the population, as well as deposits of the governmental bodies of the Kyrgyz Republic

³⁷ The calculation uses data on nominal GDP over the past 12 months

³⁸ Here, the growth rate of nominal GDP is used

Graph 4.2.2.3. The dynamics in the volume of assets and the ratio of asset to GDP

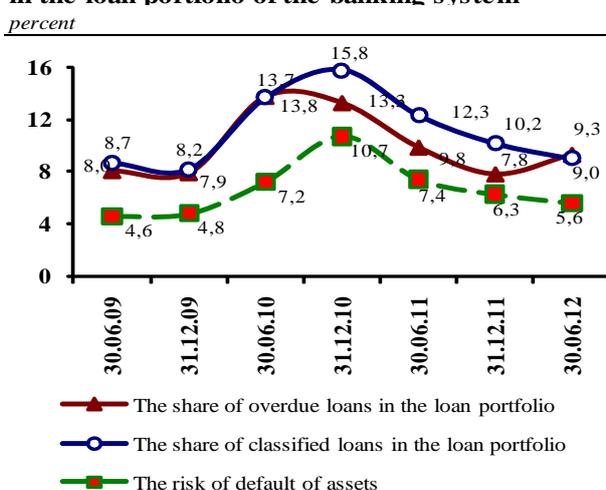


Thus, in the 1st half of 2012, the ratio was 27.0 percent, and 24.4 percent in 2011.

The formed level of performance of financial intermediation in the Kyrgyz Republic is still relatively low, and therefore, there is a possibility for further expansion of active operations of the banking system with the preservation of financial risks to an acceptable level.

In general, some safety margin available in commercial banks suggests that, in the short run, the banking system has the potential to expand and withstand moderate shocks.

Graph 4.2.2.4. Changes in the level of credit risk in the loan portfolio of the banking system



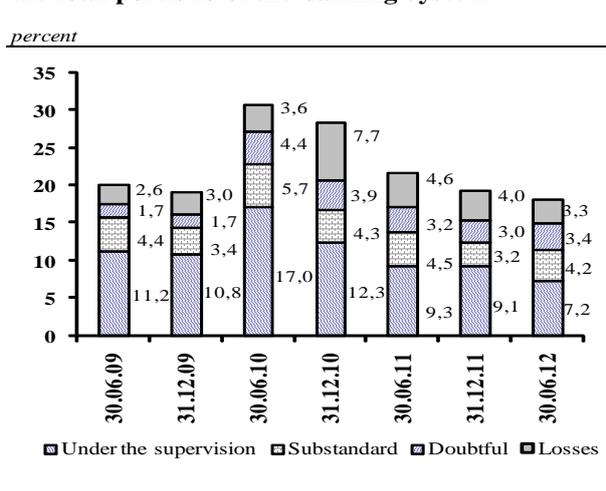
Credit Risk.

At the end of the 1st half of 2012, the proportion of the “net” loan portfolio (outstanding balance of the loans to customers, net of established special loss provisions) was 45.7 percent of total assets of the banking system, having increased by 2.0 percentage points compared to 12/31/2011.

A credit risk is one of the main risks that accompany banking. Therefore, to assess the quality of the loan portfolio, commercial banks use a loan classification system³⁹, which makes it possible to determine the possible level of potential losses from bad loans and compensate them in time by the creation of appropriate reserves.

During the analysis of the loan portfolio, classified and non-performing loans, reflecting the change in the loan portfolio quality in total, require the most attention. In the 1st half of 2012, there was a decrease in the share of classified and non-performing loans in the loan portfolio (Graph 4.2.2.4). The risk of default on assets (the ratio of special loss provisions and loan portfolio) also declined, reaching 5.6 percent (based on the 2nd half of 2011, the rate was 6.3 percent.)

Graph 4.2.2.5. Changes in the classification of the loan portfolio of the banking system



Index, defined as the ratio of classified

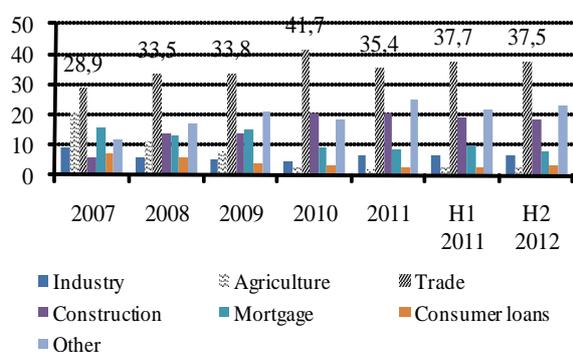
³⁹ In order to assess the quality of the loan portfolio, all loans are usually divided into six categories, depending on the client's current capacity to fulfill its obligations to the bank (listed in declining order of classification): normal, satisfactory, under supervision, substandard, doubtful and losses. Loans of last three categories, as having the most negative characteristics in terms of return of loans, are usually attributed to the “non-operating” or “classified.” For each of the six categories, the bank has to create a reserve corresponding to this category defined as a percentage of loans issued.

loans net of provisions to capital created on the basis of 2012, was 11.8 percent, having decreased from a maximum value of 2010 by 13.3 percentage points

As one of the factors that may influence the increase or decrease in the level of credit risk in the future the dynamics of loans classified as loans “under supervision” is used. The share of such loans for

Graph 4.2.2.6. The structure of classified loans by sectors

percent



the 1st half of 2012 decreased by 1.9 percentage points (Graph 4.2.2.5) and constituted 7.2 percent. It is noted that the volume of classified loans in the total loan portfolio of the banking system was 9.0 percent in the 1st half of 2012 (at the end of 2nd half of 2011 the figure was 10.2 percent.)

The share of classified loans attributable to the trade sector remained at a high level throughout the period. There is still concentration of bad loans in the trade sector of the economy. Since 2010, there has been an increase in the share of bad loans in the construction industry, which constituted 18.5 percent in the first half of 2012 (Graph 4.2.2.6).

Box 4. Transition Matrix-Based Loan Portfolio Quality Review.

In order to analyze changes in the quality of the loan portfolio over time, a transition matrix was constructed, which shows the distribution of commercial banks by quartiles depending on the share of classified loans in the total loan portfolio.

Table 1. The transition matrix by the share of classified loans in the loan portfolio

| H1 2011 | H1 2012 | | | |
|------------|------------|------------|------------|------------|
| | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 |
| Quartile 1 | 4 | 2 | 0 | 0 |
| Quartile 2 | 2 | 2 | 1 | 0 |
| Quartile 3 | 0 | 1 | 4 | 0 |
| Quartile 4 | 0 | 0 | 0 | 6 |

Source: NBKR calculations

Note: numeric values in the matrix represent the number of banks

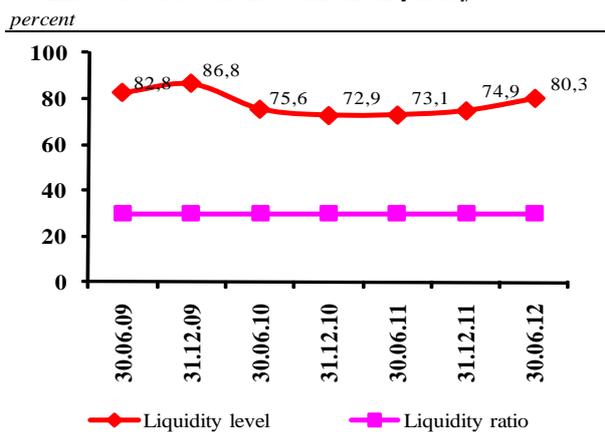
The main diagonal (shaded, from top left to bottom right point) in the transition matrix shows the number of banks that correspond to the distribution at the end of the first half of 2011. The figures in the unshaded area determine the number of banks that have moved to another quartile.

Thus, according to the transition matrix (Table 1) in the first half of 2012, there was a decrease in the number of banks with a lower share of classified loans in the loan

portfolio, which accounted for 26.6 percent of all assets of the banking system. However, there is improvement in the quality of assets in quartiles (second and third quartiles). Banks with the largest share of classified loans (fourth quartile) had only 11.7 percent of total assets. In general, during the period under review, 16 of the 22 banks stayed in the same quartile, that characterizes the banking sector with high constancy.

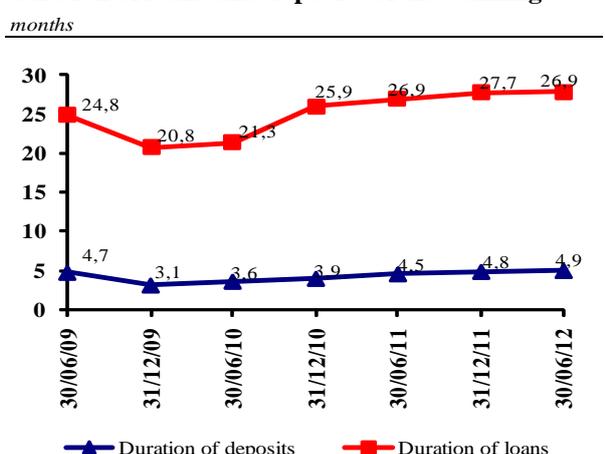
In general, in the banking system, the dynamics of quality of the loan portfolio shows a slight decrease in the level of credit risk in the 1st half of 2012.

Graph 4.2.2.7. The dynamics of changes in the estimated value of the current liquidity

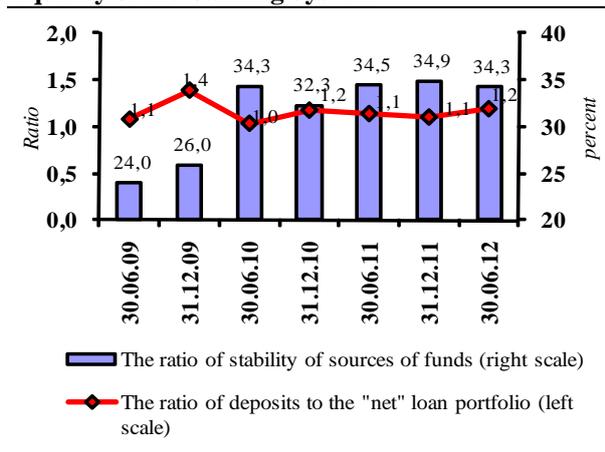


percent, having increased by 5.4 percentage points

Graph 4.2.2.8. The dynamics of changes in duration of loans and deposits of the banking



Graph 4.2.2.9. Assessment of the factors of liquidity of the banking system



Liquidity Risk.

Population’s confidence in the banking system depends on the prompt fulfillment of obligations by banks, which suggests that there is sufficient liquidity in banks. For regulatory purposes, liquidity risk is estimated by economic standards of current liquidity, which is set at not less than 30 percent.

Actual *liquidity indicator* of the banking system in the 1st half of 2012 remained high. On average, in the banking system, the calculated value of the indicator at the end 1st half of 2012 was 80.3 percent, having increased by 5.4 percentage points relative to the same period of the beginning of 2012 (Graph 4.2.2.7).

Stability of deposits is characterized by a ratio of duration of deposits and loans, as well as by the coefficient of a stable source of funds⁴⁰.

During the period under review, the gap between the average terms of deposit attraction and allocation of loans fell by 0.9 months (Graph 4.2.2.8), and as of 06/30/2011 amounted to 22.0 months (as of 12/31/2011 – 22.9 months) indicating hidden risks of disintermediation⁴¹, which can complicate management of liquidity under certain conditions. Also note that some of the loans were financed by banks at the expense of long-term sources other than deposits (capital, long-term loans from financial institutions, etc.), which to some extent is a factor in reducing the probability of risk disintermediation.

In the 1st half of 2012, there has been some increase in the share of time deposits from 49.8 percent as of 12/31/2011 to 52.1 percent in deposits of the corporate sector and the population, reflecting an increase in long term resource potential to extend the life of granted loans. In the meantime, duration of loans in the banking system in the 1st half of 2012 decreased from 27.7 to 26.9 months (see Graph 4.2.2.8).

Graph 4.2.2.9 shows changes in the

⁴⁰ Coefficient of stability of funding sources is characterized by a share (in percent) of term deposits in total deposits of the banking system.

⁴¹ Disintermediation is the process of mass withdrawal of deposits by the population before the stipulated period due to panic, which may be caused by the escalation of inflation expectations and/or other negative expectations.

coefficient of stability of funding sources compared to the dynamics of the ratio of the deposit base to a “net” portfolio. The growth in the ratio of deposits and the level of “net” loans to the level of 1.2 in the 1st half of 2012 reflected some change in the general policy of banks, which reduced the share of financing loans at the expense of attracted deposits in the 1st half of 2012.

Table 4.2.2.1 provides information on maturities of financial assets and liabilities as at 06/30/2012. In general, financial liabilities of banks were covered by financial assets, and the “gap” (the excess of financial assets over financial liabilities) was positive and amounted to KGS 17.4 billion, and KGS 15.0 billion on loans and deposits.

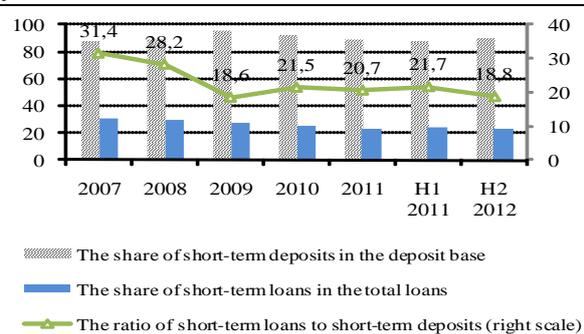
Table 4.2.2.1. Maturity of financial assets/liabilities

mln. KGS

| Name | Maturity | | | | | Total |
|---|------------|--------------------|---------------------|----------------------|--------------------|----------|
| | to 30 days | from 31 to 90 days | from 91 to 180 days | from 181 to 365 days | more than 365 days | |
| 1. Total financial assets | 31,838.5 | 3,673.3 | 4,368.1 | 8,977.5 | 29,743.1 | 78,600.5 |
| including loans and financial leases to customers | 1,468.5 | 1,527.8 | 2,785.3 | 6,277.5 | 22,755.9 | 34,815.0 |
| 2. Total financial liabilities | 36,751.7 | 4,707.1 | 3,162.0 | 6,789.0 | 9,767.9 | 61,177.6 |
| including deposits of individuals and term deposits of legal entities | 10,037.1 | 2,767.6 | 2,295.1 | 2,414.0 | 2,278.3 | 19,792.1 |
| 3. Total gap | -4,913.2 | -1,033.8 | 1,206.1 | 2,188.5 | 19,975.3 | 17,422.9 |
| including the gap on loans and deposits | -8,568.5 | -1,239.8 | 490.2 | 3,863.6 | 20,477.6 | 15,023.0 |

Graph 4.2.2.10. Indicators of the gap between short-term loans and deposits

percent

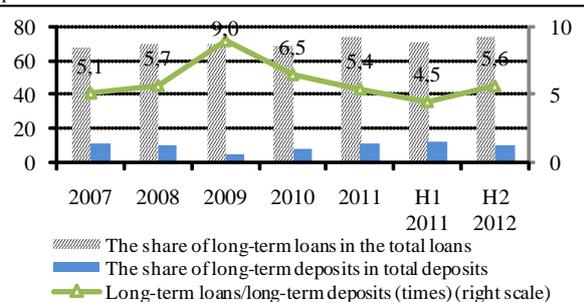


Source: NBKR

Note: short-term deposits include current accounts and demand deposits

Graph 4.2.2.11. Indicators of the gap between long-term loans and deposits

percent



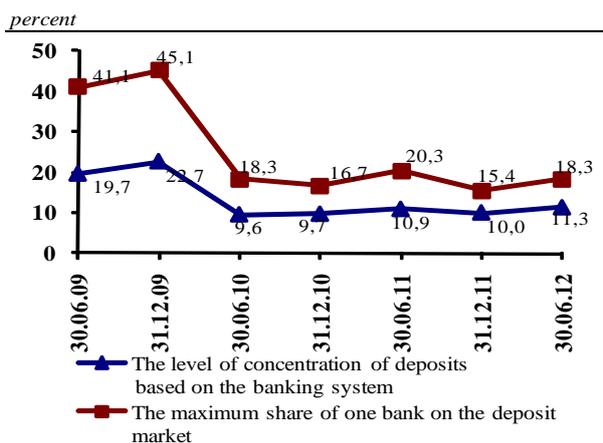
At the same time, calculations showed that the cumulative “gap” on total assets in the period of “up to 180 days” (i.e. before the end of the second half of 2012) can constitute “minus” KGS 4.7 billion (or “minus” 6.0 percent of the financial assets of the banking system), which will require banks in the 2nd half of 2012 to focus on asset and liability management with the “immediate” term to meet their financial obligations.

