

CENTRAL BANK OF THE REPUBLIC OF ARMENIA

# FINANCIAL STABILITY REPORT

2013  
first half

2013

**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, Status Report on Monetary Policy Implementation and Armenian Financial System: Development, Regulation, Supervision.***

**The data published in this report are as of 30.08.2013**

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*Financial stability can be characterized as 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 the probability of interruption of intermediation function.*

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

*Maintaining the financial stability presumes the efforts for the identification of main risk sources, poor-managed financial risks, ineffective asset pricing and finally implementation of the policy as appropriate.*

## PREFACE

The Financial Stability Report of the Central Bank of the Republic of Armenia is prepared on a semiannual basis. It contains a broad assessment of risks that could threaten the stability of financial system as well as the capacity of financial system to withstand such risks. Through publishing of information concerning a variety of reviews on financial stability, the Central Bank seeks to bring interested parties' attention to those risks and events that could undermine financial stability of the Republic of Armenia as well as provide an opportunity to debate on how to minimize such risks.

One of the tasks of the Central Bank is to maintain the stability and functionality of the financial system of Armenia. The primary objective of the Central Bank is price stability in the country. Serious disruptions in the financial sector may create impediments to effective implementation of monetary policy. Contrariwise, the monetary and macroeconomic stability contributes to the minimization of risks threatening financial stability. The financial sector plays an important role in overall economic system, and the financial sector needs to maintain continuity and sustainability of processes thus contributing to the organic growth of the entire economy.

The Central Bank carries out an ongoing monitoring and analysis of financial stability for early disclosure of any changes and variations that could threaten financial stability. The report refers to the risks revealed in macro-environment and financial sector and their influence on the developments in all sectors of the economy and financial system.

Risks affecting financial stability of Armenia can emerge in the domestic economy, external economy and the financial sector itself. In this sense, the main preconditions for financial stability are:

- a domestic and external macroeconomic environment with sustainable development whereby households and companies would be creditworthy enough,
- an effective financial system with risks that are prudent and manageable,
- efficient financial infrastructures with operational continuity to the benefit of functioning of the financial system.

As presented in this report, risks that can potentially undermine financial stability of Armenia derive from:

- developments in world economy,
- developments in macroeconomic environment in Armenia,
- developments in financial market in Armenia,
- financial institutions of Armenia, and
- financial infrastructures of Armenia.

The report addresses the risks revealed in those areas and attempts to measure their possible impact on the developments in the economy on the whole and all parts of the financial sector. The report mainly focuses on the risks to the banking sector and development trends: the role the sector plays in overall financial system is vital as assets of commercial banks account for more than 90% of entire financial system assets. The banking sector as a principal pillar to the financial system of today determines overall financial stability and development trends.

## ABSTRACT

*A set of risks threatening financial stability has not changed notably compared to the previous year, though the key risks have increased*

*Key risks deriving from the external sector and affecting the domestic economy and financial stability, as well as the uncertainties associated with further developments persisted this year, too. The deflation of industrial commodity prices in international markets, low growth of industrial sector and poor weather conditions somehow contributed to the slowing of growth of domestic economy. Parallel to these adverse developments, some positive trends were recorded in the economy. In particular, the growth of export volumes had a positive impact on the creditworthiness of exporting enterprises. On the other front, the increase in net factor incomes and remittances fuelled the creditworthiness of households receiving remittances.*

*Global economy challenges still persisted in the first half of 2013*

The global economic recovery continued during the reporting period in spite of outweighing downside risks. There is still no ultimate solution for debt problems of developed countries, and those problems in some countries caused international financial market volatilities. It seems that the slowdown trend of economic growth entrenched in emerging countries, which consequently affected deflation of main commodities.

Growth in stock commodity prices was observed mainly at the beginning of the year. Later, the upward trend was opposed by adverse course due to economic growth slowdown of advanced economies and the current uncertainties of world economy.

*Monetary authorities further implemented moderate monetary policies*

The economic growth elevation and strengthening were still considered as priority policies for the monetary authorities in developed and developing countries. Both the developed and emerging countries kept on implementing moderate monetary policy and kept interest rates on the same levels, linking the probable changes with a certain level of main macroeconomic indicators.

*Economic developments in partner countries cannot be attributed as positive, though they had little influence on domestic economy*

The economic developments in Russia and EU countries, Armenia's main trade partners were worse-than-expected; though it did not significantly influence the domestic

economy. During the half of the year an increase was recorded both in exports and private remittances (for details, please see the section “Developments in Global Economy”).

Economic growth of Armenia in the first six months of 2013 reached 3.5% (compared to 6.5% of the first half of 2012). This slowdown was mainly due to low growth of industry sector and decrease in the construction.

*Domestic economic growth stepped back from the previous year's indice*

Despite diverse patterns of global economy developments, Armenia posted better performance of indicators on private transfers, factor income, and foreign trade turnover. This has contributed to the growth of incomes in the economy, thus strengthening the financial stability of companies and households (for details, please see the section “Macroeconomic Environment Developments in Armenia”).

*Increased incomes in the economy ensured higher creditworthiness*

During the first half of 2013 the capital adequacy declined as loan portfolio growth slowed down. During the observed period, the banking system of Armenia maintained its capital adequacy and liquidity ratios above the regulatory requirements while keeping the market risks comfortably manageable.

*Credit market activity continued, though the growth falls from its previous year's pace*

Net interest margin declined, thus contributing to the reduction in banking system profitability.

The risks in the financial system in some instances displayed ascending trends but remained manageable overall, without creating a threat for the financial stability (for details, please see the sections “Stability of Financial Institutions of Armenia” and “Financial Market Infrastructures Stability”).

# 1. DEVELOPMENTS IN GLOBAL ECONOMY <sup>1</sup>

## 1.1. MACROECONOMIC ENVIRONMENT

*Global economy continues its slow recovery; however, whole year long the key risks were alarming*

*Optimistic expectations and absence of dramatic fluctuations in global markets were recorded at the beginning of the year 2013. The debt crisis in Europe entered a positive changes phase, simultaneously the delay of USA budget problems helped the authorities to find optimal solutions without preventing the economic recovery. At the same time, the regaining of capital inflows towards developing countries would have its positive effect on overcoming the economic slowdown in that group of countries.*

*Meanwhile, a number of global uncertainty factors were still influencing the world economy and emerged already during the first quarter of the year. In this respect, the developments in Cyprus reminded that problematic countries are still potential sources for systemic instability.*

*Negative developments were notable during the second quarter of the year. The volatility in financial markets increased, the economic slowdown displayed signs of rooting, also the spread between German government bonds and those of European countries that have debt problems widened.*

*In line with negative trends, the international organizations reduced continuously the projections of global economic growth. Future predictions have a downward trend as well.*

*Under the pressure of adverse developments the global economic growth forecast of 2013 was revised downside<sup>2</sup>*

IMF projected the global growth to remain 3.1 percent in 2013 (the same as in 2012- 3.1%). The economic growth in developed countries will continue with a slow pace and is forecasted to be 1.2%. At the same time, that of developing countries will not exceed the previous year's figure and will remain within the limits of 5.0%.

*The first half of 2013 started with optimistic expectations; however, the future developments were of great concern*

At the beginning of 2013 a number of positive changes occurred;

- A decrease in sovereign debt risks due to government bond interest rates decline and growth of deposits in banking system,
- An increase of international stock indexes, peaked to the high levels of 2011 in some countries,
- A recovery of risk appetite and a triggering of capital flows owing to soft monetary policy. In these conditions of positive developments, in January 2012 the IMF revised the predictions of main macroeconomic indexes anticipating an upward trend.

<sup>1</sup> International developments and predictions were based on information taken from IMF, World Bank, Economist Intelligence unit, Financial times, Bloomberg, RBC, The institute of international finance and other sources.

<sup>2</sup> All the forecasts and assessments of IMF were taken from "World economic outlook update, July 2013".

**IMF Overview of the World Economic Growth Projections**

Indicator (economic growth)	2012 forecasts as of 30.06.12	2012 forecasts as of 30.11.12	2012 assessment as of 30.01.13	2013 forecasts as of 30.01.13	2013 forecasts as of 30.04.13	2013 forecasts as of 30.07.13
World economy	3.3	3.3	3.1	3.5	3.3	3.1
Developed countries	1.5	1.5	1.5	1.4	1.5	1.2
USA	2.0	2.2	2.3	2.0	1.9	1.7
Euro area	-0.3	-0.4	-0.4	-0.2	-0.4	-0.6
Emerging countries	5.3	5.3	5.1	5.5	5.3	5.0
CIS	4.1	4.0	3.6	3.8	3.4	2.8
Russia	4.0	3.7	3.6	3.7	3.4	2.5
China	8.0	7.8	7.7	8.2	8.1	7.8

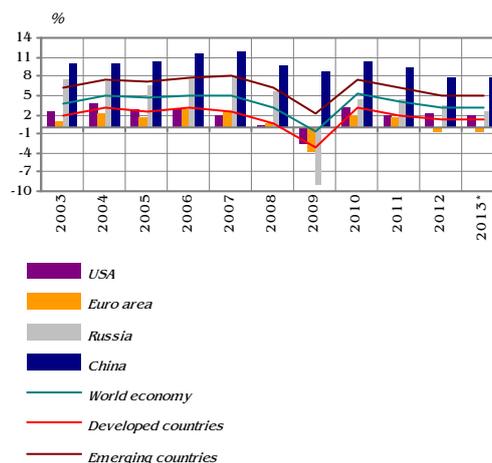
Meanwhile, the financial difficulties of Cyprus that sprung out at the end of first quarter indicated that the European crisis is not overcome yet, even though positive changes occurred, and is still one of the main obstacles for the recovery of world economy. Taking into account the significance of problems faced by the world economy, international organizations reviewed the forecasts of the global economic growth of developed and developing countries, thus, registering a marked decline at the beginning of the third quarter. Parallel to Europe's debt crisis and uncertainties of economic recovery of developed countries, the risks of emerging countries' growth slowdown and further sticking to this trend have become apparent. This will be another buffer for world economy growth.

At the beginning of the year household consumption grew and the unemployment declined, reaching 7.6% in June. Nevertheless, fiscal consolidation unfavorably affected the economic growth. The 11.5% reduction of public expenditure had its negative effect on GDP growth of USA in the first half of 2013. According to official estimations, the public expenditure reduction program, which came into effect on March 1<sup>st</sup>, will decrease GDP growth by 0, 6 pp. which will also unfavorably affect the midterm growth. IMF urges the US government to ease its policy aimed at reducing the state budget, in order not to cause GDP further potential deterioration.

An overview of economic growth of 2013, conducted both by Federal Reserve and IMF, displayed a slowdown. According to IMF estimates, US economy will have a growth of 1.7 percent in 2013.

The euro area will remain in recession in 2013, with economic growth contracting by 0.6 %. Low growth rates of lending have also caused the downward trend of economic activity. In particular, the growth of lending to non-financial corporations and households plunged during the first half.

**Regional economic growth rates**



Source: IMF.

\* Hereafter all indicators marked with asterisk are IMF estimates (2013 January).

**USA economy growing at a moderate pace**

**Lower-than-expected level of domestic demand and slow pace of structural reforms are key risks to the euro area GDP growth**

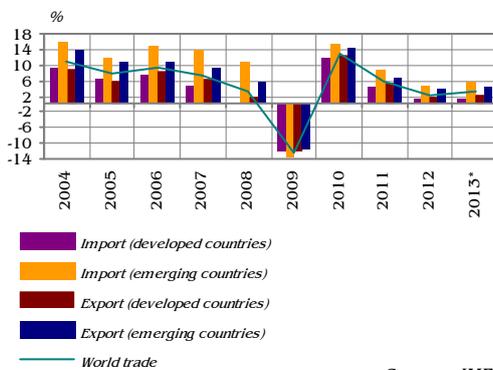
*The slow pace of emerging countries' economic growth will probably prolong*

Owing to low level of economic growth and existing uncertainties in developed countries, capital inflows and world trade fell, negatively affecting economic activity of developing countries. Low external demand, low level of international prices for main commodities, high level of inflation, as well as increasing competition for capital inflows were the main factors driving economic slowdown in developing countries.

It is estimated that developing countries will face a 5.0% economic growth in 2013. Given the IMF data, the annual growth rate in China will be 7.8% (as for the first half of 2013, this rate was 7.6%). Similar trends were observed in other key developing countries.

*World trade continues to display a moderate growth*

**Annual growth rate of world trade**



Source: IMF.

The latest figures show, that despite the current uncertainties in global economy, the world trade overcame its low point and entered a recovery phase, regardless of the slow pace of growth. As to IMF data, the annual growth rate of world trade will be 3.1% in 2013, surging to 5.4% in 2014.

In this context, the above-mentioned growth had various indices per country. For example, a decline is apparent in trade and particularly in export in China. A significant decrease was especially noted during the second quarter of the year; in June a year-on-year decline of 3.2% was recorded. On the other hand, in the USA there was a favorable development in terms of export volumes (a year-on-year 2.5% growth in June). Meanwhile, owing to import decrease, the US trade deficit has fallen to levels of 2009.

*Developments in commodity markets were largely in line with the global economic trends*

At the beginning of the year the prices of main commodities showed dynamic increase, due to progresses in certain commodity markets, as well as development trends of global economy. Nevertheless, in response to global demand decrease and negative moods, a fall in prices was recorded in almost all the markets starting from the second quarter.

*International oil prices are mainly sensitive to geopolitical developments*

**Brent oil prices**  
(USD per barrel)



Oil price displayed an upward trend starting from the beginning of the year. In February it hit a price of 119 US dollars per barrel, slipping back to 107 USD per barrel afterwards. Brent crude oil semi-annual average price was \$107 a barrel, edging down by 5.3%, compared to the same period of the previous year.

It is anticipated, that annual average energy prices will display a relatively horizontal trend in short-term. Meanwhile, geopolitical developments could pose high ascending upside risks.

*Copper price dynamics change according to the emerging countries' economic trends*

Given the global expectations improvement at the beginning of the year, base metal prices gained momentum, which, however, was neutralized in upcoming months, due to

emerging countries' economic growth slowdown trend. The semi-annual copper price averaged at around 7440 US dollars per ton, plunging by 8.5% year-on-year. In the short-term the international prices of base metals are not expected to register notable increase, ceteris paribus, subject to economic trends of developing countries.

A declining dynamics of wheat international prices was apparent during the semester, owing to new marketing year harvest expectations.

In the first semester of 2013 average wheat price reached 8.6 USD a bushel, climbing by 13.0%, relative to the previous year. This growth occurred due to low wheat prices in the previous year.

In short term no wide fluctuations of prices are estimated in wheat international markets.

Gold has supported continuing downward trend throughout 2013. This decline was mainly due to US economy improvements, which led investors to leave the gold market in favor of more profitable assets.

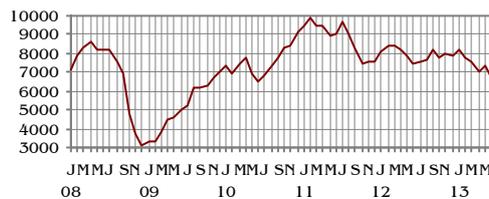
In first half of 2013 international gold price amounted to \$1490 per troy ounce, declining by 10% against the previous year.

No significant change is assumed in short term, owing to stable recovery intentions of global economy.

Inflation pressures were limited in developed and emerging countries in 2013. The IMF predicts a 1.5% annual inflation rate in developed countries, and 6.0% in emerging countries. Both of these indexes will be lower than those of the previous year.

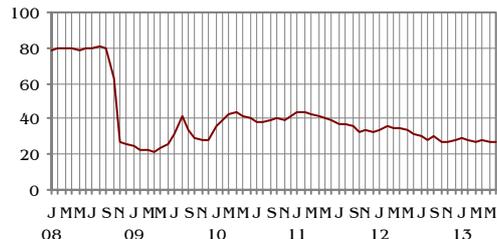
The authorities of key countries were strongly stimulating economic growth by both low interest rates and quantitative easing programs in the first half of 2013.

**Copper prices**  
(1000 USD per ton)



*Wheat prices recorded a decline*

**Molybdenum prices**  
(1000 USD per ton)



*A fall in gold prices occurred, as it became less attractive to investors*

**Gold prices**  
(USD per troy oz)

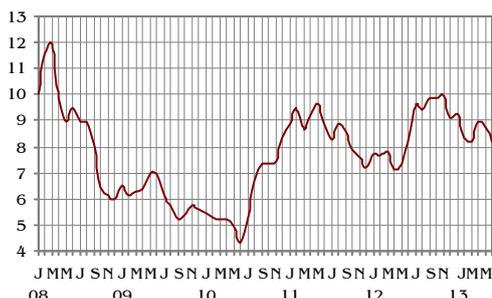


Source: Bloomberg.

*A fall in basic commodity prices safeguarded a slight inflationary environment*

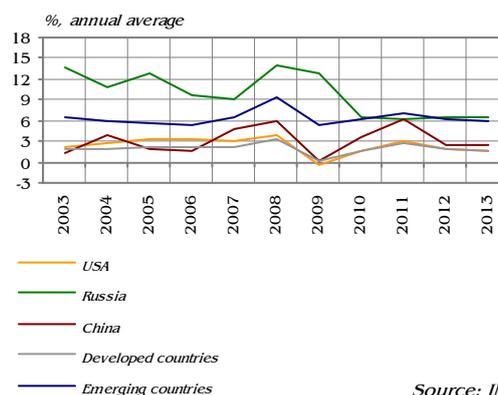
*Weak inflationary environment and uneven economic growth urged key countries to carry on the expansionary monetary policy*

**Wheat prices**  
(USD per bushel)



Source: Bloomberg.

