CENTRAL BANK OF THE REPUBLIC OF ARMENIA

FINANCIAL STABILITY REPORT

2010

1-st
Half

2010

This Financial Stability Report presents an assessment of potential risks that could threaten the stability of financial system of the Republic of Armenia as well as the capacity of the financial system to absorb such risks. More detailed information on Armenia's macroeconomic environment and financial system analyses is available in the Central Bank's periodicals, such as "Annual Report of the Central Bank", "Inflation Report" and "Armenian Financial System: Development, Regulation, Supervision".

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Financial stability can be characterized as such concurrence of financial and macroeconomic conditions, when the financial system i.e. financial institutions, markets and market infrastructures are capable to withstand the probable shocks and instability in this way minimizing probability of interruption of intermediation function.

In definition of financial stability, it is taken into consideration that financial instability can emerge from interruption of internal functions of the financial system as well as from unfavorable developments in domestic and world economies, credit risk issues connected with major borrowers and lenders, shifts in economic policies and infrastructures.

The financial stability safeguarding presumes disclosure of main risk sources, poor-managed financial risks, and ineffectiveness formation of asset pricing and implementation of appropriate policy.

INTRODUCTION

Starting 2007 Central Bank of Armenia prepares and publishes annual "Financial Stability Report". The report presents risks challenging financial system and general assessment of the CBA of the activities aimed at the mitigation of those risks. Ongoing analysis allows early identification of such shifts and fluctuations, which can undermine the financial stability or emerge a crisis. In 2010 for the first time also semiannual financial stability analysis of Armenian financial system was prepared. The analysis reflected almost all issues covered in annual financial stability report. Semiannual report ensures timely disclosure of current developments, changes in risk developments, which may have considerable effect on financial stability during the second half of 2010.

Main responsible body for financial stability in Armenia is the Central Bank, and this is defined by the law "On Central Bank". The primary objective of the Central Bank of Armenia is to ensure price stability in the country, which is directly related to the goals of financial stability and ensuring of normal activity of financial system. For instance, serious deteriorations of the financial system may undermine the implementation of the monetary policy and its effectiveness. At the same time, macroeconomic and monetary stability reduces the probability of the emergence of the risks threatening the financial stability.

In Financial Stability Report the financial stability of Armenian financial system is analyzed in two directions. First- assessment of effectiveness of financial system intermediation to macroeconomic processes. Second- assessment of financial system stability and the capacity of the financial system to mitigate and absorb risks. The report presents the risks revealed in macro environment and in financial system, their impact on the development of all sectors of the economy and financial system.

The risks affecting financial stability of Armenia can emerge in local economy, foreign economy and in financial system itself. In this aspect the main preconditions of the financial stability are:

- Sustainable development of local and foreign macroeconomic environment, in terms of which the local households and enterprises would be sufficiently creditworthy,
- Stable and efficient financial system, risks of which would be prudent and in manageable level,
- Efficient financial infrastructure, which would not hinder the functioning of financial system.

On the basis of abovementioned the possible risks affecting financial stability of Armenia are presented in 5 directions:

- Risks derived from the developments of world economy,
- Risks derived from the developments of Armenian macroeconomic environment,
- Risks derived from the developments of financial market of Armenia
- Risks derived from the developments of financial institutions of Armenia
- Risks derived from the developments of financial infrastructures.

The report presents risks revealed in those fields and their possible impact on the development of all sectors of economy

and financial system. Principal emphasis in the report is placed on the Armenian banking system risks and their trends since assets of domestic commercial banks account for more than 90 percent of assets of the financial system. Banking system, being the main component of the financial system, predefines the overall financial stability and financial system development directions. In this report assessment of banking system stability includes credit, market and liquidity risk analysis.

Financial stability assessment abstract

Summarizing the developments of the first half of the 2010 it can be constituted that Armenia managed to cope the adverse impact of the crisis albeit the economic recovery is still vulnerable and it is rather unlikely to reach pre-crisis double-digit growth rates. The last crisis clearly exposed the structural shortcomings of the Armenian economy. Struggle against those shortcomings is of the top priority for the state economic policy.

Coordinated policy shifts throughout different countries abated the risks affecting world economy and financial system. In developed and in number of developing countries pockets of vulnerability still remain, particularly regarding the strengthening household income and creditworthiness, stabilizing and shrinking of sovereign debt and reforming financial systems. In main partner countries of Armenia a rather slow economic recovery is predicted (for more detail see "Developments in world economy" section).

In the first half of 2010 6.2 percent economic growth was observed, which didn't meet the targeted level mainly due to the low level of agricultural output affected by unfavorable weather conditions. The level of foreign trade and private remittances recovered but still lag behind pre-crisis indicators.

Recovery of world and domestic economies parallel to monetary and fiscal easing policy spillovers, and also negative expectations created deprecation pressure on dram. Under those circumstances during the first half of 2010 the CBA increased the refinancing interest rate for 2.25 percentage points and limited volume of quantitative easing instruments. As a result, 12-month inflation rate gradually dropped and by the end of second quarter came close to upper bound of inflation target range. The decrease of inflation pressure was also driven by reduction of budget deficit.

In the light of considerable drop of agricultural output and termination of major construction projects, it is expected that starting the third quarter the economic growth will slow down and will be less than the forecasted 3-4[1] percent target (for more detail see "Financial Stability in Armenia's Macroeconomic Environment" section).

During the first half of 2010 Armenian commercial banks while preserving excess capital adequacy, liquidity and manageable level of risks recorded growth for main banking indicators. Banks and credit organizations continued to loosen lending standards and the growth rate of lending persisted (for more detail see "Stability of Armenian Financial Institutions" section).

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[1] *According to CBA Monetary policy program for second quarter for year 2010 3-4 percent economic growth was forecasted, while in Monetary policy program for fourth quarter the forecasts were revised to 2.1-2.7 percent.*

1. DEVELOPMENTS IN WORLD ECONOMY

Although the world economy recovers in line with initial forecasts and expectations, the downside risks remain elevated. In developed and in number of developing countries pockets of vulnerability still remain, particularly regarding the strengthening household income and creditworthiness, stabilizing and shrinking of sovereign debt and reforming financial systems. In many of those countries the financial systems are still vulnerable to many shocks and are heavily reliant on government support. In contrast to developed countries unprecedented mid-term economic growth is expected in developing countries driven by prudent anti-crisis policies, which were initiated in the early stages of crisis developments. However the economic activity of those countries especially of Asian countries is tightly depend on demand expansion in developed countries.

The risks jeopardizing the sound recovery of economic recovery are on downside direction. Increased volatility of financial systems, rising sovereign indebtness, slow lending recovery, partial reforms of financial systems create certain pressure on mid-term economic growth. Still weak real estate market, high unemployment and diminishing state support programs are among the other factors affecting economic growth.

1.1. Macroeconomic Environment

Gradual recovery of world economy, which started in second half of 2009, continued also in the first half of 2010, although the latter was hampered by high unemployment, state debt and financial intermediation issues in number of countries. The world economic growth during observed period amounted to 5.25 percent, which was better than forecast in the June 2010 by 0.5 percentage points. The forecasts for June 2010 were revised in upward direction; meanwhile forecasts for October for number of countries were revised in downward direction because of observed slowdown of economic activity in those economies. World industrial output, international trade and as well as household spending of developing countries recorded positive developments, however low consumer confidence, high unemployment, stagnant incomes, and reduced household wealth are holding consumption down.

Consumption growth is also hampered by the level of household saving propensity, which is higher than in pre-crisis period. Under those circumstances starting 2009 the household debt growth rate slowed down, which in its turn led to the drop of debt to income ratio.

According to the last IMF forecasts economic growth of developed countries for the first half of 2010 amounted to 3.5 percent, which is low considering that these countries are emerging from the deep decline. Developed Asian countries except Japan were in more favorable position, considering growth of their manufacturing industry and the restructuring of international trade. The growth rate of those countries comes

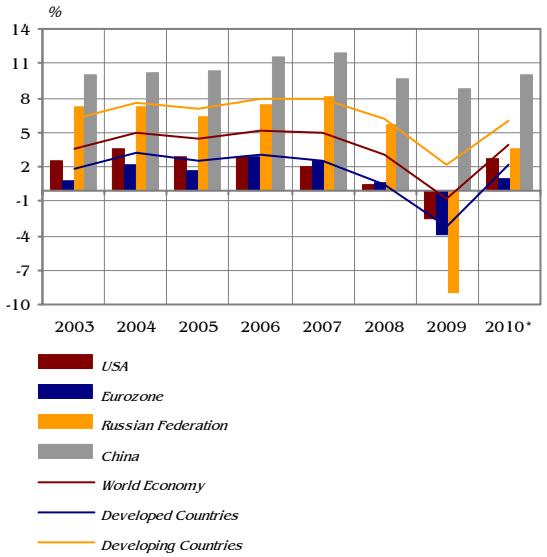
close to pre-crisis level. USA is also close to pre-crisis level, but according to 2010 second quarter data the economic growth slowed despite industrial investments and modernization efforts. Economic growth in European countries and Japan is still appreciably below pre-crisis level and is rather dependent on foreign demand. Starting fourth quarter of 2009 economic growth was observed in Japan triggered by the rebounding global trade and strong demand in Asian countries, but economic growth weakened significantly starting second quarter of 2010. In European countries slow pace of lending recovery, sovereign debt problems and fiscal consolidation hamper the growth of domestic demand. Euro depreciation, which started in the second quarter, may support exports adding additional momentum to further economic recovery.

In the first half of 2010 8.0 percent economic growth was observed in developing countries. It is remarkable that the IMF estimates of the economic growth for those countries for October was revised upwards by 0.3 percentage points compared to June estimates. As in advanced economies there is significant heterogeneity both across and within region among developing countries, with Asian and Latin American economies leading ahead. Economic growth in these countries was forced by fix investment rebound despite waned policy stimulus. Economic growth in Asian countries reached 9.5 percent triggered by resilience in domestic demand in China thanks in part to proactive policy stimulus. In Latin American countries 7.0 percent economic growth was observed, which is mainly led by Brazil where GDP growth in running close to 10 percent showing the signs of overheating. In emerging European and CIS countries economic recovery lags significantly, as those countries were hit hard by the crisis. Economic growth in CIS countries was supported by the high commodity prices, recovering foreign trade, renewal of capital inflows, and government stimulus programs. Developments in CIS countries were mainly affected by recuperation of Russian economy. However, developments in different countries of the region remain diverse due to different sensitivity towards commodity prices, level of engagement in global trade and in financial markets, and economic relations with Russia.

Since 2007 the number of unemployed across the globe increased by around 30 million and currently is around 210 million. The unemployed in USA face record-long period of joblessness which is not typical for USA job market, meanwhile in the second quarter pointed a slowdown in employment growth . In developed European countries recovery of employment is also dependent to various particularities of job markets across the region. In developing countries the unemployment rate had already fallen back supported by strengthening recovery.

Financial markets turbulence and sovereign debt turmoil in Euroarea during the first half of 2010 led to sharp currency fluctuations. The euro depreciated by about 15 percent (in real effective terms) although it has partially recovered at a level in line with medium-term fundamentals. After significant initial appreciation of U.S. dollar in real effective terms rate, it returned to levels seen earlier in the year. While Japanese yen,

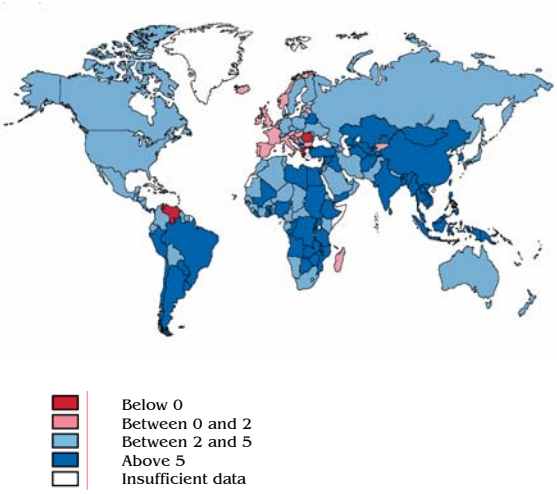
Regional Growth Rates



** In graphs 2010 indicators are the IMF forecast for October*

Source: IMF

Average Projected Real GDP Growth during 2010–2011



Source: IMF

after sharp depreciation in April, showed signs of steady appreciation, which ptomoted the authorities to intervene in exchange markets.

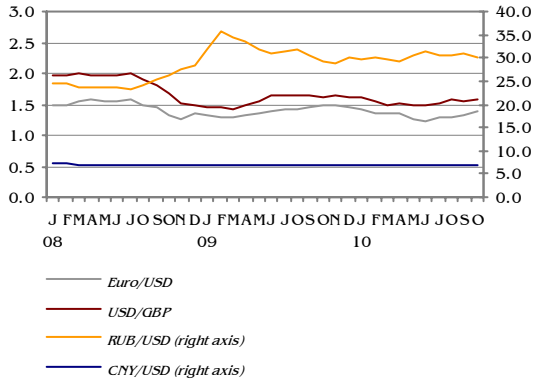
In the first half of 2010 parallel to the recovery of economic activity driven by surging demand of emerging economies, the world trade has recovered to pre-crisis level. For 2010 IMF estimates 11.4 percent growth for world trade compared with 11.0 percent decrease for the previous year. World trade growth recovered both in emerging and advanced economies. The recovery of world trade to some extent was supported by rebounding of demand, inventory rebuilding and the unfreezing of financial markets. It is noteworthy that the same negative developments of those factors accounted for much of the contraction of world trade in 2009. While analyzing regional pattern of world trade China can be distinguished among emerging economies. Having export oriented economy China in the current year facilitated economic growth by boosting local demand and easing fiscal constraints, while net exports had almost no contribution to economic growth. At the same time in advanced economies growth of imports demand is anticipated, which will be constrained by low private demand driven by high unemployment level, meanwhile the exports growth will be hampered by slow economic growth of partner countries.

Faster growth of U.S. economy in first half of 2010 compared to partner countries and continuous appreciation of U.S. dollar led to the growth of current account deficit, which is still lower than in pre-crisis period. The current account deficit to GDP ratio in U.S. grew by 0.6 percentage points compared to previous year and totaled 3.2 percent. According to estimates, in 2010 compared to 2009 in terms of diminishing exports growth rate the Chinese current account surplus to GDP ratio is expected to decrease for 3 percentage points. While Russian current account surplus to GDP ratio may grow for 1.8 percentage totaling 4.4 percent driven by strong growth of exports against imports.

In the first half of 2010 growth of world trade was driven by the economic recovery, increase of world demand and the rebounding of most commodity prices. In the first quarter growing demand from developing countries and expanded economic activity pushed the prices of main commodities (raw materials and food) up. Starting second quarter affected by unfavorable weather patterns in key crops exporting countries the projections of crops harvest were decreased, which led to the price raise. Nevertheless the upward price pressures in crops market were weaker than in 2007-2008 and didn't contribute to the increase of food and agricultural prices. Rise of raw material and food prices was registered, which was also reflected by 28.6 percent growth of Reuters/Jefferies CRB index[2] for 2010.

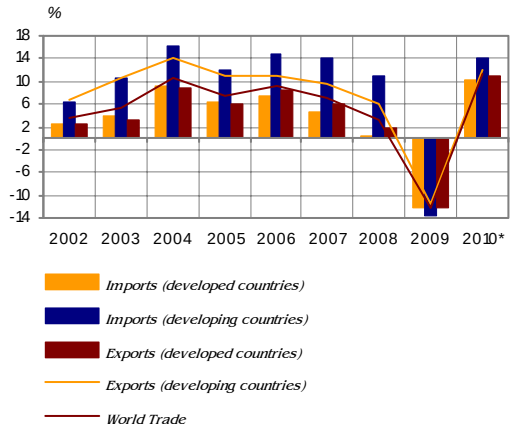
During the first half of 2010 oil prices were volatile in average recording some increase (compared to the same period in 2009), although they are still below the elevated levels of recent years. In the first half of 2010 oil price averaged around USD 78 per barrel. In the second quarter Brent crude oil price has increased to USD 79 a barrel compare with the USD 75 in

Developments of main currencies during recent years



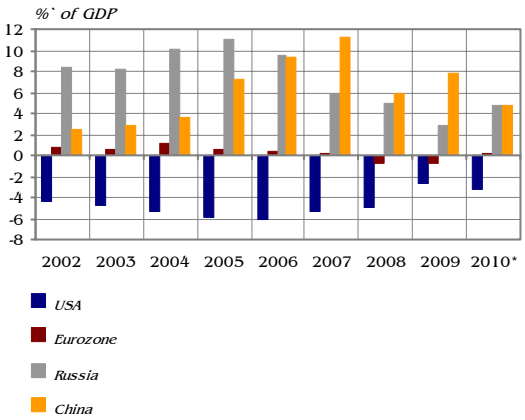
Source: Central banks of different countries

Annual growth rate of World Trade



Source: IMF

Current Accounts of USA, China, Russia and Eurozone



Source: IMF

[2] *Historic integral index, which includes prices for 19 raw materials.*

the end of 2009. Oil prices indicated 52 percent growth y-o-y. According to IMF forecasts the oil prices will continue gradual increase mainly as a result of recovering economy. On the demand side sharp short-term increase of oil prices will be slowed by weak demand in advanced economies. On the supply side the main factor affecting oil prices will be the OPEC supply policy. According to IMF forecasts during 2010 the average prices for three types of crude oil (WTI, Brent, Urals) are expected to increase by 23.3 percent, while in 2011 the growth rate will drop to y-o-y 3.3 percent.

In the first half of 2010 industrial metals prices also increased. Copper prices were volatile in first quarter reaching USD 7900 dollar per metric ton, while in the second quarter dropped to USD 6300 mainly complying with sluggish economic growth trend. Overall the average copper price (7160 U.S. dollar) increased for 75 percent compare with the same period in 2009.