The gap covering short-term loans by short-term deposits increases, serving as one of the reasons for the continuing high level of liquidity in the banking sector. Thus, in the first half of 2012, short-term loans covered only 18.8 percent of short-term deposits⁴², thereby forming a gap at the level of 81.2 percent (Graph 4.2.2.10).

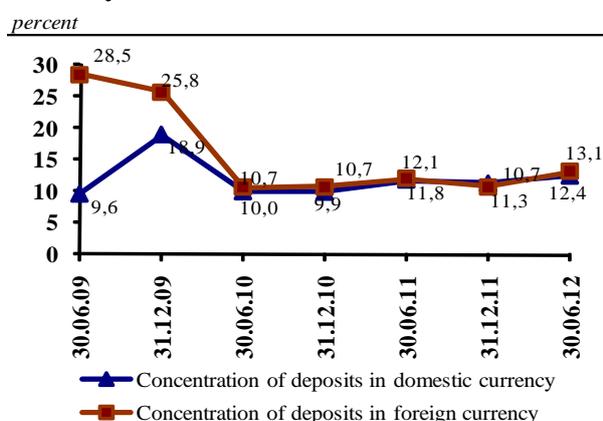
In turn, in the long-term segment, there was also a mismatching of maturity payments. Long-term loans (over 1 year) 5.6 times exceed long-term deposits (Graph 4.2.2.11). A formed gap indicates that a high proportion of long-term loans is not supported by a long-term deposit base.

⁴² Include bank accounts, demand deposits and short-term deposits (up to 1 year)

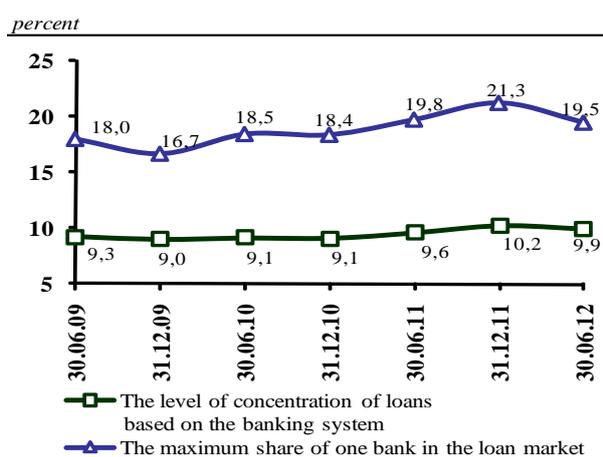
Graph 4.2.2.12. Changes in the concentration of deposits



Graph 4.2.2.13. Concentration of deposits by currency



Graph 4.2.2.14. Changes in the concentration of loans



The Risk of Concentration.

Features of Deposit Concentration. As Graph 4.2.2.12 shows, in the 1st half of 2012, there was an increase in the level of concentration of deposits in the banking system and the maximum share of one bank in the deposit market. Concentration of the deposit market among participants⁴³ in terms of the standard grading remains “moderate” (11.3 percent); the maximum share of one bank rose from 15.4 to 18.3 percent.

Concentration of deposits in national and foreign currencies also increased from 11.3 to 13.1 percent and from 10.7 to 12.4 percent, respectively (Graph 4.2.2.13), which shows that in the 1st half of 2012, depositors preferred to place their funds in a limited number of banks.

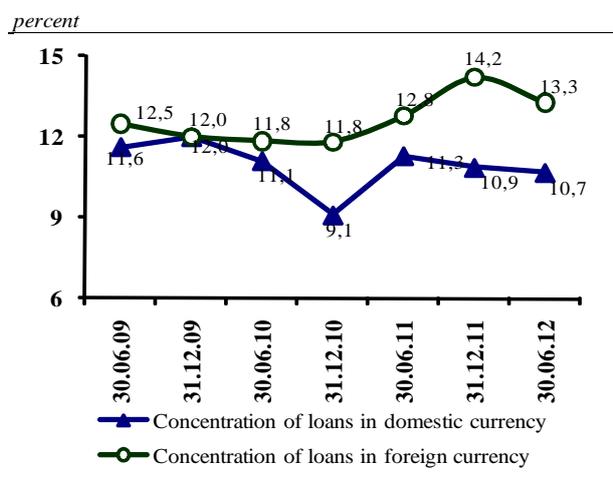
Features of Loan Concentration. In the 1st half of 2012, the loan portfolio of the banking system was accompanied by reduction in concentration of loans. At the same time, the maximum share of the individual bank on the loan market also declined from 21.3 to 19.5 percent (Graph 4.2.2.14), which indicates some growth of the level of competition in the loan market.

In the 1st half of 2012, the concentration indicator of foreign currency loans fell to 13.3 percent, and in domestic currency, decreased slightly by 0.2 percentage points to 10.7 percent. Gradation of loan concentration in the 1st half of 2012 still remained “moderate” (Graph 4.2.2.15).

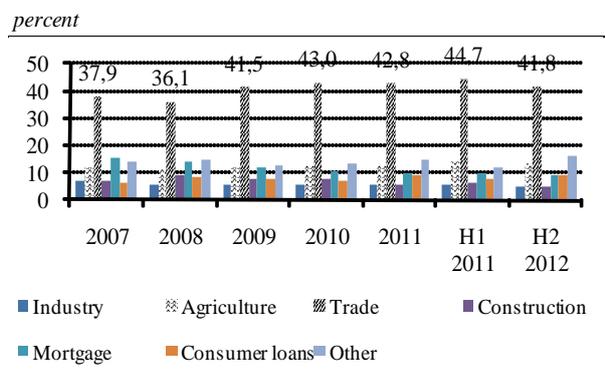
There is a variation in the level of loan concentration by economic sectors from “low” to “high”, depending on the sector. Thus, for the 1st half of 2012, there was an increase in the concentration of loans in “Industry” and “Social Services” sectors, which shows a decline in lending to mentioned industries by individual banks in the 1st half of 2012.

⁴³ The assessment of risk concentration as “high”, “moderate” or “low” is based on the common gradation of levels of concentration. Thus, the concentration risk is considered “low” if concentration is up to 10 percent, the “moderate” one is from 10 percent to 18 percent, and “high” is more than 18 percent. For example, the concentration index, equal to 50 percent, is equivalent to the presence of 2 participants on the market with equal shares, and 33 percent is equivalent to the presence of 3 participants, etc.

Graph 4.2.2.15. Concentration of loans by currency



Graph 4.2.2.16 The structure of the long-term and short-term loans by sectors



The level of loan concentration in “Agriculture” and “Harvesting and Processing” sectors decreased significantly, reflecting increase in the activities of commercial banks and increase in the level of competition in lending to sectors mentioned.

In the structure of the total loan portfolio of banks, high concentration of loans issued for trade, agriculture, logging and processing, and mortgages, indicates relatively high risks of concentration of lending in these sectors by separate banks.

High concentration of banks' loan portfolios in the trading sector (Graph 4.2.2.16), both short-and long-term, increases vulnerability of the banking sector from the financial and economic activity, profitability and prices on the largest domestic trade markets, Dordoi and Kara-Suu, as well as in the trade industry as a whole.

Thus, the following is noted in the banking system of the Kyrgyz Republic as a whole, in the 1st half of 2012, in terms of concentration of banks and their customers:

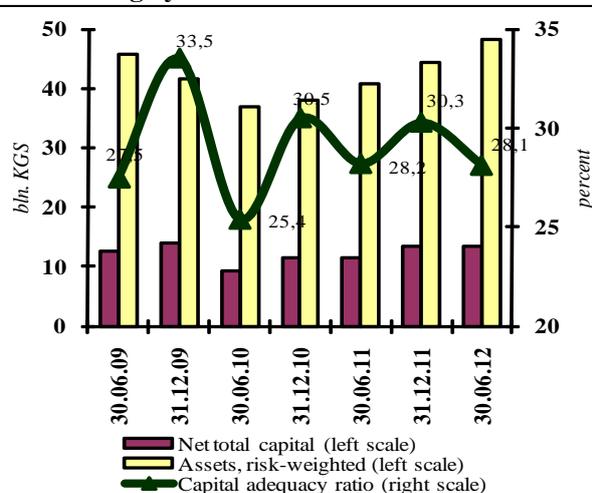
- companies and population place their deposits in a limited number of banks, which is characterized by increasing levels of concentration of deposits;

- revitalization of banks in lending both in national and foreign currencies, which is characterized by reduction in the concentration of loans;

- some revitalization of banks in lending to “Agriculture,” “Harvesting and Processing,” “Construction” and “Transport” sectors.

Capital adequacy.

Graph 4.2.2.17. Changes in adequacy of capital of the banking system



All risks inherent in banking are eventually reflected in the financial result (as already being manifested in the form of direct losses, and a high proportion of the probability of future losses, through costs for the creation of appropriate reserves) and affect the volume of the bank's equity, capital that characterizes stability of the bank to potential adverse changes.

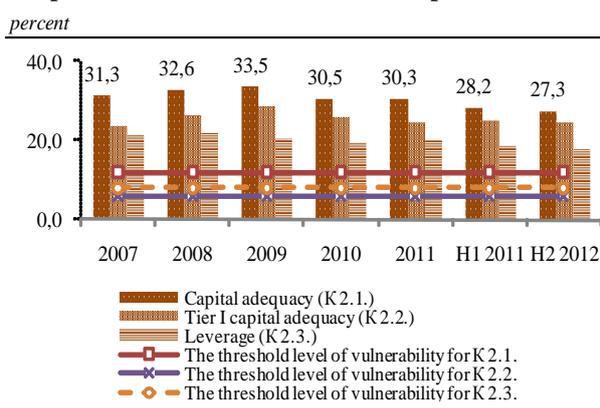
With statutory minimum capital adequacy at 12.0 percent, for the 1st half of 2012, this figure amounted to 27.3 percent (Graph 4.2.2.17) in the banking system on average. Reduction in capital adequacy of the banking system in the 1st half of 2012 occurred due to the faster growth of assets weighted by risk, compared with growth of capital.

At the same time, the actual level of capital adequacy (27.3 percent) can further increase the volume of risky and earning assets of the banking system 2.5 times, without exceeding the acceptable level of risk in activities of other banks.

The abovementioned information indicates certain stability of the banking system to negative shocks in the first half of 2012 and the presence of certain potential to increase the level of financial intermediation in the medium term.

The value of other indicators of financial soundness of the banking system, calculated on the

Graph 4.2.2.18. Indicators based on capital



basis of capital, did not exceed the threshold of vulnerability (Graph 4.2.2.18).

Financial Results.

The main indicator of profitability of banking is the rate of return on assets (ROA), defined as the ratio of profits to the average level of assets, and the rate of return on equity (ROE), defined as the ratio of profits to total amount of Tier I capital of the banking system.

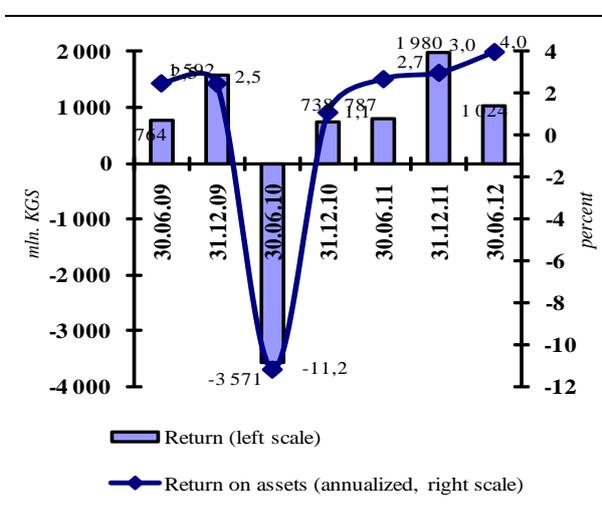
In the banking system of the Kyrgyz Republic, in the 1st half of 2012, ROA amounted to 2.7 percent (in 2011, 3.0 percent) at an annual rate, and ROE amounted to 16.9 percent (in 2011, 17.7 percent) at annual rate.

Table 4.2.2.2. Key indicators of profitability of the banking system

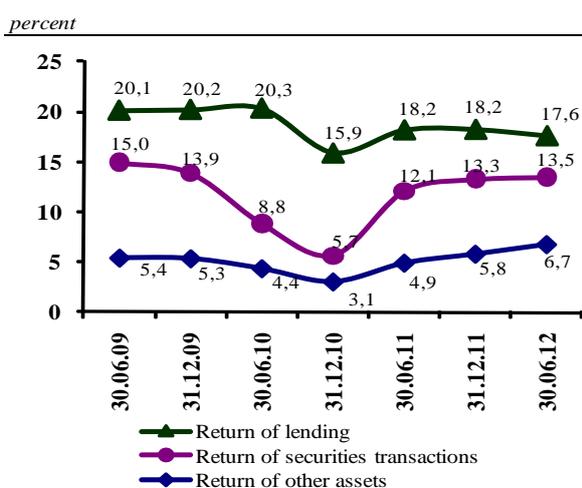
in percent to the average value of assets for the period (six months)

| | 30.06.09 | 31.12.09 | 30.06.10 | 31.12.10 | 30.06.11 | 31.12.11 | 30.06.12 |
|--|-------------|-------------|--------------|-------------|-------------|-------------|-------------|
| Total interest income | 10.0 | 9.6 | 9.3 | 8.3 | 9.8 | 10.1 | 10.0 |
| Total interest expense | 3.6 | 3.3 | 2.8 | 2.3 | 2.8 | 2.9 | 3.1 |
| Net interest income | 6.4 | 6.3 | 6.5 | 6.0 | 7.0 | 7.2 | 6.9 |
| Allocations to loss provisions (on loans) | 0.9 | 0.6 | 2.3 | 1.1 | 0.2 | 0.2 | 0.2 |
| Net interest income after allocations to LP | 5.5 | 5.7 | 4.1 | 4.9 | 6.8 | 7.0 | 6.7 |
| Total non-interest income | 17.8 | 16.8 | 16.7 | 18.8 | 25.0 | 31.3 | 39.9 |
| Total non-interest expenses | 13.8 | 12.5 | 13.1 | 15.2 | 20.6 | 26.4 | 35.7 |
| Total other operating and administrative expenses | 6.4 | 6.8 | 7.2 | 6.5 | 7.8 | 7.9 | 7.5 |
| Allocations to the LP (on other assets) | 0.3 | 0.3 | 11.5 | 0.4 | 0.3 | 0.2 | 0.3 |
| Net income (loss) before tax | 2.8 | 2.8 | -11.0 | 1.5 | 3.2 | 3.7 | 3.1 |
| Tax on profits | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 |
| Net income (loss) | 2.5 | 2.5 | -11.2 | 1.2 | 2.8 | 3.0 | 2.7 |
| The average value of assets for the period (billion KGS) | 61.6 | 64.1 | 63.8 | 60.9 | 55.6 | 58.6 | 68.3 |

Graph 4.2.2.19. Changes in the return of asset



Graph 4.2.2.20. Profitability of individual types of operations



non-interest income in the banking system.