**Inflation in selected countries**



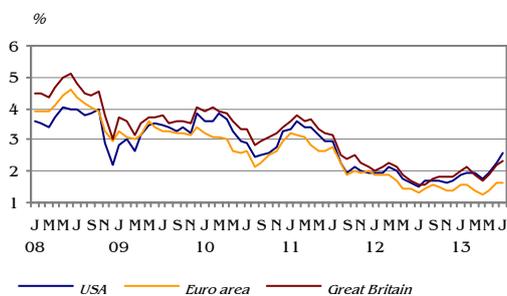
Source: IMF.

## 1.2. INTERNATIONAL FINANCIAL MARKETS

A period of relative solidity was observed in international financial markets starting from the end of the previous year and continuing at the beginning of 2013. However, the latest Cyprus records restored the atmosphere of fundamental tension, thus boosting financial markets volatility in May-June. Long-term rates grew in developed countries; meanwhile, the continuous slowdown trend in government bonds spreads was revised upside in impaired countries. The interest rates increase in developed countries, high volatility in prices of assets, as well as slowdown of domestic economy resulted in a certain capital outflow, stock indexes decline and devaluation of currencies in developing countries.

**The spread between German government bonds and countries with debt problems widened**

**10-year government bond yield**

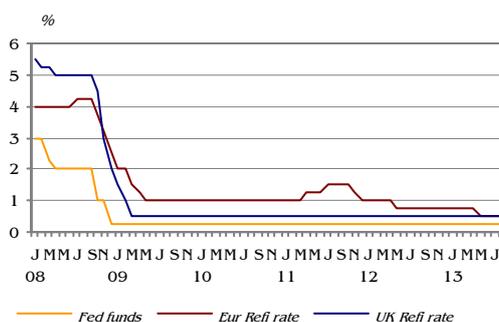


Taking into account the euro area debt problems, the investors still mostly prefer American, German and other highly liquid government bonds, which maintained a low yield during the semester. Simultaneously, the spread between rates of German government bonds and countries with debt problems widened, contrasting the previous year's narrowing trend. This is stating about non-positive development of the situation.

Given the semi-annual main economic challenges and instable growth of global economy, the key developed and developing countries carried on the low interest rate policy.

**Central banks of key developed and emerging countries implemented soft monetary policy**

**Central bank's policy rates**



Taking into consideration the deterioration of macroeconomic prospects, weak business activity in industry and service sectors, tense state of labor market (the euro area unemployment rate peaked at 12.1% at the end of the first quarter), the ECB had to announce a number of monetary policy tools to be put into practice for economy stimulation. On May 2<sup>nd</sup>, ECB reduced marginal lending facility rate by 50 pp. and set it at the 1% level. The refinancing rate was cut by 25 pp., recording a historical low rate of 0.5%. Deposit facility interest rate was maintained at 0% level.

At the same time, during the first half of 2013 the Federal Reserve System (FRS) pursued expansionary policy in order to promote economic growth and reduce unemployment. The implementation of soft monetary policy was conditioned by absence of inflationary pressures. In particular, according to FRS, long-term inflation expectations are stable and do not exceed the 2% targeted level. The Federal Reserve announced, on the one hand, no evolution of interest rates, in case of current pace of inflation and the unemployment rate being capped at around 6.5%. On the other hand, it declared the possibility of quantitative easing (QE) program volumes cutback before the year-end.

Bank of England kept the monetary policy rates at low level of 0.5%, which has to be maintained at the same level

in the future. The current level of purchase of assets is also to remain unchanged as long as the unemployment rate is 7% and higher.

Various developments of the euro area debt problems, macroeconomic indexes of countries and implemented policies determined dynamics of major currencies.

Conditioned by current developments in the USA and the euro area economies, US Dollar regularly depreciated and appreciated versus euro.

Economic slowdown and capital flows in developed countries led to depreciation pressures on their currencies. The depreciation trend accelerated when Federal Reserve System avowed their asset purchase shortening intentions.

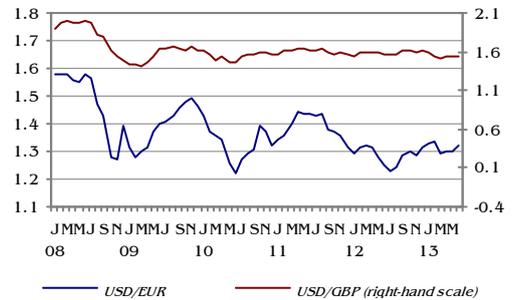
Stock indices of developed and developing countries displayed a fluctuating course in line with economic developments, recording some growth compared to last year-end.

Interbank low rates were due to low base rates and global economic instability.

No significant upward trend of capital inflows to developing countries was observed, owing to economic slowdown biases in developing countries and envisaged policies of developed countries, particularly those of the USA. Institute of International Finance estimates capital inflows to developing countries to be 1145 billion US dollars in 2013, plunging by 36 billion US dollars over the previous year.

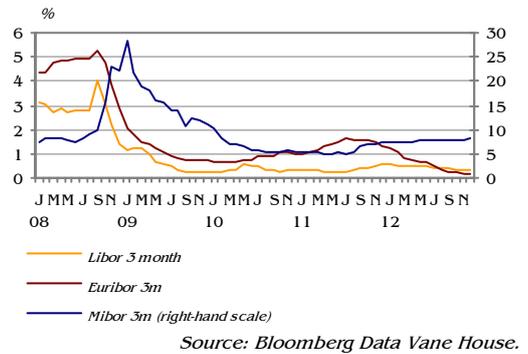
**Major currencies showed a volatile trend during the first half of the year**

**USD exchange rate versus EUR and GBP**



**Dynamics of stock indices and interbank rates were in line with international developments**

**Interbank interest rates**



**Box 1**

**Economic developments in Russian Federation**

*Economic slowdown was recorded in the economy of Russian Federation in the first half of 2013; year over year economic growth was 1.4%. Annual growth rate is projected to be 1.8%. Within the scope of negative trends in global economy and reduction in investment demand, there were a slower growth in industry and a fall in export, being the core to weak economic activity of the first half of 2013 and of the previous year.*

The industry recorded only a 0.1% year-on-year growth during the first half of the year; moreover, manufacturing industry remained the same. A 1.9% decline was observed in construction for the same period. Relatively positive changes were observed in trade sector, which faced an increase of 3.7%.

Unlike the real sector developments, positive trends were observed in terms of population income. Particularly, real disposable incomes experienced a 5.9% year-on-year improvement, where the real wages grew by 4.3%. Relative to the previous year data, the unemployment rate grew to 5.7% of economically active population.

Slow pace of global economic growth, in particular the export demand diminution of China and other partner countries, negatively affected export rates. Thus, the export rates of the first four months diminished by 5.2% year-on-year, while the import volumes raised by 3.8% year-on-year.

In the first half of 2013 capital outflows continued, constituting a USD 25.8 billion in the first quarter and being estimated as USD 70 billion annual. (In 2012 the capital outflow was USD 56.8 billion).

As of August 2013, the 6.5% inflation rate was above the highest level of target range.

Taking into account the inflationary environment and low level of economic activity, Bank of Russia kept the refinancing rate unchanged at 8.25% level.

Given the data of the first half of 2013, banking system assets rose by 20% year-on-year as to the first 5 months, while capital rose by 17.1%. Real sector lending volumes increased by 13.9%, while those of population – by 39.1%. The weight of NPLs augmented by 0.2 pp. relative to the previous years' data and reached 6.2%.

## **SUMMARY**

Taking into account the present situation of the first half of 2013 (tension in financial markets and continuous key challenges) a slow and uneven recovery of global economy was observed.

Unlike the optimistic dispositions at the beginning of the year, the world economy faced more negative developments. Thus, there is no proximate anticipation of resolution of the euro area crisis, the US fiscal consolidation hinders positive economic trends, the economic growth in emerging countries continues to slowdown, and a downward trend of prices is being observed in commodity markets.

In addition to economic challenges, political ones emerge; the political tension in Syria and its possible proliferation is being considered as one of key factors affecting the future trends of global economic developments.

To conclude, the foremost potential risks being transmitted from world economy are:

- a weak private demand conditioned by European countries' unsound growth,
- a further possibility of base metal prices decrease, due to emerging countries' economic downward trend,
- a notable economic slowdown in Russian economy.

## 2. MACROECONOMIC ENVIRONMENT DEVELOPMENTS IN ARMENIA <sup>5</sup>

### 2.1. MACROECONOMIC DEVELOPMENTS

*World economy uncertainties and financial markets fluctuations did not have a significant negative effect on domestic economy of Armenia during the first half of 2013. Though, risks arising from the external sector displayed a growing trend.*

*An economic slowdown was observed in domestic economy, in connection with tardiness of private consumption growth and private investments cutting. On the other front, private funds inflow and growth in export volumes were recorded.*

According to National Statistics Service data, the economic growth of Armenia in the first half of 2013 displayed a slowdown trend compared to the same period of the previous year and amounted to 3,5%. The determinants of this decline were decrease in construction and slow growth of manufacturing industry.

During the first 6 months of the year, the value added of industry reported a year-on-year 1.3% growth, conditioned mainly by a rise in mining and processing industries.

Agriculture showed a year-on-year 3.5% growth. An increase slowdown occurred due to the previous year's high economic growth. Plant growing and animal production contributed to the growth in agriculture sector.

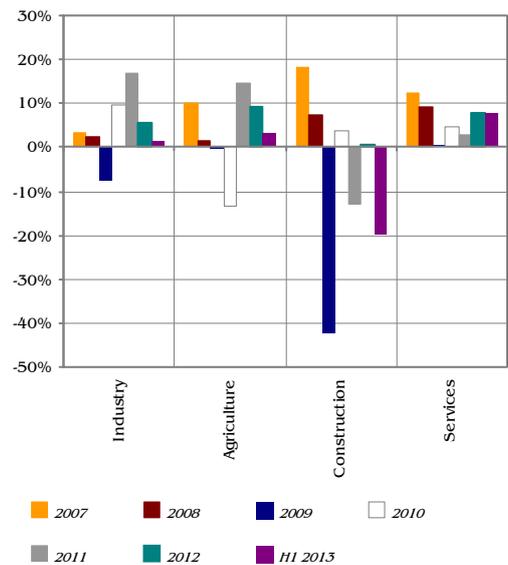
As the volumes of construction financed both by companies and international loans reduced, the value added of construction sector displayed a year-on-year 19.6% decline. The volume of households-funded construction has increased compared to the previous year.

The semi-annual growth of service sector value added has been 7.9% year-on-year, which is conditioned by increasing volumes of trade and other sectors.

Considering the GDP by expenditure approach, private consumption recorded a 5.8% year-on-year real growth and private investment registered a 4.4% decline. Private consumption decreased, compared to the previous year, as a consequence of a drop-off in lending growth volumes and a gradual elimination of economic impacts of the previous year's strong growth recorded in agriculture. Investment behavior was mostly driven by the construction sector developments.

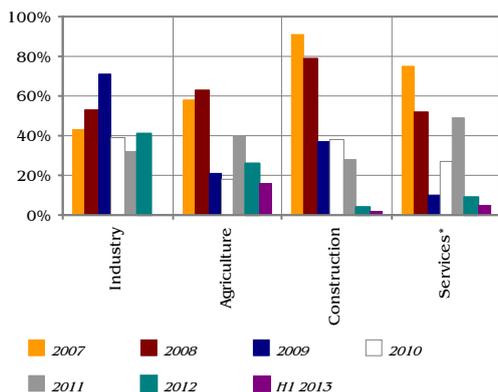
<sup>5</sup> For details on the developments of macroeconomic environment of RA, please see the quarterly publication "Inflation Report 2013" (Status Report on Implementation of Monetary Policy Program, Q2, 2013 and Status Report on Implementation of Monetary Policy Program, Q1, 2013).

**The annual growth of main sectors of economy**



Source: Central Bank of Armenia.

### Growth of lending to main sectors of economy



\* In chart the sector of services includes trade and other service sectors' aggregate values.

Source: Central Bank of Armenia.

Government expenditure posted a year-on-year 3.1% growth, and government investments declined by 2.3% year-on-year.

The credit market increased by 5.2% compared to the end of 2012, as of the first half of 2013. The growth of lending volumes shrunk as credit market matured. Banks will take further steps towards the introduction of new financial instruments.

Loan portfolio growth was registered in all sectors of economy to the exclusion of industry, which underwent an 8.7% loan portfolio decline; exclusively due to a change in accounting record of loans in one of the companies (for details, please see the section "Stability of financial institutions of Armenia").

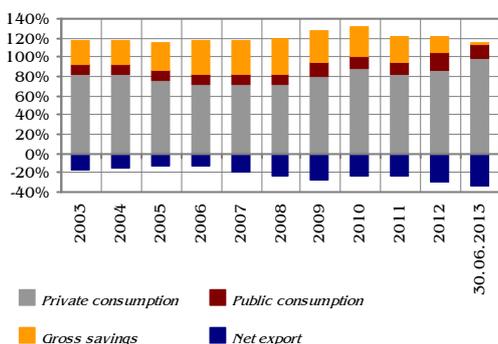
Given the risk categories of loan portfolio, the share of non-performing loans in total loan portfolio recorded a 2.1 pp. rise and amounted to 5.6%. From the point of view of distribution of loans by sector, the share of non-performing assets was relatively high in loans provided to construction, public catering and other service sectors, as well as to agriculture.

According to surveys conducted by CBA<sup>4</sup>, composite economic indexes had dissimilar development trends during the first quarter of 2013. In particular, the index of business activity declined by 0.8% year-on-year, which is an evidence of a slowdown in economic activity growth. Simultaneously, optimistic outlooks were maintained in indices of all sectors.

The index of business environment had a 7.4% year-on-year increase. The highest index was recorded in service sector, which exceeded the previous quarter's index by 9.9 pp.

### GDP expenditure components

(share in GDP)



Source: the National Statistics service of Armenia.

### Qualitative public debt indicators of the Republic of Armenia

Indicator	2005	2006	2007	2008	2009	2010	2011	2012	H I, 2013
Debt/GDP (limit 50%)	22.3%	18.2%	14.0%	13.6%	35.7%	34.2%	36.4%	37.6%	37.3%
Debt/ Export	78% (less indebted)	80% (less indebted)	82% (less indebted)	90% (less indebted)	227% (moderately indebted)	182.1% (moderately indebted)	154.0% (less indebted)	150.0% (less indebted)	142.0% (less indebted)
Debt service/ Export	4.6% (less indebted)	4.2% (less indebted)	2.9% (less indebted)	3.1% (less indebted)	6.0% (less indebted)	5.0% (less indebted)	4.2% (less indebted)	9.9% (less indebted)	7.8% (less indebted)
Interest/ Export	0.9% (less indebted)	0.7% (less indebted)	0.6% (less indebted)	0.7% (less indebted)	2.0% (less indebted)	2.4% (less indebted)	2.1% (less indebted)	2.3% (less indebted)	1.0% (less indebted)

During the first half of 2013, public external debt declined by 4.5% compared to the year-end and amounted to 3713.5 million dollars. According to CBA assessments, given the first

<sup>4</sup> Source: Economic Activity and Business Climate Indices (EAI, BCI) <https://www.cba.am/en/sitepages/statsseabci.aspx>

half's data, the debt/GDP ratio<sup>5</sup> was 37.3%, which is minor to the previous year's ratio. No significant change in the structure of public external debt was recorded by the Ministry of Finance. Concessional loans share in the total volume of debt was 55.6%. At the same time, the share of loans with floating interest rates continued to show a downward trend in comparison to the previous year-end, amounting 34.4 percent.

As a result of tax administration improvements in the first half of 2013, positive developments were recorded in the state budget of the Republic of Armenia.

As to National Statistics Service data, a year-on-year 20.4% growth was noted in government budget revenues; AMD 505 293.2 million, which ensured the fulfillment of the semiannual program of the government of Armenia by 100.6%. A similar growth trend is caused by a high recorded growth of tax revenues, a 21.1%, thus the income from value added tax being the determinant contributor to the increase. The expenditures grew by around 8% and were AMD 458 093.3 million. In this respect an AMD 47 199.9 million surplus was formed, mainly due to savings and changes in program deadlines and volumes. On condition of relatively high increase in revenues compared to state budget expenditures, the budget surplus is amounted to 1.16% of GDP.

A high inflationary environment was observed in the first half of 2013 and especially in the 2<sup>nd</sup> quarter, since the prices of some services surged and an adverse development in agriculture occurred. In this respect, the 12-month inflation was 6.5% in June.

## 2.2. FOREIGN TRADE

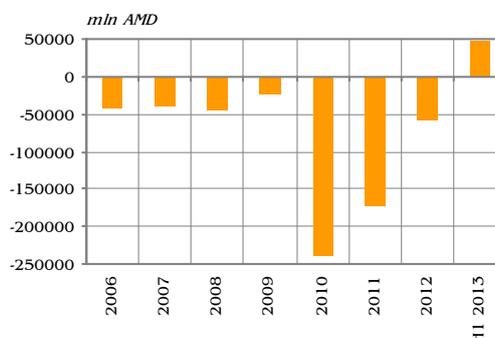
According to National Statistics Service figures, during the first half of 2013 the foreign trade was USD 2.53 billion; augmenting by 0.8% year-on-year. The slight growth is mainly due to import volumes decrease.

Central Bank calculations suggest the import to be USD 1.74 billion, which has decreased by 1.4% year-on-year during the first half, while the import reduction in real terms is assessed 1.1%. Imports dropped especially in "food for immediate consumption", "mining and quarrying", "land, air and water transport", "machinery and equipment" commodities.