Food prices had different patterns in different product markets. Particularly in the first half of 2010 prices of grain fluctuated between USD 5.3-4.3 per bushel mainly declining in the second quarter. The crops prices dropped for 31.0 percent y-o-y being more sensitive to economic slowdown. The grain prices are expected to grow in next quarters due to possible shrinking supply from exporting countries as a result of unfavorable weather patterns.

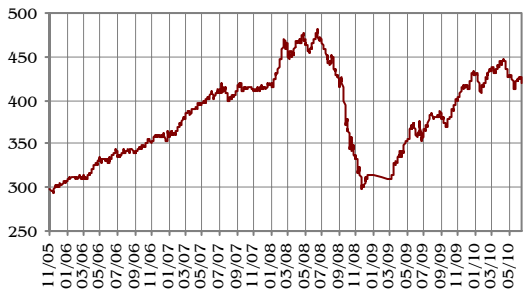
After observed record sugar prices in the beginning of 2010 in the second quarter the prices dropped by 20.8 percent and price for one pound averaged USD 20.5 per cent which is higher than the price in the same period in 2009 by 28.6 percent.

During first two quarters the prices of precious metals and especially gold prices increased beating new records. Record high gold price was a result of gold being a safe haven amidst turmoil in different financial market instruments. Demand for gold was mainly driven by Asian Central Banks and most probably the likelihood of increasing gold prices is rather high reflecting rising uncertainty concerning economic recovery.

Gradual but slow recovery of global economy in the first half of 2010 and slumping price growth for main commodities outline a low inflation environment worldwide. There were no significant inflation pressures in main advanced economies and the inflation was within the target. In comparison with emerging economies inflation in advanced economies was rather mild as a result of weak local demand and high unemployment. According to IMF estimates in 2010 inflation in advanced economies is expected 1.4 percent and will remain muted during next year. According to IMF in emerging economies the inflation is expected to be comparatively higher around 6.2 percent as a result of capital inflow and demand-boosting massive fiscal stimulus.

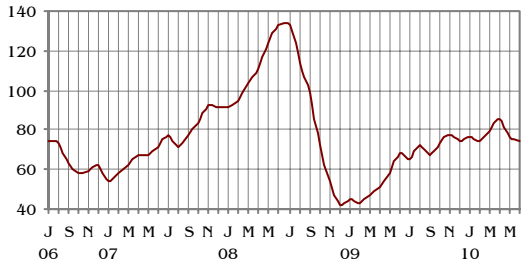
During the first half of 2010 governments of number of developed countries avoided monetary tightening, based on assumption that recovery rates are not high enough to influence inflation and unemployment. Federal Reserve kept its prime lending rate on record-low corridor 0-0.25 percent considering the job market recovery as a condition for increasing interest rates. ECB also kept the interest rates at 1 percent level pointing to absence of inflation pressure.

Reuters/Jefferies CRB Index Dynamics

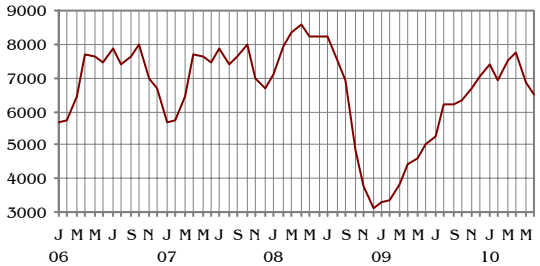


Source: Bloomberg:

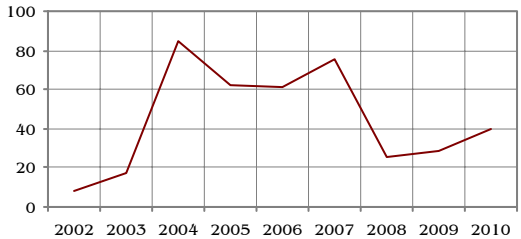
Oil Price (Brent) Dynamics
(USD for 1 barrel)



Copper Price Dynamics
(USD for 1 ton)



Molybdenum Price Dynamics
(ths. USD for 1 ton)



Source: Bloomberg:

SUMMARY

In first half of 2010 economic recovery continued to strengthen, but number of risks such as stability of capital flows, vulnerability of financial systems and financial institutions, undermine its further development. Timely and efficient "exit strategy" of anti-crisis measures is of great importance for the sustainable recovery. According to estimates the economic growth will continue also in 2011 although the risks of high inflation and vulnerable recovery are available.

1.2. INTERNATIONAL FINANCIAL MARKETS

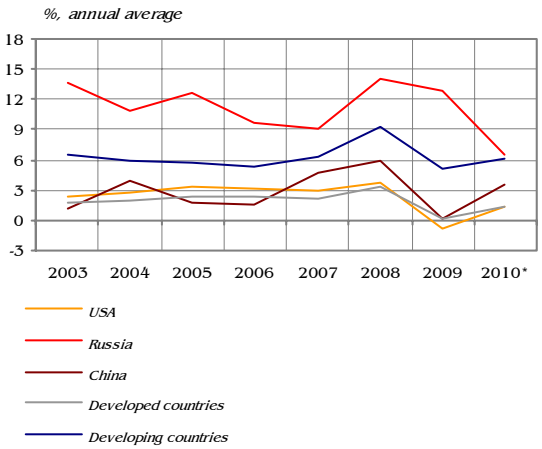
The ongoing recovery of financial markets started in the second half of 2009 slowly continued in the first half of 2010 owing mainly to the forceful anti-crisis responses. During the first half of 2010 the central banks and governments of main advanced economies preserved monetary and fiscal easing policy postponing "exit strategy" actions. Despite growth expectations world financial system remains the most vulnerable factor for sustainable economic recovery. During the first half of 2010 the developments in financial markets were rather diverse. Macroeconomic risks have increased as sovereign debt and deflation concerns rose. While the credit risk remained unchanged, as increased strains in the banking system lending were offset by an improved creditworthiness of corporate sector. According to IMF, during the last months banking sector risks increased and it is likely that it will be needed to behold recapitalization or restructuration of some financial institutions. From the beginning of crisis to the second half of 2010 the total writedowns in banking system were 2.2 trillion U.S. dollar[3], whereas three-quarters of writedowns were in the first half of 2010.

In the first half of 2010 the recovery of the financial system was hampered by turmoil in sovereign debt markets in number of European countries. The response of European governments and international organizations helped to some extent stabilize funding markets and mitigate tail risks, while the European bank stress-test results carried out by ECB ensured confidence in the recovery. Nevertheless after the sovereign debt crisis in Euroarea the confidence in financial system didn't totally recovered and banks may still face risks concerning government bonds. In these terms, the outlook of sustainable recovery and financial stability is still subject to significant uncertainty.

Across the regions debt refinancing and funding needs are still the main challenges that the banks face. According to IMF in coming two years the banks will have to refinance 4 trillion debt, and rather weak financial institutions may face certain difficulties.

As a result of widespread government initiated anti-crisis measures almost all countries faced budget deficit and sovereign debt growth. It is important to limit the debt gap in the context of mid-term inflation stabilization and financial stability. In general in 2009 budget deficit to GDP ratio in

Inflation in the Selected Countries



Source: IMF

[3] *According to IMF estimates*

advanced economies increased by around 5 percent (in 2008 it had dropped by 2.5 percent), and in 2010 0.75 percent increase is forecasted. In particular, in 2010 U.S. budget deficit to GDP ratio is expected 10 percent, while under ongoing policy gross national debt in 2015 it is expected to reach 110 percent of GDP.

In the first half of 2010 growth of budget deficit and sovereign debt in number of EU member countries (Greece, Spain, and Portugal) raised great issues for the fiscal and monetary bodies posing new risks threatening financial stability. Sovereign debt turmoil, high budget deficit and weak economic growth led to decrease of government bond yields. For mitigating those risks European countries are already taking actions in the context of reduction of government spending and shift in fiscal policy. In coming years the target of economic policies across the globe should be development and implementation of policies aimed at prudent and growth-friendly sovereign debt management.

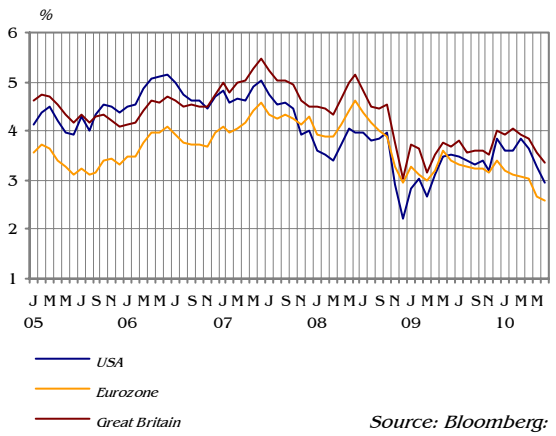
In future, tightening of fiscal policy can restrain economic growth in many countries. According to IMF 1 percent decrease of budget deficit to GDP ratio in two year lag will drop domestic demand for 1 percent. Taking into consideration abovementioned, the tightening fiscal policy and budget deficit reduction prudent policies will be of top priority in the agendas of governments.

Some advanced economies such as Australia, Canada, and New Zealand in the first half of 2010 increased their refinancing rate, which were at historical lows. ECB and Federal Reserve kept their refinancing rate at historical low level taking into account the weak recovery of economic growth and job market. Federal Reserve kept the refinancing rate at 0-0.25 percent range justifying its decision by the absence of sustainable recovery evidence. ECB also kept the refinancing interest rate at unchanged 1 percent level. According to number of experts interest rate rise can be anticipated only after second half of 2011, until issue of development of such timeline of government program termination and exit strategy, that would not undermine further recovery of world economy, stays on the agendas of policymakers.

Low base interest rates, easing monetary policy and weak inflation environment kept interbank interest rates at rather low level.

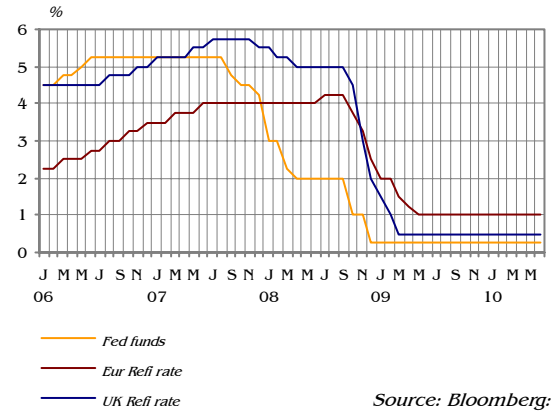
In the first half of 2010 certain volatility of global financial markets, sovereign debt and budget deficit issues conditioned also the developments in foreign exchange markets. During the first two quarters of 2010 U.S. dollar gradually appreciated. In the light of slow economic grow the main factor affecting appreciation of U.S. dollar was the increased investor confidence in U.S. economy in the context of uncertainties in financial markets and European sovereign debt issues. In the first half of 2010 compared to the previous year the U.S. dollar appreciated against Euro by 4.8 percent and 6.8 percent against GB pound sterling. In the next half of the year U.S. dollar depreciation is expected due to slower than expected recovery of U.S. economy and quantitative easing policy of U.S. government aimed at boosting economic activity.

10-year Government Bond Yield



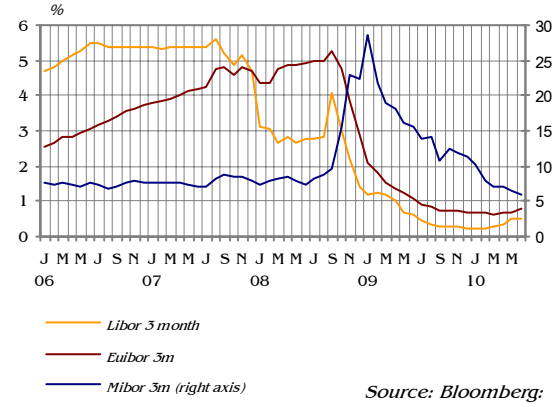
Source: Bloomberg:

Central Bank Interest Rates Policy



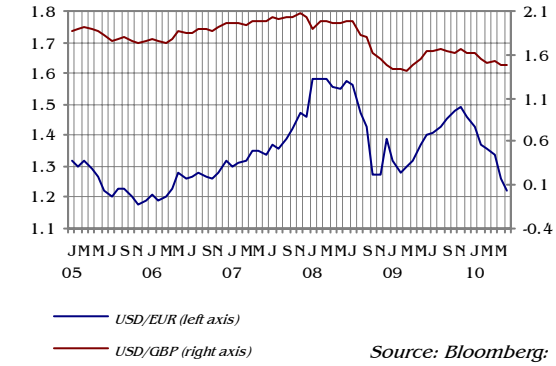
Source: Bloomberg:

Interbank Interest Rates



Source: Bloomberg:

US Dollar Exchange Rate against Euro and CB Pound Sterling



Source: Bloomberg:

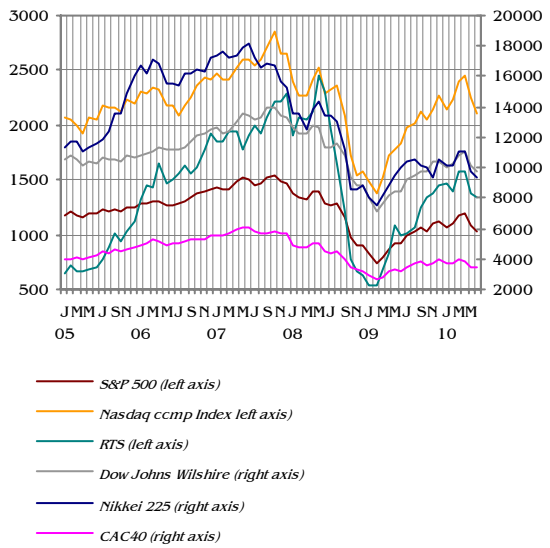
Evidence of continuity of quantitative easing policy implemented by U.S. government was the announcement on November 5 concerning the start of second round of injections for 600 billion dollars. Upon introduction mentioned government initiative brought to growth of investor confidence and hence to growth of stock indices and also to depreciation of U.S. dollar against other currencies increasing competitive advantages of U.S. economy. Nevertheless according to number of experts in mid-term the mentioned liquidity injections will not be sufficient for recovery of U.S. economy, while on the other hand the excess liquidity in U.S. will cause problems in other economies[4].

In the coming future "currency wars" are considered as possible risks emerging from volatile foreign exchange markets, i.e. various countries are inclined to artificially depreciate national currency for gaining competitive advantages, which in global outlook can considerably hamper economic growth.

In light of recovering economic growth, securities markets in different countries sustained the growth trend inherited from previous year and already in the beginning of second quarter reached pre-crisis levels. U.S. stock indices in the first half were volatile recording some growth compared to previous year. In terms of still impaired macroeconomic fundamentals the growth of stock indices was stimulated by state injections (which in actuality were intended for crediting real sector) emerging speculative and overheating risks in financial markets. Stock indices in emerging economies also grew and in this case main factors affecting growth were high commodity prices and higher than expected economic growth.

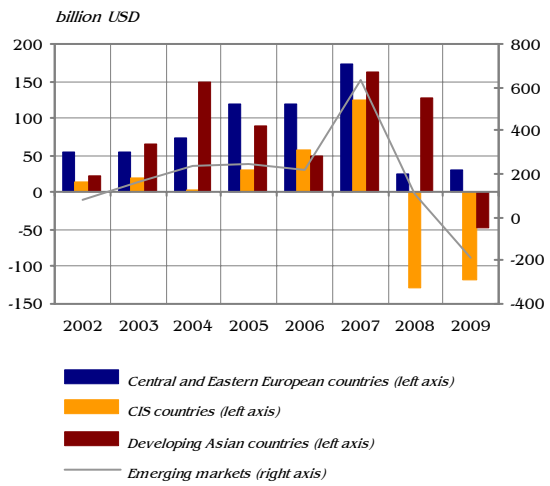
Starting 2009 capital flow to emerging economies recovered, and moreover the capital inflow to Asian emerging economies quadrupled compared to 2008. Capital inflow to emerging economies mainly contributed to the growth of international reserves not creating appreciation pressure on national currencies. Number of countries initiated special macroprudential programs for containing exceptional capital inflow, which in future can undermine financial stability of those countries.

Stock Exchange Indices



Source: Bloomberg:

Net Private Investment Inflow



Source: IMF

SUMMARY

Anti-crisis measures implemented by number of countries during 2008-2010 period forced the stabilization of international financial system although it still remains strongly vulnerable and in case of negative developments it can undermine the expected recovery of world economy. During 2010 the sustainable recovery of world economy can be undermined by sovereign debt turmoil of some advanced economies and unprecedented budget deficits. In case if countries adopt prudent and growth-friendly national debt policy most probably the further recovery of financial system can be sustained. The main issue that the policy-makers will have to pay attention is the development of "exit strategy", which will let to avoid inflation risk and possible emerging of financial bubbles while not slackening of the world economic growth.

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[4] *U.S.Government announcement concerning mentioned stimulus initiative on November 5 was included in the Financial stability report for the first half as it can largly determine the international developments in the second half.*

1.3. RUSSIAN FEDERATION

Developments in the Russian Federation have significant impact on CIS countries: in particular, according to IMF research Russian economy mainly influences the growth of CIS countries through private remittances channel. According to IMF researchers 10 percent increase of private transfers from Russia to CIS countries is associated with 0.3 percent growth of GDP, with 0.4 percent increase in oil importing CIS countries growth. Taking into consideration abovementioned and the fact that Russia is the main trade partner of Armenia and Russian investments count for major part of FDI in Armenia, the analysis of Russian economy is of special significance.

In the first half of 2010 Russian economy recorded comparatively high economic growth mainly driven by growth of industrial production and exports. Improvement of trade terms contributed to the export growth: in the first half of year the exports exceed the previous year indicator by 61.6 percent. The exports and industrial growth were benefited from high-stable oil prices and surging oil production during first four months of 2010, which is higher by 9 percent compared to previous year. Recorded considerable growth is also result of low indicators of previous year.