The banking system showed generally profitable activity in the first half of 2012. At the same time, the level of average capital adequacy of the banking system reflected the possibility of further

Main indicators of profitability of the banking system (calculated as the ratio of the analyzed indicator to the average value of assets) showed a slight decrease in interest income (from 10.1 to 10.0 percent) and a significant increase in non-interest income (from 31.3 to 39.9 percent).

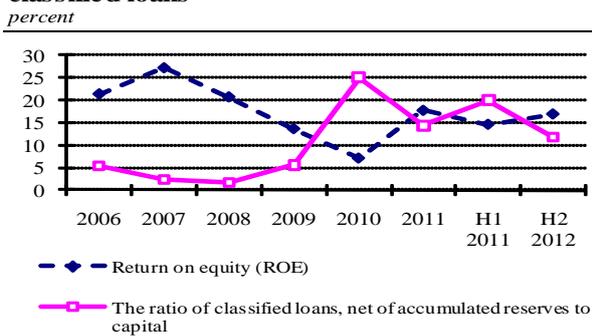
When considering total expenses of commercial banks, there is an increase in interest expenses (from 2.9 to 3.1 percent to average assets) and an increase in non-interest expenses (from 26.4 to 35.7 percent). At the same time, the level of operating and administrative expenses of banks decreased by 0.4 percentage points.

The level of payments for income tax for the analyzed period increased from 0.3 percent to 0.4 percent of the average of assets, while net income in the 1st half of 2012 amounted to 2.7 percent of average assets.

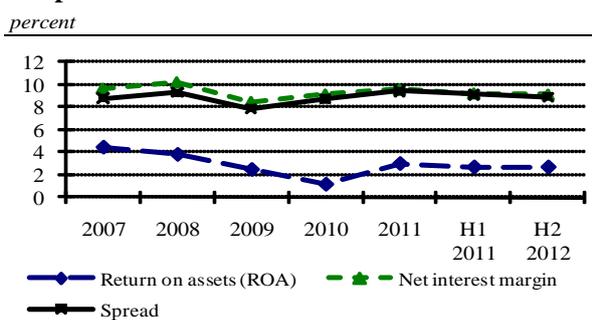
In absolute terms, net profit of the banking system in the 1st half of 2012 amounted to KGS 1.02 billion (in 2011, profit totaled KGS 1.98 billion) (Graph 4.2.2.19).

Profitability of the loan portfolio, defined as the ratio of interest income on loans to average balances of loans, decreased to 17.6 percent (Graph 4.2.2.20), and the return on other categories, “securities” and “other assets” increased by 0.2 and 0.9 percentage points, respectively. At the same time, the latter circumstance led to an increase in

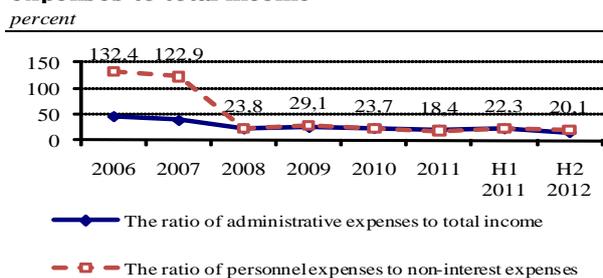
Graph 4.2.2.21. Indicators based on capital and classified loans



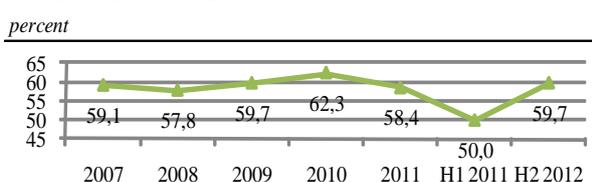
Graph 4.2.2.22 Indicators based on assets



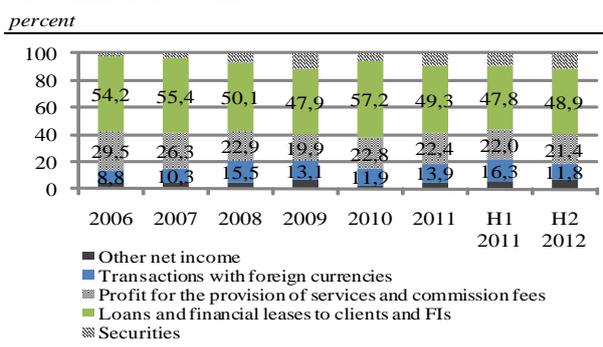
Graph 4.2.2.23. The ratio of administrative expenses to total income



Graph 4.2.2.24. The share of net interest income in the bank's net income



Graph 4.2.2.25. The structure of the net income of commercial banks



expansion of active operations of banks. The factor of improved efficiency of assets could be a further increase in the proportion of earning assets.

The dynamics of ROE and K 2.1. indicates quite sufficient return on capital of the banking system against a high level of capitalization, which increases efficiency and stability of the banking system as a whole. In the first half of 2012, the ROE improved significantly compared to the same period in 2011 and amounted to 11.8 percent (Graph 4.2.2.21).

The dynamics of the ROA remains stable, indicating banks' efficiency in using their assets (Graph 4.2.2.22). Since banks receive the principal amount of income from credit transactions, the formed dynamics of the net interest margin reflects a slight decline in the real rate of return of assets of banks.

In the first half of 2012, the ratio of administrative expenses and staff costs to income and expenses of commercial banks has a downward trend (Graph 4.2.2.23).

For the period under review, revenue of the banking sector exceeded its costs. The share of net interest income, the indicator of “efficiency” of the loan portfolio, dominated in total income (Graph 4.2.2.24). Thus, in the first half of 2012, the indicator amounted to 59.7 percent, which is higher than for the first half of 2011 by 9.7 percentage points. This fact shows recovery in efficiency of banking.

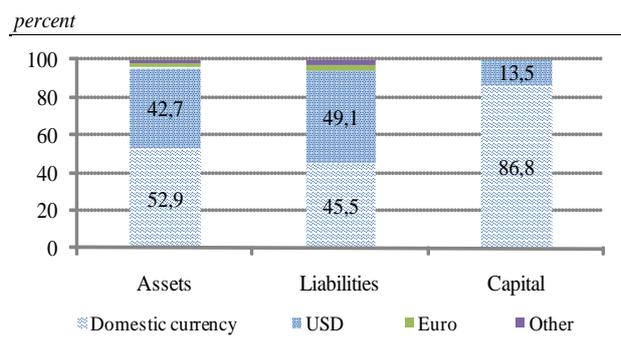
The structure of net income of commercial banks has remained constant in recent years (Graph 4.2.2.25). Main articles of income are:

- interest income on loans and finance lease to customers,
- service charges and commission fees (non-interest income).
- the share of income from securities transactions, particularly with government securities, is gradually increasing.

Market Risk.

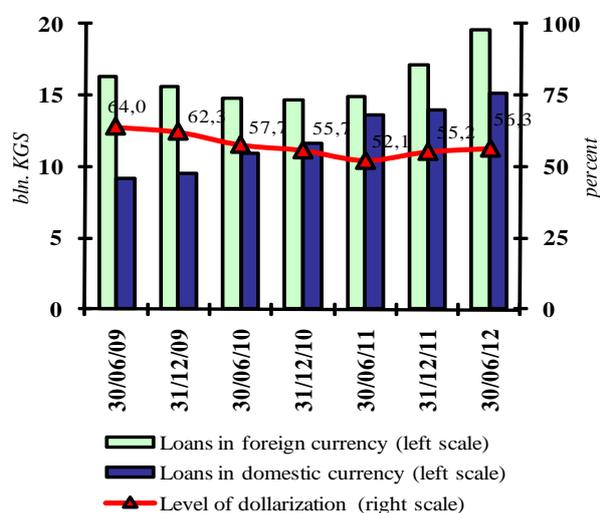
Currency and interest rate risks are considered as part of the market risk.

Graph 4.2.2.26. The currency composition of the balance of commercial banks in the first half of 2012



Note: Based on the International Financial Agreement signed August 7, 2000, the authorized capital of KICB CJSC is formed and accounted in U.S. dollars

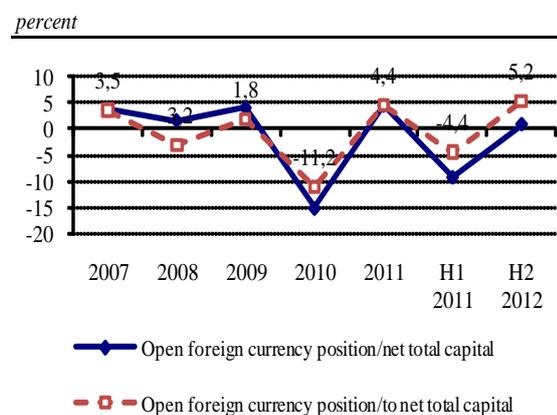
Graph 4.2.2.27. Changes in the structure of the loan portfolio of the banking system by currency



deposits amounted to 39.8 percent;

– the share of deposits in foreign currency in the 1st half of 2012 increased slightly by 0.2 percentage points and amounted to 54.0 percent of total individual deposits (amounted to 53.8 percent at the end of the 2nd half 2011). At the same time,

Graph 4.2.2.28. The condition of the currency position



Currency Risk.

Assets and liabilities of commercial banks in terms of currency risk are highly concentrated in U.S. dollars (Graph 4.2.2.26). A large share of foreign currency liabilities increases dependency on volatility of the exchange rate and foreign exchange market shocks (devaluation, etc.).

The level of loans in foreign currency (U.S. dollar), in the first half of 2012, resumed an upward trend, reaching 56.3 percent (Graph 4.2.2.27). Loans issued in foreign currencies carry an increased credit risk associated with the ability of domestic borrowers to service their liabilities in foreign currency, especially during large devaluations or absence of foreign exchange earnings. In general, despite the rise in interest rates on loans in foreign currency, the share of foreign loans continued to increase in the total loan portfolio.

In the 1st half of 2012, there was a decrease the level of “dollarization” of deposits of the banking system. This indicator constituted 53.7 percent against 54.2 percent on the basis of the 2nd half of 2011, where:

– the share of corporate deposits in foreign currency at the end of the period under review decreased by 0.4 percentage points and amounted to 53.4 percent of total corporate deposits (amounted to 53.8 percent at the end of the 2nd half 2011). At the same time, “dollarization” of term corporate

deposits amounted to 39.8 percent; – the share of deposits in foreign currency in the 1st half of 2012 increased slightly by 0.2 percentage points and amounted to 54.0 percent of total individual deposits (amounted to 53.8 percent at the end of the 2nd half 2011). At the same time, “dollarization” of term individual deposits constituted 54.0 percent.

In general, reduction in “dollarization” of deposits is observed on the back of a lower interest rate on deposits in foreign and national currencies.

The currency position arises during currency transactions and is an indicator of the bank's exposure to currency risks. For the purposes of macroprudential regulation of the NBKR, limits of an open currency position of commercial banks have been established. During the period under review, there was mainly divergence of assets and

liabilities of the bank in foreign currencies, i.e. an open foreign currency position prevailed (Graph 4.2.2.28). Note the presence of a short open currency position in 2008 and 2010 and in the first half of 2011. In these periods, foreign currency liabilities exceeded assets in foreign currency, i.e. there was additional pressure from the exchange rate.

The total open foreign exchange position of the banking system in the 1st half of 2012 was long, reaching KGS 707 million or 5.2 percent of net total capital (NTC) of the banking system (in 2011, the currency position was long, KGS 594.6 million or 4.4 percent of the NTC). The share of foreign currency assets and liabilities in final aggregates remains high, 47.4 and 55.0 percent, respectively.

In terms of commercial banks, almost all banks in the 1st half of 2012 had a long currency position, except for the four banks, one of which was from the “large banks” and three others from the “small” group of banks.

Stress Testing of the Currency Risk Evaluation.

The results of the stress test of the exposure of commercial banks to foreign exchange risk are:

Scenario 1 – direct exposure to 5-percent depreciation of domestic currency⁴⁴.

As a result of this stress scenario, there will be no major change in the ratio of assets and liabilities of commercial banks in national and foreign currency. Capital adequacy of the banking system will decrease by 0.1 percentage points and reach 27.2 percent. In general, the impact of this shock scenario on the overall level of risk in the banking system was insignificant.

Scenario 2 – indirect impact on the quality of loans in foreign currency during an increase in the share of classified loans in foreign currency to 30 percent.

As a result of this stress scenario, two “large” banks, which have a significant share of liabilities in foreign currency, may not survive this shock. Capital adequacy of these banks may be less than the standard level of 12 percent.

In addition, with the current long total foreign exchange position, the weakening of domestic currency will lead to additional losses on the revaluation. With the long foreign exchange position in the banking system in the amount of KGS 707 million, the weakening of the som by 5 percent can lead to additional *losses* in the banking system in the amount of KGS 35.4 million. Accordingly, the strengthening of domestic currency by 5 percent will lead to KGS 35.4 million of *return* from the revaluation of assets of the banking system.

Interest Risk.

To assess an interest rate risk, we calculated the “gap” between total assets and liabilities of the banking system that are sensitive to changes in interest rates.

The biggest “gap” is between total assets and liabilities that are sensitive to changes in interest rates with maturity of “up to 180 days” (that is, in the 2nd half of 2012) in the amount of KGS 8,589 million, which in turn can influence the deterioration of the interest rate risk, occurred in 4 commercial banks (two of which are from the group of “large” banks and the other two of which are from the group of “medium” banks).

⁴⁴ This scenario is discussed based on the analysis of the som exchange rate to foreign currency (U.S. dollar) in the first halves from 2008 to 2012. As a result, there has been a change of the rate in the range of (-4.1 percent in H1 2011) to (+9.9 percent to H1 2009), with an average level of exchange rate change (+2.5 percent). In this scenario, the effect of doubling the average exchange rate is considered.

The share of these banks accounted for 75.6 percent of the total cumulative negative “gap” in the banking system with maturity of “up to 180 days”, and in the banking system, 12 banks had a negative cumulative maturity gap of “up to 180 days.”

Assuming an increase in interbank interest rates by 2.5 percentage points in the stress test, *in the banking system as a whole, it can lead to a loss of KGS 83.6 million* (i.e. additional costs on obligations of banks with a negative gap will amount to KGS 198.7 million, and additional revenues from banks with a positive gap will amount to KGS 115.1 million).

The result of the stress test shows that the banking system has the potential to overcome the marked shock scenario, capital adequacy of the banking system may be reduced by 2.6 percentage points and will reach 24.7 percent.

Operational Risk.

A basic indicative method recommended by the Basel Committee on Banking Supervision was used for an assessment of operational risk.

According to this method, during the year, commercial banks are recommended to maintain capital for the operational risk equal to the average of the previous three years, expressed as a fixed percentage (15 percent are selected) of positive annual gross income.

In 2011⁴⁵, a total of the banking system capital required for the operational risk amounted to KGS 2.46 billion, whereas the increase of this indicator compared to its level in 2010 amounted to KGS 0.33 billion, which indicates a certain increase in the level of the operational risk the banking system.

The analysis in *the context of commercial banks* shows that the largest funds (or 39.8 percent of funds in the banking system) for operational risk may be needed by:

- the bank from the “small” group (39.8 percent),
- two banks of a “large” group (13.0 percent and 8.6 percent, respectively),
- the bank from the “medium” group (6.2 percent).

The analysis of the average operating risk (simple average and median) shows that the operational risk is more concentrated in the group of “large” banks. However, there is an exception: the abovementioned bank of the “small” group, which has the lowest concentration of assets, loans, bonds and deposits in the banking system, needs the most significant level of capital required for operational risk.

It is also noted that at the end of 2011, there was an increase in all banks (including the problem ones) in the level of capital required for operational risk.

⁴⁵ According to the methodology, the calculation of operational risk is carried out on an annual basis.