Export volumes rocketed by 7.7% over the previous period, thus being USD 807.1 million, the increase in export in real terms is 9.9%. The main commodities that

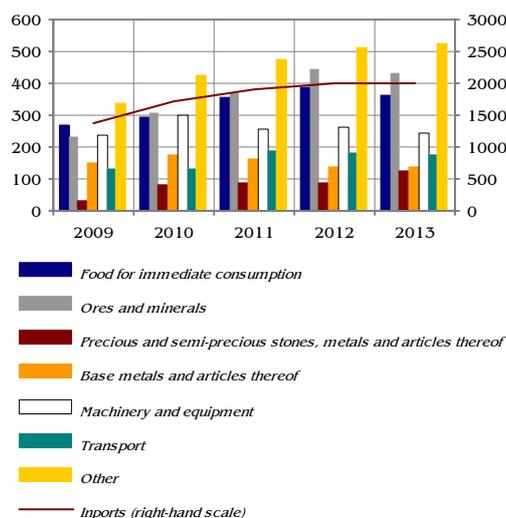
<sup>5</sup> In this and subsequent sections while calculating the share of each index in GDP, GDP was considered as the sum of actual data of the second half of last year and the first half of current year.

**Armenia's government budget deficit(-) / surplus(+)**

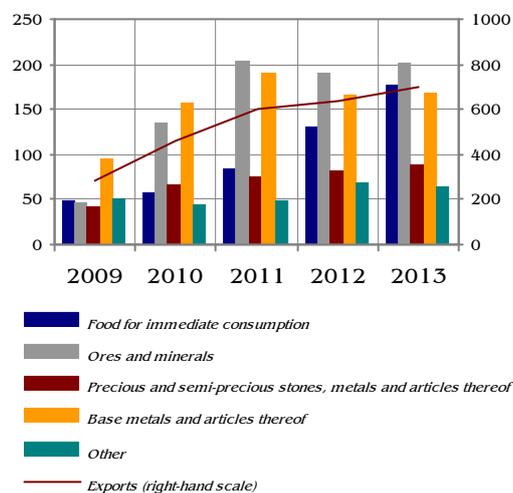


Source: the National Statistics service of Armenia.

**Armenia's imports by commodity groups, semiannual (mln USD)**

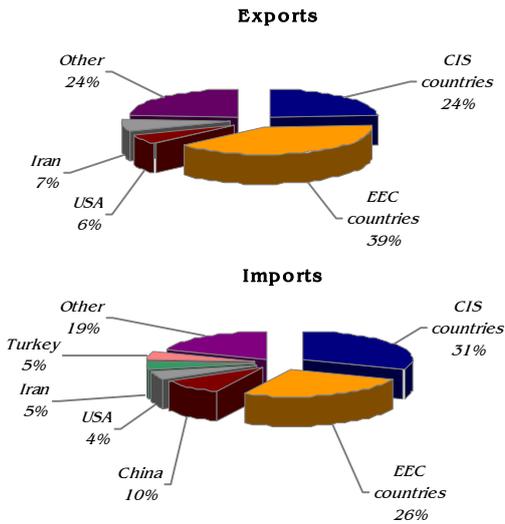


**Armenia's export by commodity groups, semiannual (mln USD)**



Source: Central Bank of Armenia.

**Armenia's foreign trade, by country, as of 30.06.2013**



Source: Central Bank of Armenia.

experienced a volume growth were “food for immediate consumption”, “mining and quarrying”, “precious and semi-precious stones, precious metals and articles thereof”.

Export growth together with import decline caused a 29.6% year-on-year drop in the current account deficit, which is USD 544.3 million. Current account balance / GDP ratio is 13.8 percent from January to June in 2013, in preference to 19.8% in the previous year.

From the point of view geographic distribution, major concentrations were observed in the Armenia’s foreign trade structure. Main partner countries remain Russian Federation and EEC (European Economic Community) member states. The share of CIS member states in export structure increased by 2.2 percentage points, while that of EEC countries decreased by 4.8 pp., according to the National Statistics Service records. A remarkable 32.7% upsurge was recorded in exports to Belgium.

Likewise, export remains concentrated by commodities, which in turn increases the vulnerability of mining and food industries to withstand the potential shocks from specific country or world economy.

There were no significant changes in the structure of import partner countries; EEC and CIS member states remain the main partners, recording a 0.4 pp. rise, and presented 49.5% common weight.

**2.3. NET FACTOR INCOMES AND REMITTANCES**

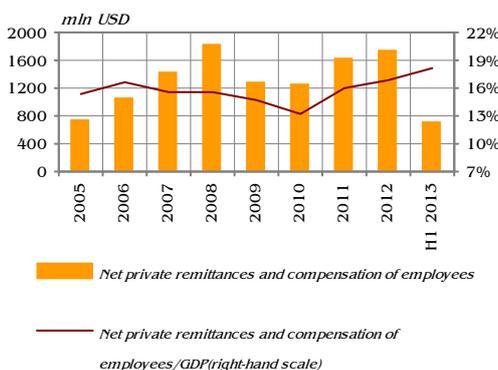
*Private transfers and income of seasonal workers are key components of disposable incomes of Armenian households, which still have a high share in GDP compared to other countries in the region. As a result, the abovementioned funds received from abroad are of a considerable importance from the households’ financial stability perspective.*

With regard to CBA estimates, during the first half of 2013 private remittances and income of seasonal workers grew by 14.9% year-on-year, amounting to USD 713.1 million. This figure is still 4.2% lower than that in the first half of 2008<sup>6</sup>. In comparison with the year 2012, the share of non-commercial net transfers in GDP increased slightly. Net inflow of non-commercial transfers made by individuals via banking system also grew by 10.5% compared to the same period of the last year. According to CBA assessments, non-commercial transfers of individuals will further grow by 6-8% in 2013.

<sup>6</sup> Balance of payments of the Republic of Armenia, according to the 5<sup>th</sup> edition of “Balance of Payments Manual” <https://www.cba.am/en/SitePages/statexternalsector.aspx>

*Non-commercial remittances have increased during the first half, but are still at lower than the pre-crisis levels*

**Net private remittances and compensation of seasonal employees**

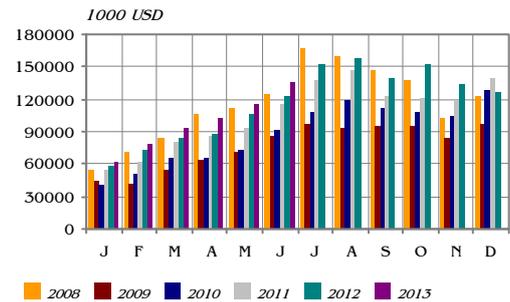


Source: Central Bank of Armenia.

The bulk of non-commercial remittances inflow of individuals executed through banking system continues to flow from Russian Federation; 83.5%, as the majority of seasonal workers leave to RF. (5.3% of non-commercial remittances inflow is from USA). The citizens of Armenia, who depart to Russia, are mainly engaged in trade and construction. Trade volumes decreased compared to the same period of the previous year and amounted to 3.7%. A 1.9% slowdown in growth was recorded in construction during the half (for details, please see box 1 “Economic developments in Russian Federation”). In addition, the further uncertainties associated with migration policy of Russia can also have their influence on the above-mentioned remittances inflows.

**Most of non-commercial remittances are received from Russian Federation**

**Net non-commercial transfers of individuals by banking system**



Source: Central Bank of Armenia.

## 2.4. HOUSEHOLD INCOME AND DEBT BURDEN

The developments in labor market had a positive effect on income of population during the observed period. Meanwhile, the inflationary environment of the third quarter of 2013 and economic growth slowdown reduced real wages. An increase in nominal wages was recorded in private sector (5.8%) and in public sector (2.1%) and was 3.5% overall. In case of consumer price index amounting to 4.1%, a decrease of 0.6% of real wages was noted. However, non-commercial remittances coming from abroad increased. This can promote the strengthening of households' financial stability and reduce the risks arising from the sector.

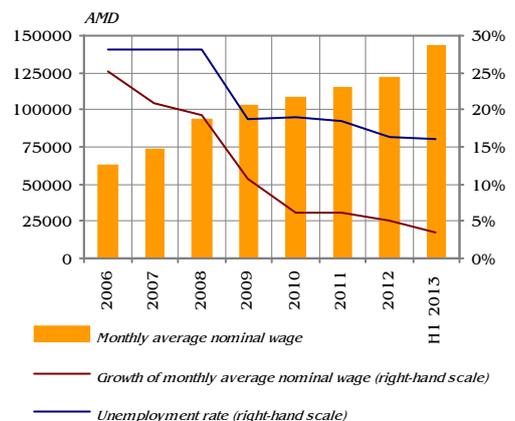
Given the CBA assessments of the first half of 2013, the unemployment rate moderated and was 16.2%. Over 1 year unemployment of 35-45 year old job seekers continues to be a problem, which can afterwards limit their chances of finding a job. Overall, both employment and average nominal wages are still at lower than average levels in some regions, which impacts the population living standards in those regions as well as financial inclusion levels.

The CBA assesses nominal wage to increase by 3.8% in 2013, regarding the forthcoming inflationary environment and the growth of both productivity and minimal wages in the third quarter of 2013. A decline in unemployment rate is expected, amounting to 15.2% in the current year-end.

Parallel to increase in nominal income of households, bank deposits grew at a more moderate pace by 10.5%. As a result, the share of household deposits in total deposits decreased by 3.0 pp., being 49.7%. Foreign currency deposits continue to maintain a large share in bank deposits (68.4%), which can limit the placing possibilities of financial resources in dram-denominated assets from the point of view of commercial banks. A further deposit growth can be

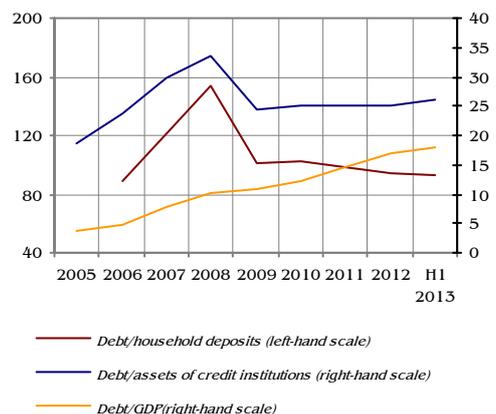
**The semi-annual nominal wages and household savings in banking system grew at a low pace**

**Nominal average wage**

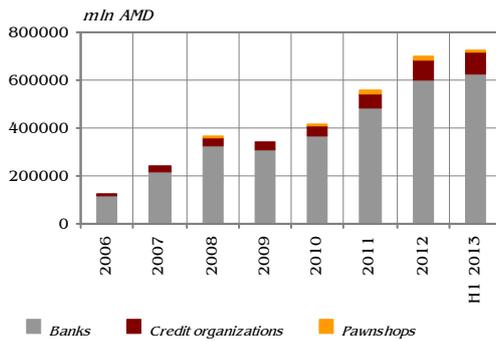


Source: the National Statistics service of Armenia.

**Households' debt and income indicators, %**



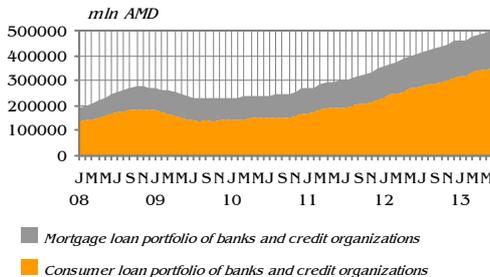
### Structure of household liabilities



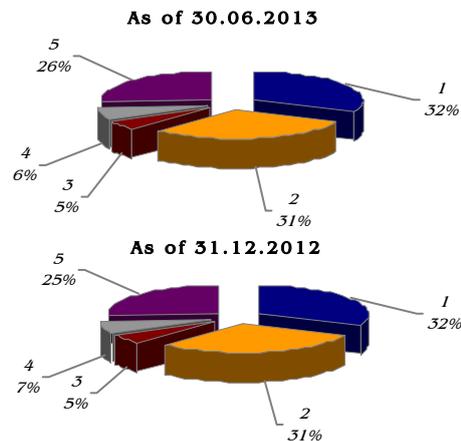
**A moderate growth was registered in the debt burden of Armenian households**

**Consumer credit had the main share in household lending volumes**

### Consumer and mortgage loan portfolio of banks and credit organizations



### Consumer loan portfolio structure of banks and credit organizations of Armenia



1. Card loans 2. Gold-backed loans 3. Car loans  
4. Home appliance loans 5. Other consumer loans

Source: Central Bank of Armenia.

**Household credit portfolio quality risks remain at a manageable level**

promoted owing to household income growth and actions aimed to increase public financial education, which will result in increase of confidence in financial system.

As household debt increased more than the GDP, the debt/GDP ratio grew reasonably and amounted to 17.8%, still being inferior to the very indicators of many other Eastern European countries. Therefore, we can assume that further moderate growth of debt burden cannot pose significant threats to financial stability. Liabilities to financial institutions, in particular to banks, have a dominant share in household debt burden. Household liabilities to financial institutions augmented by 15.0% during the first half of 2013.

During the observed period both mortgage lending and consumer credit posted slight growth; 3.2% and 10.4%, respectively. The growth of all types of loans contributed to the consumer credit upsurge. Due to the progressive increase, the share of consumer credit card lending increased in consumer credit.

The results of CBA survey<sup>7</sup> show that consumer credit continues to maintain its position of a desirable product for financial institutions. That is the reason why competition for this type of credit products is extremely high. Consequently, the development of lending procedures, the improvement of proposed conditions and the prolonging of periodicity of provided credits continued.

The growth of mortgage lending was driven mainly by mortgage loans for the purchase of real estate. More than 50% of mortgage loans are foreign currency loans, which can enlarge the credit risk conditioned by foreign currency risk among borrowers who have dram-denominated income. Activities of the National Mortgage Company and the program "Home for the Youth" bolster the development of domestic mortgage market. The central institutional goal, of course, is to make accessible loans for purchase of property by refinancing mortgage loans. During the first half of 2013, the volume of refinanced loans by the above-mentioned companies was about 27% of the total loan portfolio. Expectations of banks and credit organizations regarding the growth of mortgage portfolio serve as good evidence of Armenian mortgage market potential to expand<sup>8</sup>. As to the interest rates, both consumer and mortgage lending rates had a downward trend up to 0.5 pp.

The share of non-performing loans in the total consumer and mortgage credit provided to households by credit institutions increased in some extent. The share of non-performing loans in mortgages in foreign currency is relatively high, which points to the existence of credit risk

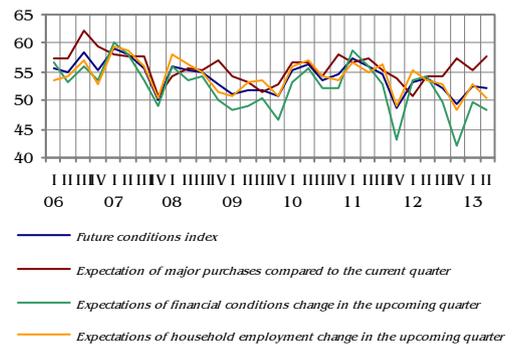
<sup>7</sup> Source: results of the quarterly survey of the CBA Terms of Lending by Banks and Credit Organizations in Armenia, first half 2013.

<sup>8</sup> Source: results of the quarterly survey of the Central Bank Terms of Lending by Banks and Credit Organizations in Armenia, first half 2013.

derived from foreign exchange risks. The NPLs of banks mostly increased in terms of foreign currency credit cards. Overall the credit risk of household lending portfolio is at manageable level, which is due to sufficiently strict approaches of banks in assessment of borrowers' creditworthiness.

The components of the consumer confidence index – current and future conditions sub-indices – are a source for indirect valuation of expectations of economic standing and incomes of population<sup>9</sup>. The sub-indices decreased as to the first quarter of 2013 and the second quarter of the previous year. In the second quarter of 2013, only the sub-index of major purchases during the current quarter and the upcoming quarter posted some improvements.

Future conditions index and its components



Source: Central Bank of Armenia.

**In the second quarter of 2013, household expectations were optimistic only for major purchases in the upcoming quarter compared to the current quarter**

## 2.5. REAL ESTATE PRICES

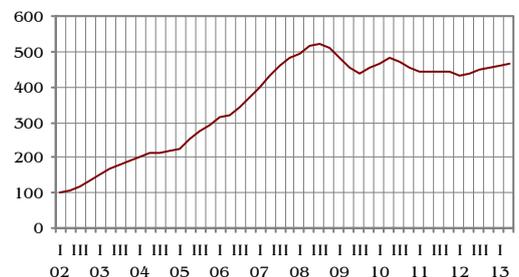
*From the financial stability perspective, developments in real estate market have a significant importance, as they directly or indirectly affect the regular functioning of financial system. This can be explained by the fact that real estate is an alternative financial investment on one hand, and the majority of loans are secured by real estate, on the other.*

In the first half of 2013, price inflation of apartments in multi-apartment homes<sup>10</sup> in Yerevan was recorded compared both to first and second halves of the previous year, 6.8% and 3.0%, respectively. Price increase is observed in all districts of Yerevan, especially in Avan, Nor Nork, Ajapnyak and Nubarashen administrative districts, where apartment prices were comparatively low. Apartment prices rose also in other cities of Armenian regions by 5.3% year-on-year (decreasing by 2.6% compared to the 2<sup>nd</sup> half of 2012). Real estate prices persisted at their high also in regions of Armenia: in Tsaghkadzor, Vagharshapat and Abovyan towns. During the observed period, commercial banks were continuously lending credits secured by real estate, ranging from 60 to 80% loan-to-value ratio. In this respect, risks deriving from real estate price fluctuations were not significant (for details, please see "Commercial banks market risk" section).

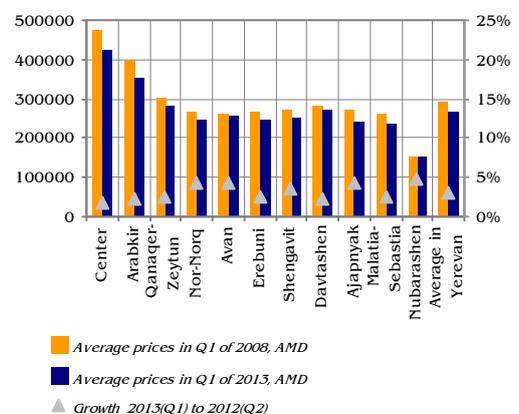
Despite the above-mentioned developments, prices are still much lower than the indices of the first half of 2008. In all administrative districts of Yerevan average market price of 1 square meter is lower than that in H1, 2008, particularly in Arabkir, Center and Ajapnyak districts.