GDP growth, according to Russian state statistical federal agency, in the first half of 2010 totaled y-o-y 4.0 percent. Recovery of economic activity was observed just from the beginning of first quarter somewhat hampered by low investment activity and slow recovery of consumer demand. In the second quarter the growth started to speed up, which was conditioned noticeable increase of domestic demand.

On annual basis the biggest growth was observed in industrial sector around 10 percent. The growth of agriculture sector in current prices totaled 2.6 percent, and trade sector increased for 9.3 percent. Expanding domestic demand was driven by respective 4.4 and 4.8 percent growth of real wages and real disposable income. Investment demand is still weak, in particular capital investments increased only for 7.4 percent compared to previous year.

During the first half of the current year continuous growth of household savings was observed: saving propensity in the first half of 2010 totaled 17.1 percent instead of 13.2 percent in previous year, conditioning the further sustainable growth of GDP.

During the first half of 2010 noticeable growth of net foreign investments was observed: growth of net foreign investments in the first half of 2010 compared to the same period in 2009 totaled 16 percent. At the same time net outflow of private capital compared to previous year dropped more than three times from 31.9 billion U.S. dollars in 2009 to 10.2 billion U.S. dollars. Capital flows had different patterns during the first half of year. The FDIs continued to grow both in first and second quarters, while the inflow of portfolio investments in the first quarter were negative and only from second quarter 6.3 percent growth was recorded.

Compared to the first half of previous year, in 2010 foreign trade increased by 40.7 percent, while exports increased faster

than imports. In 2010 January-June period the exports increased 1.5 times, while imports increased by 26.4 percent. The exports growth was conditioned by high prices of main export products, while imports increased due to appreciated Russian ruble and increased domestic demand towards imported products.

Trends dominant in international markets in the first half of 2010 were favorable for Russian export despite oil price decrease in June. Oil prices were mainly affected by weak U.S. dollar, accident in Gulf of Mexico leading to supply shortage and expectations around possible cut of U.S. oil reserves. The average price for Urals crude oil in January-June period of 2010 was 75.9 U.S. dollar, which is 1.5 times higher than for the same period in 2009. Compared to 2009 price surge was recorded also for color metals, which constitute major part in export: prices of nickel and copper increased y/y 1.8 times and the price of aluminum increased 1.5 times.

Imports in the first half of 2010 were estimated around 90.0 billion U.S. dollars. The share of chemical products, metals and products made thereof increased in the structure of imports. Despite rebounding economic activity the share of machinery, tools and transport means still remained low, which indicates unchanged weak investment activity

In the first half of 2010 factors affecting Russian foreign exchange market had diverse pattern. Stable trend of ruble appreciation trend was observed in domestic market, which was influenced by inflow of foreign exchange resources conditioned by rebounding economy. Under those developments Russian Central Bank was buying foreign currency preventing national currency appreciation. In the second quarter due to negative developments in Euroarea countries and decrease of oil prices shaky growth of ruble was observed in domestic market. Although in June both supply and demand for foreign exchange stabilized resulting the CB to curb its intervention in foreign exchange market.

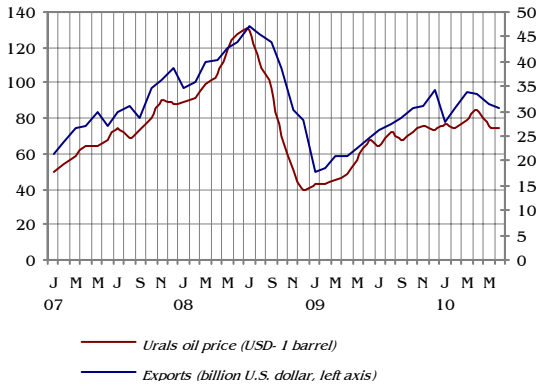
During the first six months of 2010 Russian ruble appreciated 3.5 percent against U.S. dollar, while depreciating for 12.1 percent against Euro. The real effective exchange rate of ruble appreciated for 9.5 percent.

In the first half of 2010 consumer price index in average increased by 4.4 percent decreasing for 3.0 percentage points compared to the previous year. Inflation was mainly conditioned by high prices on crops (33.8 percent), which was mainly conditioned by unfavorable weather conditions.

It is worth mentioning, that it is not ruled out that growth of inflation rate may accelerate mainly due to growing monetary base conditioned by recovery initiatives and also due to inflow of petrodollars. As a result annual estimate for inflation for 2010 was 6-7 percent.

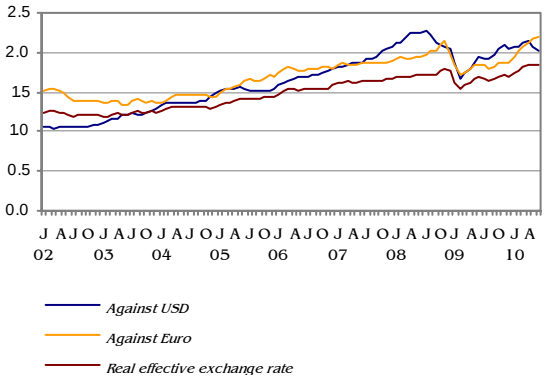
Taking into consideration still low inflation and for the purpose of facilitating economic growth during the first half of 2010 Russian Central Bank decreased the refinancing rate in total for 1 percentage points to 7.75 percent threshold.

Oil prices and RF Export Dynamics



Source: Ministry of Economic Development of RF

Ruble Real Exchange Rate (1995 January = 1)



Source: Ministry of Economic Development of RF

2. FINANCIAL STABILITY IN ARMENIA'S MACROECONOMIC ENVIRONMENT

2.1. MACROECONOMIC DEVELOPMENTS

In the first half of 2010 the domestic economic developments were mainly shaped by positive indications from the world economy, continuous increase of main raw material prices and by the recovery of domestic demand. Main three vulnerable channels of crisis penetration into Armenian economy, i.e. inflow of foreign capital, remittance and metal price dynamics, showed positive developments. Particularly, during the first two quarters of 2010 continuous growth of FDI was observed, which increased by 33.0 percent compared to the same period in the previous year. Remittances starting the beginning of 2010 increased y/y 6.6 percent, although growth is slightly weak.

Parallel to the rebounding world economy, the growing trend of world raw material prices persisted also in 2010, which resulted export and import growth, and also create inflation pressures. Amongst Armenian macroeconomic developments the recovery of job market and household income can be outlined.

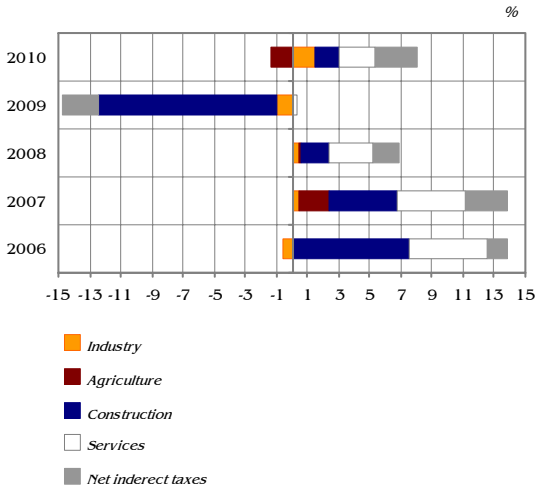
In terms of abovementioned and other developments in the first half of 2010 GDP started to grow in contrast to 14.2 percent drop in 2009. GDP volume for the first half of year in current prices totaled 1 280.4 billion dram, which generated y/y 6.2 percent growth contrary to y/y 13.3 percent drop in the same period of 2009. In the second quarter accelerating economic growth rate was observed, which was conditioned the gradual recovery of economic environment and the decreasing trend of GDP in the first half of 2009. Increase of private and commercial transfers mainly affected trade and services sectors. Due to unfavorable weather conditions considerable drop of agricultural output was observed. Service sector contributed to GDP growth for 2.9 percentage points, industry and construction respectively for 1.3 and 1.0 percentage points, while negative impact of 15.4 percent drop of agricultural output in GDP totaled 1.6 percentage points.

Rebounding world metal prices and continuous growth of industrial demand resulted y/y 7.9 percent growth of industrial output, which was mainly affected by 39.1 percent growth of mining and 11.1 percent growth of processing industries.

The recovery of demand in the countries traditionally consuming Armenian alcoholic beverages contributed to 22.6 growth of beverage production. Due to the rebounding international and domestic demand gradual recovery was observed in jewelry, construction material and chemical sub-sectors.

Construction industry in the first half of 2010 recorded y/y 7.6 percent growth, which is mainly conditioned by growing construction volumes in different sectors of economy. Residential apartment construction, which accounts for major part in construction sector, continued to decline and totaled

Economy Sector Contribution to GDP



Source: National Statistics Service of Armenia (RA NSS)

26.8 percent. This was mainly due to drop in construction volumes financed by households.

In the first half services sector increased for y/y 5.0 percent (wholesale trade 15.8 percent, retail trade 0.7 percent growth). Parallel to rebounding household incomes and private transfers volume of car purchases also increased, which contributed to the growth of services.

The drop of agricultural production during the first half of year was conditioned by 35.2 drop of crops production and 1.9 percent drop of cattle breeding sector.

According to the results of the first half of 2010 lending to the main sectors of economy continued to increase. In light of improving macroeconomic indicators, the banking system recovered lending and loosened lending standards. In contrast to previous year in the first half of 2010 the banks significantly loosened lending standards not only for SME but also for large companies. Loosening of lending standards was rather obvious in the second quarter, which was mainly affected by interbank competition, market expansion plans, liquidity availability and positive expectations concerning recovery of economic activity[5]. As a positive change in lending standards the correspondents mentioned drop of interest rates.

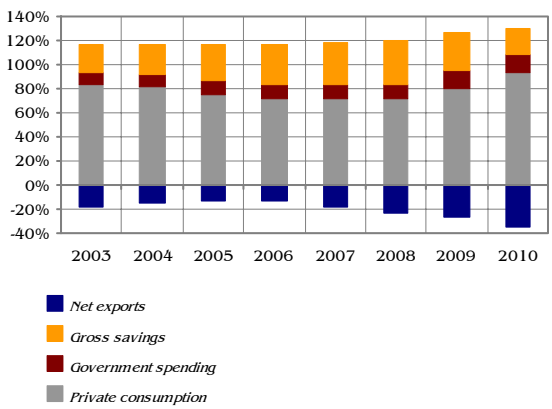
In terms of 9.2 percentage growth of corporate lending, the quality of loans improved significantly totaling 4.8 percent (in contrast to 10.2 percent in the first half of 2009). The share of non-performing loans dropped sharply in industrial sector (around three times), while the largest drop was recorded in mining and energy production sub-sectors.

During the first two quarters of 2010 the composite indices[6] of Economic Activity and Business Climate had growth trend, although second quarter indicators lag behind indicators of the previous quarter due to more pragmatic expectations of business entities in the second quarter. In comparison with the same period in 2009, both indices recorded significant increase, which indicates improvement of expectations on further economic recovery and decreasing risks compared to previous year.

From the GDP expenditure structure point of view When GDP is analysed with respect to expenditures, it is observed that in the first half of 2010 real consumption increased by 5.3 percent. It is mainly result of increasing household incomes conditioned by recovery of private remittances, increasing trend of wage and recovery of consumer confidence. In the first half of 2010, faster growth was recorded for government spending – y/y 11.6 percent, while annual growth of private consumption totaled 5.6 percent. In observed period capital investments recorded y/y 10.2 percent growth, which indicates recovery of business environment and may serve as a factor for future economic growth.

In terms of recovering export, import and GDP growth rates, in the first half of 2010 the share of net exports in GDP increased by 5.0 percent and totaled 35.0 percent.

GDP Expenditure Components
(Share in GDP)



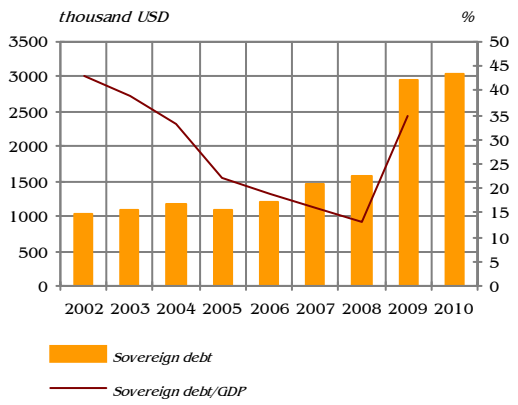
Source: National Statistics Service of Armenia (RA NSS)

[5] *Source: Survey of CBA in the first and second quarter of 2010 on "Loans provided by Armenian banks and credit organizations.*
[6] *For more details on indices based on surveys conducted by CBA please see CBA website.*

2007-2009 financial crisis had negative impact on Armenian foreign debt indicators describing sustainability of foreign public debt. In particular, compared to 2008 the foreign national debt almost doubled, and the debt/GDP ratio was 34 percent. On one hand, this was result of rapid growth of Armenian foreign debt and dram depreciation against U.S. dollar. On the other hand, it was attributable to GDP volume decrease contributed to the major setback.

Certain shifts were observed also in the structure of foreign debt. Particularly, the share of preferential loans decreased and by the end of 2009 the share of commercial loans in the total foreign loans increased totaling 35 percent. The share of floating interest rate loans also increased totaling 34.5 percent.

Sovereign debt and sovereign debt/ GDP indicators



Source: Ministry of Finance of RA

Qualitative indicators of Armenian sovereign debt

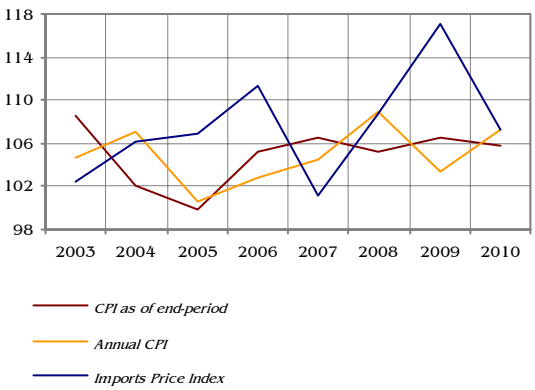
Indicators	2005	2006	2007	2008	2009
Debt/GDP (50% limit)	22%	19%	16%	14%	35%
Debt/ Exports	78% *(low debt burden)*	80% *(low debt burden)*	82% *(low debt burden)*	90% *(low debt burden)*	227% *(moderate debt burden)*
Debt servicing/ exports	4.6% *(low debt burden)*	4.2% *(low debt burden)*	2.9% *(low debt burden)*	3.1% *(low debt burden)*	6% *(low debt burden)*
Interest/Exports	0.9% *(low debt burden)*	0.7% *(low debt burden)*	0.6% *(low debt burden)*	0.7% *(low debt burden)*	2% *(low debt burden)*

Despite abovementioned negative developments and debt growth due to 2009 financial crisis Armenian foreign public debt is can be considered anticipated as moderate. Hence, Republic of Armenia can be considered as weakly debt burdened country. Government of Armenia aimed to shape such a debt portfolio, which would be easy to service in the future. According to estimates, the current debt management policy, recovering growth of GDP, exports and budget incomes will allow Armenia to avoid serious debt servicing problems in coming years.

In the first half of 2010 inflation patterns varied. In the first quarter high inflation pressure was observed conditioned by the rise of international commodity high prices in international markets and lagged impact of former easing measures. So 8.8 percent 12-month inflation was observed in that period. While the second quarter was characterized by weakening inflation environment, which was mainly driven by tightened monetary policy and slackened external inflation pressures. As a result, 12-month inflation for the first half of 2010 dropped to 5.8 percent, but still exceeded target range of 4±1.5 percent by 0.3 percentage points. Inflation observed in Armenia during first half of 2010 was higher than in neighboring countries, i.e. 2.1 percent in Azerbaijan and 4.5 percent in Georgia.

Due to high inflation pressure, rebounding domestic and foreign demand, during 2010 CBA tightened monetary policy terms gradually increasing refinancing interest rate by 2.25 basis points from 5.0 percent in the beginning of year to 7.25 percent.

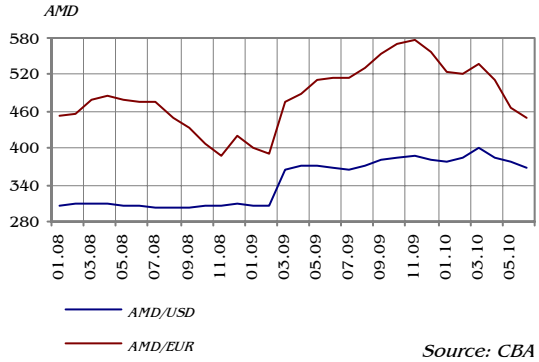
Consumer and Imports Price Indices



Source: RA NSS and CBA

In the first quarter of 2010 dram continued to depreciate against U.S. dollar. Average exchange rate of AMD against U.S. dollar compared to previous quarter depreciated by 5.65 percent rising from 377.89 dram to 400.50 dram in the end of first quarter of 2010. Aiming to mitigate adverse impact of volatilality on exchange market in the first quarter the CBA intervened in foreign exchange market selling 138 million U.S. dollar. In the second quarter AMD started to appreciate, which was perhaps connected to rising supply of foreign exchange. It in its turn was due to improving economic environment, capital inflows, private transfers and rebounding factor incomes.

AMD Exchange Rate against USD and Euro



Source: CBA

SUMMARY

Developments of the first half of 2010 significantly differed from those in the same period of in the first half of 2009.This points to the fact that these tendencies ; macroeconomic developments of Armenia were consistent with the in accord to developments in the world economy in regard to the shift of economic recession into economic activity and growth recovery economic recession trends shifting to economic recovery and rebounding economic activity trends. Economic growth was observed in all GDP contributing sectors except in agricultural sector. Positive developments were observed also in foreign trade.

Although at the same time sovereign debt increased there is no chance of foreign debt stability issues as Armenia was always lightly debt burdened country and foreign loans were preferential,.