Box 5. Z-Score Methodology-Based Stability Review of the Banking Sector⁴⁶

Graph 1. z-index dynamics



Source: NBKR calculations

In the first half of 2012, according to the calculated values of z-index, there is increasing stability of the banking system of Kyrgyzstan (Graph 1). Z-index in the context of the commercial banks of the Kyrgyz Republic has allowed ranking banks by the resistance to risk of default. In general, there are three groups of commercial banks. The first group includes banks with the z-index higher than 1.5. This group included five banks. Consequently, commercial banks in the first group can be described as more resistant to default risk. The second group includes banks, whose z-index is less than 1.5 but greater than 0, as having acceptable resistance, which included 12 banks. The third group with an index less than 0, as the less resistant, included 5 banks. Thus, 17 commercial banks are in the temperate zone of the risk of default, and the rest are classified as banks with high risks.

Table 1. Statistical parameters of the z-score model

| The explanatory variables | Coefficient |
|--|-------------|
| The share of classified loans | -3.26* |
| <i>t-statistics</i> | -8,74 |
| Growth of the loan portfolio | 5.47*** |
| <i>t-statistics</i> | 2,16 |
| Liquidity Ratio (-3) | 2.57** |
| <i>t-statistics</i> | 2,63 |
| The standard deviation of the exchange rate (-1) | 1.07* |
| <i>t-statistics</i> | 2,99 |
| The ratio of loans to GDP | -4.34* |
| <i>t-statistics</i> | -5,97 |
| The ratio of deposits to GDP | 4.64* |
| <i>t-statistics</i> | 11,48 |
| The share of private foreign debt of commercial banks (-1) | -0.84* |
| <i>t-statistics</i> | -4,01 |
| Liabilities of commercial banks (-1) | 1.73* |
| <i>t-statistics</i> | 3,72 |
| R-squared (average) | 0,77 |

Note: *-statistical significancy at 1%, **-statistical significance at 5%, ***-statistical significance at 10%/ The lag effect is in parentheses

In the first half of 2012, according to the calculated values of z-index, there is increasing stability of the banking system of Kyrgyzstan (Graph 1).

Z-index in the context of the commercial banks of the Kyrgyz Republic has allowed ranking banks by the resistance to risk of default. In general, there are three groups of commercial banks. The first group includes banks with the z-index higher than 1.5. This group included five banks. Consequently, commercial banks in the first group can be described as more resistant to

Z-index values are used to determine the relative strength of effects of individual risk to sustainable functioning of the banking system. Based on the construction of regression equations, variables, which are some of the most important channels of risk transfer, are assessed quantitatively. Coefficients obtained are presented in the Summary Table 1.

Overall financial stability of the banking system is in varying degrees influenced by various macroprudential indicators. Thus, the growth of classified loans in the total loan portfolio has negative impact on stability of the banking system. At the same time, the growth in the loan portfolio, coupled with an increase in liquidity (with a lag of three quarters), is beneficial to stability of the banks. Against the background of high dollarization of the loan portfolio and deposit base, deviation (volatility) of the exchange rate of domestic currency from its mean value (market risk) with a lag of one quarter has an impact on profitability of the bank.

⁴⁶The methodology is presented in the appendix to Box 5 in the “Methodology of Analysis of Individual Financial Stability Issues”

Box 6. Stress-Testing Based on Credit Risk Modeling.

The basis for the stress testing of the credit risk is an econometric model in which the ratio of classified loans is described through macroeconomic and bank financial variables.

This econometric model was used to analyze the following possible scenarios:

Scenario 1 – a 10 percent increase during the year in the share of commercial loans in the loan portfolio.

As a result of this stress scenario, the growth of the ratio of classified loans for the year could reach 11.2 percent. Thus, the ratio of classified loans during the period under review could exceed 20 percent.

Scenario 2 – a 5-percent increase in concentration of commercial loans is accompanied by deterioration of macroeconomic variables: a 5-percent drop in GDP and depreciation of domestic currency by 10-percent.

As a result of this stress scenario, the growth of the ratio of classified loans for the year could reach 9.5 percentage points and form in the amount of 18.5 percent.

Thus, the main factor in the growth of bad loans of the banking sector is high concentration of commercial loans in the loan portfolio.

Box 7. Rating Methodology of Systemic Risk Dissemination via Interbank Links.⁴⁷

In the first half of 2012, in the domestic banking system, there were three banks, in which the excess of debt over total capital averaged 73.3 percent. In case of insolvency of the banks identified, in general, only one bank will suffer, after which the “contamination” chain will be broken.

It should be noted that for the first half of 2012, one creditor bank provided loans to other commercial banks in the amount of 98.8 percent of equity.

In general, the quantitative risk assessment of the banking system from insolvency of individual banks indicates moderate risks.

Box 8. Index Concentration-Based Banking Sector Stability Review.

– The Herfindahl Index.

In order to analyze distribution of assets of the banking system (concentration risk) between commercial banks, the Herfindahl index was calculated, which determines the degree of concentration on the basis of the market shares of each bank. The rule of thumb according to which the value of the index is below 1,000 points indicates low concentration, and above 1,800 points indicates presence of high concentration, is applied to the Herfindahl index. Thus, the Herfindahl index for the banking system of Kyrgyzstan constituted 942.5 points at the end of the first half of 2012. According to the rule of thumb, the value received indicates low concentration of assets in the banking system, i.e. stability of each bank to some extent affects stability of the sector as a whole. At the same time, there is also asset diversification in the group of six major banks; the index amounted to 845.5 points, which

⁴⁷ The methodology is presented in the appendix to Box 7 in the “Methodology of Analysis of Individual Financial Stability Issues”

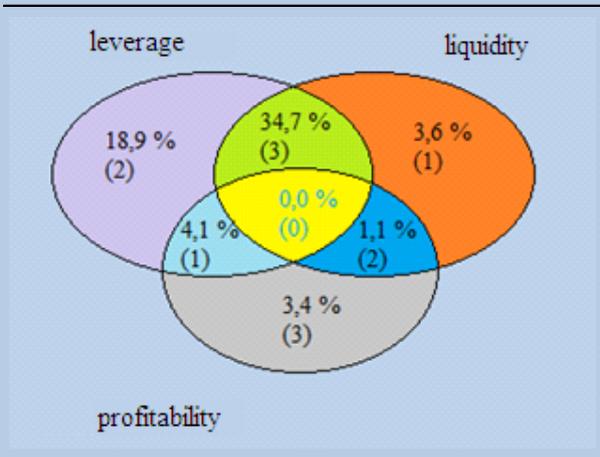
indicates low concentration.

– *The Gini Index.*

In addition to the Herfindahl Index, the Gini Index was calculated, which allowed estimating the uniformity of distribution of assets of the banking system among commercial banks. The Gini Index corresponding to zero indicates uniform distribution, and vice versa; the index equal to 1 indicates total concentration. In the first half of 2012, the index amounted to 0.53, indicating moderate concentration of assets. At the same time, an increase in concentration is noted (by 0.05 points) compared to the same figure for the first half of 2011.

Box 9. Banking Sector Stability Review based on Liquidity, Profitability and Leverage.

Graph 1. Distribution of commercial banks in the 1st half of 2012



Source: NBKR calculations

Note: The values in the figure reflect the market share of banks in total assets, the values in brackets - the number of banks

Banking sector stability review based on liquidity, profitability and leverage allows graphic representing of the default risk of commercial banks and determining their percentage amount. In particular, based on Venn diagrams, commercial banks with the lowest rates included in the fourth quintile group are represented graphically in order to identify the most vulnerable banks (Graph 1).

The level of default risk increases with individual banks, if there is a combination of at least two risk factors, namely:

- the low level of leverage and liquidity (green area),
- low return on capital and liquidity (blue area),
- low return on capital and leverage (blue area),

(blue area),
– a combination of all three risk factors (yellow area).

In general, banks with low rates for all indicators (yellow area) were not identified. The green area of risk includes three banks with a share of assets in total assets of the banking system in the amount of 34.7 percent (two banks account for 98.6 percent of foreign capital, and the remaining 1.4 percent for the third bank). The blue and navy areas of risk include banks with a share of assets of 1.1 and 4.1 percent respectively.

Box 10. Comparative Analysis of Interest Rates and Financial Intermediation Indicators in Russia, Kazakhstan and Kyrgyzstan⁴⁸

Kyrgyzstan has the highest interest rates on short-term (up to 1 year) and long term (over 1

⁴⁸ Sources of data on interest rates: The Bulletin of Central Banks of the countries studied.

year) loans in national and foreign currency. At the same time, interest rates on deposits are also the highest among the countries under consideration. A high gap between internal and external value of credit resources makes borrowing more attractive.

Table 1 . Average interest rates on loans issued and deposits accepted (individuals and firms) at the end of July 2012
percent

| | In domestic currency | | | In foreign currency | | |
|--------------------|----------------------|------------|-------------|---------------------|------------|-------------|
| | Loans | Deposits | Spread | Loans | Deposits | Spread |
| Kyrgyzstan | 25.0 | 9.9 | 15.0 | 19.5 | 7.2 | 12.3 |
| <i>individuals</i> | 28.6 | 12.5 | 16.0 | 21.1 | 10.4 | 10.7 |
| to year | 33.7 | 10.1 | 23.7 | 22.5 | 10.1 | 12.4 |
| over a year | 23.4 | 15.0 | 8.4 | 19.8 | 10.8 | 9.0 |
| <i>firms</i> | 21.4 | 7.3 | 14.0 | 17.8 | 4.0 | 13.9 |
| to year | 22.5 | 8.2 | 14.3 | 18.4 | 3.7 | 14.7 |
| over a year | 20.2 | 6.5 | 13.7 | 17.3 | 4.3 | 13.0 |
| Russia | 16.1 | 6.7 | 9.4 | 9.4 | 3.3 | 6.1 |
| <i>individuals</i> | 21.9 | 6.3 | 15.6 | 12.0 | 3.8 | 8.3 |
| to year | 24.7 | 5.3 | 19.4 | 12.7 | 2.9 | 9.8 |
| over a year | 19.0 | 7.3 | 11.7 | 11.3 | 4.6 | 6.7 |
| <i>firms</i> | 10.3 | 7.0 | 3.3 | 6.8 | 2.8 | 4.0 |
| to year | 9.5 | 5.4 | 4.1 | 5.9 | 0.3 | 5.6 |
| over a year | 11.1 | 8.6 | 2.5 | 7.7 | 5.3 | 2.4 |
| Kazakhstan | 14.8 | 4.4 | 10.4 | 11.0 | 3.2 | 7.9 |
| <i>individuals</i> | 18.4 | 4.8 | 13.6 | 12.7 | 4.3 | 8.4 |
| to year | 18.9 | 2.6 | 16.4 | 12.7 | 2.2 | 10.5 |
| over a year | 17.8 | 7.1 | 10.8 | 12.7 | 6.4 | 6.3 |
| <i>firms</i> | 11.3 | 4.1 | 7.2 | 9.3 | 2.0 | 7.3 |
| to year | 10.5 | 1.5 | 9.0 | 8.6 | 0.5 | 8.1 |
| over a year | 12.1 | 6.7 | 5.4 | 10.1 | 3.5 | 6.6 |

Source: NBKR calculations based on data on interest rates from the Bulletin of the National/Central Banks of the studied countries

Note: Kyrgyzstan has no official breakdown by loan rates for individuals and firms; therefore, credit rates to individuals are interest rates for consumer loans (households).

household (individuals) and the corporate (real) (legal entities) sectors are the highest among the countries studied (Table 1). Please pay special attention to interest rates on loans, which indicate a high assessment of risk on the part of commercial banks in Kyrgyzstan.

A similar situation is with loans issued in foreign currency; the risk, including the foreign exchange one, is assessed by domestic banks at a relatively high level (rates for loans in foreign currency in Kyrgyzstan almost double that of in Russia and Kazakhstan). A continued high level of interest rates on loans in foreign currency in Kyrgyzstan demonstrates high demands of the economy and population in credit resources in foreign currency, which is greater than the supply of the financial sector.

Table 2. The dynamics of changes in spreads in Russia, Kazakhstan and Kyrgyzstan
in domestic currency (in percentage points)

| | 30.06.11 | 31.09.11 | 31.12.11 | 31.03.12 | 30.06.12 | 31.07.12 |
|--------------------|----------|----------|----------|----------|----------|----------|
| Kyrgyzstan | | | | | | |
| <i>individuals</i> | 15,0 | 14,7 | 15,4 | 15,7 | 16,4 | 16,0 |
| to year | 20,5 | 19,8 | 20,1 | 22,6 | 24,2 | 23,7 |
| over a year | 9,5 | 9,6 | 10,8 | 8,7 | 8,5 | 8,4 |
| <i>firms</i> | 15,3 | 15,0 | 14,0 | 13,8 | 13,7 | 14,2 |
| to year | 16,8 | 16,0 | 14,5 | 14,2 | 13,8 | 14,5 |
| over a year | 13,8 | 14,0 | 13,6 | 13,5 | 13,6 | 13,8 |
| Russia | | | | | | |
| <i>individuals</i> | 14,5 | 15,0 | 14,3 | 14,5 | 14,9 | 15,6 |
| to year | 17,8 | 19,1 | 18,9 | 18,6 | 18,9 | 19,4 |
| over a year | 11,2 | 11,0 | 9,7 | 10,4 | 11,0 | 11,7 |
| <i>firms</i> | 4,4 | 3,7 | 3,4 | 4,2 | 3,6 | 3,3 |
| to year | 5,3 | 3,9 | 3,9 | 4,4 | 3,8 | 4,1 |
| over a year | 3,4 | 3,4 | 2,8 | 3,9 | 3,3 | 2,5 |
| Kazakhstan | | | | | | |
| <i>individuals</i> | 11,8 | 12,6 | 13,0 | 14,0 | 14,6 | 13,6 |
| to year | 14,5 | 14,7 | 14,7 | 16,6 | 16,7 | 16,4 |
| over a year | 9,2 | 10,5 | 11,3 | 11,4 | 12,6 | 10,8 |
| <i>firms</i> | 6,6 | 7,7 | 5,5 | 7,0 | 6,7 | 7,2 |
| to year | 10,8 | 10,4 | 9,5 | 9,2 | 10,0 | 9,0 |
| over a year | 2,4 | 5,1 | 1,5 | 4,7 | 3,4 | 5,4 |

Source: NBKR calculations based on data on interest rates from the Bulletin of the National/Central Banks of the studied countries

High interest rates in Kyrgyzstan are one of the main reasons for promoting cheaper external borrowing and reduction of domestic borrowing.

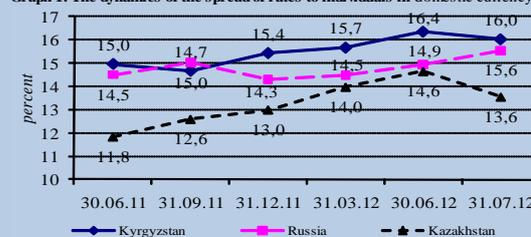
The spread between interest rates on loans and deposits of individuals and firms in foreign currency in Kyrgyzstan at the end of July 2012 has been one of the highest among the countries considered (Table 3, Graphs 3-4). At the same time, this spread to individuals did not differ much from that of Russia and Kazakhstan, while the spread to firms was much higher. Thus, we can assume that

Against this background, foreign debt of the corporate sector grows. In Kyrgyzstan, there is the lowest level of financial intermediation compared to the countries studied, indicating the lagging level of the development of the country's financial sector.

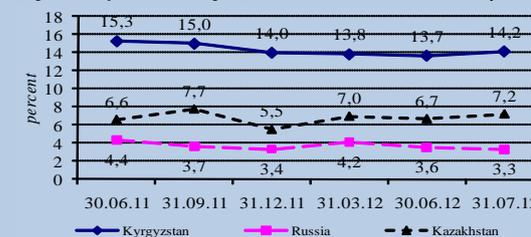
In order to assess the availability of financial resources in the Kyrgyz Republic and in major trading partner countries, a comparative analysis of interest rates and financial intermediation indicators in Russia, Kazakhstan and Kyrgyzstan has been conducted.