**In the first half of 2013 apartment prices increased, positively affecting risk deterrence of real estate prices' possible negative fluctuations**

Average apartment price index (sq m)



Apartment prices in Yerevan, by communities



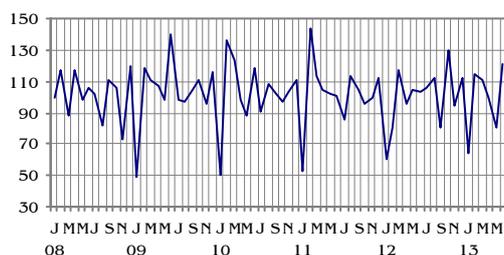
Source: State Committee of Real Estate Cadaster at the Government of Armenia.

<sup>9</sup> Source: results of the CBA survey on households, second quarter 2013 Consumer Confidence Index (CCI) <https://www.cba.am/en/sitepages/statsscci.aspx>.

<sup>10</sup> As there is no single index of Armenia's real estate average price, the criterion for real estate price developments is considered the average price index of apartments in Yerevan.

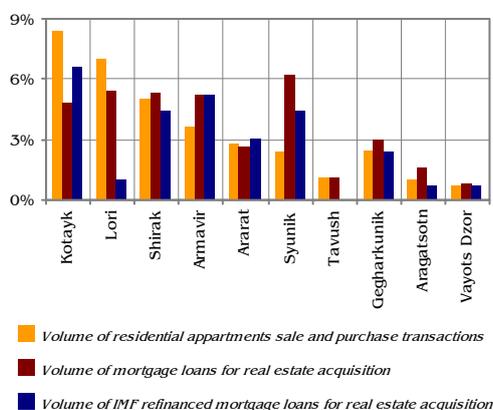
*In terms of real estate sale and purchase transactions, a marked decline was registered in market activity in Yerevan and in the majority of regions*

#### Real estate sale and purchase transactions index



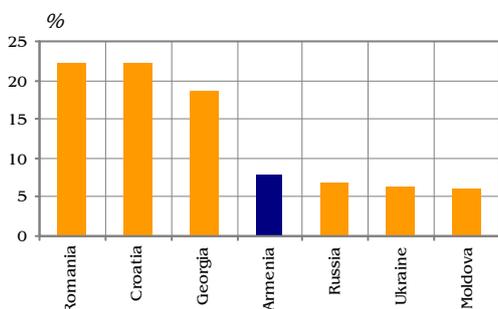
Source: State Committee of Real Estate Cadaster at the Government of Armenia.

#### The share of apartment transactions and real estate acquisition mortgage loans, by regions



Source: Central Bank of Armenia.

#### The share of mortgage loans in credit portfolio, by countries



Source: IMF.

Parallel to inflation, apartment sale and purchase transactions shrunk. In the first half of 2013, an 8.9% decrease was recorded compared to the first six months of 2012, and a 5.1% drop was registered compared to the second half of the previous year. This is mainly due to dive in numbers of transactions in January and May. In regions sale and purchase transaction trend varied, showing an overall descending tendency both in apartments and residential houses' deals.

With regard to CBA survey results<sup>11</sup>, transaction volumes were relatively significant in real estate secondary market, where a further stimulation is expected. Shrinking number of real estate transactions had an adverse effect on collateral liquidity. Risks deriving from the latter were evident in some companies participating in the survey.

The volume of pledges is one of indirect measures characterizing real estate market activity, which declined by 16.6% during the observed period compared to the second half of 2012, but skyrocketed by 49.9% compared to the first half of 2012. An analogous regional allocation was observed in transaction volumes, mortgage collateral transactions and numbers of mortgage loans for real estate acquisition; the latter stay concentrated in Yerevan.

Low level of demand is limiting the real estate market development. Certain liveliness is noticeable in mortgage lending. According to CBA surveys, commercial and credit organizations anticipate continuing growth<sup>12</sup>, due to increase in demand for mortgage loans. From the point of view of financial stability, the above-mentioned increase cannot generate major risks, as the share of mortgage loans in total loan portfolio of financial system of Armenia is very low compared to other countries.

#### Residential buildings completion by sources of financing

Sources of financing	2013 H1 completed residential buildings (sq. m)	Share in total	Percentage change as to H1 2012
<b>Total, of which:</b>	66946	100%	-42.6%
State budget	-	-	-
Corporations' funds	14632	21.9%	-67.2%
Household funds	52314	78.1%	3.1%

Source: the National Statistics service of Armenia.

<sup>11</sup> Source: results of the quarterly survey of the Central Bank Terms of Lending by Banks and Credit Organizations in Armenia, Q1, 2013.

<sup>12</sup> Source: results of the quarterly survey of the Central Bank Terms of Lending by Banks and Credit Organizations in Armenia, Q1, 2013.

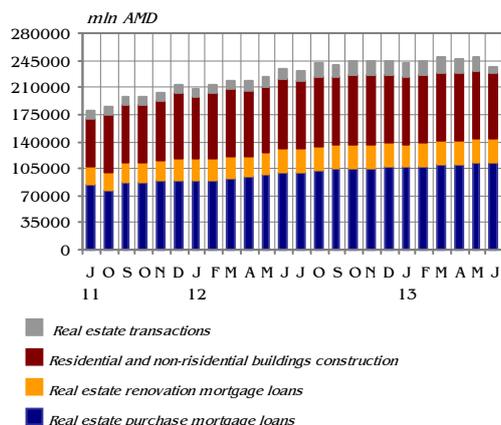
Parallel to downtrend in apartment sale and purchasing transactions, real estate supply considerably lowered. This can lead to a further rise in prices. In the first half of 2013, the volumes of homes commissioned to operate dropped off, due to volume cuts in resources of corporate sector and state budget. Residential buildings, completed on account of corporate sector resources, were largely concentrated in Yerevan, which caused a considerable decline of the index in Yerevan city. Household-funded apartments construction volumes continued to trend up, thus augmenting their share in total volumes of residential buildings' completions.

## SUMMARY

Economic activity sustained during the first half of 2013, however, with a slower pace, mainly due to decline in construction and slow growth of the industry sector. The slowdown in agriculture growth and the increase in service prices formed a high inflationary environment, which may have an adverse effect on creditworthiness of households and businesses, as well as on further consumption of financial products. Nevertheless, surge of non-commercial remittances, moderate growth of real estate prices and the improvements registered in labor market to some extent neutralized the aforementioned negative effects on the population living standards. Under the current external and domestic developments of the first half of 2013, some economic growth slowdown risks rise; this can have a negative impact on financial stability.

*Though the real estate supply diminished, the construction volumes augmented*

Volume of loans to real estate market



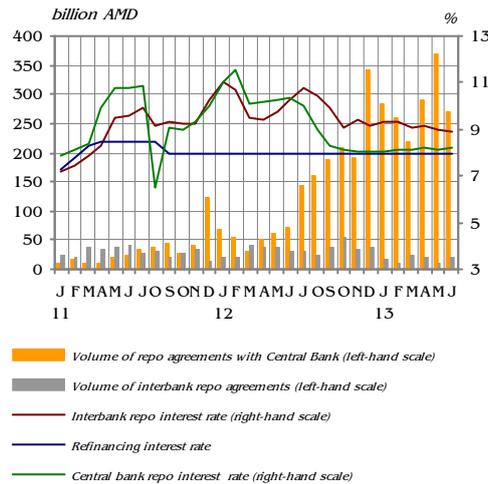
Source: Central Bank of Armenia.

### 3. FINANCIAL MARKET STABILITY OF ARMENIA

#### 3.1. MONEY AND CAPITAL MARKETS

*By maintaining the refinancing rate, CBA's main tool, at a stable level, short-term market interest rates displayed a downward trend*

**Monthly volume of repo transactions and repo interest rates**



Source: Central Bank of Armenia.

*The interbank repo and stock credit rates have approached the refinancing rate level*

*The yield curves display a reduction of government bonds' yield in almost all maturity time bands, except the ones of 1-2 year*

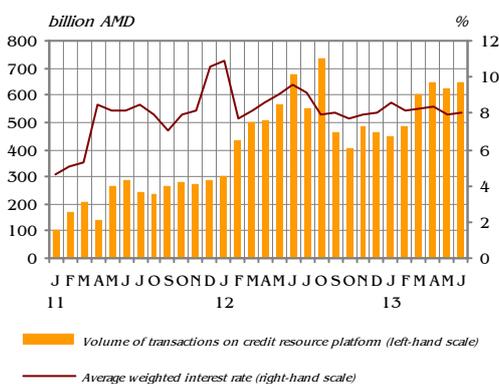
In the first half of 2013, CBA maintained the monetary policy rate unchanged. In this respect, though a short-term speed-up of inflation in the 2<sup>nd</sup> quarter occurred, the mid-term inflation was projected to return to its target level under the conditions of anchored assessments of inflationary expectations and the 12-month inflation in the confidence band.

Under the above-mentioned conditions, repo transactions with CBA recorded a rise in the first half of 2013 compared to the same period of the previous year. By maintaining the refinancing rate (the CBA's main tool) at a fixed level, short-term market interest rates displayed a slight downward trend during the first 6 months. As a result, interbank repo and stock lending interest rates have approached the Central Bank refinancing rate.

In order to boost commercial banks' lending in national currency to productive sectors and increase the demand for government bonds, the CBA board reduced reserve requirements for banks' obligations in national currency in June 2013, establishing a norm of 4%. The reserve requirement for US dollar obligations was set at 12%, which has been aimed to reduce the level of dollarization.

The analysis of yield curves shows that yield to maturity of almost all the bonds with different durations decreased compared to the year-end. 1-2 year maturity bonds displayed a contrary trend, with yield to maturity growing more than by 2 pp. The curve convexity was 0.33, unlike the 0.29 of the year-end, which points to short-term and long-term interest rates spread widening.

**Volume of transactions on credit resource platform and average weighted interest rate**



Source: Central Bank of Armenia.

**Government bond yield curves**



Source: Central Bank of Armenia.

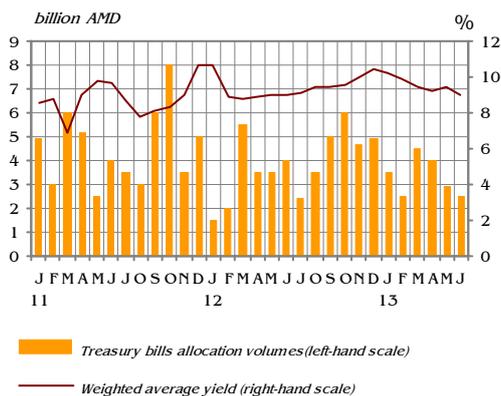
As of the end of the first half of 2013, the average weighted maturity of outstanding government bonds ranged 998 days, and the average ratio of Modified Duration (MD), calculated to evaluate interest rate risk, was 2.42 for outstanding government bonds.

**Modified duration ratio of outstanding government bonds as of 30.06.2013 for different maturity groups**

MD	up to 6 months	from 6 months to 1 year	1-2 years	2-5 years	5-7 years	7-10 years
	0.25	0.70	1.29	2.60	-	5.19

Source: Central Bank of Armenia.

**Treasury bills allocation volumes and weighted average yield**



Source: Central Bank of Armenia.

**Modified duration of "available for sale" and "held for trading" government securities portfolio of commercial banks as of 30.06.2013 and potential profit (loss) ratio in case of 1% change in yield for different maturity groups**

Ratio	up to 6 months	from 6 months to 1 year	1-2 years	2-5 years	5-7 years	Total
Available for sale and held for trading government bonds (million AMD)	14301.15	21956.06	21508.71	47784.16	15909.62	121459.68
Share in total portfolio	11.77%	18.08%	17.71%	39.34%	13.10%	100%
MD	0.24	0.75	1.49	2.60	5.37	2.08
Price change +/- (million AMD)	35.00	162.11	319.23	1282.96	953.51	2752.82

Source: Central Bank of Armenia.

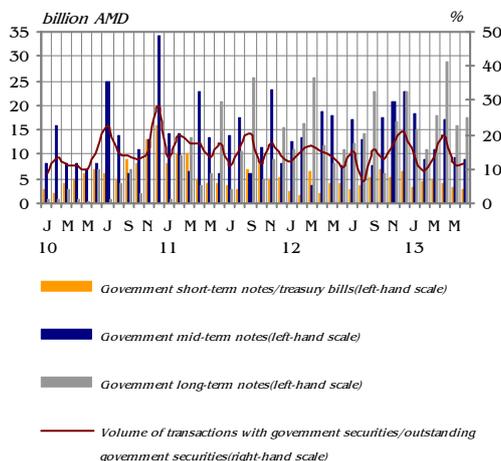
In case of 1% yield increase of available for sale government securities, the potential loss in government securities portfolio of commercial banks could reach AMD 2.8 billion. Moreover, major loss is likely to come from medium-term and long-term securities due to higher sensitivity of these government securities to interest rate change.

During the first half of 2013, yield variance of transactions performed in government bonds secondary markets grew by 0.8 pp. compared to the previous half and reached 2.35. Variance of repo interest rates decreased by 0.08 pp. and amounted to 0.52.

During the first half of 2013, total operations in securities market by investment service providers<sup>13</sup> (including repo and reverse repo transactions except for operations with CBA) declined by 17.3% as to the same period of the previous year and were AMD 1 trillion 499 billion. Securities trade operations were 26% of the aforementioned total turnover.

<sup>13</sup> As of 30.06.2013, investment service providers included 21 commercial banks, 9 investment companies and 1 investment fund manager.

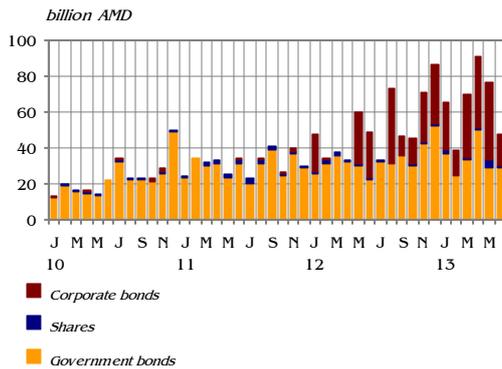
**Volume of transactions with government securities and volume of transactions with government securities/outstanding government securities ratio**



Source: Central Bank of Armenia.

**Security trades and repo transactions in the secondary market by investment service providers (ISP) shrunk compared to the same period of the previous year**

### Security trades by investment service providers



Source: Central Bank of Armenia.

In the first half of 2013 market liquidity<sup>14</sup> of Armenia's government bond displayed a more fluctuating course, as to the same period of the previous year. This was mainly due to the sharp rise in government bond trading operations in April. So, the standard deviation of the government securities market liquidity reached 3.57 versus 2.12 recorded in the same period of the previous year.

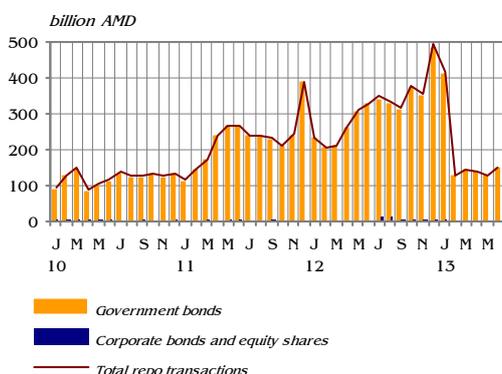
The share of sale and purchase transactions in long-term and mid-term government bonds was respectively 52.4% and 36.3% in total transactions; short-term government securities transactions had an 11.3% share.

The volume of repo and reverse repo transactions carried out by investment service providers (excluding operations with CBA) during the half of the year decayed by 28.6%, as to the same period of the previous year, and was AMD 1 trillion 109 billion. It is notable, that the vast majority of transactions were made in government bonds. Repo transactions in corporate securities were 0.6% of total transactions performed.

*In regulated market operations transactions with corporate bonds were the vast majority*

In the first half of 2013, the total turnover of security trades and repo transactions was 5.9 billion AMD, out of which 93.6% were sale and purchase deals.

### Repo transactions by investment service providers

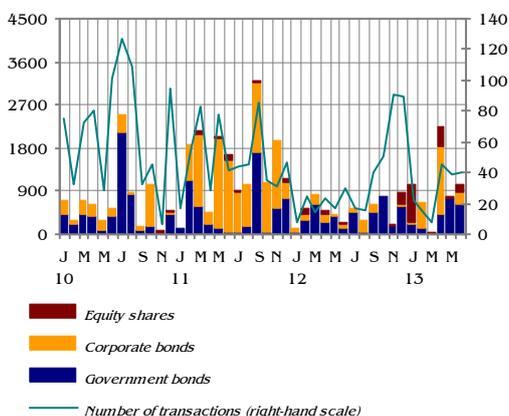


Source: Central Bank of Armenia.

Transactions with corporate bonds were the dominant part of sale and purchase operations and repo transactions in regulated market, which amounted to 39.9% of stock turnover. The share of transactions with government securities and equity shares constituted 35.6 percent and 24.4 percent, respectively.

Starting from the beginning of the year, the share of transactions on security trades in the regulated market made by investment service providers is a mere 0.8 percent. As of June 30, 2013, the concentration of the largest reporting issuers out of 11 reporting issuers admitted to trading on a regulated market by capitalization had an upward trend.

### Securities trades and repo transactions at regulated market of securities (mln AMD)



Source: Central Bank of Armenia.