There are certain risks of sustainable GDP growth in the second half of 2010. Particularly in case of continued drop in agricultural sector the GDP growth rate in second half in comparison to first half.

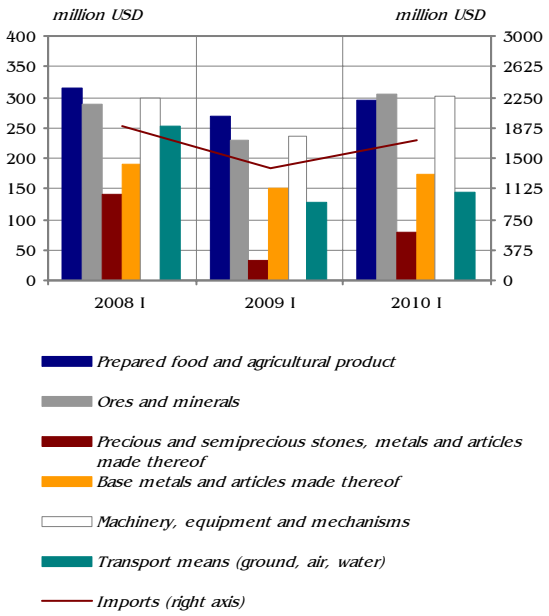
In the context of world and domestic developments both external and internal inflation pressures are possible, which is reflected in the monetary policy program of CBA. Except seasonal fluctuations, in the light of continuous recovery of foreign exchange inflows (private transfers, factor incomes, foreign investments, and exports) no sharp fluctuations of AMD exchange rate are expected.

2.2. FOREIGN TRADE

The recovery of world economic activity in the first half of 2010 had its positive impact on the dynamics of Armenian imports and exports. In the light of rising prices of main products and rebounding domestic and foreign demand growth of imports and exports was observed compared to previous year. Armenian current account deficit compared to the first half of previous year increased by 29.7 percent and totaled 695.5 million USD. Foreign trade turnover increased by around 30 percent totaling 2 166.8 million USD.

In January-June months of 2010 imports increased y/y 338.7 million USD or by y/y 24.4 percent totaling 1.7 billion USD. Imports growth in the first half of 2010 to some extent was

Armenia's Imports by Commodity Groups



Source: CBA

affected by 10.3 percent growth of imports USD denominated prices, whereas in the same period in previous year 6.8 percent decrease of USD denominated prices was observed[7].

Increase of imports was mainly driven by growing imports of "Ores and minerals", "Precious and semiprecious stones", "Precious metals and articles made thereof", "Ground, air and water transport means", "Base metals and articles made thereof", "Prepared food" commodity groups. The main reason behind growing prices of imported products was the high prices in international markets. This factor combined with the continuing recovery of domestic economy and increasing local demand can contribute to the further increase of import volume.

In the first half of 2010 Armenian exports increased by y/y 158.7 million USD or by y/y 55.9 percent totaling 442.8 million USD.

Growth of exports was conditioned by recovering world demand and sustained high prices on metals. Exports growth was also facilitated by Government support initiatives in major export oriented sectors. In the first half of 2010 real volumes of exports increased y/y 4.8 percent. USD denominated growth of exports was mainly driven by respective 22.1, 13.0 and 18.8 percent growth of "Base metals and articles made thereof", "Precious and semiprecious stones, precious metals and articles made thereof" and "Ores and minerals" commodity groups.

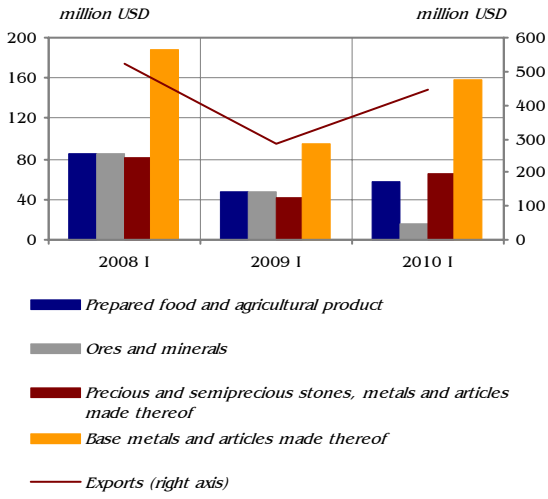
Higher growth rate of exports compared to imports growth led to reduction of current account deficit to 1.3 billion U.S. dollar (negative value). Shifts in geographic distribution of Armenian foreign trade were observed, however the structure of main trade partners stays unchanged. In observed period the foreign trade turnover with EU countries increased by 38.8 percent, which resulted in 18.6 percent current account deficit with those countries. At the same time the overall trade deficit was mainly due to increase of trade deficit with CIS countries and China (58.0 and 55.0 million USD respectively).

2.3. NET FACTOR INCOMES AND REMITTANCES

Parallel to domestic and world economic recovery during the first half of year the factor incomes and remittances also gradually recovered. Major part of remittances are transferred from Russian Federation, and the economy of the later encountered rather high growth in the first half of 2010 due to high prices on oil market.

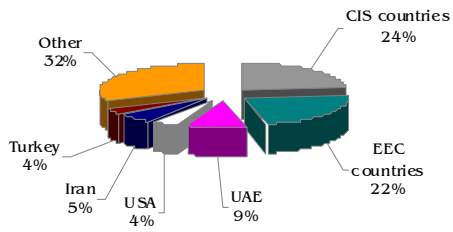
In the first half of 2010 compared to 2009 private transfers increased y/y 16.8 percent, while the inflow of net private transfers and factor incomes decreased by y/y 2.3 percent totaling 426.3 million USD, During observed period the share of net factor incomes and private remittances in gross national disposable income (GNDI) increased by 0.4 percentage points and totaled 10.9 percent compared to 10.5 percent in the end of 2009. Although in the first half of the year the volume of private transfers had growth tendency, it still lags behind the results of recent years.

Armenia's Export by Commodity Groups

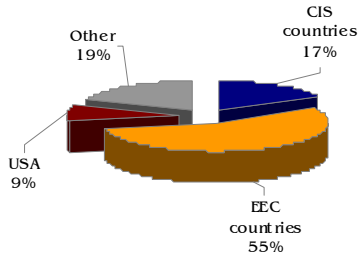


Armenia's Foreign Trade Distribution, by Countries as of 30.06.2010

Imports

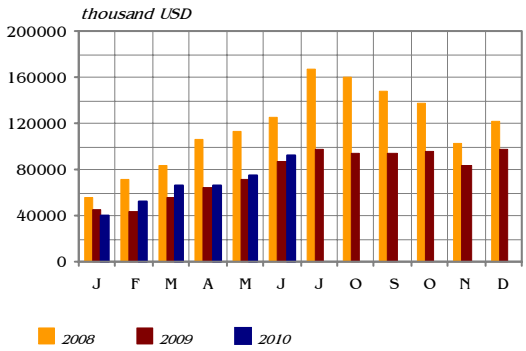


Exports



Source: CBA

Net Non-Commercial Transfers made by Banking System



Source: CBA

[7] *For details see Inflation report for second quarter of 2010.*

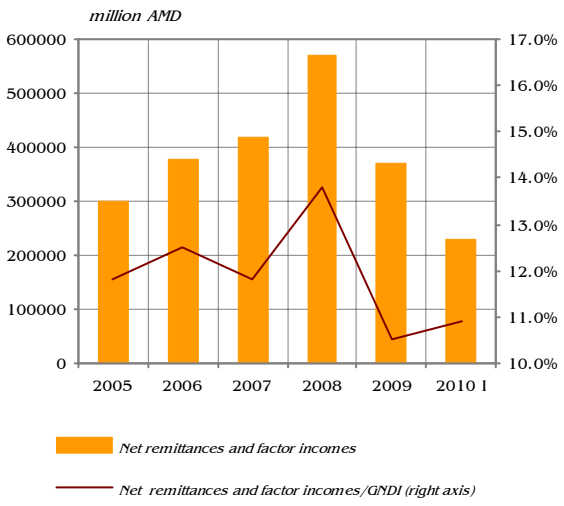
In the first half of 2010 the volume of non-commercial transfers through banking system increased by y/y 6.6 in contrast to 33.3 percent drop in 2009.

Private transfers entering Armenia are primarily used for current consumption and for financing private construction, so the growth of inflow contributed the revival of domestic consumption and slowed decline of private construction.

According to the IMF in 2010 Russian Federation will have 4.0 percent economic growth, which lags behind pre-crisis level. In this case inflow of remittances to CIS countries, including Armenia, will recover to pre-crisis level rather slowly.

In the first two quarters of 2010, Consumer confidence composite index, which is based on CBA surveys increased, while compared to the first quarter, in the second quarter the index dropped mainly due to 5.3 percent fall of expected conditions index. The growth of CCI indicates positive shifts in the willingness of the population for large purchases, in level of their income, and economic condition. It also displays positive expectations concerning future developments[8].

Net Factor Incomes and Remittances



Source: RA NSS

2.4. HOUSEHOLD INCOME AND DEBT BURDEN

Compared to 2009, in the first half of 2010 parallel to rebounding economic activity declining growth of unemployment rate was observed. In the first half of 2009, the unemployment rate increased by 0.4 percentage points, and in the second quarter it increased by 0.5 percentage points totaling 6.9 percent at yearend. In the first half of 2010, the unemployment rate increased only by 0.3 percentage points totaling 7.2 percent. In the same period lower growth of average monthly wages (y/y 6.7 percent) was observed in comparison to 12.1 percent in the first half of 2009. In terms of slowing growth of unemployment and increasing wages, the household income increased by around 8.4 percent. The recovery of remittances and factor incomes, which have large share in the structure of household income, in their turn contributed to the growth of household income. According to CBA surveys[9] improvement of household incomes was also anticipated by commercial banks and credit organizations, which also led to the recovery of consumer lending.

In 2010 the total credit portfolio of banking system increased by 7.9 percent, while household lending increased only by 2.5 percent (6.4 percent reduction in 2009). The growth of lending was conditioned by post crisis economic recovery, loosened lending standards, improved household income and creditworthiness. In terms of growing GNDI[10] the household debt/ income ratio dropped by 0.4 percentage points and totaled 8.5 percent. In case of including of household borrowings from credit organizations and pawnshops the debt ratio will sum up 9.7 percent, which is 0.3 percentage points less than 2009.

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[8] Consumer confidence index calculates as an average of current conditionscircumstance and expected conditionsfuture sicrumstance indices , for more detail please see CBA website.

[9] Source: CBA survey on "Loans provided by Armenian banks and credit organizations", I and II quarter 2010.

[10] Annual GNDI indicator for 2010 is forecasted taking into consideration seasonal pattern of GDP, Net factor incomes and remittances

Debt and Income Indicators (percent)

Indicators	2004	2005	2006	2007	2008	2009	2010 I half.
Annual growth rate of loans provided to households by banks	36.0	50.1	44.2	87.9	51.2	-6.4	2.5
Growth rate of Gross National Disposable Income	21.5	15.9	19.1	17.6	16.3	-16.0	11.6
Household borrowings from banks / Gross National Disposable Income	0.9	3.1	3.8	6.1	7.9	8.9	8.5
Household borrowings from banks, credit organizations and pawnshops / Gross National Disposable Income	0.9	3.3	4.2	6.8	8.8	10.0	9.7

Source:CBA

The reduction of household debt is a result of restrained growth of household lending and growth of GNDI level. In the first half of 2010 losses of commercial banks from household lending had downward trend. The write downs of consumer and mortgage loans had clear descending trend amounting 1.1 percent of consumer and mortgage loan portfolio. During observed period the share of non-performing loans in consumer and mortgage loan portfolio dropped by 0.2 percentage points totaling 5.6 percent, which exceeds total non-performing assets/total assets ratio by 1.1 percentage points. Starting the last quarter of 2008 majority of Armenian banks tightened lending standards through increasing interest rates, cutting down loan amounts and terms. Starting second half of 2009 certain loosening of lending standards was observed. In the first half of 2010 banks to some extent loosened mortgage loan standards, while in case of consumer loans the banks are still cautious despite significant demand for this product.

2.5. REAL ESTATE PRICES

During last couple of years the real estate prices continued to grow at a steady pace, increasing the attractiveness of the construction sector. Due to price increase the investment demand for real estate expanded notably. Growth of real estate demand, to some extent, was also affected by the accessibility of mortgage lending.

2008-2009 crisis had rather negative impact on Armenian real estate market. Worsening of the conditions started in the third-fourth quarters of 2008, when difficulties with construction financing combined (related with reduction of household income and direct investments) with the reduction of real estate demand. The conditions continued to worsen also in 2009-2010. The main sources of construction financing in Armenia are foreign investments, household funds (also resources collected from the sale of unfinished houses) and to some extent bank loans. Because of economic crisis, foreign financing, household incomes (particularly private remittances) dropped. Because of lending term tightening and deterioration of financial conditions of the construction companies the obtaining of bank credits became complicated. Reduction of preliminary sale of unfinished houses on its turn hampered further financing of construction sector.

In the first half of 2010 the drop of real estate supply continued, which was accompanied by reduction of real estate demand. Reduction of real estate demand was mainly driven by uncertainties of future economic developments, by the drop of growth rate of foreign investments, foreign demand for real estate and household incomes. In terms of declining prices and uncertain prospects of economic recovery, both speculative (investment) real estate demand and real estate demand for personal and business use dropped. In the first half of 2010 the developments in housing market were more favorable than in the previous year. If monthly number of real estate transaction is considered as a real estate market activity indicator, the latter amounted 81 089 transaction increasing by 23.4 percent compared to the first half of 2009. It is remarkable that after seasonal slump in January, in February the number of transactions rebounded stronger than in previous year. 25.8 percent or 20 921 of real estate transactions were sale transactions, which compared to 2009 increased by 16.3 percent. Compared to the first half of 2009 in the same period of 2010 the number of real estate purchase transactions in Yerevan increased by 33.8 percent, while growth rate of transactions in regions was somewhat less than in capital amounting 27.5 percent.

In the second quarter of 2010, besides seasonal growth, revival in real estate market was observed due to improved accessibility of mortgage lending and increased private remittances. During the observed period demand for mortgage loans increased[11]. In the first quarter the growth expectations were connected with possibility of attracting easy money, while for the second quarter the main growth contributors were named developments in real estate market and improvement of household incomes.

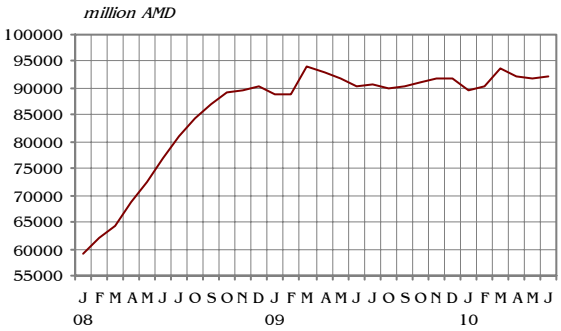
In the scope of understanding mortgage loan supply side, it is important to mention that mortgage lending by banks and credit organizations is mainly based on program financial resources, terms of which didn't change significantly over the period. In the second quarter banks restarted mortgage lending based on their own resources, and in this case the lending standards were tighter compared to program initiated lending. According to first quarter survey results general economic expectations and developments in real estate market had positive impact on lending standards, while the second quarter results indicate negative impact. The main factor affecting loosening mortgage loan standards was interbank competition, which forced the banks to keep the main lending terms (interest rate, maturity, non-interest payments) of this product unchanged. Some tightening was observed in assessment standards of collateral requirement, loan/value ratio and creditworthiness.

Mortgage lending prospects are rather positive both on supply and demand sides; the banks expect loosening of lending standards, increased lending on own funds, strengthening lending for newly build real estate. For demand

Real Estate Transaction index (against January 2008)

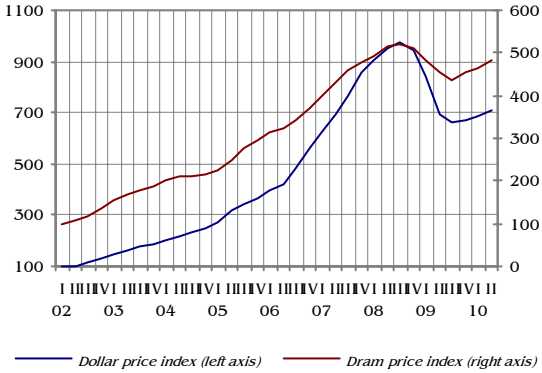
Source: State Committee of Real Estate Cadastre at the Government of Armenia

Mortgage portfolio of banks and credit organizations (million AMD)



Source: CBA

Average Apartment Price Index in Yerevan (square meter)



Source: State Committee of Real Estate Cadastre at the Government of Armenia

[11] *Source: CBA survey on "Loans provided by Armenian banks and credit organizations*

side, half of respondents expect growth of demand for mortgage loans due to rebounding real estate market and sustainable financial standing of customers.

According to data of first half of 2010, 20.7 billion dram or 2 407 mortgage loans were issued by banks and credit organizations, which is 2.6 times more than the same period in 2009. At the same time the average interest rates for mortgage loans dropped by 0.7 percentage points amounting 13.9 percent.

In the light of abovementioned developments in the first half of 2010 dram denominated prices for residential apartments in Yerevan increased by 6.2 percent compared to December 2009 and the prices in regions increased by 3.5 percent[12].

Residential Apartments by Sources of Financing

Sources of financing	Newly built residential apartments in the first half of 2010 (square meter)	Share in Total	Percentage change compared to the first half of 2009
Total of which:	**77082**	**100%**	**-35.2%**
State budget	4653	6.0%	100%
Resources from organizations	21091	27.4%	17.9%
Household resources	51338	66.6%	-49.2%

The volume of residential apartments constructed in the first half of 2010 dropped by 35.2 percent compared to the same period in previous year (in 2009 by 19.4 percent). During the first half of year household financed construction shrunk by 41.2 percent compared to the same period in 2009, and the share of household financed construction dropped to 66.6 percent (80.4 percent in December 2009). The volume of construction financed by organizations increased by 17.9 percent, mainly due to government anti-crisis assistance of construction companies, while the main source of residential construction still remains household funding.