A comparative analysis has shown that interest rates on loans in domestic currency in Kyrgyzstan at the end of July 2012 for both the

Graph 1. The dynamics of the spread of rates to individuals in domestic currency



Graph 2. The dynamics of the spread of rates to firms in domestic currency

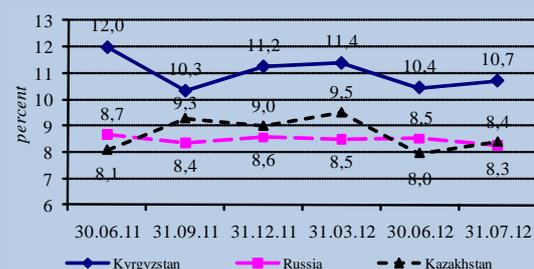


currency risks in the segment of lending to the corporate sector are assessed higher than in the segment of lending to households.

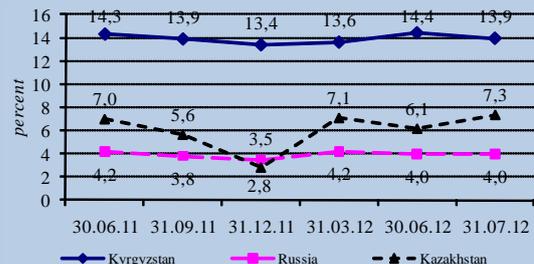
Table 3. The dynamics of changes in spreads in Russia, Kazakhstan and Kyrgyzstan in foreign currency (in percentage points)

| | 30.06.11 | 31.09.11 | 31.12.11 | 31.03.12 | 30.06.12 | 31.07.12 |
|--------------------|----------|----------|----------|----------|----------|----------|
| Kyrgyzstan | | | | | | |
| <i>individuals</i> | 12,0 | 10,3 | 11,2 | 11,4 | 10,4 | 10,7 |
| to year | 13,9 | 10,8 | 13,0 | 13,4 | 11,8 | 12,4 |
| over a year | 10,1 | 9,8 | 9,5 | 9,3 | 9,1 | 9,0 |
| <i>firms</i> | 14,3 | 13,9 | 13,4 | 13,6 | 14,4 | 13,9 |
| to year | 16,6 | 15,3 | 15,0 | 14,9 | 16,4 | 14,9 |
| over a year | 12,0 | 12,4 | 11,7 | 12,3 | 12,4 | 13,0 |
| Russia | | | | | | |
| <i>individuals</i> | 8,7 | 8,4 | 8,6 | 8,5 | 8,5 | 8,3 |
| to year | 10,8 | 10,1 | 9,9 | 10,0 | 9,1 | 9,8 |
| over a year | 6,5 | 6,6 | 7,2 | 7,0 | 7,9 | 6,7 |
| <i>firms</i> | 4,2 | 3,8 | 3,5 | 4,2 | 4,0 | 4,0 |
| to year | 5,3 | 4,8 | 4,8 | 5,4 | 5,2 | 5,6 |
| over a year | 3,0 | 2,8 | 2,2 | 3,0 | 2,7 | 2,4 |
| Kazakhstan | | | | | | |
| <i>individuals</i> | 8,1 | 9,3 | 9,0 | 9,5 | 8,0 | 8,4 |
| to year | 11,3 | 13,0 | 12,3 | 11,0 | 10,2 | 10,5 |
| over a year | 4,9 | 5,6 | 5,7 | 8,0 | 5,8 | 6,3 |
| <i>firms</i> | 7,0 | 5,6 | 2,8 | 7,1 | 6,1 | 7,3 |
| to year | 8,0 | 7,8 | 4,5 | 7,2 | 5,6 | 8,1 |
| over a year | 6,0 | 3,5 | 1,1 | 7,0 | 6,7 | 6,6 |

Graph 3. The dynamics of the spread of rates to individuals in foreign currency



Graph 4. The dynamics of the spread of rates to firms in foreign currency



Source: NBKR calculations based on data on interest rates from the Bulletin of the National/Central Banks of the studied countries

Considering average interest rates on loans by sectors of the economy at the end of July 2012 in Kyrgyzstan, note the highest rates on consumer loans (28.7 percent), trade (24.0 percent), and transport and communications (23.5 percent).

Table 4. The dynamics of indicators of financial intermediation in the banking systems of Russia, Kazakhstan and Kyrgyzstan

| | Assets/GDP | | Loans/GDP | | Deposits/GDP | | Capital/GDP | | ROA | | ROE | |
|------------|------------|---------|-----------|---------|--------------|---------|-------------|---------|---------|---------|---------|---------|
| | H1 2011 | H1 2012 | H1 2011 | H1 2012 | H1 2011 | H1 2012 | H1 2011 | H1 2012 | H1 2011 | H1 2012 | H1 2011 | H1 2012 |
| Kazakhstan | 46.6 | 43.7 | 29.0 | 30.0 | 28.2 | 29.3 | 5.3 | 1,3* | 0.4 | 1.6 | 3.8 | 11.6 |
| Russia | 58.4 | 66.9 | 42.9 | 45.9 | 31.2 | 31.9 | 8.7 | 8.3 | 2.4 | 2.8 | 14.8 | 20.6 |
| Kyrgyzstan | 22.5 | 24.8 | 10.4 | 11.4 | 11.0 | 12.8 | 4.3 | 4.5 | 2.7 | 2.7 | 14.6 | 16.9 |

Source: NBKR calculations based on data on interest rates from the Bulletin of the National/Central Banks of the studied countries.

The calculations used official forecasts of Russia, Kazakhstan, and Kyrgyzstan on GDP in 2012.

* - due to the increase of the negative value of the reserve capital

4.3. Other Financial Companies

The loan portfolio of non-bank financial institutions maintained sectoral and institutional concentration. Credit risks of other financial companies were at an acceptable level in terms of financial stability, despite the sharp rise in classified loans since the beginning of 2012 due to reduction of financial discipline of borrowers.

The sector of other financial companies is presented by non-bank financial institutions, insurance companies, investment and pension funds, stock exchanges.

The bulk of assets of other financing companies accounted for non-bank financial institutions, constituting 95.1 percent of assets of other financial companies as at the end of H1 2012:

Table 4.3.1. The institutional structure of other financial companies

percent

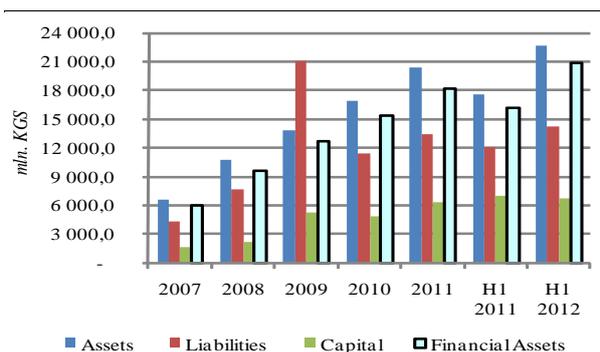
| | 2007 | 2008 | 2009 | 2010 | 2011 | H1 2011 | H1 2012 |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| NBFIs assets | 92.9 | 94.0 | 93.1 | 93.8 | 94.5 | 94.1 | 95.1 |
| Assets of insurance companies | 5.7 | 4.8 | 5.8 | 5.2 | 4.9 | 5.0 | 4.4 |
| Assets of investment funds | 0.3 | 0.5 | 0.4 | 0.1 | 0.1 | 0.1 | 0.1 |
| Assets of stock exchanges | 0.8 | 0.6 | 0.5 | 0.7 | 0.3 | 0.6 | 0.3 |
| Assets of pension funds | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total: | 100.0 |

Source: Kyrgyz NSC, NBKR

Non-bank financial institutions (NBFIs) include the following institutions subject to regulation by the NBKR:

- the Financial Company of Credit Unions (“FCCU” OJSC);
- credit unions (CUs);
- microfinance institutions (MFIs), including microfinance companies (MFC), microcredit companies (MCC) and microcredit agencies (MCA);
- exchange offices.

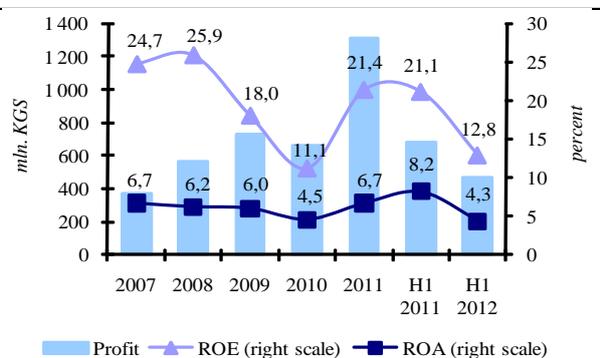
Graph 4.3.1. The dynamics of NBFIs balance*



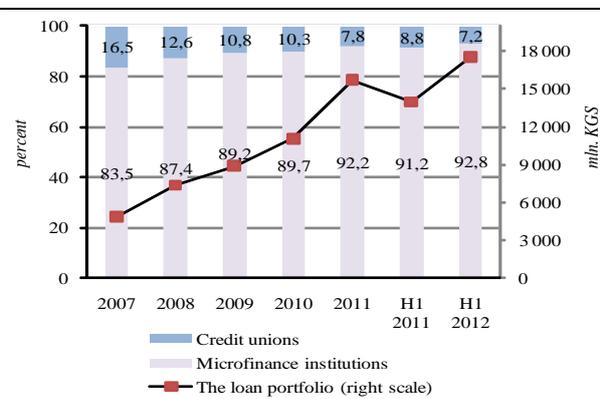
Source: NBKR

* excess of liabilities over assets in 2009 is due to the inclusion of obligations of the Development Fund of the Kyrgyz Republic

Graph 4.3.2. The dynamics of returns of NBFIs



Graph 4.3.3. The structure of the loan portfolio of NBFIs



commercial banks for the same period amounted to 2.7 percent and 16.9 percent respectively.

At the end of the 1st half of 2012, in the structure of the total loan portfolio of NBFIs, the share of MFIs accounted for 92.8 percent of loans; loans of the CUs amounted to 7.2 percent.

The NBFIs loan portfolio kept geographic and industry concentration. In the geographical structure, the bulk of the loan portfolio accounted for the Osh, Jalal-Abad regions and the city of Bishkek. High

Total assets of NBFIs by the end of the 1st half of 2012 amounted to KGS 22,706.2 million⁴⁹ (excluding counter assets and liabilities by MFI currency risk hedging instruments), or about 30 percent to assets of commercial banks (assets of commercial banks over the same period amounted to KGS 75,763.2 million). It should be noted that total assets of NBFIs in 2007 – 1st half of 2012 increased 3.4 times (by KGS 16.0 billion).

In turn, lending is the main activity of NBFIs. The NBFIs loan portfolio in recent years has been on the rise, and amounted to KGS 17,531.8 million at the end of the 1st half of 2012.

At the same time, the share of the loan portfolio in total assets of NBFIs has declined and amounted to 73.6 percent in the 1st half of 2012 (at the end of the 1st half of 2011, it constituted 78.8 percent). The reason for the decline was an increase in the share of deposits in other banks reaching 13.2 percent of assets of NBFIs.

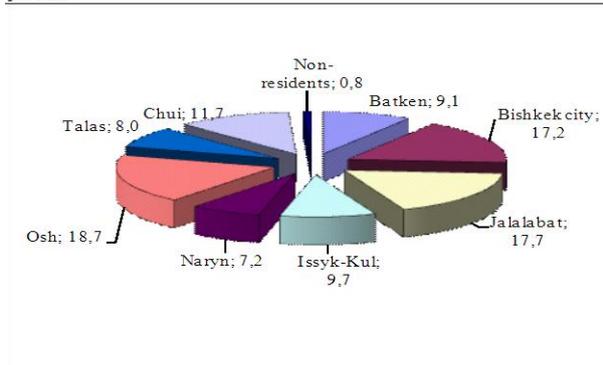
Also, compared with the end of 2011, there was a slight decrease in the number of borrowers in NBFIs by 1,019 people, reaching 479,666 people (19.4 percent of the total economically active population) at the end of H1 2012. At the same time, in comparison with the first half of 2011, the growth of borrowers amounted to 9.7 percent, or 42,416 people.

In the first half of 2012, total income of NBFIs⁵⁰ amounted to KGS 463.8 million, having decreased 1.5 times compared to the same period of 2011. The main reason for the decline was the increase in specific reserves on losses and loss on loans. At the same time, the ROA and ROE coefficients of profitability amounted to 4.3 percent and 12.8 percent respectively. It should be noted that the ROA and ROE coefficients of profitability of

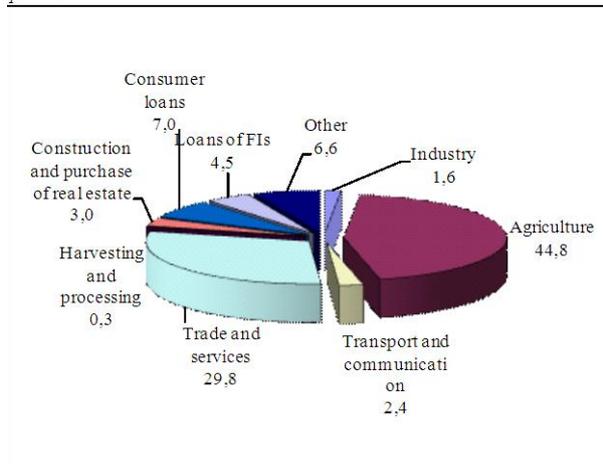
⁴⁹ Here and below, in order to avoid double counting, assets and loan portfolio of NBFIs are given excluding FCCU, which is placed in credit unions.

⁵⁰ Total income of NBFIs is given without FCCU

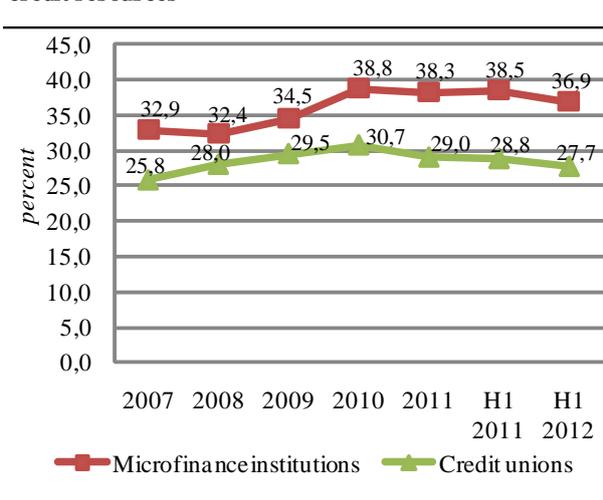
Graph 4.3.4. The total loan portfolio of NBFIs by regions
percent



Graph 4.3.5. The total loan portfolio of NBFIs by economic sectors
percent



Graph 4.3.6. The dynamics of interest rates on credit resources



activity in the south of the country and in Bishkek is caused by a higher population density and its economic activity in agriculture and trade.

At the end of the 1st half of 2012, the principal amount of NBFIs' loans was sent to agriculture (44.8 percent) and trade and services (29.8 percent). A sufficiently high proportion of loans in the agricultural sector is explained by regional branching of MFIs and characteristics of credit unions. Concentration of loans in trade is explained by the specifics of the NBFIs: microloans are usually short-term and have high rates, which leads to a focus on sectors with a higher turnover of funds.