### The 3 and 5 largest share issuers' concentration by capitalization, 2010 – 2013 H1 (%)

Period	Capitalization of the 3 largest companies (%)	Capitalization of the 5 largest companies (%)
31.12.2010	80.1	94.7
31.12.2011	83.8	96.6
31.12.2012	78.8	96.2
30.06.2013	80.1	96.8

<sup>14</sup> The liquidity of government securities market is calculated as ratio between an amount of monthly trade transactions executed by investment service providers in the secondary market of government bonds and an amount of government bonds outstanding.

### 3.2. FOREIGN EXCHANGE MARKET

In the first half of 2013, in domestic foreign exchange market the national currency tended to appreciate. The average market exchange rate of AMD to USD was 412.18, depreciating by 0.9 percent against the previous half. The average market exchange rate of AMD to EUR was 541.35, and the exchange rate of AMD to RUB was 13.29; depreciating relatively by 3.9 percent and by 2.4 percent.

In the first half of 2013 the average nominal effective AMD exchange rate has depreciated by 3.3 percent and real effective exchange rate, by 3.7 percent, in relation to the previous year<sup>15</sup>.

The gain of the banking sector from foreign exchange transactions during the first half of the year amounted to AMD 6.8 billion.

#### SUMMARY

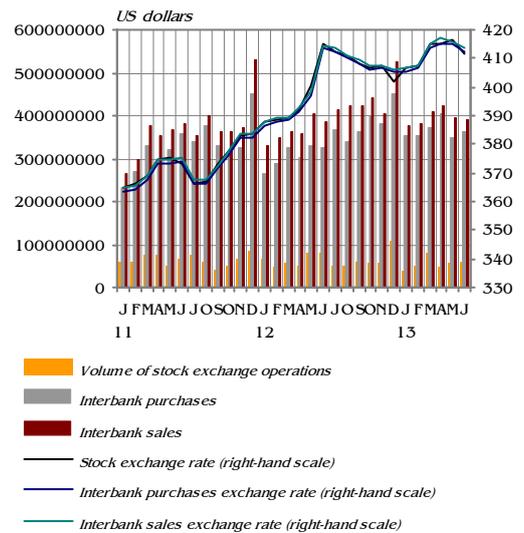
In a low inflationary environment of the first half of 2013, the Central Bank has left the refinancing rate unchanged; 8%.

In this circumstances, short-term market interest rates displayed a slight descending pattern, and interbank repo and stock lending rates approached the Central Bank refinancing rate.

In the secondary market of securities trades with securities and repo transactions by investment service providers dwindled, compared to the same period of the previous year. Domestic foreign exchange market developments were mainly on a depreciation trail, with the annual average market exchange rate having depreciated by 0.9 percent to AMD 412.18.

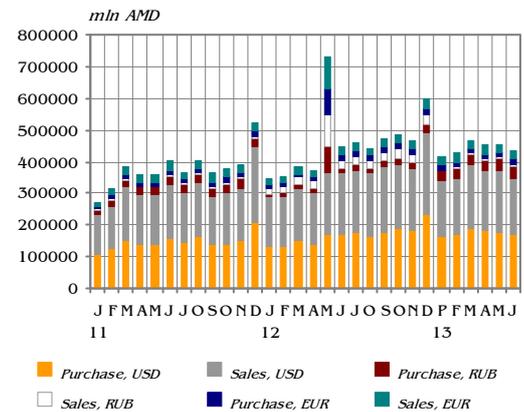
To conclude, the developments in the financial markets did not have an essential impact on the financial stability in the first half of 2013.

**Volume of operations in exchange market of Armenia and the exchange rates**

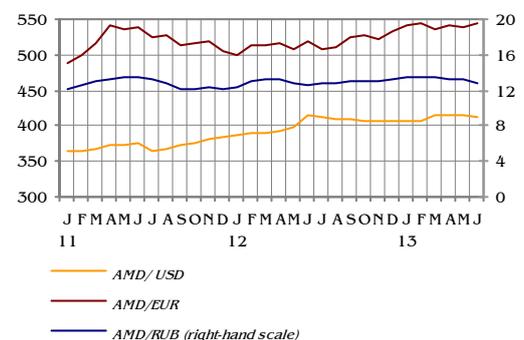


Source: Central Bank of Armenia.

**Transactions at exchange market of Armenia by currencies**



**Exchange rates in exchange market of Armenia**



Source: Central Bank of Armenia.

<sup>15</sup> When examining the dram exchange rate behavior as well as Armenia's competitiveness in external sector, the nominal effective exchange rate and real effective exchange rate are also considered. The latter are calculated using the weights of the main 12 trade partners of Armenia (the Eurozone, Russia, Ukraine, South Korea, Bulgaria, Switzerland, Iran, USA, Turkey, Georgia, Japan and China) in foreign trade turnover.

## 4. STABILITY OF FINANCIAL INSTITUTIONS OF ARMENIA

*The expanding of financial intermediation continued in 2013*

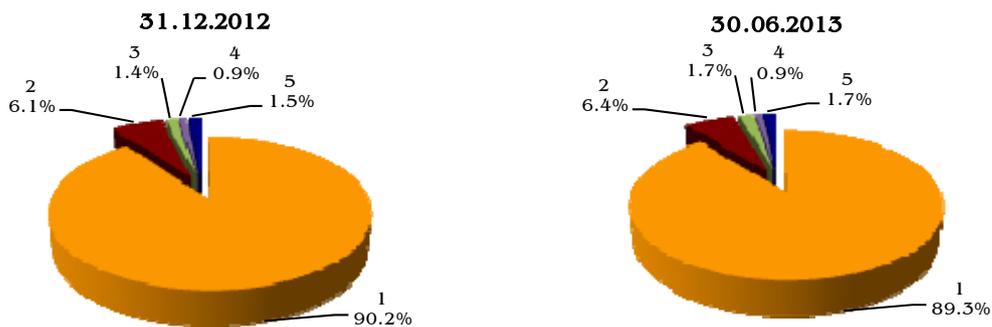
The financial system assets to GDP ratio has increased by 3.8 pp. to reach 72.5 percent. The Armenian banking system<sup>16</sup> holds 89.3 percent of the financial system assets. In this context, the identification and evaluation of risks stemming from the banking system activities is rather important in the financial stability assessment framework.

The share of insurance companies, securities market participants and other financial organizations is still small enough in comparison with the banking system, so their potential impact on the financial stability of the Armenian financial system is estimated to be minor.

*In the first half of 2013 compared to the same period of 2012, banks showed relatively low activity in the credit market*

The slowing of growth of lending to economy by banks is mainly due to matured credit market and the need for new credit products.

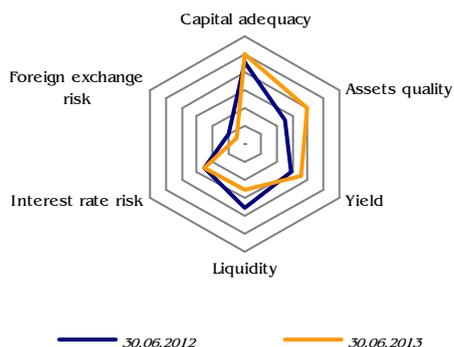
The structure of financial system assets, by financial institutions



1. Banks 2. Credit organizations 3. Insurance companies 4. Investment service providers 5. Other financial institutions

Source: Central Bank of Armenia.

### Banking system stability map



### 4.1. COMMERCIAL BANKS

#### Banking system stability map

The banking system stability map<sup>17</sup> illustrates the behavior of banking system stability, reflecting the change of indicators of banking risks relative to the previous period.

<sup>16</sup> This refers to the 21 commercial banks functioning in Armenia.

<sup>17</sup> The banking system stability map contains indicators denoting capital adequacy, assets quality, liquidity, yield, interest rate risk and foreign exchange risk. Before usage, these indicators were scaled from 1 to 10 and calculated in accordance with the IMF methodology. The map should be interpreted in this way: the values away from the center show higher risk and close to the center show low risk level. One should not interpret the map as point reflection of the financial stability level, instead it provides a picture of whether the level of risks has increased or decreased.

The banking stability map components showed some changes during the second quarter of 2013 compared to the same period of the previous year. Some positive changes were recorded in exchange rate and liquidity ratios' behavior. The values of capital adequacy, asset quality and earnings showed some decreasing trend (for details, please see Credit risk, Liquidity risk, Market risk, Capital adequacy and Earnings subsections).

#### 4.1.1. Financial intermediation; concentration

During the first half of 2013, parallel to nominal GDP growth, an accelerating growth in banking system assets was recorded. Hence, the banking system assets to GDP ratio increased by 1.9 pp., constituting 64.1%. The ratio of loans to GDP was 39.5%, pushing the ratio up by 0.9 pp. compared to the year-end 2012.

The deposits to GDP ratio has also increased by 4.4 pp., and reached 32.8 percent. The broad money to GDP ratio has fallen by 0.8 pp. and made up 33.0% at the end of the first 6 months.

Compared to the beginning of the year, the share of non-resident participation in the statutory capital of the banking sector has fallen by 0.1 pp. to 73.2 % at the end of the reporting period.

Total capital of the banking sector has grown by 3.1% (AMD 12.5 billion); and total assets by 6.6% (AMD 162.9 billion). As a result, the leverage ratio (capital to assets) has dropped by 0.5 pp. to 15.6 percent.

#### The Herfindahl-Hirschman concentration index

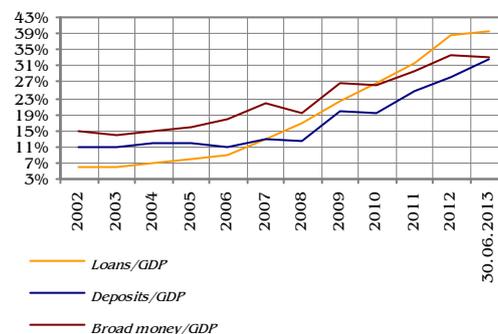
Indicators	31.12.10	31.12.11	31.12.12	30.06.13
Total assets	0.0670	0.0775	0.0787	0.0726
Total liabilities	0.0787	0.0792	0.0705	0.0757
Total capital	0.0646	0.0644	0.0637	0.0624

Source: Central Bank of Armenia.

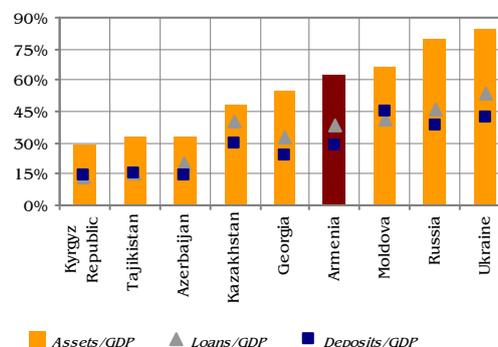
The coefficients of Herfindahl-Hirschman composite indicators<sup>18</sup> (assets, liabilities, capital, loans, and deposits), show that the banking system has a low level of concentration. Thus, the probability of concentration risk impact on financial stability is limited.

<sup>18</sup> The Herfindahl-Hirschman Index varies between 0 and 1, characterizing the level of concentration (values near to 0 denote lower concentration).

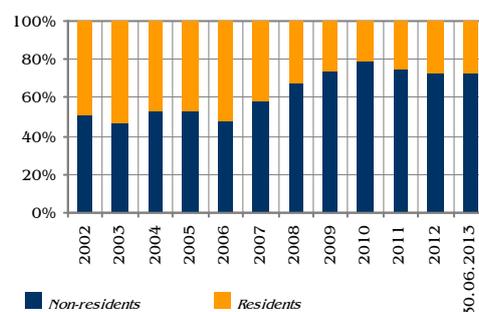
#### Financial intermediation



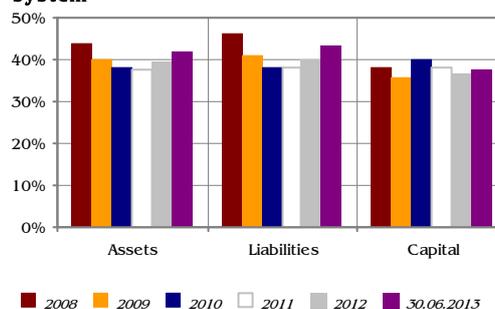
#### Banking intermediation in 2012, by countries



#### Foreign investors' participation in banking system capital of Armenia

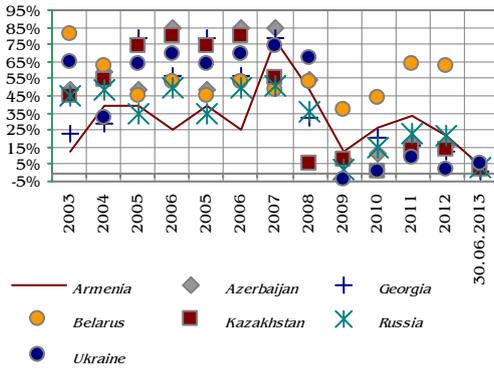


#### The share of 4 largest banks' assets, liabilities and capital in total banking system



Source: Central Bank of Armenia.

### Annual growth of loan portfolio



Source: IMF.

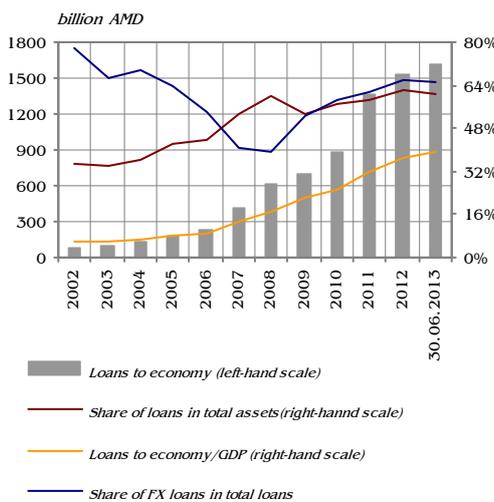
**The loan portfolio growth slowed down**

### Structure of risk weighted assets calculated in banking system capital adequacy index, as of 30.06.2013



Source: Central Bank of Armenia.

### Volume of loans to economy



Source: Central Bank of Armenia.

Compared to the beginning of the year, the share of assets of 4 largest banks out of 22 in Armenia has increased by 2.7 pp. and amounted to 42.1%, the share of liabilities and capital decreased by 3.1 and 1.0 pp. and reached 43.1 and 37.7 percent, respectively, at the end of the reporting period.

#### 4.1.2. Credit risk

Credit risk continues to be the most significant risk of the Armenian banking system. The share of credit risk in commercial banks' risk weighted assets is 92.6% (it was 92.4% as of 31.12.2012). In this context, the appropriate supervision is extremely important from the banking system stability viewpoint.

In the first half of 2013, grew by 4.8% ("Annual growth of loan portfolio" chart). Credit portfolio increase was recorded in almost all economy sectors, except in industry<sup>19</sup>, where an 8.7% fall was reported. The growth rates of financial sector (25.8%), agriculture (15.8%) and consumer credits (11.4%) were significant. Industry, trade and consumer credits have the largest shares in total loan portfolio; 20.4%, 20.0% and 19.6%, respectively.

As of 30.06.2013, the share of loans to businesses and individuals in total loans to economy were 58.3% and 41.7%, respectively, in contrast to 60.7% and 39.3% as of the previous year-end.

In terms of credit risk classifications, the share of non-performing loans and receivables (classified as "watched", "substandard", and "doubtful") has grown by 2.1 pp. and constituted 5.6 % of total loan portfolio. Regarding sectorial distribution of credit investments, the share of non-performing assets was relatively high among loans provided to construction, catering and other sectors of service, as well as agriculture, having reached 18.4%, 8.9% and 7.0 percent, respectively.

Calculated according to the IMF methodology<sup>20</sup>, the share of non-performing loans and receivables in total has grown by 0.8 pp. and amounted to 6.1 percent at the end of the reporting period.

<sup>19</sup> As a result of change in accounting records of one commercial bank, where standard loans were charged off from the balance sheet (though the loans remained in the economy) and have been registered in the parent bank's balance sheet. Where this change is excluded, the growth rate of industry credits would amount to 7.4%, and their share in total loan portfolio would be 23.1%.

<sup>20</sup> According to the IMF methodology, the share of non-performing loans and receivables in total loan portfolio and accounts receivables is calculated as the ratio of loans classified as "watched", "substandard", and "doubtful" to total loans and to receivables.

Relative to the same period of the previous year, the ratio of net provisioning against asset losses to total assets and average total assets has remained stable at 0.8% level as of 30.06.2013.

The Herfindahl-Hirschman concentration index of loans for economy sectors remained the same, 0.11, which points to the moderate concentration of loans in the banking sector. The calculation of the same indicator based on banks' average was again unchanged, 0.17. The high indicator of banks' average, compared to sectorial concentration index of banking loans, is an evidence of high sectorial concentration of lending by some banks. The share of loans made to large borrowers<sup>21</sup> in total loan portfolio, grew by 1.0 pp. during the first six months and amounted to 26.3% at the end of June.

### Credit risk stress scenarios<sup>22</sup>

30.06.2013	Stress scenarios		
	25 % of watched, substandard and doubtful loans classified into loss loans	75 % of doubtful loans classified into loss loans	30 % of standard loans classified into watched loans
Loss of the banking system	AMD 19.9 billion or 5.2% of regulatory capital of the banking system	AMD 4.9 billion or 1.3% of regulatory capital of the banking system	AMD 49.3 billion or 13.0% of regulatory capital of the banking system
Total capital adequacy of the banking system in case of stress scenario	15.5%	16.1%	14.5%

The results of credit risk stress-scenarios conducted at the end of the reporting period mainly deteriorated, compared to those conducted at the end of 2012. This was due to certain worsening of credit portfolio quality. In the worst stress-scenario violation of the capital adequacy ratio was reported in limited number of banks. Nevertheless, the probability of insolvency issues, because of possible credit risk loss, was assessed as too small.