SUMMARY

The macroeconomic developments of Armenia in the first half of 2010 were favorable. Recovery of remittances and factor incomes, growth of real estate prices had positive impact on financial standing of households. In terms of rebounding production levels and increasing household incomes the commercial banks loosened lending standards improving lending accessibility.

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[12] Source: the Republic of Armenia State Committee of Cadastre's website www.cadastre.am (because the website lacks a composite average real estate price index for Armenia, the average home price index for the city of Yerevan had been chosen as the best criteria/benchmark to reflect price developments in the Armenian real estate market). Before June of 2005, the real estate prices have been quoted in US dollars and, thereafter, in Armenian drams, so which is why, average price growth rates have been calculated in dollar and dram terms, respectively, in order to produce the composite average price index.

3. ARMENIAN FINANCIAL MARKET STABILITY

3.1. MONEY AND CAPITAL MARKETS

In terms of economic recovery expectations and stable inflation environment, in the beginning of 2010 the CBA moved to the gradual tightening monetary policy. It raised refinancing interest rate overall by 2.25 percentage points and restricted anti-crisis volume easing instruments[13] in this way shifting the emphasis of monetary policy to price stability issues. In the second quarter inflation developments in Armenia were rather strongly affected by external inflation factors and not by growth of local demand. Due to this fact starting May 2010 CBA kept the refinancing interest rate at unchanged 7.25 percent not to stem further recovery of economic growth.

In the first half of 2010 parallel to the reduction of average daily stock of Repo agreements with CBA, the average daily stock of interbank Repo agreements increased. In line with to the increasing refinancing rate the Repo interest rates also grew, which began to decrease from its peak level in April due to falling demand for reserve requirement funds in dram terms.

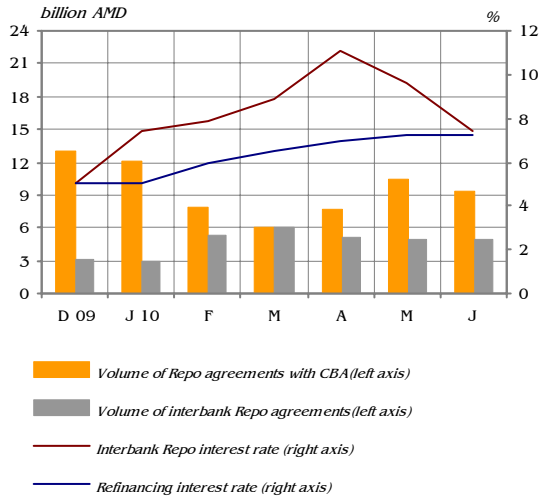
Starting April 2nd new interbank credit resource trading platform has been implemented in "Nasdaq OMX Armenia" stock exchange where only overnight instruments are available. But in future it is expected that longer term instruments will be traded in the platform. The interest rates in interbank overnight trading platform fluctuate around the interest rate of CBA deposits. Those interest rates are clear indicator for liquidity supply and demand changes in interbank market. The reason behind the implementation of this new platform was to provide the banks with additional instruments for fulfilling reserve requirements. The implementation of this platform will have positive impact both on redistribution of dram liquidity between commercial banks and on the efficiency of liquidity management. In the initial stage of implementation of interbank platform average daily turnover totaled 902 million drams. Later parallel to the growing confidence in market and increased awareness concerning new instrument the daily average turnover increased totaling 1.9 billion drams in June.

In the framework of de-dollarization policy of CBA, in the first quarter of 2010 the reserve requirement was changed. If prior the attracted funds in foreign exchange were reserved in foreign exchange, then currently 25 percent of attracted foreign exchange funds should be reserved in AMD and the other 75 percent will continue to be reserved in foreign exchange. Mentioned change of reserve requirements resulted almost twofold drop of excess liquidity of banks' dram correspondent accounts in CBA.

The reduction of correspondent accounts in CBA was to some extent conditioned also by the growing volume of deposits attracted by the CBA .

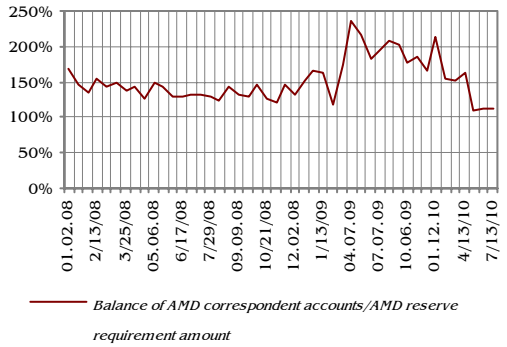
In the first half of 2010 interest rates increased also in government securities market, which was in conformity with

Stock of Repo agreements and Repo interest rates



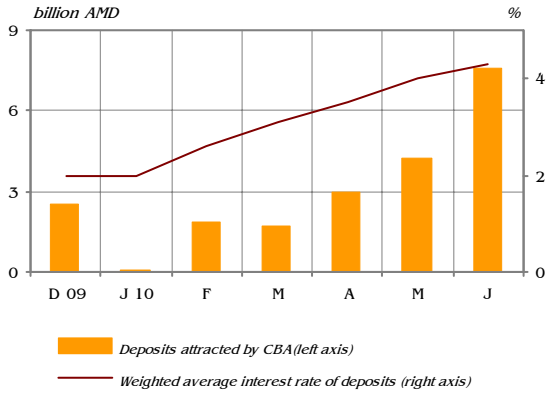
Source: CBA

Dynamics of AMD correspondent accounts of commercial banks in CBA and AMD reserve requirements



Source: CBA

Daily average volumes and interest rates of deposits attracted by CBA



Source: CBA

[13] *Restriction on volume easing instruments refer to decrease of Repo agreement volumes signed with CBA*

refinancing and Repo interest rate dynamics. During the observed period 19.5 billion dram short term treasury bills were allocated with average yield of 10.7 percent.

Yield curve dynamics show, that compared to previous year in June 2010 yield rate in the secondary market in average increased by 2.3 percentage points conforming with CBA policy aimed at raising refinancing interest rate. The convexity of the yield curve noticeably changed (from 0.37 to 0.21), which shows the drop of the divergence between long-term and short-term bond interest rates.

The ratio of Average Modified Duration Indicator[14] (D_M) calculated to evaluate interest rate risk stayed almost unchanged compared to year-end 2009. At the end of June 2010 the ratio for mid-term government bonds totaled 2.24. In the end of second quarter of 2010 the average maturity-duration of government securities compared year-end 2009 increased only by 13 days totaling 925 days.

In case of increase of yield by 1 percent, the likely loss in commercial banks' portfolio of government securities may reach maximum of around 1.6 billion drams or 0.7 percent of total regulatory capital. Major part of loss is expected from mid-term securities, since they have larger share in securities portfolio.

In the first half of 2010 mean square deviation of yield for transactions with government securities in secondary market increased by 0.07 percentage points (in comparison with second half of 2009) and totaled 2.07. The fluctuation of market Repo interest rates (square deviation of market Repo interest rates) increased by 1.0 percentage points and totaled 2.05.

In June 2010 interest rates of market Repo agreements increased by 2.7 percentage points (compared to December 2009) and totaled 8.49 percent.

Modified Duration of Outstanding Government Securities as of 30.06.2010 for Different Maturity Baskets

D_M	Up to 6 months	From 6 months to 1 year	1-2 years	2-5 years	5-7 years	7-10 years
	0.20	0.59	1.4	2.7	4.7	6.2

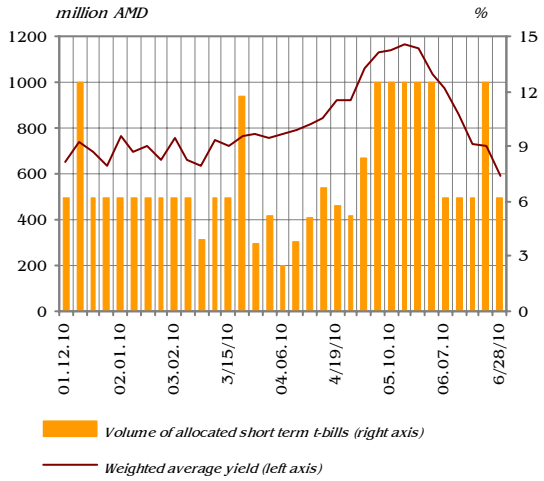
Source: CBA

Modified Duration of Government Securities in Trading Books of Commercial Banks as of 30.06.2010 and Probable Profit/Loss in case of 1% Change in Yield for Different Maturity Baskets

	up to 6 months	from 6 months to 1 year	1-2 years	2-5 years	5-7 years	7-10 years	Total
Government securities in trading book (million AMD)	22242.0	15626.0	20225.0	32066.0	2865.0	3820.0	96844.0
Share in total portfolio	23.0%	16.0%	21.0%	33.0%	3.0%	4.0%	100%
D_M	0.21	0.61	1.53	2.61	4.51	6.18	1.7
Price change +/- (million AMD)	44.8	92.1	308.0	853.3	113.5	202.8	1614..5

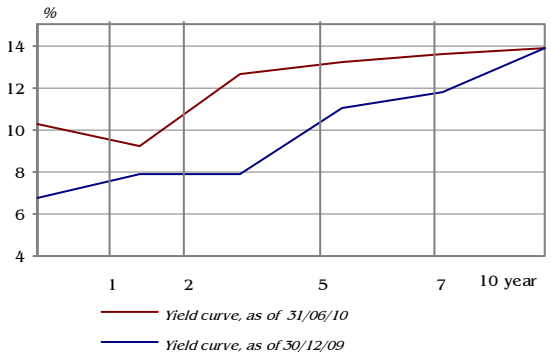
Source: CBA

Allocation volume and weighted average yield of short term treasury bills



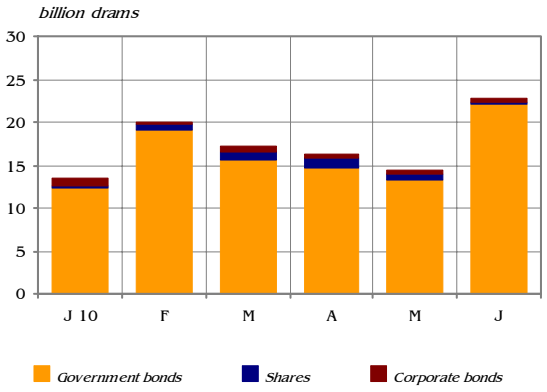
Source: CBA

Government Bond Yield Curves



Source: CBA

Volumes of Purchases and Sales of Securities (except transactions with CBA) by Investment Services Providers



Source: CBA

[14] *Average Modified Duration Indicator denotes the level of change of price in relation to the change in yield.*

Volume of operations (including Repo transactions, without transactions with CBA) in securities market carried out by investment services providers[15] amounted 789.6 billion drams. Securities buy/sell operations accounted 13 percent of abovementioned operations decreasing by 43 percent in comparison with same period in 2009. It is remarkable, that the share of operations with government securities in total securities market turnover counted for about 93 percent. The share of corporate bonds and shares totaled respectively 3 and 4 percent.

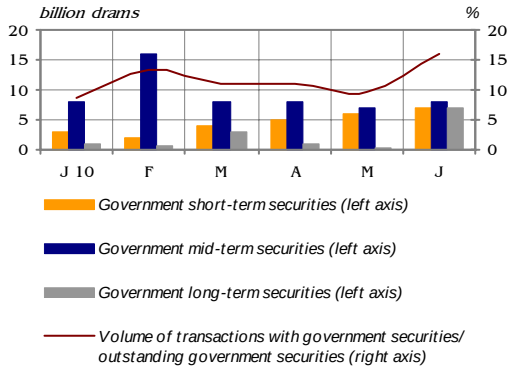
The liquidity of government security market is calculated as ratio between amount of monthly buy/sell transactions by investment service providers in securities secondary market and amount of outstanding government bonds. During the first half of 2010 liquidity level of government security market was not volatile. In the first half of 2010 the standard deviation of the liquidity of government security market totaled 2.7 percent (11.2 percent in previous year). During observed period average of mentioned liquidity indicator dropped almost twice compared to previous year and amounted 11.6 percent.

Buy/sell operations with mid-term government securities have large share in total transactions with government securities (58 percent of total turnover). The share of operations with short-term and long-term bonds amounted respectively to 28 and 14 percent of total turnover.

The Repo transactions (without transaction with CBA) carried out by investment service providers totaled 685.7 billion drams, while overwhelming share (96.2 percent) of Repo transactions was also carried out with government securities. Repo transactions with corporate bonds accounted 3.6 percent and transactions with shares accounted 0.1 percent of total transactions.

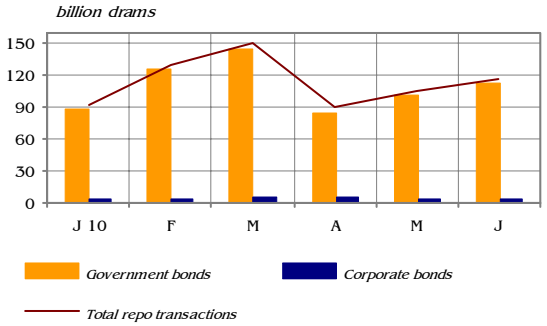
In the first half of 2010 the share of transactions in regulated market in total amount of buy/sell transactions carried out by investment service providers is still small (7.2 percent), however compared to first half of 2009 it increased by 0.2 percentage points totaling 7.5 billion drams. The share of transactions with government bonds and corporate shares accounted respectively 24.8 and 0.3 percent of total turnover in securities regulated market.

Volume of transactions with government securities and Volume of transactions with government securities/ outstanding government securities ratio (without CBA operations)



Source: CBA

Repo Transactions Carried Out by Investment Providers by Securities Type (without transactions with CBA)



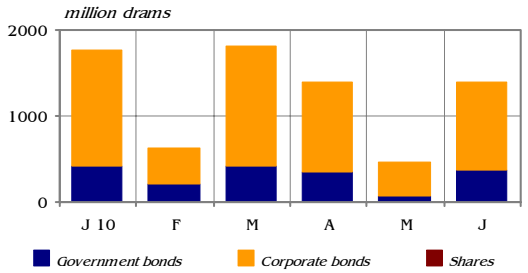
Source: CBA

3.2. FOREIGN EXCHANGE MARKET

In spite of some volatility, foreign exchange market of Armenia was characterized by appreciation trend. In the first half of 2010 compared to year-end 2009 Armenian dram appreciated against U.S. dollar for 2.83 percent. The volatility indicator amounted 81.99 significantly lower than in previous year, but it is still rather high compared to 2008 (918.11 in 2009, 8.73 in 2008).

In the first half of 2010 y/y 9.1 percent depreciation was observed of real effective exchange rate calculated through CPI. Depreciation was result of y/y 9.4 percent depreciation of

Buy/Sell Securities Transactions in Securities Regulated Market



Source: CBA

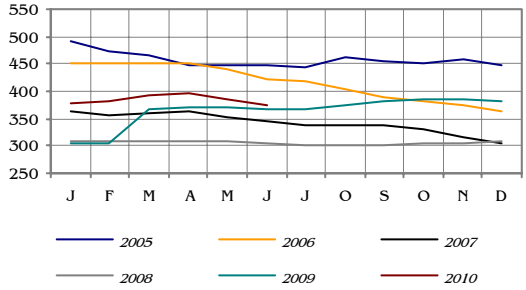
[15] *As of June 30 2010, Armenia's investment service providers were 21 commercial banks and 8 investment companies*

nominal exchange rate, while developments of foreign exchange rate and inflation in partner countries and in Armenia offset each other not affecting real effective exchange rate.

SUMMARY

In the first half of 2010 compared to previous year Armenian financial market was characterized with more stable developments whilst the financial system retained high liquidity and implementation of new stock exchange platform had positive impact on liquidity management by commercial banks. In light of interest rate policy of CBA the interbank Repo interest rate and government securities yield recorded somewhat growth.

AMD/USD exchange rate dynamics for 2005-2010



Source: CBA

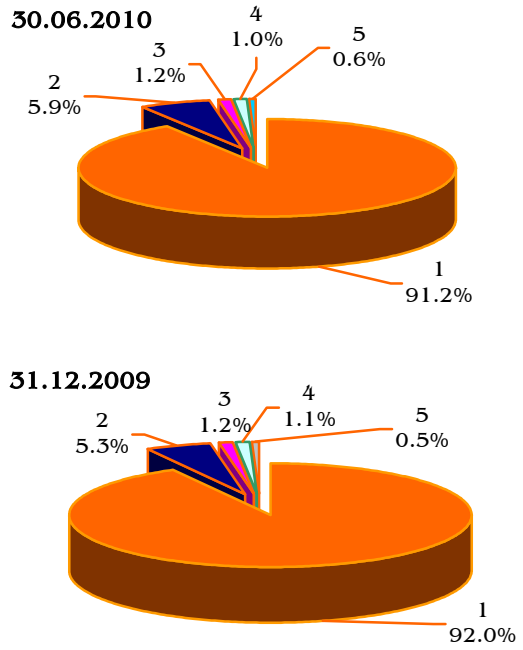
4. STABILITY OF ARMENIAN FINANCIAL INSTITUTIONS

Armenian banking system accounts 91.4 percent of the financial system assets and hence, from the financial stability point of view, the assessment and disclosure of risks inherent to the banking activities is rather important. Credit organizations, insurance companies, security market participants and other financial organizations are rather small in comparison with banking system and their possible impact on financial stability in Armenian financial system is estimated as marginal.

During the first half of 2010 the Armenian financial system moved from crisis derived risk adjustment stage to the stage of search for new development directions. Parallel to growth of predictability concerning future economic developments Armenian financial system started to gradually recover. The first half of the year was rather favorable for the banking system, i.e. parallel to increased lending, growth of liquidity was observed and compared to 2009 risk factors dropped. Stable expectations concerning borrowers' income permanency among borrowers and banks contributed to the recovery of lending.