Main problems and risks

1) Interest rates

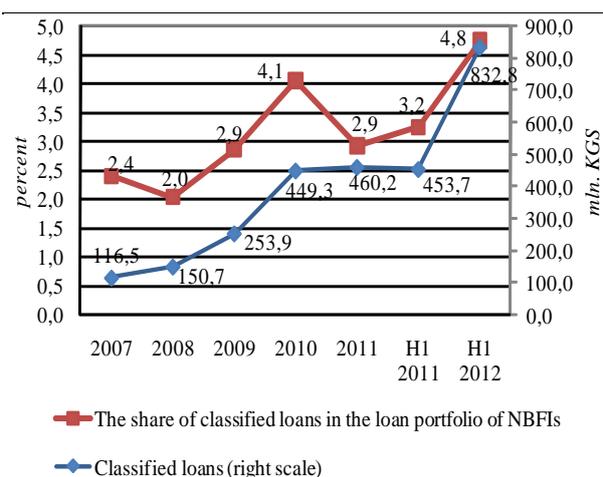
Interest rates on loans of non-bank financial institutions in the domestic capital market are still relatively high compared to banks, due to the continuing high demand from the population.

2) The growth of classified loans

At the end of the 1st half of 2012, the volume of classified loans of NBFIs totaled KGS 832.8 million or 4.8 percent of the total loan portfolio of NBFIs, having increased almost 2 times compared

to the same period last year. The amount of special reserves created for classified loans totaled KGS 511.7 million. Thus, the provision of classified loans by the special reserves amounted to 61.4 percent (special losses on provisions amounted to 2.9 percent of the total loan portfolio of NBFIs). In 2012, with the changes in regulations governing the activities of MFIs, and stricter requirements for their work in addressing the problem of high debt ratio in the sector, there has been an increase in the share of classified loans and special provisions created for them. The growth of classified loans is in part caused

Graph 4.3.7. The dynamics of classified loans of NBFIs



by the decline of the financial discipline of borrowers. Since the beginning of the year, the growth of the share of classified loans has amounted to 80.9 percent or KGS 372.6 million. At the end of 2011, classified loans amounted to KGS 460.2 million or 2.9 percent of the total loan portfolio of NBFIs (special losses on provisions amounted to 1.9 percent of the total loan portfolio of NBFIs, or KGS 302.9 million).

3) Industry concentration

At the end of the 1st half of 2012, the largest volume of classified loans accounted for the agricultural sector (47.7 percent), and trade and services (27.0 percent).

Table 4.3.2. Classification of loans of NBFIs by sectors as of at the end of the first half of 2012

mln. KGS

| | Loan portfolio | Classified loans | | | Special reserves |
|--|-----------------|------------------|--------------|--------------|------------------|
| | | Substandard | Doubtful | Losses | |
| Total, including: | 17 531,8 | 484,0 | 113,5 | 235,5 | 511,6 |
| Agriculture | 7 859,9 | 283,9 | 29,3 | 83,8 | 217,5 |
| Trade and services | 5 231,7 | 110,8 | 26,2 | 87,9 | 162,4 |
| Consumer loans | 1 227,8 | 29,1 | 21,9 | 24,2 | 55,8 |
| Loans to financial institutions | 785,1 | 26,9 | 23,5 | 11,9 | 30,4 |
| Construction and purchase of real estate | 530,5 | 8,5 | 3,3 | 11,6 | 15,6 |
| Industry | 279,9 | 13,8 | 1,6 | 3,0 | 9,3 |
| Transport and communication | 267,5 | 1,8 | 1,6 | 3,2 | 4,5 |
| Harvesting and processing | 45,5 | 0,2 | 0,1 | 0,9 | 1,0 |
| Other | 1 303,9 | 9,0 | 6,0 | 9,0 | 15,1 |

The NBFIs loan portfolio is concentrated, mainly, in agriculture and business connected with it and located in rural areas, as well as in trade. At the same time, lending to agriculture is associated with a fairly high risk because of dependence on climatic conditions and relatively low-income of the rural population.

4) Institutional concentration

Another risk factor is sufficiently high concentration of the loan portfolio in seven large MFIs. Thus, the major share of the loan portfolio is occupied by seven large MFIs, established and performing by foreign donors. The share of the loan portfolio of these MFIs amounts to 83.9 percent of the total loan portfolio of NBFIs.

5) Dependence on external funding

At the end of the 1st half of 2012, total liabilities of NBFIs totaled KGS 14,255.8 million, which included corporate and individual deposits (0.6 percent), other liabilities (5.3 percent) and borrowed funds

(94.2 percent). In turn, more than 80 percent of borrowed funds of NBFIs were from international financial institutions and donors.

Thus, the increase in lending to the economy by NBFIs is caused by the increasing volume of foreign borrowing, which increases the NBFIs' dependence on external sources of financing in the event of problems with liquidity in international capital markets.

4.4. Payment Systems

In order to ensure confidence in the domestic currency and financial system of the country, the National Bank has carried out oversight of the functioning of the payment system of the Kyrgyz Republic since 2009. The oversight takes the form of a cyclic repeated set of measures, which include monitoring, collection of relevant information on payment systems operating in the territory of the Kyrgyz Republic, analysis and assessment of the payment systems functioning, initiation of changes to the payment system (if necessary).

During the oversight, particular attention is paid to identifying and assessing the degree of risk in the functioning of the payment systems in order to minimize systemic risk to the financial system as a whole.

The national payment system is a set of payment systems operating in the territory of the Kyrgyz Republic for the implementation of the transfer of funds in accordance with the legislation of the Kyrgyz Republic, the operators of which may be residents or non-residents of the Kyrgyz Republic.

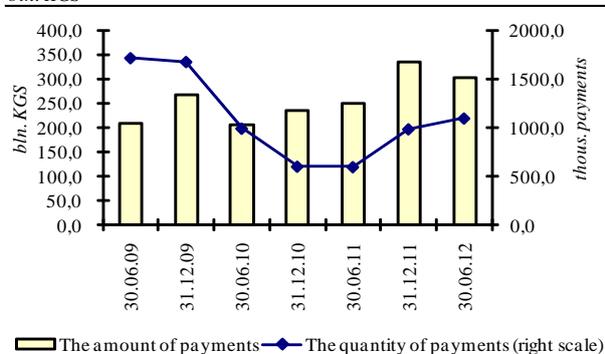
One of the main factors determining stability of the financial sector of the country is an effective and safe payment and settlement system.

At the end of the 1st half of 2012, the following components of the payment system functioned in the Kyrgyz Republic:

1. Interbank Payment System of the National Bank – the Gross Settlement System in Real Time (GSSRT);
2. Clearing Payments System – the System of Batch Clearing of Small Retail and Regular Payments (SBC);
3. The Systems of Payment Cards Settlement;
4. Money Transfer Systems.

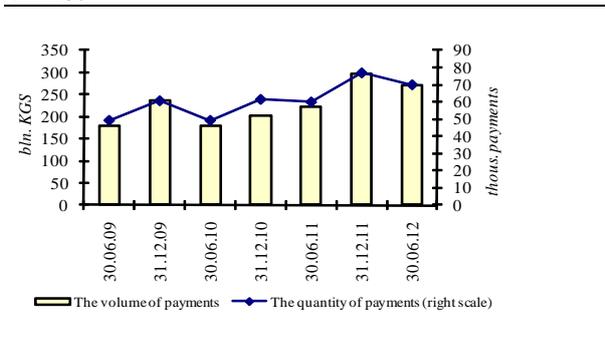
Graph 4.4.1. The dynamics of the volume and number of interbank payments

bln. KGS



Graph 4.4.2. The dynamics of volumes and the quantity of payments based on the gross system

bln. KGS

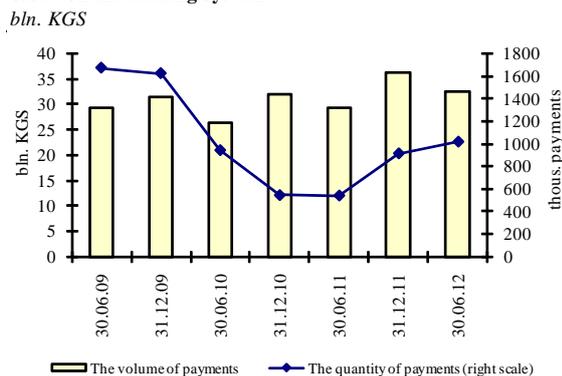


In the first half of 2012, 1,103.1 thousand payments totaling KGS 303.2 billion was made through the payment system of the Kyrgyz Republic. Compared to the second half of 2011, the volume of payments decreased by 9.2 percent, while the number of payments increased by 11.2 percent.

In the 1st half of 2012, the volume of incoming payments of the Central Treasury increased by 27.3 percent compared to the same period in 2011 and amounted to KGS 5.6 billion, while in the 1st half of 2012, the volume of outgoing payments of the Central Treasury rose by 10.6 percent compared to the same period in 2011 and amounted to KGS 5.2 billion.

In the first half of 2012, 69,922 payments in the amount of KGS 270.4 billion were made through the gross payment system of the National Bank. Compared to the same period last year, the volume of payments increased by 22.1 percent and the number of payments by 16.9 percent, respectively.

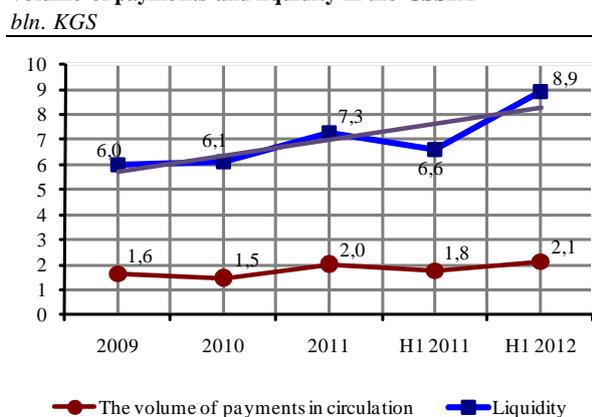
Graph 4.4.3. The dynamics of volumes and the quantity of payments based on the clearing system



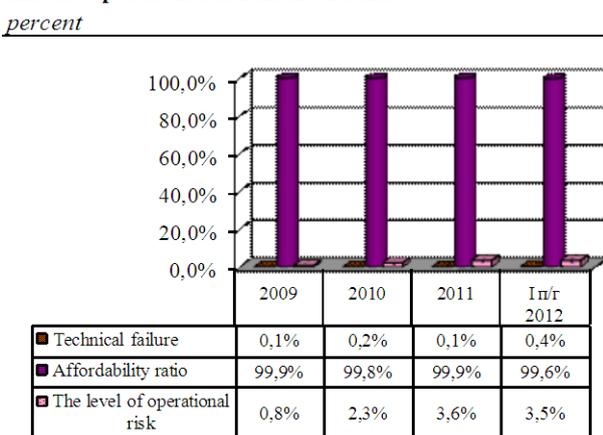
money transfer systems. The total number of incoming transfers was 2,297.0 thousand for a total of KGS 39.3 billion, the number of outgoing transfers amounted to 131.5 thousand for a total of KGS 7.7 billion. By regions of the Kyrgyz Republic, the largest share in terms of incoming transfers accounts for Bishkek – 37.4 percent of total incoming transfers and the volume of outgoing transfers accounts for Bishkek – 64.9 percent of total outgoing transfers.

For international payments, the total volume of incoming payments for the 1st half of 2012 amounted to KGS 309.1 billion (decreased by 38.9 percent compared with the 1st half of 2011), the volume of outgoing payments totaled KGS 339.1 billion (decreased by 37.5 percent compared to the 1st half of 2011).

Graph 4.4.4. The dynamics of changes in the average daily volume of payments and liquidity in the GSSRT



Graph 4.4.5. The ratio of affordability and the operational risk in the GSSRT



Source: NBKR

The volume of payments processed by the clearing system of payments increased by 11.3 percent compared with the 1st half of 2011 and amounted to KGS 32.5 billion. The total number of transactions was 1,018,841, which is by 87.3 percent more than in the same period of 2011.

The total number of payment cards issued as of July 1, 2012 amounted to 309,929. Overall, since 2005, there has been dynamic growth in the number of bank payment cards in circulation.

At the end of the 1st half of 2012, money transfers were made through international and local

During the first half of 2012, the National Bank continued to analyze and assess problems and risks in the payment system, as well as measures for the development of retail payment systems. Most attention has focused on the functioning of the Gross Settlement System in Real Time (GSSRT), the System of Batch Clearing of Small Retail and Regular Payments (SBC), the Elcard national system, instant payment systems and providing commercial banks with handling of domestic payments in the Kyrgyz Republic.

According to the analysis of the functioning of systemically important systems (GSSRT and SBC), the level of financial risk remained at a minimum.

In the first half of 2012, the liquidity ratio in the GSSRT amounted to 4.19, which is more by 11.9 percent compared to the same period of the previous year. This growth is due to the increase in the current liquidity of participants by 35.7 percent.

During the first half of 2012, the GSSRT rejected 3 payments in the amount of KGS 1.3 million, which is due to a lack of liquidity in the two participating banks.

The level of risk in the GSSRT was immaterial, since, according to the rules of the

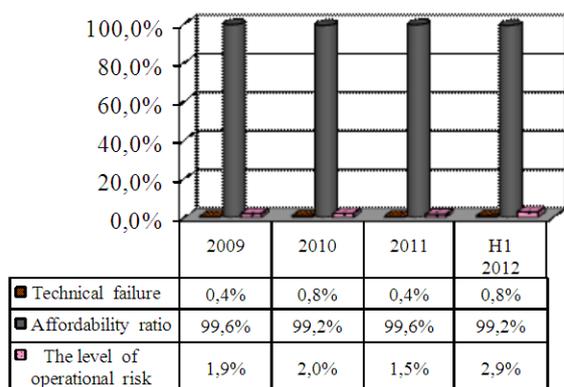
system, if individual participants don't have sufficient liquidity, their payments are rejected by the system at the end of the trading day.

Table 4.4.1. Aggregated data on payments in the GSSRT

| Name | 2009 | 2010 | 2011 | H1 2011 | H1 2012 | Growth, % | Increase |
|--|-------|------|------|---------|---------|-----------|----------|
| <i>Payments in queue:</i> | | | | | | | |
| - Quantity | 46 | 40 | 204 | 56 | 116 | 107,1 | 60,0 |
| - The total time (minutes) | 1987 | 1312 | 6904 | 3110 | 6734 | 116,5 | 3 624,0 |
| <i>Outstanding payments for lack of liquidity:</i> | | | | | | | |
| - Quantity | 2 | 3 | 8 | 5 | 3 | -40,0 | -2,0 |
| - Amount (mln. KGS) | 185,4 | 22,0 | 32,3 | 31,7 | 1,3 | -95,9 | -30,4 |

Monitoring and analysis of the SBC functioning showed high levels of liquidity in the system, as for the final settlement in the SBC, the participants allocate more funds than is actually needed. During the reporting period, reserves of the participants for the provision of net debit position exceeded the required level almost 2.7 times.

Graph 4.4.6. The ratio of affordability and the operational risk in the SCB percent



The level of *operational risks* in the systems was defined by the presence of abnormal situations in their functioning (technical failures, violation of the rules of the system, human error, force majeure, etc.).

According to the monitoring of the operation of systems, operational risks remained low during the 1st half of 2012.

In GSSRT and SBC systems, operational risks were largely characterized by the violation of regulations of the systems' operation (the extension of the

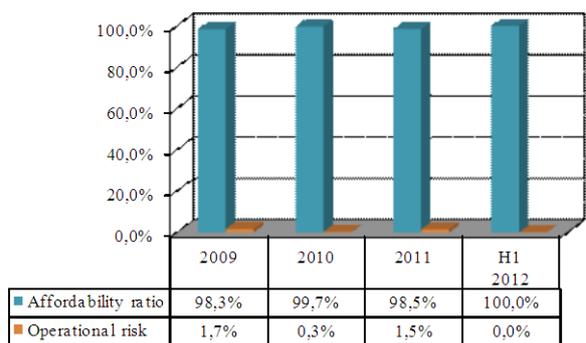
system's operation by request of participants), as well as problems related to communication channels.