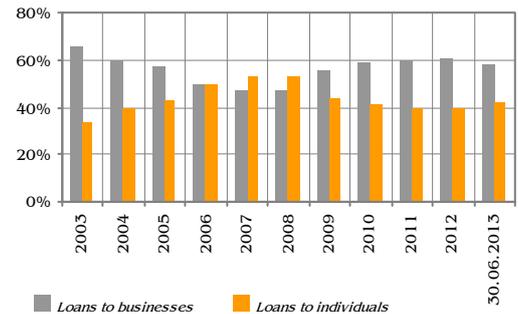
### Stress scenario of credit risk derived from off-balance sheet contingent liabilities

30.06.2013	Stress scenarios
	When 50% of off-balance sheet contingent liabilities performed
Banking system total capital adequacy before stress scenario	16.3%
Banking system total capital adequacy in case of stress scenario	16.1%

<sup>21</sup> The bank risk of large borrowers exceeds 5% of average monthly regulatory capital, given the interconnectedness.

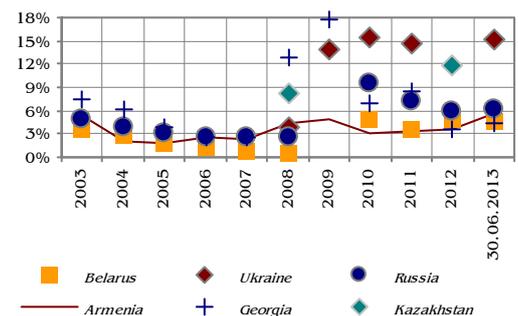
<sup>22</sup> This and further stress-scenarios are not forecasting emergence of any risks, but rather are aimed to reveal the weaknesses of the financial system, as well as to assess its ability to absorb such risks.

### Share of loans to the businesses and individuals in total loan portfolio



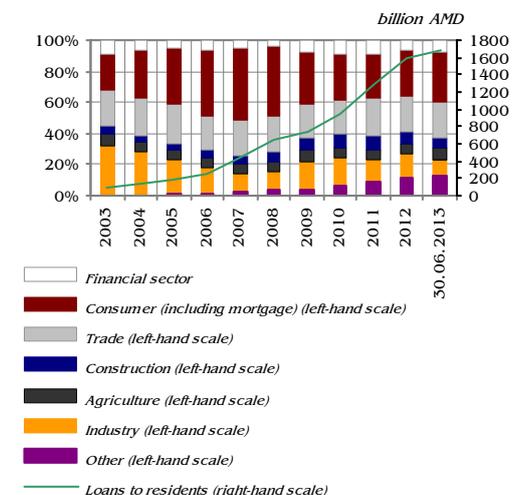
Source: Central Bank of Armenia.

### Share of non-performing loans in total loan portfolio



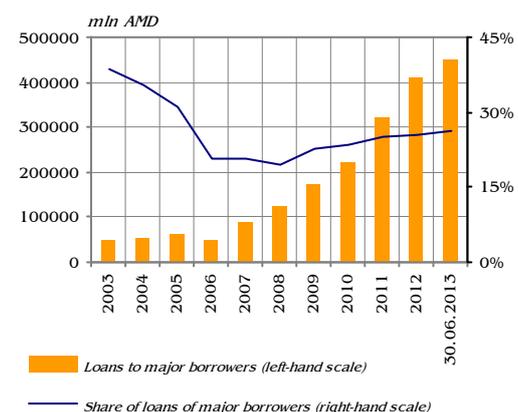
Source: IMF.

### Structure of bank loans to residents, by economy sectors

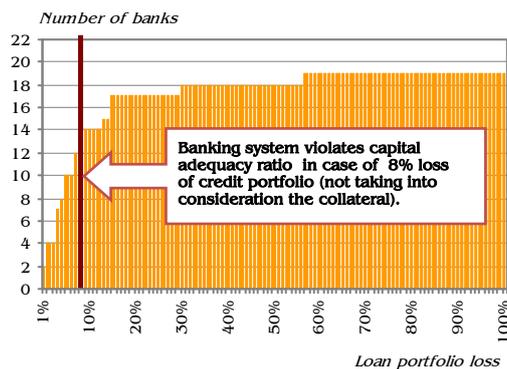


Source: Central Bank of Armenia.

### Loans to major borrowers to total loans



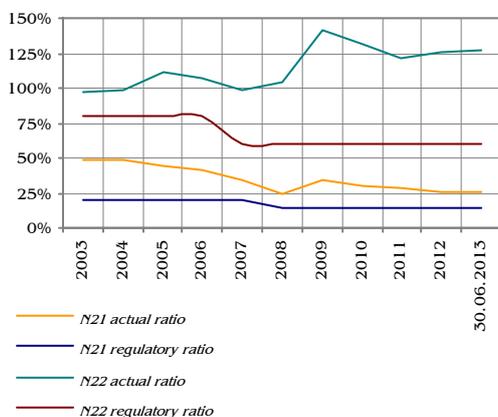
**The number of banks violating capital adequacy regulatory ratio under dynamic growth of loan losses**



Source: Central Bank of Armenia.

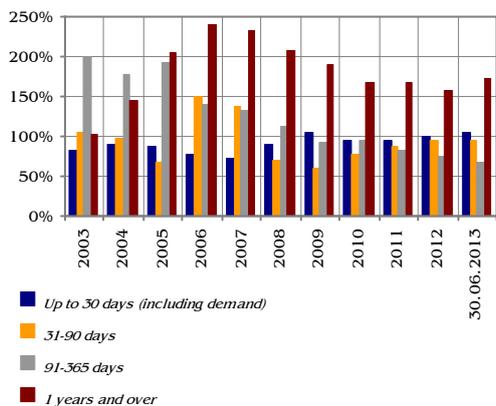
**Commercial bank liquidity levels have increased on the positive side**

**The dynamics of actual and regulatory liquidity ratios of the banking system**



Source: Central Bank of Armenia.

**The ratio of banking assets to liabilities by terms to maturity**



Source: Central Bank of Armenia.

The results of this stress scenario show that no bank will be in breach of the capital adequacy requirement. Thus, the credit risk deriving from performance of off-balance sheet contingent liabilities<sup>23</sup> is estimated to have a negligible impact on financial stability.

**4.1.3. Liquidity risk**

In the first half of the year, the liquidity of commercial banks slightly increased in line with slowdown of lending growth rates. Relative to the beginning of the year, the prudential ratios of total liquidity and current liquidity have increased by 0.5 and 1.0 pp. As of 30.06.2013 total liquidity ratio was 26.1% (minimum required limit is 15%) and current liquidity ratio was 127.1% (minimum required limit is 60%). Regarding each bank, liquidity coverage ratios are at adequate levels. No regulatory requirement violation was recorded in any bank.

In terms of asset and liability duration gaps, the ratios of assets to liabilities<sup>24</sup> with up to 30 days (included call) and 1-3-month maturities are 105% and 96%, respectively. As of 31.12.2012, the ratios were 101.0% and 94.0%. A negative gap of 67% can be observed (75% as of 31.12.2012) in the maturity band of 91-365 days. This change is a consequence of maturity mismatch of short-term deposits and long-term loans.

The ratio of 30 days (included call) maturity assets to liabilities is rather important from the point of view of banks' current liquidity. The latter, historically ranging from 95-105%, displayed a growing trend. The observed pattern is positively assessed in the context of improvements in liquidity management.

In terms of borrowings concentration, reduction of risks was recorded: the share of major liabilities in total liabilities has decreased by 1.2 pp., reaching 25.0%.

Foreign borrowings of commercial banks have decreased by 12.2 percent. Funds attracted from international financial institutions have increased by 3.8 percent and accounted for 43.5% of total foreign borrowings.

<sup>23</sup> Off-balance sheet contingent liabilities include unused part of lines of credit, credit cards, overdrafts, L/Cs, guaranties and sureties.

<sup>24</sup> In the calculation of assets to liabilities ratio for maturity time bands, the off-balance sheet contingent liabilities have been assigned a 20% weight.

The main lender countries to commercial banks are Russia (19.6%), Luxemburg (8.3%), Netherlands (7.1%), and Germany (5.1%). The share of long-term liabilities is 91.4 percent, which almost rules out the likelihood of risks associated with the refinancing of these liabilities.

**Liquidity risk stress scenarios**

30.06.2013	Stress scenarios		
	Repayment of 25% of individuals' time deposits	Repayment of 25% of call liabilities	Repayment of 25% of call liabilities and of 25% of individuals' time deposits
Ratio of high liquid assets to total assets of the banking system	24.2%	23.9%	19.3%
Ratio of high liquid assets to call liabilities of the banking system	100.4%	131.9%	100.5%

Contrary to the outcomes of stress scenarios carried out at the beginning of the year, the above-mentioned results have improved, given the liquidity levels growth amid loan portfolio growth slowdown.

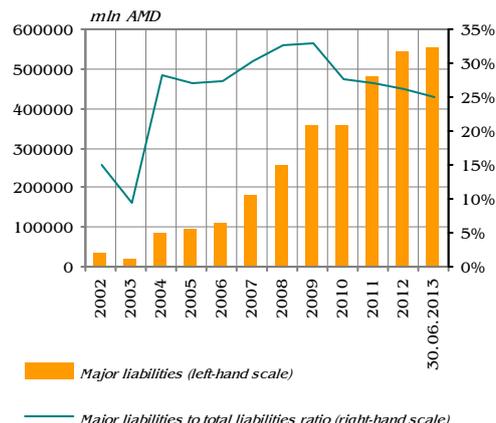
In case of worst possible stress scenario (simultaneous pay-off of 25% of demand deposits and 25% of time deposits of individuals), violations of total and current liquidity regulatory requirements were recorded in limited number of banks. However, high liquid assets of such banks are well sufficient to cover outflow of liabilities.

**Stress scenario of liquidity risk derived from off-balance sheet contingent liabilities**

30.06.2013	Stress scenarios
	When 50% of off-balance sheet contingent liabilities performed
Banking system high liquid assets to total assets ratio	22.6%
Banking system high liquid assets to total demand liabilities ratio	110.2%

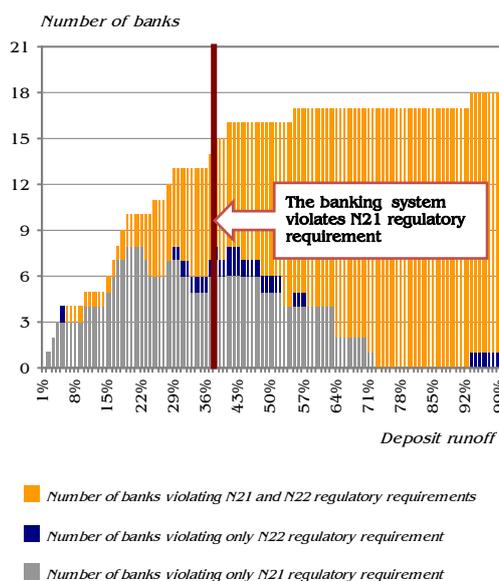
According to the results of stress testing to assess the risk of liquidity derived from performance of off-balance sheet contingent liabilities, some banks report violation of total and current liquidity ratios. However, the ratios are close to the minimum threshold. Lastly, the liquidity risk derived from performance of off-balance sheet contingent liabilities does not have a significant impact on financial stability.

**The ratio of banking system major liabilities to total liabilities**



Source: Central Bank of Armenia.

**The number of banks violating liquidity regulatory ratio in case of individuals' call and time deposits runoff**



Source: Central Bank of Armenia.

#### 4.1.4. Market risk

##### Foreign exchange risk

In the first half of 2013, the Dram fluctuations against other currencies led to AMD 112 billion loss (or 0.03% of regulatory capital) as a result of the banking system foreign currency revaluation. Accordingly, 14 banks incurred loss and 7 banks reported profit. The banking system generated net revenue of AMD 6.8 billion from foreign exchange transactions.

Relative to the beginning of the year, the share of foreign currency loans in total loans decreased by 0.7 pp. and was 64.9%. The share of foreign currency deposits in total deposits have grown by 2.6 percentage points and have constituted 72.9%.

As of 30.06.2013, commercial banks' net position of foreign currencies (inclusive of derivative instruments) was a positive value of AMD 2.0 billion or 0.5% of regulatory capital. (As of 31.12.2012, it was a positive value of AMD 3.4 billion or 0.9 percent of regulatory capital).

##### Foreign exchange risk stress scenarios

30.06.2013	Stress scenarios		
	Profit (loss) in case of 5% depreciation (appreciation) of AMD/USD	Profit (loss) in case of 5% depreciation (appreciation) of AMD/EUR	Possible maximum 10-days loss estimated through VaR Model
Banking system's profit/loss from foreign currency revaluation	AMD 42.0 million or 0.01% of regulatory capital (AMD -42.0 million)	AMD 9.3 million or 0.002% of regulatory capital (AMD -9.3 million)	AMD 13.4 million or 0.003% of regulatory capital

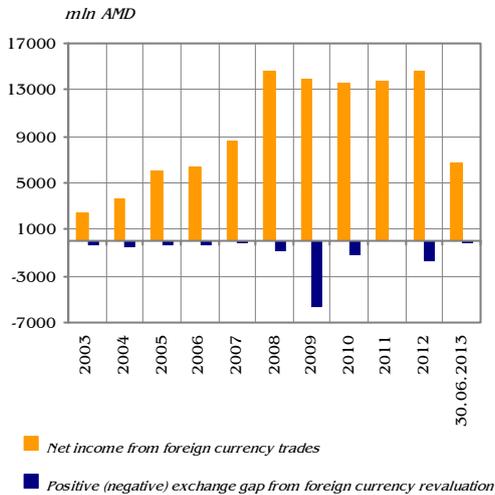
In case of worst possible stress scenarios reviewed in this stress test<sup>25</sup>, bank losses incurred as a result of foreign exchange open position are insignificant, so the impact of such losses on the overall financial stability is weak.

##### Interest rate risk

During the first half of 2013, the patterns of credit interest rates decline and deposit interest rates growth continued. Both dram-denominated and foreign currency deposit interest rates showed equal growth, while in case of loans, the decline in dram-denominated credit interest rates was more obvious. In the reporting period the average weighted nominal interest rates of dram-denominated and foreign currency loans decreased by 0.7 and 0.2 pp., respectively. The weighted average nominal interest rates of dram-

*The possible impact of market risk on financial stability is rather weak*

**Net income of the banking system from foreign currency trades and revaluation**



Source: Central Bank of Armenia.

<sup>25</sup> The calculation of loss estimated through stress scenarios and the VaR Model (the VaR Model is not considered as a stress scenario since the calculation of the model is based on historical exchange rate series of currencies) is based on FX positions of commercial banks as of 30.06.2013.

denominated and foreign currency time deposits grew by 0.6 pp. each. As a result, dram and foreign currency loan and deposit spreads narrowed by 1.3 and 0.8 percentage points.

The decrease of credit interest rates and the increase of deposit interest rates are mainly driven by an increased competition in the banking industry.

The gap of average weighted duration of present value of assets and liabilities is small, almost half a year. This means that possible fluctuations in market rates will not entail major losses in the banking system.

**Interest rate risk stress scenarios**

30.06.2013	Impact of 2 pp. decrease (increase) of market interest rates on the economic value of equity, estimated through the "Duration Method"	Deviation of net interest income from expected income of the three months ahead in case of 2 pp. decrease (increase) of market interest, estimated through the "Interest rate-sensitive assets and liabilities Gap Method"
Banking system's profit (loss)	AMD 2.3 billion or 0.6% of banking system capital (AMD -2.3 billion or 0.6% of banking system capital)	AMD 76.4 million or 0.02% of banking system capital (AMD -76.4 million or 0.02% of banking system capital)

In case of worst possible stress scenario of interest rate risk, probable losses of banks from market interest rate fluctuations are in the region of 1.7 percent of capital. In this context, banking system losses, as a result of market interest rate fluctuations, will neither be significant nor will cause vulnerabilities to financial stability.

**Price risk**

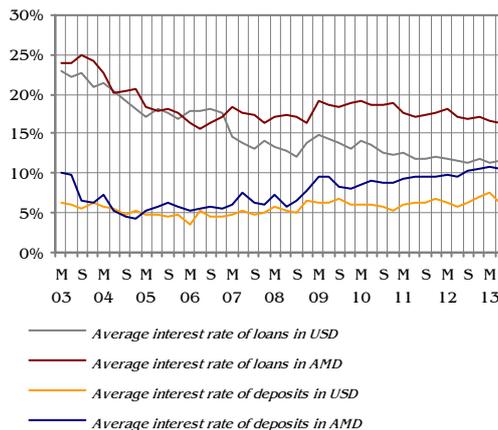
During the first half of 2013 the declining trend of the share of financial assets available-for-sale and held at fair value through profit or loss in total assets was maintained.

Relative to the beginning of the year, the share of those financial assets declined by 0.2 pp. and amounted to 4.7%.

As a result of market interest rate volatility in the reporting half, the banking system net income was AMD 1.1 billion due to revaluation of financial assets held at fair value through profit or loss and available-for-sale. This revaluation caused loss to 2 banks and profit to 10 banks.

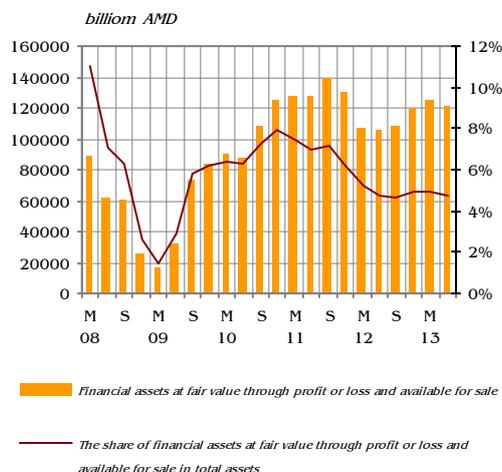
Risks associated with real estate price volatility remained manageable. The commercial banks of Armenia further provided mortgages at no more than 60-80 percent of loan-to-value ratio, while taking quite a strict approach in evaluating borrower credibility. Such restrictions significantly lowered the possibilities of credit losses from real estate price volatilities.