The first half of 2010 retained the active lending environment inherent from 2009 year-end due to post-crisis positive developments, stability and growth expectations among borrowers and banks, as well as due to easing policy of CBA. In addition to abovementioned, in the last months, the activity in lending market was contributed by growth of private transfers and household income, comparatively stable AMD/USD exchange rate (reduction of exchange rate risk expectations among those getting foreign exchange loans) and developments in real sector. The distinctive feature of the first half of 2010 was the sustainability of faster growth of lending to legal entities compared to natural persons.

Asset structure of financial system by financial organizations



1. Banks, 2. Credit organizations, 3. Insurance companies 4. Security market participants, 5. Other financial organizations

Source: CBA

4.1. COMMERCIAL BANKS

4.1.1. Financial Intermediation, Concentration

In contrast to 2009, when in terms of sharply decreasing GDP the indicators of financial system continued to grow, in the first half of 2010 parallel to the growth of the banking system assets sharp growth of GDP[16] was observed. In the result of mentioned developments, in the first half of 2010 ratio of banking system assets to GDP dropped by 2.5 percentage points and totaled 39.4 percent. The ratio of bank loans to GDP increased by 0.3 percentage points and totaled 22.5 percent. The growth rate of two other ratios describing financial intermediation namely money supply/GDP (annualized) and deposits attracted by banking system/GDP (annualized) decreased.

[16] *The forecast of nominal value of GDP for 2010.*

The reason behind the decrease of assets/GDP and deposits/GDP ratios was the reduction of legal entities' deposits. Overall in the first half of 2010, when in post-crisis period the economy stepped into recovery phase, Armenian banking system faced decrease of demand (including banking accounts) and time deposits of legal entities. This was result of fact, that legal entities started re-invest their deposits into business, which they accumulated during 2009(36 percent growth of legal entities' deposits in 2009). The increased loans/GDP ratio was result of higher growth rate of of credits compared to GDP.

During the first half of 2010 shareholders of Armenian banks and in particular foreign shareholders increased their participation in the statutory capital of banking system by 6.6 billion drams. As a result of capital injections by foreign shareholders the share of non-residents in total statutory capital increased by 4.5 percentage points and in June 2010 totaled 78.8 percent. The total capital of banking system increased by 5.5 percent (15.5 billion drams), while the total assets increased 0.2 percent (3.3 billion drams). Capital/assets ratio characterizing the banks' ability to absorb risks stayed almost unchanged at 0.22 level, which is rather high compared to other countries.

The Herfindahl-Hirschman Index of Concentration

	31.12.07	31.12.08	31.12.09	30.06.10
Total assets	0.08	0.07	0.07	0.07
Total liabilities	0.08	0.08	0.07	0.07
Total capital	0.07	0.06	0.06	0.06

Source: CBA

The Herfindahl-Hirschman Index of Concentration[17] of the banking system for some items (assets, liabilities, capital, loans, and deposits) testifies about the low level of system concentration. In recent years concentration of Armenian banking system is notably low, which constraints concentration risk possibility.

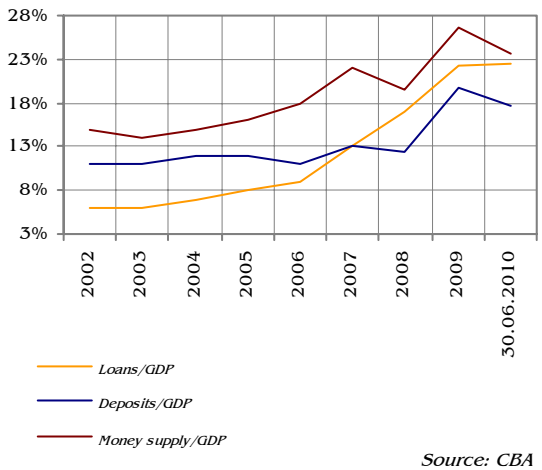
In Armenia, the share of assets and liabilities of 4 largest banks out of 21 stayed almost unchanged, while their share in capital increased by 4 percentage points, as a result of one of the large banks acquiring another bank.

4.1.2. Credit Risk

In the first half of 2010 lending increased by 7.9 percent, while in the first half of 2009 1.3 percent drop of loans was observed.

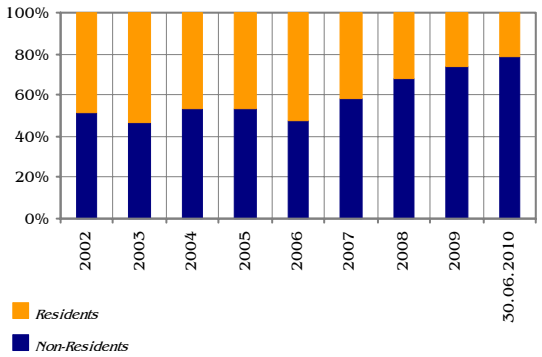
As a result of rebounding economy and positive expectations concerning the household income starting second half of 2009 credit market started to revive, which continued also in the first half of 2010.

Financial Intermediation in 2002-2010



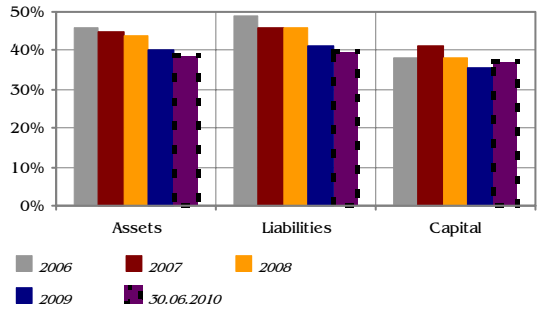
Source: CBA

Foreign Participation in Armenia's Banking Capital



Source: CBA

Share of 4 Largest Bank Assets, Liabilities And Capital In Total Banking System



Source: CBA

[17] *The Herfindahl-Hirschman Index of Concentration varies between 0 and 1, characterizing the level of concentration (values close to 0 denote a low level of concentration).*

Nevertheless, the banking system still preserves tight lending standards for customer selection leading to "cherry picking" i.e. eventually lending to borrowers, which are highly creditworthy and have reliable credit history. This is mainly result of low financial intermediation and comparatively low level of competition.

In 2010 the growth rate of lending exceeded the growth rate of total assets. As a result the share of loans in total assets increased by 4.0 percentage points and in the end of first half of 2010 was 57.0 percent.

In the second half of 2009 the share of non-performing loans (the loans classified as "watching", "non-standard", "doubtful") started to drop from highest level in August and totaled 4.8 percent, which is rather low compared to the same indicators in some CIS countries. In the first half of 2010 the share of non-performing loans didn't change in spite of growing credit portfolio, which is mainly conditioned by lagging characteristics of credit risk.

The non-performing loans indicator calculated with IMF methodology increased by 0.5 percentage points and totaled 6.6 percent.

As already mentioned, one of the characteristics of 2010 was the restructuring of loan portfolio, since in 2010 mainly legal entities were credited, consequently their share in loan portfolio increased. In face of crisis challenges the Armenian banking system tried on one side to keep the credit risk in manageable bounds and on the other side to contribute to the recovery of real sector, through restructuring loan portfolio and revision of lending strategies.

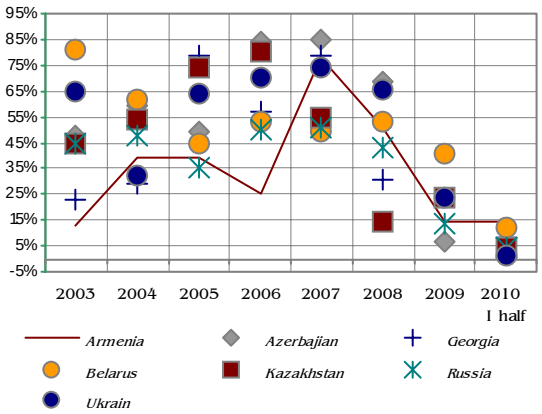
While considering the sectoral structure of loan portfolio, the share of non-performing loans as of 30.06.2010 is comparatively high in trade sector – 7.2 percent, construction - 6.8 percent and in mortgage lending - 7.2 percent.

Concentration from the aspect of sectors of the economy is not high, with the increasing share of industrial and trade loans and declining share of consumer loans. The consumer loans have dominant share of loans - 26.3 percent, trade and industrial loans respectively 19 and 17.6 percent.

Until 2009 the growth of consumer and trade loans was based on stable economic growth, continuous growth of household income (including private transfers) and availability of different foreign loan projects. Due to the decline of household income growth rate and tightened lending policy of banks the lending growth rate of the mentioned sectors declined. The lending growth in industrial and mortgage sectors was contributed by Government anti-crisis programs. As a result in the first half of 2010 the growth of consumer loans significantly lagged behind the growth in industrial and trade sectors, which was contributed by the supply of foreign exchange loans.

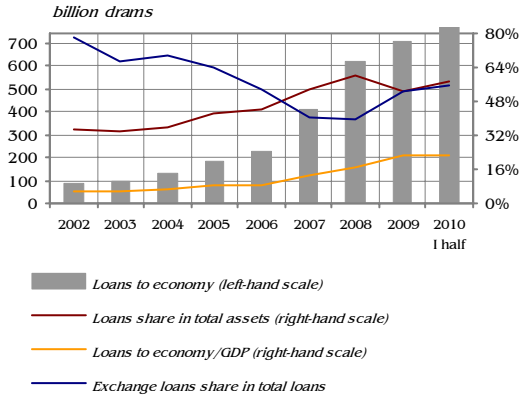
In the first half of 2010 parallel to decline of non-performing loans, the ratio of loan net provisions to total assets decreased by 1.2 percentage points and in the end of June totaled 0.4 percent. The net provisions (difference between allocation and disbursement of provisions to the loan loss reserve) decreased conditioned by two main factors- writing off the non-performing loans and improvement of overall creditworthiness.

Annual Growth of Loan Portfolio



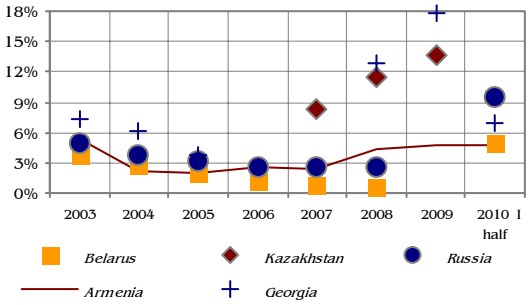
Source: IMF

Volume of Loans to the Economy



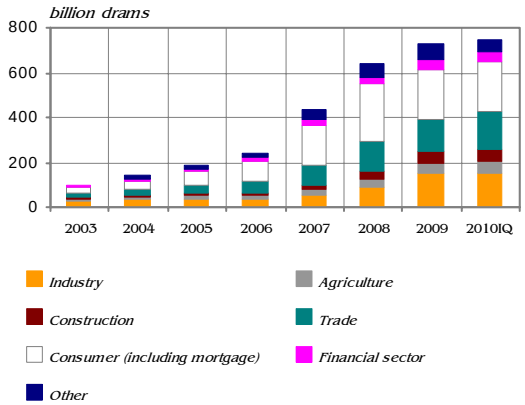
Source: CBA

Share of Non-Performing Loans in Loan Portfolio



Source: CBA

Balances of Bank Loans to Residents by Sectors



Source: CBA

Credit risk stress-scenarios[19]

30.06.2010	25 percent of loans in watching, substandard and doubtful categories classified into loss loans	75 percent of loans in doubtful category classified into loss loans	30 percent of loans in standard category classified into watching loans
Loss of the banking system	AMD 7.6 billion or 2.7 percent of regulatory capital of the banking system	AMD 2.4 billion or 0.9 percent of regulatory capital of the banking system	AMD 20.5 billion or 7.3 percent of regulatory capital of the banking system
Total capital adequacy of the banking system in case of stress-scenario	28.3%	28.7 %	27.3 %

The results of credit risk assessment test scenarios[20] have somewhat improved compared to previous year. Even in case of worst possible stress-scenarios, banking system losses will not cause a significant change in solvency of banks and will have no negative impact on Armenia's financial stability.

4.1.3. Liquidity risk

Despite the observed decreasing trend of banking system liquidity in the first half of 2010 the level of liquidity was almost twice higher than prudential requirement. Even during 2009 crisis, the liquidity level increased as a result of conservative lending policies. But in the first half of 2010 parallel to recovering lending liquidity started to drop. The prudentials of total liquidity and current liquidity of the banking system decreased by 4.4 and 12.0 percentage points and in June 2010 totaled respectively 20.1 and 128.8 percent (the minimum requirements are respectively 15 percent and 60 percent,). During observed half of the year the highly liquid assets dropped by 10.3 percent and totaled 381.7 billion drams.

Analyzed from the aspect of asset and liability maturities the assets and liabilities duration gap is insignificant (except 1-3 year maturity group, where the assets exceed the liabilities almost three times) and the banking system will not face liquidity shortage in any maturity basket keeping current maturity structure of assets and liabilities unchanged.

Concentration of liabilities of banking system reduced, while in the first half of 2010 the share of "major" debtees[21] in total liabilities decreased by 5.1 percentage points and made up 27.8 percent.

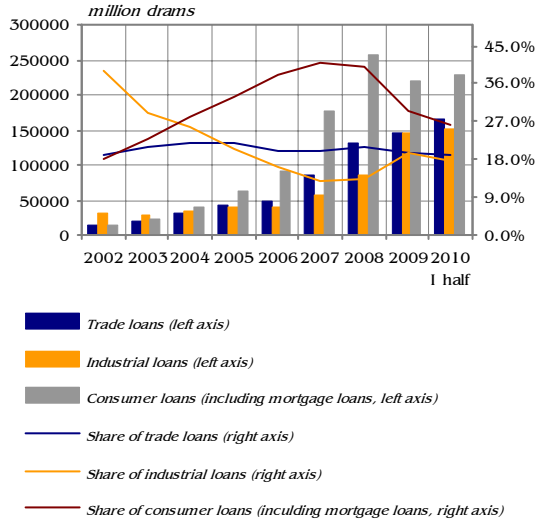
Foreign borrowings of commercial banks decreased by 5.2 percent and amounted 366 million U.S. dollar. Funds attracted from international financial organizations decreased by 28.4

[19] *This and further stress-scenarios presented in this report do not forecast any risks, but aim to reveal weaknesses of the financial system, as well as assess its ability to absorb such risks.*

[20] *Stress-scenarios are built on an assumption that the amount of bank loans are unchanged and the collateral is ignored (which means that where loans are classified, a possible sale of the collateral is not considered.*

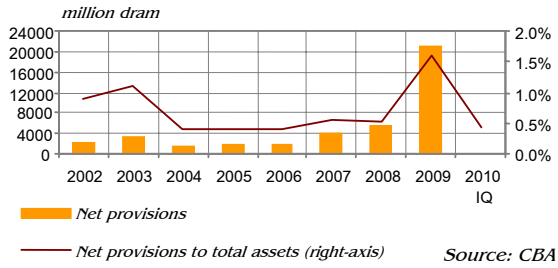
[21] *Represents the sum of all liabilities to one entity that exceeds the 5 percent margin of total liabilities of a bank, without considering affiliation*

Volumes of Consumer, Trade and Industrial Loans and Their Share in Loan portfolio



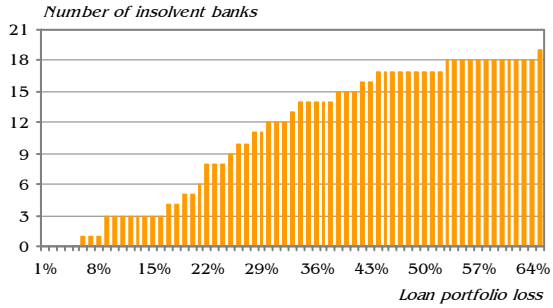
Source: CBA

Net Provisions to Total Assets of the Banking System



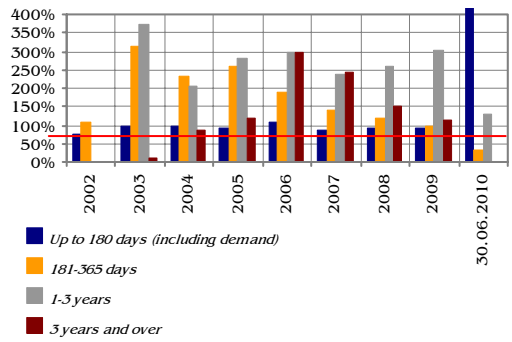
Source: CBA

Change in Number of Insolvent Banks under Loan Loss



Source: CBA

Assets to Liabilities Ratio by Maturity Baskets



Source: CBA

percent and accounted for 27.6 percent of total foreign borrowings. Main lender countries to the banks are France with 14.5 percent share, Luxemburg with 12.8 percent share, Germany with 12.2 percent share, Russia with 10.3 percent share. It is remarkable, that geographic concentration dropped compared to last year. The share of long-term loans was high and totaled 96.7 percent.

Liquidity risk assessment stress tests prove adequate level of liquidity management in Armenian banking system. Based on stress-tests results in case of worst possible stress-scenarios there is likelihood of breaching the total liquidity and the current liquidity prudentials. Nevertheless, the likelihood of liquidity problems in whole banking system is low.