The analysis of GSSRT's operation has shown that, given the extended working day as a risk factor, and a fixed technical failure in the payment system, the average system availability index in the period constituted 99.6 percent.

Despite the high level of system availability, operational risk was 3.5 percent (higher than in the previous year by 0.7 percent), due to technical failures in the module of the GSSRT (2 failures during the 1st half of 2012), as well as violations of the regulations of the system's operations by participants.

According to the results of monitoring the SBC's operation for the 1st half of 2012, the system availability index remained high and amounted to 99.2 percent. Operational risk in the system was 2.9 percent, which was due to technical failures in the system (7 failures during the reporting period), and extending the work of the system by participants. These violations are governed by the tariff policy of the National Bank.

Graph 4.4.7. The ratio of affordability and the operational risk in the Unified Interbank Processing Center percent



The monitoring and analysis of the functioning of important payment systems (IPS) has shown that the Elcard national payment system for the reporting period functioned in accordance with the rules of procedure. The coefficient of system availability was 99.97 percent.

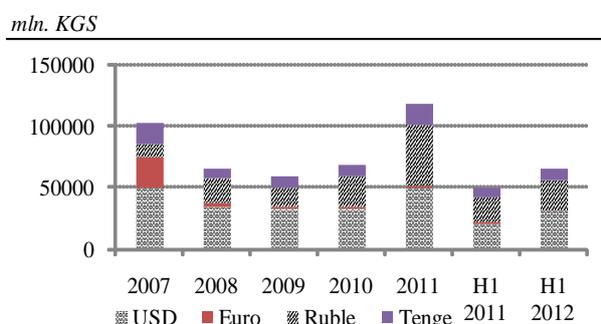
The indicator of operational risk amounted to 0.03 percent and is due to technical failures in the software and transient connection failures.

V. Financial Market Conditions

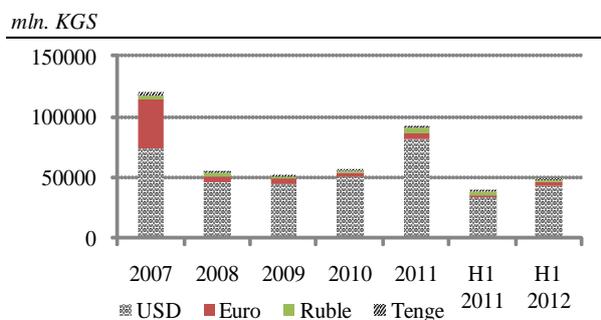
5.1. Foreign Exchange Market Condition

Since 2010, there has been an increase in demand (an increase in economic activity, a favorable external environment) in the domestic foreign exchange market, which largely determined the dynamics of the exchange rate of the Kyrgyz som. The U.S. dollar prevailed in sale of currency because of the specifics of foreign trade relations. The NBKR conducted intervention aimed at smoothing the volatility of the exchange rate against the effects of external and internal factors. Due to the fact that the domestic currency is not traded in the foreign exchange market, serious speculative threats were not found.

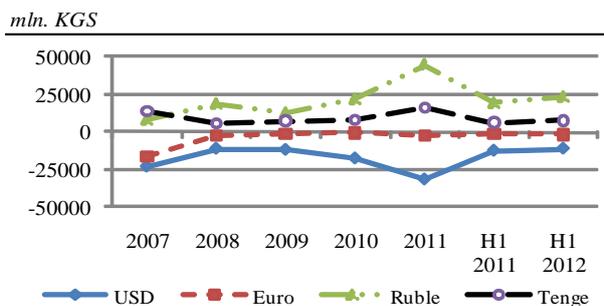
Graph 5.1.1. The volume of purchases of foreign currency by banks



Graph 5.1.2. The volume of sales of foreign currency by banks



Graph 5.1.3. Dynamics of the net purchase of foreign currency by banks



Source: NBKR, excluding operations of the NBKR

Since 2010, in the foreign exchange market of Kyrgyzstan, there has been a change in the trend of purchase and sale of foreign currencies between the commercial banks from a downward to an upward one (Graph 5.1.1 and Graph 5.1.2). In the first half of 2012, the purchase and sale of foreign currencies has increased by 31.0 and 25.6 percent respectively relative to the same period in 2011. One of the main factors in the current trend was the increase of economic activity, and hedging of currency risks.

In the operations of purchase and sale of foreign currency, the dominating position was occupied by the U.S. dollar transactions. Thus, the situation on the world foreign exchange market, namely, the volatility of the euro/U.S. dollar, has an indirect impact on the domestic currency.

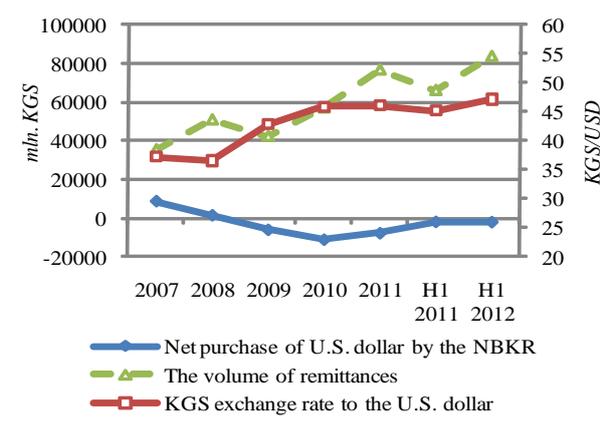
It should be noted that for the whole period under review, the demand for foreign currency (U.S. dollar, euro) exceeded supply; on the currency markets of the CIS (the Russian ruble, tenge) there was an opposite dynamics (Graph 5.1.3).

The relatively high level of foreign economic activity of local businesses and companies in the first half of 2012 in the form of the growth of imports into the country by 32.6 percent year on year led to an increase in overall demand for foreign currency in the interbank foreign exchange tenders (69.7 percent). The major share of the operations was performed between commercial banks; the volume of interventions of the National Bank, made in order to avoid sharp fluctuations in the exchange rate, decreased from 41.8 to 11.4 percent of the total turnover of interbank currency

tenders at an annual rate. Thus, an increased demand for currency on the domestic market, that increased the pressure on the exchange rate, was to some extent offset by the volume of money transfers of individuals that increased by 15.3 percent⁵¹. However, in the 1st half of 2012, there was the tendency for consistent growth of the exchange rate of U.S. dollar, outlined in the second half of last year. In the absence of deep imbalances in market demand and supply, the positive change of the U.S. dollar amounted to 1.6 percent

Financial market trends in January-June 2012 formed with the absence of significant fluctuations

Graph 5.1.4. The dynamics of NBKR interventions in the market of U.S. dollar



in the excess liquidity in the banking system as a whole. At the same time, in this period there was an increase in demand for borrowed funds on the part of individual market participants, which, in turn, was reflected in an increase in activity of the internal market of interbank loans. In the face of persistent dynamics of declining profitability in all segments of the government securities market, investors continued to strongly demand the most profitable securities with longer maturities

In the first half of 2012, the share of net income from foreign currency transactions occupies 11.8 percent in the structure of banks' net income. Consequently, the direct impact on the financial

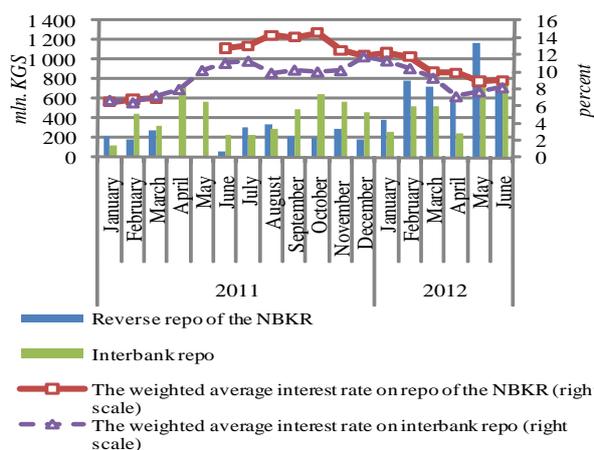
performance on the part of shocks in the U.S. dollar market is not as high. However, the degree of influence manifests stronger through indirect channels; the dollarization rate of the loan portfolio in the first half of 2012 amounted to 56.4 percent.

⁵¹ Net inflow

5.2. Money Market Condition

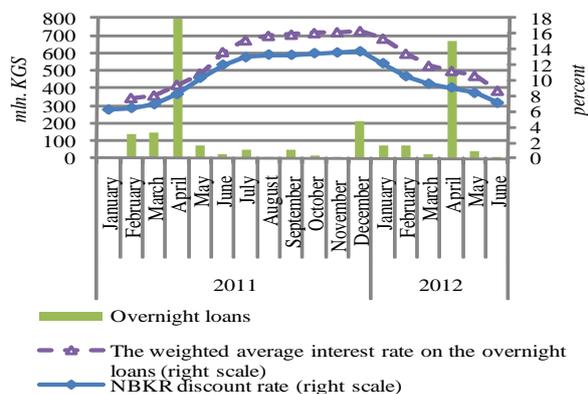
Conservative policies of commercial banks determined a high level of liquidity in the financial sector. In these circumstances, the NBKR conducted reverse repo transactions. The volume of transactions in the money market increased due to the cheaper cost of borrowed funds.

Graph 5.2.1. The amount and the interest rates on repo



Source: NBKR

Graph 5.2.2. The amount and interest rate on overnight loans



Source: NBKR

Note: In April 2011, the amount of overnight loans amounted KGS to 3.3 billion

In general, repo transactions continued to keep a dominant position in the domestic interbank market, reaching KGS 3.2 billion in quantitative terms (+30.0 percent). The average interest rate on reverse repo transactions increased compared to the same figure for the first half of 2011 by 2.1 percentage points and amounted to 10.3 percent.

The average interest rate on the interbank repo transactions stood at 9.0 percent, which is by 0.7 percentage points higher than in the first half of 2011 (Graph 5.2.1).

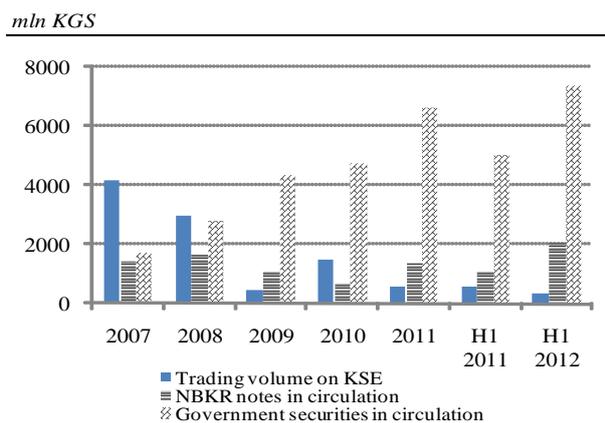
In the period under review, the total volume of transactions in a foreign currency in the domestic interbank lending market totaled KGS 286.4 million with an average interest rate of 0.7 percent per annum.

A discount rate of the NBKR fixed at a low level has activated operations on “overnight” loans (Graph 5.2.2). Thus, during the first half of 2012, loans amounting to KGS 927.0 million have been issued. Since an “overnight” loan is not an investment loan but provided to commercial banks in order to maintain short-term liquidity, a high amount of loans in April 2012 is due to lower liquidity in the banking system.

5.3. Securities Market Condition

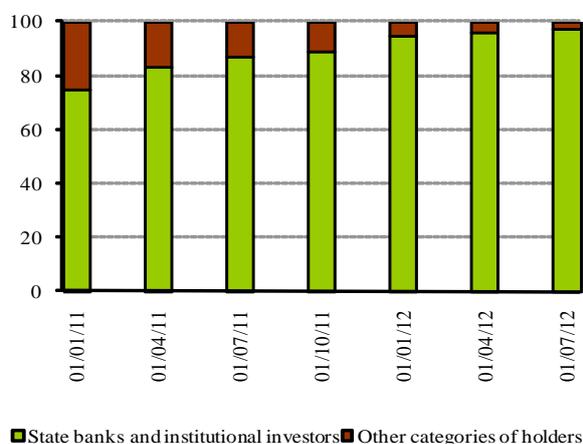
Nature of the development of the securities market for the analyzed period was defined by policies of investors. There was a build-up of trading in government securities market as securities of the highest quality, and a downturn in activities of the non-government securities market. However, the decline in trading in the non-government securities market did not have a material impact on the overall condition of the domestic economy and the financial sector due to lack of underdevelopment of the stock market as a source of financing.

Graph 5.3.1. The dynamics of the aggregate turnover of the GS and NGS market



Source: KSE and NBKR

Graph 5.3.2. The share structure of STB holders
percent



investors, which earlier showed its high activity in the STB market in the last months of 2011. The rise of market activity occurring against a background of an increased emission of securities was followed by reduction of the average interest rate on the basis of half-year in the amount of 15.2 percent, which is by 4.1 percentage points lower than in 2011 (compared to the previous half-year, profitability of STB decreased by 2.2 percentage points).

Principal holders of STB, traditionally placed for the 2-year period, are banks and institutional investors (Graph 5.3.2). Thus, at the end of the first half, they owned more than 97 percent of all STB in circulation. Despite the relatively high yield of such securities, other categories of investors showed low activity in this segment of the government securities market, preferring to purchase securities with shorter maturities.

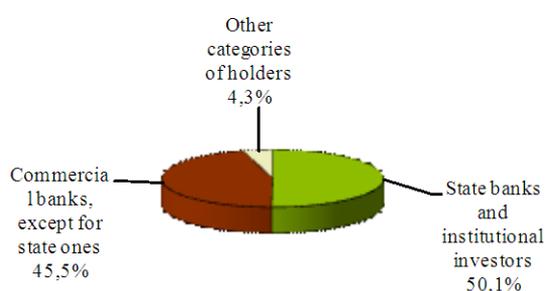
The financing of the growing deficit of the state budget (the first half of 2012, amounted to 3.4 percent of GDP), and the conservative policy of investors determined the vector of development of the securities market of the Kyrgyz Republic (Graph 5.3.1). For the analyzed period, the dynamics of trading in the government securities market had a pronounced upward trend; in the first half of 2012, the volume of government securities in circulation amounted to KGS 7.4 billion. The share of the total portfolio of government securities in assets of the banking system stood at 9.3 percent, while the ratio of loans to assets was 46.1 percent. The volume of STB placed on the market rose by 41.1 percent at an annual rate, while the volume of T-bills increased 2.4 times. In general, increased activity in the government securities market has led to the formation of a downward trend in the profitability in all its segments.

On the six auctions held in January-June 2012, a total allocation of securities was made in the amount of KGS 767.3 million, which is 2.4 times more than in the same period of the previous year. Demand for 2-year treasury bonds was supported primarily by the activity of the dominant investor in the form of one of the largest commercial banks. In addition, a significant contribution to the achievement of the existing rate of sales was made by one of the institutional

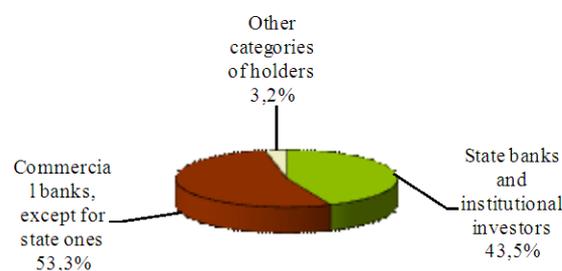
In the first six months of 2012, total sales of T-bills rose by 41.1 percent to KGS 2.4 billion compared to the same period last year. Increase in sales was promoted by an increased demand for all kinds of securities, formed mainly due to a 73.9 percent increase of supply of 12-month securities the most attractive from an investment point of view. In turn, it was this upward trend of placing 12-month T-bills, which took 74.3 percent share in the total sales structure that had a decisive effect in achieving the established sales figures. Compared to the same period in 2011, the average rate of total rate of return of T-bills decreased to 11.0 percent (-4.8 percentage points). At the same time, the return of 3-month T-bills decreased by 1.8 percentage points to 6.5 percent, 6-month T-bills – by 2.4 percentage points to 9.9 percent, 12-month T-bills – 5,6 percentage points to 11.8 percent.