**Average interest rates of bank deposits and loans**



Source: Central Bank of Armenia.

**The share of financial assets at fair value through profit or loss and available-for-sale financial assets in total assets**



Source: Central Bank of Armenia.

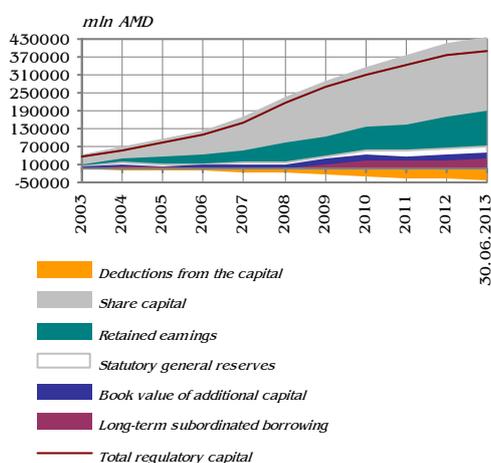
### Real estate price change stress scenarios

30% depreciation of real estate	30.06.2013
The banking system's loss due to revaluation of own real estate property (price risk)	AMD 11.3 billion or 2.9% of banking system capital
The banking system's loss due to 30% loss of vulnerable credit portfolio <sup>26</sup> (taking into consideration that the collateral involved has been sold at a depreciated cost), if a stress scenario occurs (credit risk)	AMD 3.6 billion or 0.9% of banking system capital
The banking system's loss due to 100% loss of vulnerable credit portfolio (taking into consideration that the collateral involved has been sold at a depreciated cost), if a stress scenario occurs (credit risk)	AMD 11.9 billion or 3.1% of banking system capital

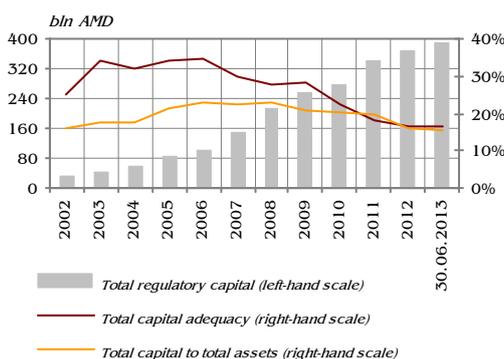
If the stress scenario of 30% devaluation of real estate price emerge, maximum potential commercial bank loss (from the price risk and subsequent credit risk perspective) will trend upward, which will be mainly attributable to mortgage lending rate growing faster over that of the regulatory capital. However, real estate price volatility is not high (taking into account the last 2-3 years' developments) and credit and price risk exposures to financial stability are non-vulnerable.

*The capitalization of commercial banks remains at a reasonable level*

The structure of total regulatory capital



Banking system capital adequacy



#### 4.1.5. Capital adequacy and profitability

The declining trend of capital adequacy ratio slowed down in the first half of 2013, due to slower pace of lending growth. As of the beginning of the year, the capital adequacy ratio fell by 0.5 pp. to 16.3% (the required minimum value is 12.0 percent), due mainly to progressive increase of risk-weighted assets in regulatory capital, which caused loan portfolio quality deterioration. Yet, banking system capital adequacy is quite higher than the minimum level, which enables banks to provide a cushion for absorbing risks at their own expense. Banks are sufficiently capitalized, so there was no regulatory capital adequacy violation recorded in any of them during the first half of 2013.

Compared to the beginning of the year the total regulatory capital of the banking sector has grown by 5.0 percent and reached AMD 386.9 billion at the end of the half. In terms of total regulatory capital quality structure, the share of regulatory core capital in total regulatory capital is still high, constituting 89.7%. (As of 31.12.2012 the ratio was 90.7%).

This ratio points to the strong ability of banks to absorb risks associated with the total regulatory capital.

<sup>26</sup> Vulnerable loan portfolio represents the sum of loans outstanding, the residual values of which exceed the 30% devaluated values of the real estate used as collateral.

A decline is also apparent in the banking system profitability in the first half of 2013. This is owing to loan portfolio quality deterioration and a decline of net interest margin<sup>27</sup>. The net profit of the banking system, calculated in accordance with the Central Bank supervisory reports<sup>28</sup>, amounted to AMD 12.1 billion. During the year, 19 banks operated at a profit and 3 banks at a loss.

Compared with the same period of the previous year, annualized return on assets (ROA) and return on equity (ROE) of the banking system have decreased by 0.5 pp. and 2.3 pp. and amounted to 1.0% and 6.0%, respectively.

In the first half of 2013, relative to the same period of the previous year, gross revenues of the banking system have grown by 58.6 percent and reached AMD 278.7 billion. Gross expenditures have grown by 68.5%, amounting to AMD 262.5 billion. The shares of allocations and provisioning to reserves for possible losses on assets in the structure of revenues and expenditures grew. In the structure of banks' income the share of interest income declined, meanwhile in the expenditure structure both interest and non-interest income decreased. These structural changes in banks' revenues and expenditures are mainly due to relative high volatility of NPLs in total loan portfolio during the reporting period.

In the first half of 2013, the banking system profit, calculated in accordance with International Financial Reporting Standards (IFRS), amounted to AMD 20.9 billion, while the return on assets (ROA) was 1.6 percent and return on equity (ROE) 9.4 percent.

## 4.2. CREDIT ORGANIZATIONS

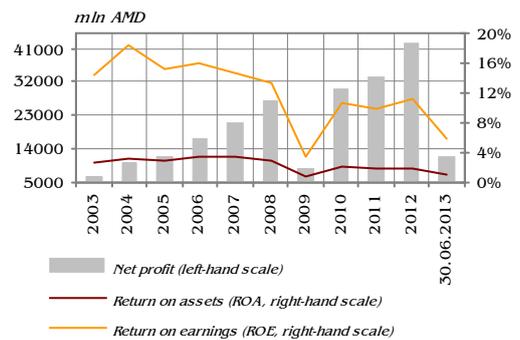
Credit organizations are the second largest sector of Armenia's financial system. The assets of credit organizations constituted 6.4 percent of the entire financial system assets. In the period under review, credit organizations generated significant increases in assets, liabilities and capital.

In the first half of 2013, total capital growth of credit organizations exceeded the growth rate of total assets by 2.7 pp. As a result, the leverage ratio (total capital to total assets) of credit organizations has displayed a 0.9 pp. increase to 38.2 percent.

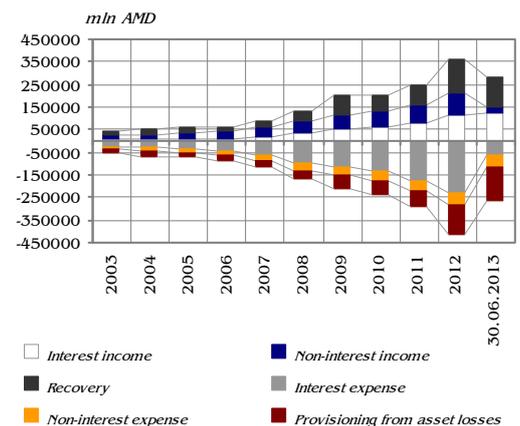
<sup>27</sup> Net interest margin is calculated as ratio of net interest revenues to assets.

<sup>28</sup> This differs from IFRS mainly on the part of loan loss provisioning for standard assets.

**Profitability ratios of the banking system**

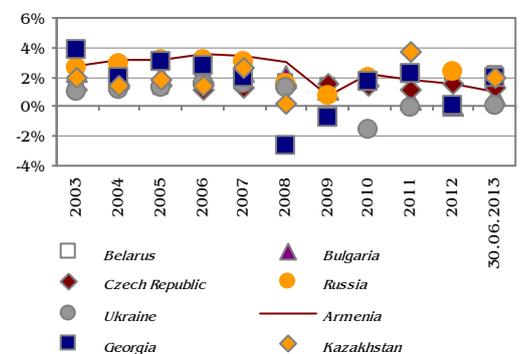


**Income and expense of banking system**



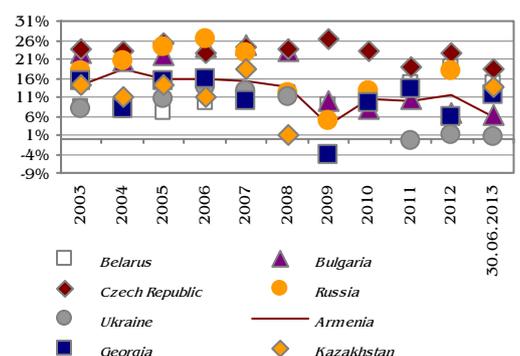
Source: Central Bank of Armenia.

**Banking system ROA in selected East European and CIS countries**



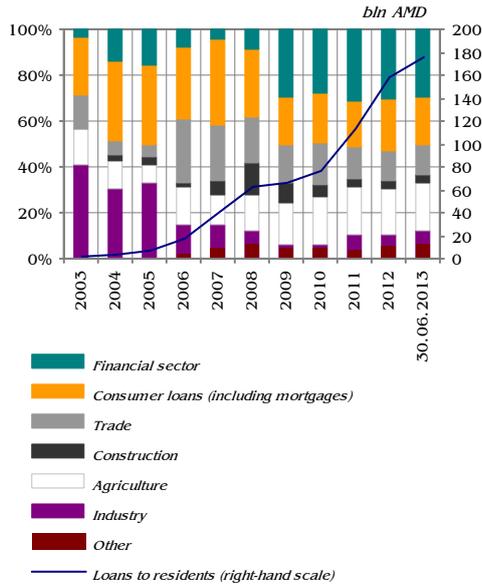
Source: Central Bank of Armenia.

**Banking system ROE in selected East European and CIS countries**



Source: IMF.

**Balance of loans to residents by credit organizations, by sectors**



Source: IMF.

**Assets, liabilities, capital and profit of credit organizations**

(thousand AMD)

Indicator	31.12.2012	30.06.2013	Growth (%)
Assets	168,530,773	189,590,102	12.5%
Liabilities	105,653,830	117,135,374	10.9%
Capital	62,877,084	72,454,728	15.2%
Net profit	4,847,791	3,231,719	X

As to the same period of the previous year, no significant change was observed in credit organizations' profitability. During the first half of 2013, net profit of credit organizations, calculated according to supervisory requirements of the Central Bank, amounted to AMD 3.2 billion AMD, thus, 27 credit organizations posted profit and 6 posted loss. Annualized Return on assets (ROA) and return on equity (ROE) of credit organizations, calculated according to supervisory requirements of the CBA, amounted to 3.6 and 9.3 percent, respectively (as of 30.06.2012, these figures were 3.4% and 9.5%).

Profit of credit organizations, calculated in accordance with IFRS, has amounted to AMD 3.3 billion; in this case return on assets was 3.5 percent and return on equity, 8.8 percent.

Relative to the beginning of the year, the share of non-performing loans and receivables (classified as "watched", "substandard", and "doubtful") of credit organizations has grown by 0.8 pp. and reached 4.5% at the end of the reporting period. The share of non-performing loans is the highest in public catering and other service sectors, construction, transport and communications; 11.5%, 10.7% and 8.5%, respectively.

The share of non-performing loans and receivables (classified as "substandard", "doubtful" and "loss"), calculated by the IMF methodology, displayed a relatively horizontal trend and amounted to 5.0% at the end of the half.

Relative to the previous year, the ratio of net provisioning against assets losses to the average annual value of the total assets has fallen by 0.7 pp. and amounted to 0.6 percent, in the first half.

In all maturity time bands of assets and liabilities (up to 180-day (including call), from 180 days to one year, more than one year), the volumes of assets surpassed the volumes of liabilities, pointing out, ceteris paribus, to the low liquidity risk of credit organizations.

Compared to the banking system, capitalization of credit organizations is higher, and according to various stress scenarios, they are fully capable to absorb possible risks.

*Credit risk assessment scenarios<sup>29</sup>*

31.12.2012	Stress scenarios		
	25% of loans in watched, substandard and doubtful categories classified into loss loans	75% of loans in doubtful category classified into loss loans	30% of loans in standard category classified into watched loans
Total loss of credit organizations	AMD 1.4 billion or 2.0% of regulatory capital	AMD 511.1 million or 0.7% of regulatory capital	AMD 3.3 billion or 4.7% of regulatory capital

Source: Central Bank of Armenia.

**4.3. SECURITY MARKET PARTICIPANTS**

As of June 30, 2013, there were 21 banks providing investment services, 9 investment companies, and 1 investment fund manager operating in the Armenian security market.

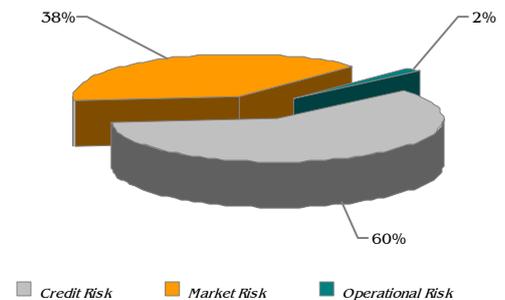
In the first half of 2013, relative to the year-end, total assets of investment companies have grown by 16.4 percent and amounted to AMD 27.5 billion, and total capital has increased by 9.7% to AMD 4.2 billion. As of 30.06.2013, profit of investment companies has totaled AMD 309 million; 5 companies reported profit and 4 reported loss.

Given the 30.06.2013 data, the credit risk of investment companies accounted for 59.7% of risk weighted assets; market risk accounted for 38.3%; and operational risk, 2 percent. Remarkably, interest rate risk had the largest share in the market risk (72.9 percent), while foreign exchange and equity bonds price risks of investment companies constituted 26.4 and 0.7 percent, respectively.

At the end of the first half, a total of 19 classes of securities of 14 reporting issuers were admitted to trading in the regulated market. Of these issuers, 4 were financial institutions which hold 45% of equity shares issued. The total amount of shares was AMD 53.4 billion and the total amount of bonds, AMD 2.8 billion. One issuer is accountable on both shares and bonds.

As of 30.06.2013, there were 1929 registries of nominal security holders, where 1925 companies are issuers. The number of nominal security owners running the register at the Central Depository of Armenia is 112415.

The structure of assets in the capital adequacy ratio of investment companies as of 30.06.2013



<sup>29</sup> Stress scenarios are built on an assumption that the amounts of loans of credit organizations are unchanged and the secured property is ignored (which means when loans are classified as loss, a possible sale of the collateral is not considered).

#### 4.4. INSURANCE COMPANIES

As of the end of the first half of 2013, there were 9 insurance companies licensed to conduct insurance activities in Armenia<sup>50</sup>.

Over the reporting period, the assets of insurance companies have increased by 31.0% to AMD 50.2 billion; liabilities have surged by 45.7% to AMD 35.9 billion, whereas total capital has grown by 4.4% and amounted to AMD 14.3 billion. The share of total assets of insurance companies in the financial sector has grown by 0.1 pp. and reached 1.7% of the financial sector assets as of 30.06.2013.

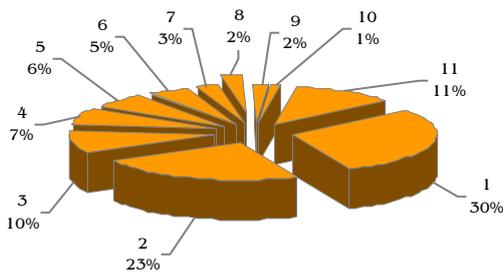
The accrued premiums, the main indicator describing the activity of insurance companies, have fallen by 4.7%, relative to the same period of the previous year; amounting to AMD 22.7 billion in the first half of 2013 (the growth of this indicator in the previous year was 58.8%).

The premiums to GDP ratio (yearly), another key indicator for insurance companies, amounted to 0.84%<sup>51</sup> as of 30.06.2013. It has decreased by 0.1 pp. relative to the 31.12.2012. The premium per capita ratio was AMD 10,749<sup>52</sup> versus AMD 10,824 reported as of December 2012.

In the first half of 2013, relative to the previous year, the loss ratio of insurance companies has increased by 2.2 pp. to 61.5%<sup>53</sup>. This improvement came in parallel with insurance companies' expense ratio<sup>54</sup> dropping by 2.1 pp. relative to the previous year and reaching 30.1%. This is pointing to an increased operational effectiveness of insurance companies.

The shares of risk-weighted assets and required solvency in the insurance sector capital adequacy ratio amounted to 42.1 percent and 57.9 percent, respectively. The regulatory capital adequacy ratio of the insurance sector was 125.4%, as of 30.06.2013, exceeding the required minimum value by 25.4 pp. (marginal value of regulatory capital adequacy is 100%).

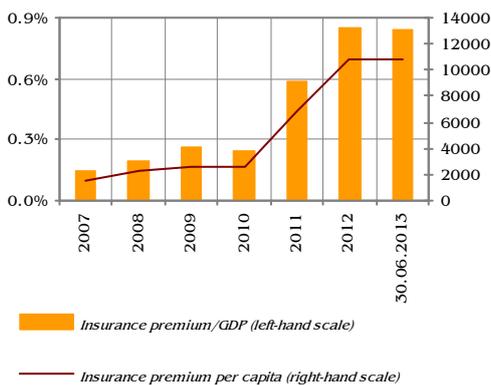
Insurance sector assets, as of 30.06.2013



1. Deposits with banks, 2. Sums receivable on direct insurance, 3. Securities sold under repo agreements 4. Costs for future periods and prepayments on insurance, 5. Fixed assets, 6. Reinsurers' share in insurance reserves, 7. Government and non-government securities, 8. Borrowing, 9. Bank accounts, 10. Claims to reinsurers on compensation, 11. Other assets

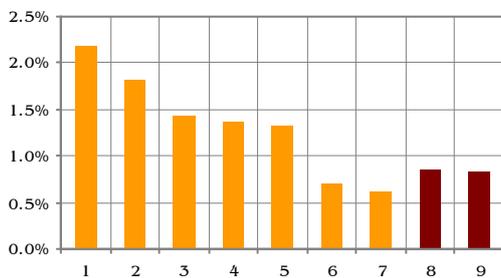
Source: Central Bank of Armenia.