Stress-Scenarios on Liquidity Risks

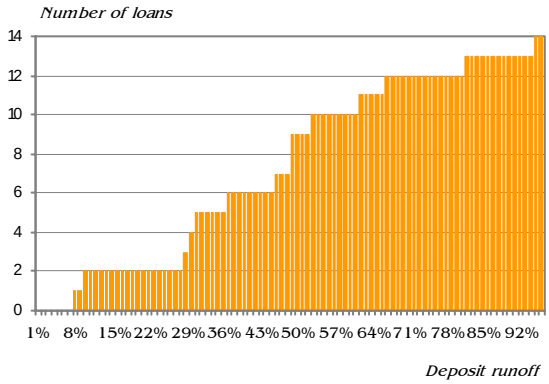
30.06.2010 Г.	Repayment of 25 percent of the time deposits of physical entities	Repayment of 25 percent of demand liabilities	Repayment of 25 percent of demand liabilities and repayment of 25 percent of time deposits of physical entities
Ratio of high liquid assets to total assets of the banking system	30.9%	30.2%	26.2%
Ratio of high liquid assets to demand liabilities of the banking system	119.6%	153.7%	126.2%

4.1.4. Market Risk

In the first half of 2010 the dram's fluctuations against other currencies led to a situation where the banking system incurred 496 million dram revaluation losses, which constituted 0.2 percent of regulatory capital in contrast to 2.3 percent in the first half of 2009 (large losses in 2009 were due to sharp depreciation of dram in March 2009). As a result of FX revaluation 16 banks incurred losses, while 5 banks recorded profit. In the first half of 2010 the banking system generated revenue of 5.8 billion dram on FX buy/sell operations lower by 9.4 percent compared to the revenue reported in the same period in previous year.

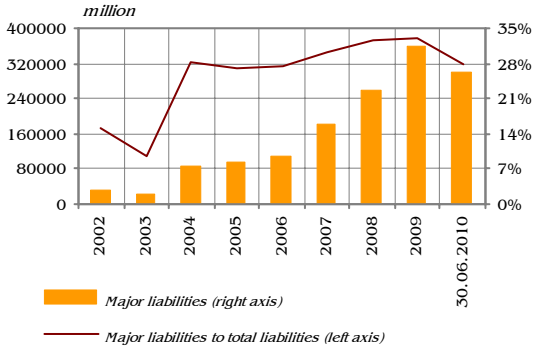
One of the negative influences of economic crisis was the deepening dollarization parallel to AMD depreciation, because of which the share of foreign exchange loans in total assets compared to the beginning of year increased by 2.5 percentage points and amounted 55.4 percent. The share of foreign exchange deposits in total deposits decreased by 0.5 percentage points and amounted 73.3 percent, while sharp depreciation of dram in 2009 resulted significant growth of foreign exchange liabilities in commercial banks. During the first half of 2010 the banking system managed to reduce short position on convertible currencies (1.1 percent of regulatory capital as of 30.06.2010) through 12.9 percent growth of foreign exchange loans.

Number of Banks in Breach of Total Liquidity Prudential in Case of Household Deposit Runoff



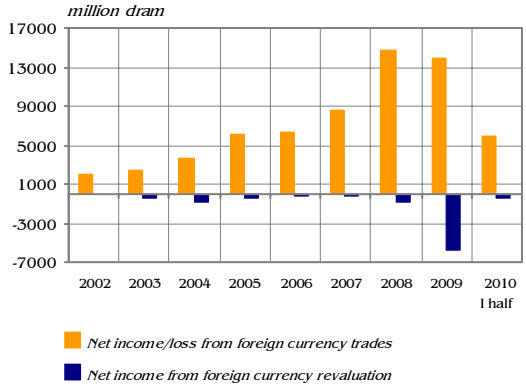
Source: CBA

"Major" Liabilities to Total Liabilities Ratio in the Banking System



Source: CBA

Net Income from Foreign Currency Buy and Sell and Foreign Currency Revaluation



Source: CBA

Stress-Scenarios on Foreign Exchange Risk [22]

30.06.2010	Armenian dram's 20 percent appreciation (depreciation) against the US dollar	Armenian dram's 20 percent appreciation (depreciation) against Euro	Possible maximum annual loss estimated through VaR Model
Banking system's profit/loss from foreign currency revaluation	-74 million dram or 0.003 percent of regulatory capital (74 million dram)	56.0 million dram or 0.02 percent of regulatory capital (-56.0 million dram)	-1.7 billion dram or 0.6 percent of regulatory capital

Source: CBA

Estimated bank losses in case of worst possible stress-scenarios incurred due to foreign exchange risk are low, and can be neutralized by the banks. The impact of those losses on the system's financial stability is hardly possible.

In the first half of 2010 certain growth of dram deposits' interest rates were observed due to growing demand for dram resources and shifts in reserve requirement policy. The interest rates of foreign exchange loans dropped to certain extent due to the large inflow of foreign exchange funds and tendency of banking institutions to allocate these resources.

Stress-Scenarios on Interest Rate Risk

30.06.2010 Г.	Impact of 2 pp. increase (decrease) of market interest rates on total portfolio, estimated trough the duration	Where market interest rates decrease (increase) by 2 pp., there will be deviation from income expected on net interest income of the three months ahead, estimated through the 'Gap Method' (a method of interest rate-sensitive assets and liabilities gap)
Banking system's profit/loss	1.4 billion dram or 0.5 percent of banking system capital (-1.4 billion drams)	171 million dram or 0.1 percent of banking system capital (-171 million drams)

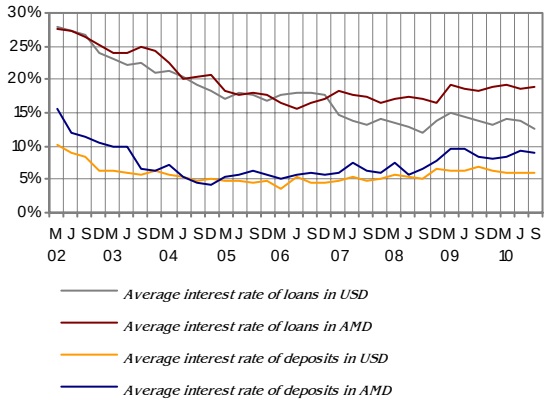
Source: CBA

The gap of average weighted maturity of assets and liabilities remained almost unchanged, making up about half year. If this gap is retained in 2010, banks will be able to rapidly respond to the changes of market interest rates and adjust them accordingly.

In case of worst possible stress scenarios, the interest rate risk losses will not damage system capital adequacy and financial stability.

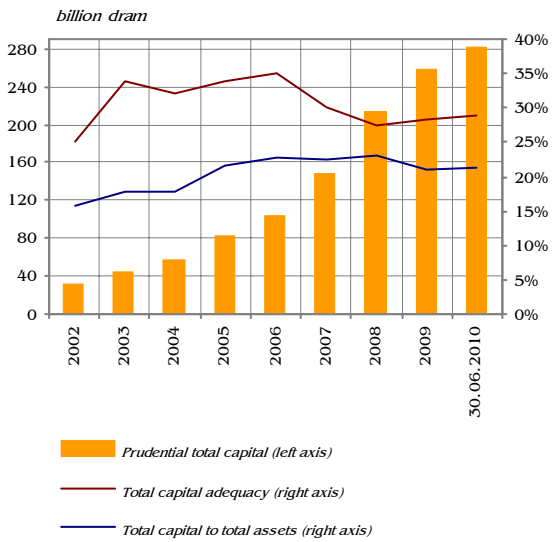
The share of trading book financial assets in total assets is 6.3 percent and price risk in the Armenian banking system is estimated to be rather low. In the first half of 2010 the banking reported revaluation loss of 58 million drams (0.02 percent of capital) from trading book and sale available financial assets. No losses were reported from fixed asset revaluation. Real estate price volatility impact on the credit risk losses are at manageable level. It is worth mentioning, that Armenian banks provide such loans at no more than 60-80 percent loan to value

Average Interest Rates of Bank Deposits and Loans



Source: CBA

Banking System Capital Adequacy



Source: CBA

[22] *The calculation of losses estimated through stress-scenarios and the VaR Model (the VaR Model is not considered as a stress-scenario as the calculation of the model takes historical exchange rate series of currencies) is based on an assumption that the foreign currency position of the banking system would not change during the year.*

ratio, and apply rather strict approach to evaluate borrower creditworthiness. Such restrictions effectively help to restrain possible risks and handle real estate price volatilities.

The table below presents bank losses (due to price risk and credit risk) in the event of 30 percent depreciation of real estate. Those losses substantially grew as compared with the last year.

Stress-Scenarios on Real Estate Price Change

30.06.2010	30 percent depreciation of real estate
The banking system's loss due to revaluation of own real estate	16.5 billion drams (or 5.6 percent of banking system capital)
The banking system's loss due to a 30 percent loss of vulnerable credit portfolio[23] (taking into consideration that the collateral of those loans has been sold), in the event a stress-scenario occurs (credit risk)	3.4 billion drams (or 1.3 percent of banking system capital)
The banking system's loss due to a 100 percent loss of vulnerable credit portfolio (taking into consideration that the collateral of those loans has been sold), in the event a stress-scenario occurs(credit risk)	11.4 billion drams (or 4.2 percent of banking system capital)

Source: CBA

4.1.5. Capital Adequacy and Profitability

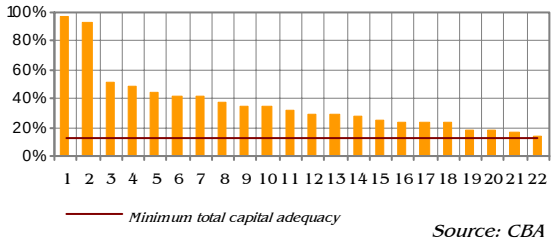
As compared with Eastern European and a number of CIS countries, capital adequacy and profitability of the Armenian banking system are higher. High level of profitability and capital adequacy of banks provide cushion for absorbing risks with its own resources. In the first half of 2010, the growth of bank regulatory capital exceeded over the growth of risk weighted assets. As a result capital adequacy of banking system grew by 0.5 percentage point to 28.9 percent (required minimum is 12 percent). During the observed period 5 banks replenished statutory capital by the total amount of 6.6 billion drams. The capital adequacy ratio varies in the range of 17-98 percent for different banks. In general, banks are well-capitalized and no bank recorded any breaches of prudential standards of capital adequacy.

In the first half of 2010 commercial banks significantly improved profitability indicators, which was contributed both by rebounding lending and absence of sharp foreign exchange fluctuations. In the first half of 2010 banking system posted profit of 12.0 billion drams calculated according to Central Bank requirements[24]. Nineteen banks recorded profit and two banks recorded loss. While in the same period in 2009 the banking system recorded 408 million dram loss mainly due to increased losses associated with credit and foreign exchange risks. Return on assets (annualized) was 1.7 percent and return on equity was 8.4 percent, although mentioned indicators are still twice lower than in pre-crisis period.

According IFRS, over first half of 2010, banking system profit constituted 14.4 billion drams and in this case the return on assets totals 2.2 percent and the return on equity 10.1 percent.

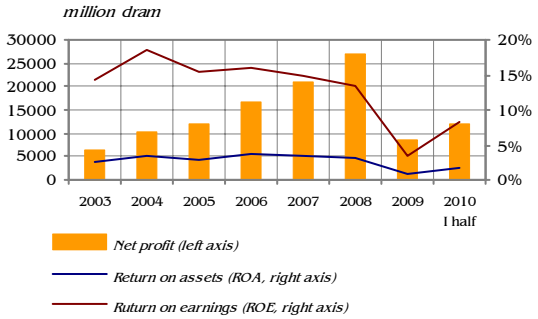
In the first half of 2010, gross income of the banking system totaled 111.8 billion drams, whereas gross expenditure

Total Capital Adequacy by Banks (30.06.2010)



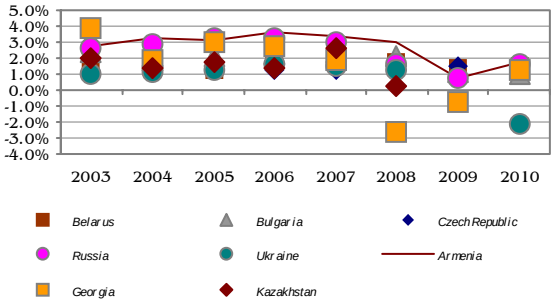
Source: CBA

Profitability Ratios in Banking System



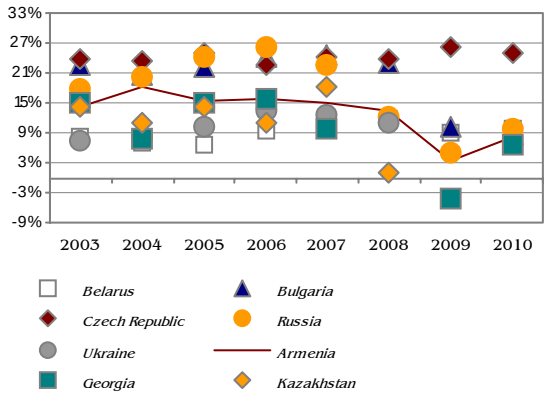
Source: CBA

Banking system RoA in Selected Eastern European and CIS countries



Source: IMF

Banking system RoE in Eastern European and CIS countries

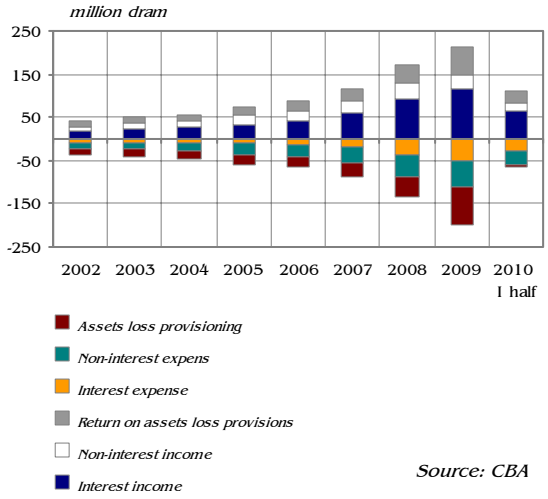


Source: IMF

[23] *A vulnerable credit portfolio involves the amount of those loan residuals for which the residual value exceeds the 30 percent depreciated collateral value.*
[24] *The main difference between CBA and IFRS reporting is in the provisioning of standard loans.*

amounted to 96.7 billion drams. In general, the share of interest incomes, interest expenditures and non-interest expenditures increased in income and expense structure, while the share of allowance and return to/from assets loss provisions decreased.

Banking System Income and Expense



Source: CBA

4.2. CREDIT ORGANIZATIONS

The second major part of Armenian financial system is credit organizations with 5.7 percent share in total financial system assets. In the period observed credit organizations registered growth in assets, liabilities and capital.

Credit organizations' Assets, Liabilities, Capital and Profit (thousand drams)

	31.12.09	30.06.10	Growth (%)
Assets	75822821	82359909	8.6
Liabilities	49573440	55324165	11.6
Capital	26249381	27035744	3.0
Net profit	2589929	1407998	

Source: CBA

Capitalization and profitability of credit organizations are higher than those of banks, and according to various stress-scenarios, they are fully capable to neutralize possible risks. During the observed period total capital to total assets ratio of credit organizations decreased by 1.8 percentage point to make 32.8 percent at the end of period. In the first half of 2010 twenty credit organizations recorded profit and nine credit organizations recorded loss. Return on assets (ROA) mounted 3.5 percent and return on equity (ROE) - 9.8 percent.

According IFRS, over first half of 2010, profit of credit organizations constituted 2.2 billion drams and in this case the return on assets totals 5.5 percent and the return on equity 15.3 percent.

In terms of credit risk management it is remarkable that the share of standard loans of credit organizations increased by 1.6 percentage point and the share of non-performing loans totaled 3.5 percent. In terms of sectoral distribution of loans, the share of non-performing loans is the highest (15 percent) in transport and communication sector and 10 percent in consumer loans. The ratio of assets loss provisions to total assets amounted 1.4 percent at the end of June 2010.

Credit Risk Stress-Scenarios[25]

30.06.2010 Г.	25 percent of loans in watching, substandard and doubtful categories classified into loss loans	75 percent of loans in doubtful category classified into loss loans	30 percent of loans in standard category classified into watching loans
Total loss of credit organizations	495 million dram or 2.0 percent of regulatory capital	157 million dram or 0.7 percent of regulatory capital	1.8 billion dram or 6.0 percent of regulatory capital

Source: CBA

[25] *Stress-scenarios are built on an assumption that the amounts of credit organization loans are unchanged and the secured property is ignored (which means that where loans are classified as loss, a possible sale of the collateral is not considered).*

In all maturity baskets of assets and liabilities (demand and up to 180 days, from 180 days up to one year, more than one year) the asset volume surpass liability volume evidencing about the low level of liquidity risk in other things being equal.

4.3. INSURANCE COMPANIES

As of 30.06 2010 11 insurance companies operated in the territory of Armenia.

During observed period the assets of insurance companies increased by 1.6 percent and totaled 17.2 billion drams, the liabilities increased by 23.0 percent reaching 5.8 billion dram, while the capital decreased by 6.5 percent amounting 11.4 billion dram. The surge of liabilities is mainly due to growing accounts payable to residents, which is intended for future replenishment of capital. The share of insurance companies in the financial system of Armenia continues to remain low and as of 30.06.2010 assets of insurance companies make only 1.2 percent of the assets in financial system. The main indicator characterizing activity of insurance market - the accrued premiums in the first half of 2010 increased only by 14 percent and totaled 4.8 billion dram compared to the same period in 2009, while during previous year growth of this indicator was 20 percent. As currently the penetration level of insurance market is low and the latter have low risk level their impact on financial stability is rather unfeasible.

A major part of risks insured by insurance companies is reinsured: a reinsurer's share in insurance amounts is 86 percent. Domestic insurance companies primarily use the services of reinsurers with high rating[26], thus minimizing the risk of non-performance of reinsurers.

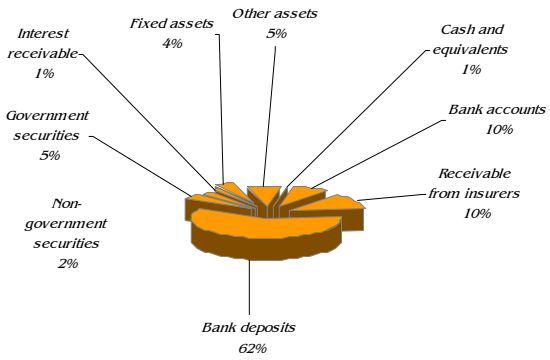
The loss ratio[27] of insurance companies as of June 2010 was 31.4 percent, which is quite good indicator for a financially stable insurance market.