At the end of the first half of 2012, the state banks and institutional investors also had a significant share in the portfolio of T-bills (43.5 percent).

Graph 5.3.3. The share structure of STB holders
(as of 01.01.2012)



Graph 5.3.4. The share structure of STB holders
(as of 01.07.2012)



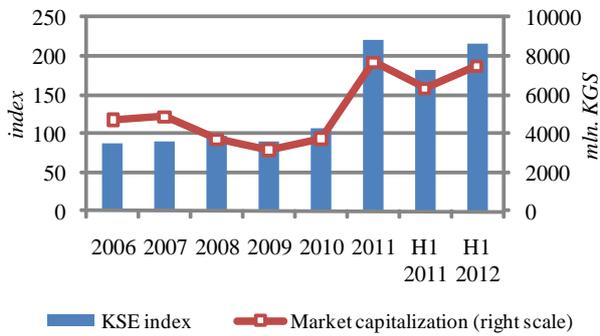
In the first half of 2012, the National Bank reduced the volume of supply of 7 - and 14-day notes and increased the amount of emission of 28-day securities. The total supply of notes increased by 12.9 percent reaching KGS 16.2 billion. Sales of 28-day notes maintained by a relatively high level of demand in the period under review reached KGS 12.2 billion or 78.5 percent in percentage terms. Investor demand for shorter notes fell, as a result of which only KGS 3.3 billion was placed out of the total 7 - and 14-day securities in the amount of KGS 4.5 billion placed for trading. Thus, the total sales figure for January-June amounted to KGS 15.6 billion, having increased by 53.0 percent in comparison with the same period of the previous year. Despite the tendency of profitability of notes which formed early in the year to decline, the overall profitability of notes in the first six months of 2012 increased year on year by 1.3 percentage points due to an increase in the weighted average yield of 7 - and 28-day notes by 0.2 percentage points to 5.7 percent, and 0.8 percentage points to 9.2 percent, respectively, while the yield of 7-day notes remained unchanged as in the previous year at 6.9 percent (compared with those of previous half, the yield of 7-day notes decreased by 1.2 percentage points, 14-day notes – by 1.5 percentage points, 28-day – by 4.1 percentage points.)

At the same time, there is an annual decline in trading volume at the Kyrgyz Stock Exchange, which is primarily due to the fact that the domestic stock market is not considered by investors as an object of income (speculation in securities is not pursued), the operations are carried out on the stock exchange in order to acquire a certificate of ownership. However, a large proportion of the assets of large enterprises (Kyrgyztelecom OJSC, Severelectro OJSC and Dastan TE, etc.) are frozen as state property. In the segment of debt securities (bonds), the activity is increased on the contrary; the demand for bonds and the bond market is becoming more attractive for companies to enter. In recent years, many large companies (Roskazmet Company LLC, Shoro CJSC) issue bonds. Involvement in the bond market of

more and more companies can increase the degree of relationship of the securities market and the corporate (real) sector.

Given that the volume of trading on the KSE is reduced, the efficiency of the exchange is

Graph 5.3.5. KSE index and market capitalization



increasing. The share of trading on the primary market of non-government securities in the first half of 2012 amounted to 52.4 percent. As a result of the initial placement, there is the mobilization of financial resources by enterprises, including commercial banks; the formation or increase of their authorized capital.

Overall, the KSE index and market capitalization since 2010 have had a positive trend, which is a prerequisite for increasing the attractiveness of the KSE on the part of economic entities (Graph 5.3.5).

Source: KSE

Methodology of Analysis of Individual Financial Stability Issues

Appendix to Box 1

The methodology for the building of risk assessment maps

Building a map of risk assessment is an analytical approach based on the complex assessment of the level of risks to financial stability. **The risk assessment map** is a schematic image of the level of risk by quantitative parameters at a particular time, which also allows analyzing how the level of risk has changed since the previous period.

Thus, the aim of building the map of risk assessment is to assess the level of risks and their changes over time.

This methodology allows covering a large number of wide macroprudential indicators (Table 1), belonging to 8 different groups:

1. External conditions determining financial stability - assessing the potential adverse impact of environmental factors that can lead to a sharp correction in the domestic market of the country in view of current conditions in the international capital markets and commodities markets, as well as assessing the potential “spillover” of difficulties on the part of major trading counterparties;

2. Sufficiency of the country's reserves - assessing the potential reduction in the possibility of the country to meet its obligations;

3. Capital flows - assessing the risk of reduction in capital flows into the economy of countries;

4. Monetary and fiscal policy - assessing the risk of effectiveness of policies conducted by the government bodies;

5. Debt sustainability - assessing the risk of increased dependence on external and domestic debt capital and its structure;

6. Liquidity and sensitivity to a market risk of the banking sector - assessing the likelihood of a loss of financial institutions in reducing liquidity and increasing the currency and interest rate risks;

7. Asset quality of the banking sector - assessment of the likelihood of a loss of financial institutions as a result of default by its counterparties and customers;

8. Profitability of the banking sector - assessing the risk of losses of financial institutions at lower profitability and efficiency in management of their assets.

Each group of indicators makes it possible to deduce an average rating for each factor/source of risk. An increase/decrease in the final assessment allows judging on the increase/decrease in the level of risk, and identifying the source of their formation. Indicators are presented in different formats: in absolute value, a ratio, a change for the year, a deviation from the trend. The main part of indicators is represented by a number of dynamics of historical values since 2003. Periodicity of the data is **annual and half-yearly**.

Table 1. The list of indicators used to build risk assessment maps

| Indicator | Indicator |
|---|--|
| Group 1. External conditions determining financial stability | Group 5. Debt sustainability |
| 1. World oil prices | 23. The ratio of public debt to GDP, % |
| 2. World gold prices | 24. The ratio of liabilities to equity of the corporate sector |
| 3. Real GDP of Russia | 25. The ratio of equity to assets and off-balance sheet liabilities, weighted by the risk of the banking sector, % |
| 4. Real GDP of Kazakhstan | Group 6. Liquidity and sensitivity to market risk of the banking sector |
| 5. Real GDP of China | 26. The spread between the highest and lowest rate of the offer on the interbank market |
| Group 2. Sufficiency of the country's reserves | 27. The real interest rate on deposits, % |
| 6. The ratio of net foreign assets of the NBKR to the money supply | 28. The ratio of short-term loans to short-term deposits |
| 7. The ratio of gross international reserves to imports | 29. Deposits of banks |
| 8. The ratio of international reserves to pending charges for paying and servicing the foreign debt ⁵² | 30. Volatility of the som exchange rate to the U.S. dollar, som |
| Group 3. Capital flows | Group 7. Quality of assets of the banking sector |
| 9. The ratio of current account balance to GDP | 31. The ratio of classified loans to total loans |
| 10. The ratio of direct investment and current account balance to GDP | 32. The ratio of loans to agriculture to total loans |
| 11. The real effective exchange rate | 33. The ratio of mortgage loans to total loans |
| 12. Export of goods and services | 34. The ratio of foreign currency loans to total loans |
| 13. Import of goods and services | 35. The ratio of loans to the trade sector to total loans |
| 14. The capital and financial account, mln. U.S. dollars | 36. The ratio of loans to the industrial sector to total loans |
| 15. The ratio of account balance "Errors and Omissions" and short-term capital to GDP | 37. The ratio of loans to the construction sector to total loans |
| Group 4. A monetary and fiscal policy | 38. Return on equity of the corporate sector |
| 16. The ratio of government expenditures to GDP | Group 8. Profitability of the banking sector |
| 17. The ratio of government budget balance to GDP | 39. The ratio of net interest income to gross income |
| 18. The ratio of loans to GDP of the economy | 40. The ratio of non-interest expenses to gross income |
| 19. Inflation | 41. The ratio of operating expenses (net of non-interest expenses) to gross income |
| 20. The money multiplier | 42. Return on assets |
| Group 5. Debt sustainability | |
| 21. The ratio of foreign debt of the country to GDP ratio, % | 43. The spread between rates on loans and deposit |
| 22. The share of public debt in the gross foreign debt | |

The figures in the risk assessment map are ranked by risk. Risk groups are based on a percentile grid, built with the historical values of each indicator by sorting based on descending/ascending, depending on the direction of the deterioration rate. Limits of the range of risk group are calculated as 25%, 50%, 75% and 100% percentile of the distribution of the indicator. Thus, the change in the value of the indicator in the direction of increasing risk and vulnerability will show a high level of risk upon entrance in the interval between the values of 75% and 100% percentile of the distribution, and vice versa. Thus, the **first risk group** (75% -100%) is defined as a high level of risk, and the **second** (50% - 75%) - moderate risk, a **third** (25% -50%) - not significant, and the **fourth** group (below 25%) - low. The first and second risk groups are the area of risk, the third and fourth groups are the area without risk.

Thus, the map of risk assessment provides an opportunity not only to assess the current level of risk by the various parameters of their sources, but most importantly, to track changes in the conditions for the formation of these risks compared to the previous period. Every time, a new period is added in a range of assessing the values of risk groups' boundaries.

⁵² Calculated as the ratio of international reserves, excluding gold, to short-term debt plus maturity and long-term debt service on average for two years.

It should be noted that this technique does not allow assessing the probability of the risk through the level of risk defined on a map of risk assessment. Thus, for example, inclusion in the first group (high risk) indicates a negative trend for increasing the risk on the group of the studied indicators (compared to the previous periods), but does not allow assessing the probability of the risk as high.

Appendix to Box 2

The simplest model of economic dynamics establishes the dependence of the rate of growth of total income (GDP) G on two factors: the share of net savings in total income s and capital intensity of the unit of growth of aggregate income C :

$$G=s/C, \text{ where}$$

s – the share of net accumulation (S) in total income (Y), $s = S/Y$,

C – capital intensity of the unit of growth of aggregate income (ΔY), $C = S/\Delta Y$.

Having the data at constant prices on nominal GDP (Y) for a number of years and, therefore, on its growth (ΔY) and net accumulation S, we can calculate the growth rate of the economy in accordance with the fundamental equation of the economic dynamics $G = s/C$. This way of calculating the rate of growth allows identifying and quantitatively presenting effects caused by changes of the two initial factors of economic growth: the share of net savings in total income and capital intensity of growth in total income (Harrod called this option “capital ratio”).

Appendix to Box 5

Z-Score Methodology-Based Stability Review of the Banking Sector

To analyze the stability of the banking system, the z-score methodology is used, which determines the “distance to default.” Quantitative assessment is based on the calculation of z-index both on the individual commercial banks and the banking system as a whole.

z-index formula has the following the form:

$$\ln(z) = \frac{(\mu + k)}{\delta}$$

where,

μ – a mean value of ROA for the entire analyzed period

k – the percentage ratio of equity to assets

δ – the standard deviation of return on assets for the same period, which is also seen as a measure of income volatility.

Statistically, z-index measures the standard deviation of equity (profit and capital) from average over a number of years, provided regular banking income (or their normal distribution). z-index includes the main indicators of solvency of the bank, such as the value of the ROA index, its standard deviation, and the ratio of equity to assets. High z-index indicates a long distance to default, and, therefore, indicates a sufficiently high degree of financial stability of the banking system.

Rating Methodology of Systemic Risk Dissemination via Interbank Links

According to this technique, it is necessary to carry out an analysis in order to identify the risk of “contamination” (the spread of financial problems of one bank to other banks) at the interbank level. For the quantitative assessment of “contamination,” a matrix of interbank linkages is built, which reveals the impact of borrowing banks’ insolvency on the total capital of the creditor banks. The basis of the construction of the matrix of interbank linkages is usually an assumption of possible insolvency of banks that are in arrears to other banks in excess of their total capital.

Glossary and Abbreviations

A bank deposit is the amount of money, accepted by a financial and credit institution under contract from another person on the terms of repayment, payment and maturity. Deposits can be term and demand. Demand deposits are made without specifying the shelf life, and time deposits are made for a certain period.

A bank loan is money provided by a bank for a fixed period under the terms of repayment and payment of loan interest.

A banking system is a set of banks and other lending institutions interacting with each other and the environment, and regulated by appropriate legislation.

A foreign exchange market is a market in which the purchase/sale of foreign currencies is made. By the economic content, it is a sector of the money market, where supply and demand for a specific product such as currency are balanced. According to its purpose and form of organization, it is a set of specific institutions and mechanisms that in concert provide an opportunity to freely sell and/or buy domestic and foreign currency on the basis of supply and demand.

A money market is a market in which there is the giving and receiving of funds in the form of loans and securities for a short term within the range of participants.

Deposit institutions are financial corporations, except the central bank, the main activity of which is to accept deposits and subsequently place these funds on their behalf.

Household is an individual or a group of individuals who live together, run a joint household, combine all or part of their income and property and who consume certain types of goods and services (mainly, housing and food). Households may exercise any economic activity, including the production.

Return on securities is the ratio of the annual return on the security to its market price; the rate of return received by the owner of the security.

Duration is the weighted average term to maturity of the instrument. Can be used as a measure of the sensitivity of the cost of financial assets to interest rate changes, but not as maturity as such.

The housing affordability index is an indicator of the state of the housing market in terms of the possibility of acquiring apartments by the people. Calculated as the ratio of the average market value of a standard apartment (total area of 54 sq. m.) to the average annual income of a family of three (two adults and a child).

The payment system affordability index is a measure of the availability of the system as access to services and information for users of the system on their demand. Downtime of the system due to technical failures, power outages, late opening or early closing of the trading day of the system reduce the time to access the system.

The liquidity ratio of payment systems characterizes sufficiency of liquid funds in the accounts of the participants of the system for the payments and settlements.

Minimum consumer budget is the cost of a set of minimum benefits and services to the subsistence minimum.

Living wage is the *valuation* of the minimum set of benefits and services that are equal to the value of the minimum consumer basket, necessary for the preservation of human life and his/her health, and the amount of required payments and fees.

Disposable income is income that goes to private consumption and is free from tax. Personal disposable income is the difference between personal income and the amount of taxes or, appropriately, is the sum of consumption and the amount of savings.

A real interest rate is the nominal interest rate adjusted for inflation.

A *securities market* is organized exchanges and structures such as securities depository companies, accounting and clearing houses, as well as other companies that provide services related to the activities of the exchange. This category includes depositories and electronic clearing systems, the activity of which is ensured by financial corporations, and national self-regulatory organizations of oversight over the activities of stock exchanges and related institutional units or their regulation.

An *unemployment rate* is the percentage of the actual number of unemployed to the total economically active population.

Financial assets include equity instruments and units/shares of investment funds, debt instruments, derivatives, stock options for employees and monetary gold.

A *financial market* is defined as a market in which economic actors sell and purchase financial claims in accordance with the established rules of behavior of participants.

ADB – The Asian Development Bank

GDP – Gross Domestic Product

SRS GKR – State Registration Service under the Government of the Kyrgyz Republic

POL – Petroleum and Oil

GS – Government Securities

CSJC – Closed Joint-Stock Company

CPI – Consumer Price Index

KR – Kyrgyz Republic

KSE – Kyrgyz Stock Exchange

IMF – International Monetary Fund

MF KR – the Ministry of Finance of the Kyrgyz Republic

NBKR – The National Bank of the Kyrgyz Republic

NSC KR – the National Statistical Committee of the Kyrgyz Republic

NBFIs – Non-Bank Financial Institutions

NGS – Non-Government Securities

OJSC – Open Joint-Stock Company

LP – Loss Provisions

CIS – Commonwealth of Independent States

SFBR – Specialized Fund for Banks Refinancing

USA – United States of America

FAO – Food Agriculture Organization of the United Nations

CBRF – The Central Bank of the Russian Federation

mln. – million

bln. – billion

p.p. – percentage points

thous. – thousand