At the end of the first half of 2010 the average of the prudential solvency indicator for insurance sector was 10.1 percent of regulatory total capital.

56.2 percent of assets of insurance companies were current deposits in resident banks, 7.9 percent were bank accounts in resident bank, 12.1 percent were amounts receivable from resident legal entity insurers, 3.1 percent were non-current deposits in resident banks, i.e. the assets are of high liquidity and have low credit and market risks.

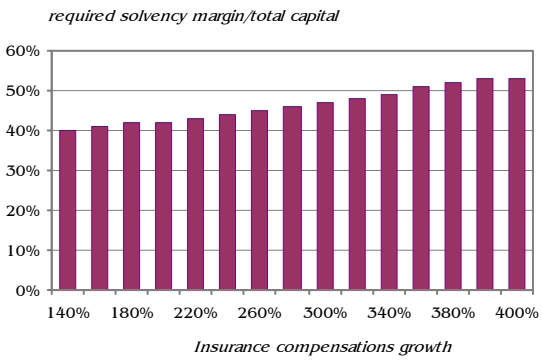
Taking into account that starting from January 1st, 2011, the insurance companies will carry out motor-vehicle third party liability insurance, considerable growth of insurance premiums will be observed. In case of stress-scenarios presented in the table below the solvency of insurance companies will not change notably and in terms of financial stability of insurance system the likelihood of risks is very low.

Asset strucutre of insurance companies as of 30.06.2010



Source: CBA

The Ratio Change of Required Solvency Margin to Total Capital in Case of Insurance Compensations



Source: CBA

[26] *As of 30.06.2010 the share of the risks transferred to reinsurers, which are not forbidden by CBA and are compliant to credibility requirements, in total risks transferred to reinsurers amounted 99.8*

[27] *The loss ratio is calculated as the ratio between compensations accrued during the year and the difference of changes of accrued premiums and unearned premiums.*

Solvency Stress-Scenario[28]

30.06.2010	Accrued insurance premium growth-5 times and paid insurance claim growth-2 times	Accrued insurance premium growth-5 times and paid insurance claim growth-3 times	Accrued insurance premium growth-5 times and paid insurance claim growth-4 times
The ratio of required solvency margin39 of insurance system to average daily value of total capital in case of stress-scenario [29]	40.1 %	44.0 %	48.6 %

Source: CBA

It should be mentioned, that only in case of the third scenario (growth of accrued insurance premium 5 times and growth of compensations 4 times) only one insurance company will breach prudential solvency requirement.

4.4. SECURITIES MARKET PARTICIPANTS

At the end of the first half of 2010, 21 commercial banks and 8 investment companies operated in securities market of Armenia.

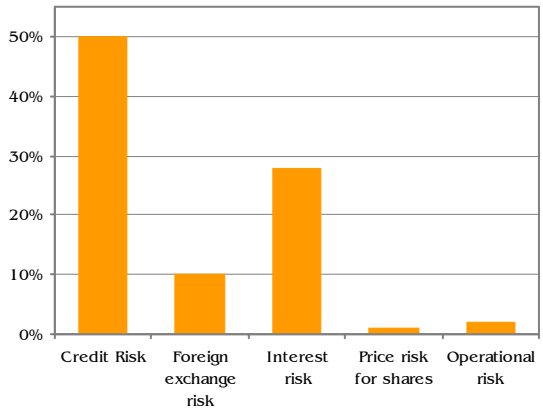
Compared with 2009 yearend, the assets of investment companies decreased by 3 percent totaling 15.2 billion drams. The total capital decreased by 5 percent to make 2.8 billion dram. The total profit of investment companies constituted 26.4 million drams. Five investment companies reported profit and three others finished the year with loss.

In the observed period the credit risk of investment companies amounted 50 percent of regulatory capital, while market risk of amounted to 39 percent of regulatory capital and the operational risk amounted 2 percent of regulatory capital. Remarkably, interest risk had major share (73 percent of total risks) in the market risk of investment companies totaling 28 percent of regulatory capital. Share price and foreign exchange risks of investment companies constituted respectively 10 percent and 1 percent of regulatory capital.

Securities (19 classes) of seventeen reporting issuers were listed in regulated market and four of which were banks, which issued 14 percent of total issued debt-securities. The volume of shares totaled 30.0 billion drams and the volume of bonds totaled 3.6 billion drams. One of the issuers is accountable both for stock and bonds.

In the "Central Depository of Armenia", OJSC, as of June 2010, issuers running registers of owners of nominal securities numbered 1558 and owners of securities issued by companies running registers numbered 116005 individuals.

Risks of Investment Companies (share in regulatory capital) as of 30.06.2010



Source: CBA

[28] *For making the stress scenario stricter, it was assumed:*
a)Insurance companies reinsured the risks through reinsurance companies which are not compliant with CBA credibility requirement
b)By the end of the year the insurance companies will earn only 30 percent of insurance premiums
[29] *Solvency prudential requirement for the insurance companies is calculated according premiums methodology and should not exceed daily average capital.*

4.5. OTHER FINANCIAL SYSTEM PARTICIPANTS

The participants of the Armenian financial system, other than the aforementioned, include 107 pawnshops (without branches), 242 foreign exchange offices (without branches), 5 insurance brokers and 3 foreign exchange dealers. All these organizations' potential impact on Armenia's financial stability is estimated to be very low as their share in the financial system assets is far too small.

Other participants of Armenia's financial market are 10 money transfer companies and 7 organizations involved in processing and clearing of payment and settlement documents.

SUMMARY

Taking into post-crisis developments in the first half of 2010 the banking system started to recover mainly in context of lending availability expansion. Parallel to lending growth the quality of loans didn't deteriorate: the standard loans accounted 95.2 percent of total loan portfolio. High level of capitalization was preserved in banking system and more some banks replenished their capital. In terms of stabilizing economy, growing remittances, increasing household income and other positive developments in real sector, during observed period banking system recorded comparatively high level of profitability, which doesn't lag behind profitability indicators in other developing countries (which were also affected by crisis).

The forecasts concerning developments of the banking system in 2010 are directly connected with positive developments in real sector, foreign capital flow, private transfer inflows and foreign exchange stability in world markets.

5. FINANCIAL STABILITY IN ARMENIA'S FINANCIAL INFRASTRUCTURES

Given the importance and impact the payment and settlement system has on Armenia's monetary policy and financial stability, the Central Bank of Armenia puts high emphasis on the country's systemically important payment and securities settlement systems and the telecommunication network supporting their activities.

5.1. INTERBANK PAYMENTS IN ARMENIA

The Central Bank Electronic Payments System

Liquidity Risk

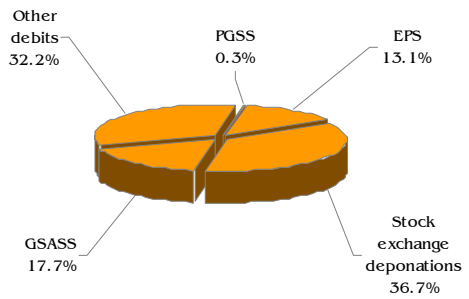
In the first half of 2010 opening balances of dram correspondent accounts exceeded the same-day-payments on average by 17 percent with no account of incoming payments. Compared to the same period in 2009 the average monthly ratio between monthly opening balance and same day debits slightly decreased, which is result of 13 percent growth of opening balance and 19 percent growth of payments. Analysis of monthly dynamics of payments and liquidity show, that in the first four months of the year certain inactivity was observed, as a result of which the banks started to keep less funds in their correspondent accounts. Nevertheless in the next two months the payments surged and banks significantly increased opening balance liquidity level.

Despite the fact that the opening balance liquidity increased slower than the payments, the fact, that the mentioned ratio is higher than 1, shows that the banks did not face serious liquidity problems for their payments. Furthermore, in the end of first half of the year the opening balance of commercial banks started to increase significantly positively impacting the indicator.

Compared to the same period in 2009 19 percent growth of payments in the first half of 2010 was conditioned by 51 percent growth of payments (compared to the same period 2009) in the last two months of observed period. It is remarkable that in high activity in second quarter was mainly conditioned by rapid growth of stock exchange payments (account freezing) and GSASS (Government securities accounting and settlement system) payments (respectively 93 and 32 percent). The share of each system/component in the total growth of payments in the first half of 2010 is presented in the graph.

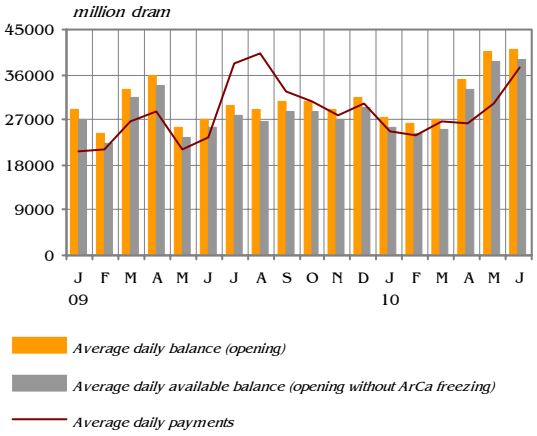
In spite of sufficient semiannual indicator (it is higher than 1) the monthly indicators during first four months were rather close to critical level(1), as a result of which available opening balance in certain days could be less than critical level. This shows, that if the accounts would not have been credit with additional funds (own or from incoming payments) during the day, the banks would face liquidity problems for their payments. Because of insufficient liquidity the majority of rejections were observed in the first quarter (for more details see "Rejections" section).

Structure of Total Debits of AMD-Dominated Correspondent Accounts by RA Banks in CBA during first half of 2010



Source: CBA

Average Daily Payments, Average Daily Opening Balances, Average Daily available Liquidity Comparative Analyses (by all banks)



Source: CBA

Thus, though the analyzed indicators are close to the minimum threshold, the liquidity risk in the system is estimated very low which could not result in systemic problems taking also into account that incoming payments from other participants and/or from other liquidity sources were not considered during the analysis.

Rejections

In the first half of 2010 the number of rejections of payments through EPS (Electronic Payment System) declined by 24 percent compared to the same period in 2009: total of 608 rejections (804 in previous year), out of which 528 (87 percent) solely because of insufficient liquidity (716 in previous year). It is worth mentioning that 87 percent of liquidity insufficiency rejections were observed in the first quarter of 2010, which are mainly conditioned by low opening balance liquidity and insufficient incoming payments.

In the first half of 2010 liquidity insufficiency rejections amounted 87 percent of total rejections slightly dropping from 89 percent in the same period in 2009.

Nevertheless, in observed period the share of liquidity insufficiency rejections in total EPS payments (without stock exchange payments) amounted only 0.04 percent of total number of payments and 0.18 percent of total value of payments. This demonstrates banks' efficient usage of EPS monitoring tools.

System Capacity

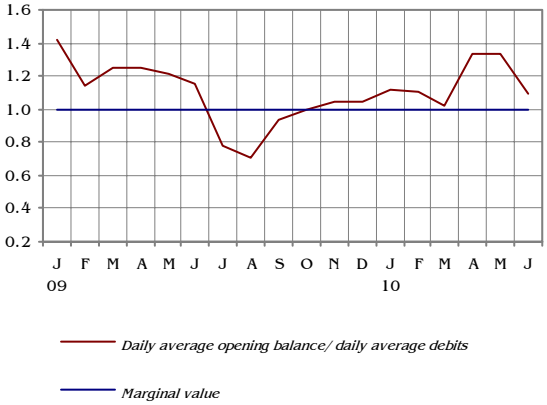
Number of transactions in peak hours of the first two quarters of 2010 significantly increased compared to fourth quarter of 2009 (1477 payments per hour): respectively by 2 percent (4252 payments per hour) and 18 percent (4931 payments per hour). Thus, these indicators are close and even in second quarter exceeded per-hour capacity estimated by experts (4300 payments per hour, average 30000 per day).

Peak hours for the first half of 2010 was 15:00-16:00 time span, which is near to the ESP closing time. This contains risk that any operation failure can result in rejection or delay of the payments. On the peak hour of the first quarter of 2010 40.6 percent of payment quantity and 45.7 percent of payment value of that day were carried out, while in the second quarter respectively 27.3 and 44.1 percent, indicating high concentration in that hours. Considering that the concentration of such payments was registered in the end of the working day, any slight malfunctioning in the system during that time could lead rejection or delay of almost half of the payments (both of quantity and value).

The cases of more than 2500 payments per hour decreased (fourth quarter of 2009 - 63, first quarter of 2010 - 46, second quarter of 2010 - 58) totaling 8.5 and 9.7 percent of working hours during the first half of 2010 respectively. The cases of more than 3500 payments per hour slightly increased in the second quarter but they account minor part in total payments.

In the first half of 2010 the number of transactions on peak day also has growing trend. In the first quarter it totaled maximum of 15571 and 21335 in second quarter. Although number of daily payments in second quarter slightly exceeds

Daily average opening balance/ Daily average payments (debits)



Source: CBA

2009 level (20000 payments per day) it is still significantly lower than potential 30000 capacity. The peak hour of that same day is also observed in the end of the day slightly increasing compared to the fourth quarter of 2009 (fourth quarter of 2009 - 3371, first quarter of 2010 – 3115, second quarter of 2010 - 3569).

Thus, though in 2010 growth of all capacity indicators was observed, such cases amounted very small share of total payments. Taking also into account that this potential capacity level provided by experts of the operator is considered to be the minimum and not the maximum, the capacity of the system is assessed to be more than sufficient for processing the incoming payments. At the same time the operational availability of the system still meets international standards (See "Operational availability of the system" section) and the reliability of the system is assessed to be at high level.

Intraday distribution of payments

Analysis of intraday distribution of payments shows, that the trend displayed in the second half of 2009 persisted also in the first quarter of 2010, and value and volume smoothening pattern is observed during the day. Sharp drop of payments after 16:00 is observed while the distribution of payments in 10:00-15:00 stays smooth. This is also displayed by comparison of average hourly payments in the first two quarters of 2010 with respective quarters in 2009.

In the first quarter the peak period was 15:00-16:00 time span, which is particular to the banks' policy of making payments in the end of the day. Nevertheless as it counts 24.4 of daily value of payments and only 22.4 percent of daily volume of payments, it doesn't pose risks to the system. At the same time the payments after 16:00 dropped almost by 50 percent, they constitute 8.9 percent of daily payment value and 8.7 percent of payment daily volume.

In contrast to the first quarter in the second quarter the intraday distribution of payments fluctuated. The 18.8 percent of payment volume and 50.4 percent of payment value were recorded in 16:00-17:00 period. The distribution is not even also for other hours. Concentration is observed also in 10:00-11:00 period, which however accounted only 8 percent of payment volume. The share of payments after 17:00 also doubled amounting around 10 percent of payment volume and around 5 percent of payment value. Both value and volume of payments in 08:00-10:00 period decreased.

For revealing the causes behind uneven intraday distribution of payments in the second quarter an additional analysis and monitoring should be carried out to determine whether it has a random or stable pattern.

Operational availability of the system

In the first half of 2010, seven incidents (altogether around 3 hours) occurred in "Operational Day" software system which affected sound operation of EPS. The analysis shows that the both number and duration of incidents in the system were too small to disrupt sound operation of the system. Moreover, during the mentioned incidents only two cases were to some

extent significant resulting interruption of the operational availability of the system for 55 and 65 minutes which is a sufficient indicator[30] in accordance with international standards. Other five cases of the interruption of the system were not significant and didn't exceed 30 minutes.

In the first half of 2010 EPS operational availability was 99.7 percent which is also considered to be a high indicator by international standards[31].

Thus, the EPS risk assessment allows assuming that the structure and reserve facilities of the system are sufficient to prevent possible systemic risks.

CBANet[32] Availability

In the first half of 2010 the disruptions of the CBANet nodes were minor and as a result operational availability of all nodes of the network was 96.06 percent and the calendar availability was 93.09 percent. Availability of nodes installed in Yerevan- was 100.0 percent.

In the regions of Armenia the disorders of the network were registered in Gegharkunik, Tavush, Aragatsotn, Syuniq, Lori and Armavir regions (presented in table below).

Availability of regional city nodes

Region	Operational availability (%)	Calendar availability (%)
Gegharkunik	99.70	99.79
Tavush	99.70	97.72
Aragatsotn	99.61	99.72
Syuniq	99.43	97.86
Lori	99.41	99.59
Armavir	99.21	98.41

Source: CBA

Nonetheless, considering that in aforementioned regions the EPS payments constituted 18.9 percent of the EPS payments initiated in the regions of Armenia and only 0.65 percent of the total EPS payment, we can conclude that due to the disorders of CBANet regional nodes, the interbank payments' delay had a minor effect on the total interbank payments and in terms of financial stability did not have any negative influence.

No disorders were recorded for Yerevan nodes.

In the first half of 2010, only one incident was registered at head office subscriber, which according to incident log lasted 8.5 hours. This corresponds to 99.16 percent of operational availability or 99.41 percent of calendar availability. However, the research showed that during the day the subscriber actually operated with short-term interruption, which didn't have significant impact on the processing of the transactions.

In general, it can be estimated that the hardware, software environment and reserve capacities of CBANet ensures the stable operation of EPS.

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[30] *In 2008 financial stability report of National bank of Denmark it is stated, that maximum down time indicator for systemically important RTGS system, which is compliant to ESCB system requirements, is 2 hours.*

[31] *In 2008 financial stability report of National bank of Denmark it is stated, that operational availability for systemically important RTGS system which is compliant to ESCB requirements, should be very high: e.g. operational availability of TARGET was 99.65 percent, which is considered a good indicator.*

[32] *For details on CBANet network risk assessment see 5.1.1 part of 2007 "Financial stability report".*

Graphs

Tables