Main ratios of insurance sector of Armenia



Source: Central Bank of Armenia.

Insurance premium to GDP in EEC and CIS (2012)



1. Georgia, 2. Ukraine, 3. Romania, 4. Turkey, 5. Russia, 6. Kazakhstan, 7. Azerbaijan, 8. Armenia 2012, 9. Armenia 2013-H1

Source: Central Bank of Armenia, Swiss Re, Sigma No 3/2012:

<sup>50</sup> Indicators of 7 insurance companies active and reportable have been summarized as of 30.06.2013.

<sup>51</sup> Based on the 2012 data, the premiums to GDP ratio on non-life assurance was 3.61 % on average in developed industrial countries and 1.26% in emerging countries (source: Swiss Re, Sigma No 3/2013, May 2013).

<sup>52</sup> According to the 2012 data, in developed industrial countries the insurance premium per capita is on average USD 1,545 (AMD 633,708); in the developing countries it is USD 57 (AMD 23,469) (Source: Swiss Re, Sigma No 3/2013, May 2013).

<sup>53</sup> The loss ratio was calculated using the following formula: (net accrued indemnity + net provisions to technical reserves (except for unearned insurance premium reserves, UIPR) + other transaction costs on insurance) / (earned insurance premiums - sums refunded on the contracts terminated).

<sup>54</sup> The expense ratio was calculated using the following formula: non-interest expense / (earned insurance premiums - sums refunded on the contracts terminated).

### Solvency risk

The change in solvency levels of insurance companies was assessed, in case if the following stress scenarios unfold (10% growth of reimbursement rates and 5% insurance payments increase). Given the results, the level of solvency will not incur notable changes, so the likelihood of risk emergence to the financial stability from the insurance sector is very low.

#### Solvency assessment stress scenarios

30.06.2013	Stress scenarios
	Growth of reimbursement rates, 10%, and insurance payments increase, 5 %
Required growth of UIPR of the insurance sector, if the stress scenario occurs	AMD 1.6 billion or 10.7 % of regulatory capital of the sector
Total capital adequacy ratio of the insurance sector, if the stress scenario occurs	112.1%

Source: Central Bank of Armenia.

### Credit risk

Allocating funds of the insurance sector in low-risk assets allows keeping investment risk at a low level. Assets equivalent to technical reserves are invested primarily in time and demand deposits with commercial banks as well as government and non-government bonds.

#### Credit risk assessment stress scenarios

30.06.2013	Stress scenarios		
	Classifying 30% of "standard" assets into "watched" category	Classifying 5% of "standard" assets into "loss" category	Sharp increase of outstanding claims reserves, 25%
Loss of the insurance sector	AMD 1.0 billion or 6.4% of regulatory capital	AMD 1.8 billion or 11.8% of regulatory capital	AMD 0.5 billion or 3.6% of regulatory capital
The total capital adequacy ratio of the insurance sector, if the stress scenario occurs	118.5%	112.6%	120.9%

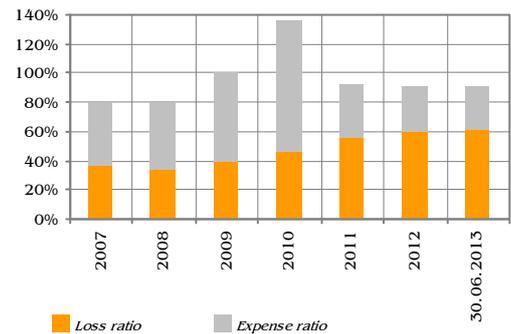
Source: Central Bank of Armenia.

The results of credit risk assessment stress tests show that potential loss of the insurance sector is low.

### Foreign exchange risk

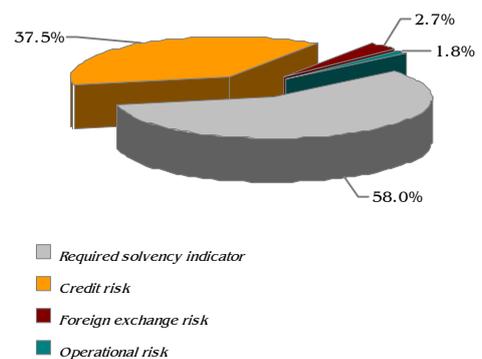
Given the outcomes of foreign exchange stress scenario, the loss of insurance companies incurred from foreign exchange risk is estimated to be insignificant.

#### Loss and expense ratios of Insurance sector



Source: Central Bank of Armenia.

#### The share of risk weighted assets and required solvency in insurance sector capital adequacy ratio, as of 30.06.2013



Source: Central Bank of Armenia.

*Foreign exchange risk assessment stress scenarios* <sup>35</sup>

30.06.2013	Stress scenarios		
	Gain (loss) in case of 1% AMD depreciation (appreciation) versus USD	Gain (loss) in case of 1% AMD depreciation (appreciation) versus EUR	Maximum potential 10-day loss valued through a VaR method
Insurance sector's gain (loss) in case of foreign exchange revaluation	AMD 29.5 million or 0.2% of regulatory capital (AMD -29.5 million)	AMD 1.0 million or 0.01% of regulatory capital (AMD -1.0 million)	AMD 38.2 million or 0.3% of regulatory capital

*Source: Central Bank of Armenia.*

*Liquidity risk*

The liquidity risk in the insurance sector is controllable, which can be seen by the results of the stress scenario.

*Liquidity risk assessment stress scenario*

30.06.2013	Stress scenarios
	Sharp increase of outstanding claims reserves, 25%
Required growth of outstanding claims reserves when the stress scenario occurs	AMD 0.5 billion or 3.6% of regulatory capital
Liquidity of insurance companies when the stress scenario occurs	288.2%

*Source: Central Bank of Armenia.*

In general, though the compulsory MTPL insurance and health insurance have boosted up the insurance market, its total weight in the financial system remains small. In the meantime, however, insurance company risks are controllable and pose no threat to financial stability.

**SUMMARY**

In the first half of 2013 the financial institutions of the Republic of Armenia were in a stable financial situation. The lending growth declined in the banking sector, which holds the prevailing part of the financial system. Simultaneously, some quality deterioration in credit portfolio was recorded during the half, accordingly, having its impact on banking sector profitability. However, it is important to mention that the capital adequacy and liquidity ratios of banking sector are still higher than the required levels.

<sup>35</sup> The calculation of losses estimated through stress-scenarios and the VaR Model (the VaR Model is not considered as a stress-scenario since the calculation of the model takes historical exchange rate series of currencies) makes an assumption that FX position of insurance companies would not change in a 10-day timespan.

The regulatory ratios are above the required minimum levels amidst heightened activity of the financial system's other participants.

To sum up the first half of the year, it can be noted that the risks of financial system participants were at manageable levels. The financial system kept on performing in a sound and reliable manner, on the whole.

## 5. FINANCIAL MARKET INFRASTRUCTURES STABILITY

Given the importance and the impact of payment and settlement system on the monetary policy and financial stability of Armenia, the Central Bank further pays due attention to the country's systemically important payment and securities settlement systems and the telecommunication network supporting their activities.

In Armenia, most interbank settlements are made via the Central Bank systems<sup>36</sup>; the largest value (over 99 percent) of interbank payments is made via the Central Bank systems.

### 5.1. INTERBANK PAYMENTS VIA ELECTRONIC PAYMENT SYSTEM OF CENTRAL BANK

*The results of monitoring of the EPS functioning suggest that the system is safe and reliable and does not create problems in terms of stability*

In the first half of 2013 there were about 2.4 million payments, totaling AMD 3764.1 billion, executed via the Electronic Payment System of the Central Bank of the Republic of Armenia.

The risks in the system are reviewed separately for each area described below.

#### Credit risk

*There is no credit risk identified in the EPS*

Credit risk to the settlement bank (i.e. the Central Bank) in the system is non-existent since the participant will, in case of insufficient funds with their correspondent account, be able to use an intraday repo instrument, which is secured by government bonds of the Republic of Armenia, securities of the Central Bank of Armenia, and/or high-rated corporate bonds. The size of the attracted fund is calculated using the percentage subtracted from the market value of the bond (a haircut). Nor is there credit risk to the recipient as it receives the notice of the payment only after the payment is made final and irrevocable<sup>37</sup>.

#### Liquidity risk

*The likelihood of emergence of liquidity risk and systemic problems in the EPS is very low*

In the reporting period the daily average indicator of own liquidity used for assessment of liquidity risk<sup>38</sup> further trended to improve steadily.

<sup>36</sup> Payments via the Central Bank systems involve EPS payments, excluding stock exchange trades, also payments executed for transactions with indirect monetary instruments of the Central Bank, payments executed within the Central Bank, payments executed for final settlement of ArCa cards system, and payments through the Government Securities Accounting and Settlement Systems. For details, see the paper "Payments and Securities Clearance and Settlement Systems in the Republic of Armenia", 2010.

<sup>37</sup> For details, please see the "Financial Stability Report", 2007, and the paper "Payments and Securities Clearance and Settlement Systems in the Republic of Armenia", 2010.

<sup>38</sup> The daily average indicator of own liquidity was calculated on the basis of a ratio of opening liquidity on dram correspondent accounts of commercial banks to debits (payments) through the account. Incoming payments are not included in the indicator so that a stress scenario can assess the likelihood of bank rejections if additional liquidity is not available within a day, namely to which extent would banks generate their payments using only opening balances of their own funds. The calculation does not include cash enhancements through their own accounts of commercial banks. The indicator is calculated for a system level (aggregate for all banks), so indicators may vary across commercial banks.

The banking system had on average more opening liquidity than they needed for making payments within a day. Moreover, the liquidity at the beginning of the day has grown in relation to the first half of the year, whereas average daily flows on the correspondent account remained almost the same.

In assessing liquidity risk in terms of the above indicators, one should take into account that the calculation of the indicator does not include incoming payments (crediting of the account) and/or funds from other sources to increase liquidity.

Both the number and value of rejections and their share in total payments made through the system is an important measure for the assessment of the liquidity risk.

The number and value of rejections due to insufficient liquidity in the EPS transfers are still insignificant – a maximum of 1.4% by value and 0.002% by number. In the second quarter of 2013 the share of rejections in terms of value contracted noticeably to 0.01 percent in total.

These rejections are merely due to individual cases, and they may be an outcome of improper management of liquidity (payment flows) by the participants, which could not affect the liquidity of the system.

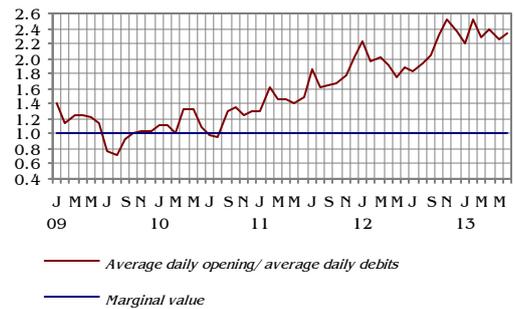
***Intraday distribution of payments***

The opening and closing of the day were recorded as peak hours for execution of payments by both value and number.

In the first half of 2013 the peak hours spanned from 10:00 am to 11:00 am for value (19 percent) and 3:00 pm - 4:00 pm for number (18 percent).

The share of payments executed at the closing of the day has increased in number to some extent. This, however, did not lead to problems thanks to sufficient liquidity and a lack of operational problems.

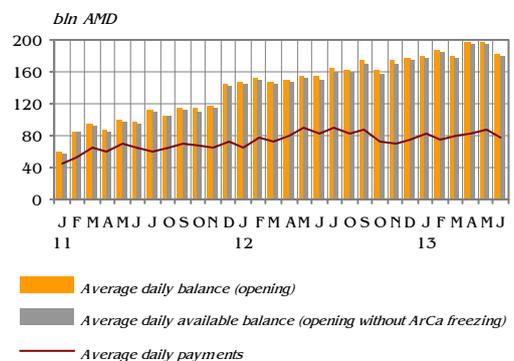
**Average daily opening balance to average daily payments (debit)**



Source: Central Bank of Armenia.

***The amount of rejections because of insufficient liquidity is negligible as well.***

**Average daily payments, average daily opening balances, average daily opening available liquidity comparative analyses**

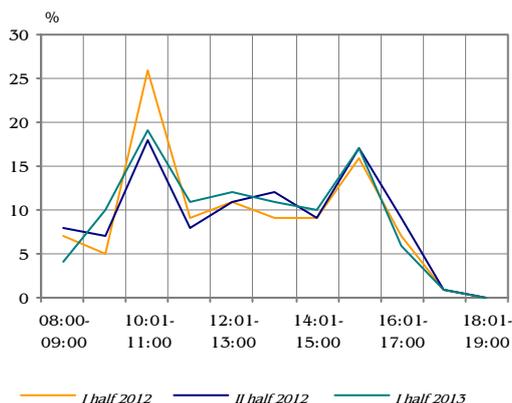


Source: Central Bank of Armenia.

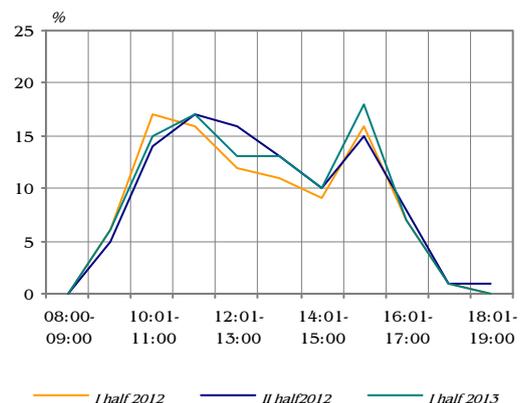
***No specific change was observed in regard to intraday distribution of payments***

***Concentrations at certain hours of the day have not caused any problems***

**Intraday distribution of the value of payments on an average semiannual basis**



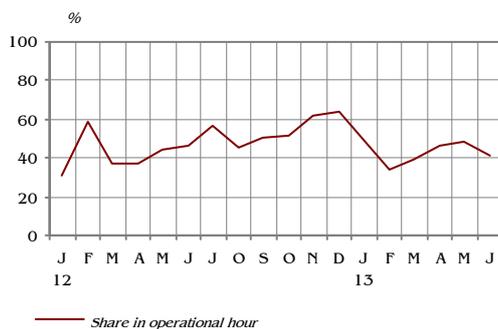
**Intraday distribution of the number of payments on an average semiannual basis**



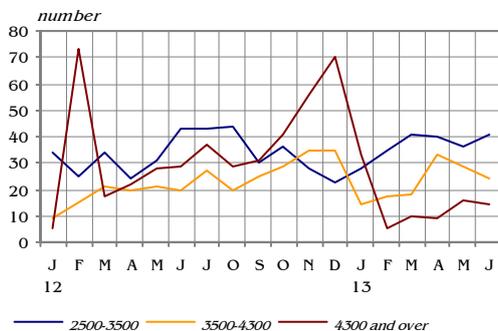
Considering the positive dynamics of the liquidity indicators and availability of the system, as well as the insignificant share of rejections in the system (see details in previous sections), an uneven intraday distribution and concentration of payments at certain time intervals of the day did not bring problems during the first half of 2013. On the whole, the likelihood of the risk to the system is estimated to be low.

*In the reporting period the payments per hour ratio has reduced, and the likelihood of emergence of capacity-related risks is estimated to be low*

**Dynamics of the indicator exceeding 2500 payments per hour and its share in the total operational hours of current month**

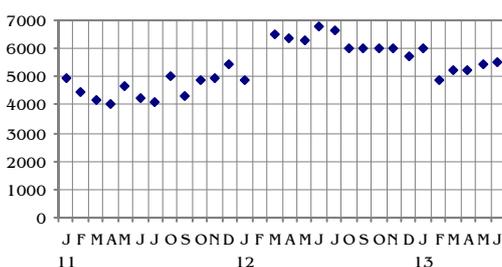


**Payments exceeding the threshold of 2500, 3500 and 4300 payments per hour**



*The operational availability of the EPS comes to be 100%*

**Maximum number of payments per hour, by month**



System capacity

In the first half of 2013 the payments per hour ratio reported a considerable decrease especially on the 4300 and more payments per hour indicator (7.3% in the first half of 2013; 22.7% in the second half of 2012, and 15.9% in the first half of 2012). The aforementioned decrease in early 2013 was driven by the reduced number of total payments via the EPS, which, however, posted a gradual increase, thus contributing to the rise in the indicator exceeding the 2500 payments per hour ratio.

In the reporting period, the peak-hour payments were reported in January (5,980 payments per hour), which is considerably lower from the peak posted in 2012 (8,181 payments per hour in February). The maximum monthly payments per hour amounted to 5,000 and more payments (6,000 payments per hour in 2012).

The share of peak-hour payments has not exceeded 30.0% of payments by number and 12.0% of payments by value within the same day (only in February peak-hour payments by value reached 32.0% of the day's payments).

The above-mentioned system capacity indicators and the results of special studies<sup>39</sup> denote that the hourly peaks were driven by increased activity of a few commercial banks on certain days. As such incidents are still insignificant by share in total payments and no factual incidents have occurred during that period of time, the likelihood of emergence of capacity-related risks is estimated to be low.

Operational availability of the system

In the first half of 2013, no significant incidents that could affect the operational availability of the EPS were reported.

In the period under review only one incident was reported in connection with slowing of the "Bank Mail", an electronic message delivery system. For one hour payments were not executed via the EPS because of the slowing. Nevertheless, the incident did not affect the timely execution of orders for pre-depositing of funds for stock exchange transactions, with no need to extend the operational day, either.

<sup>39</sup> Special studies were made to figure out the nature of utmost payments per hour (on a monthly basis) and identify the behavior of payers.

In the period under review the estimated operational availability has reached 100% both for the EPS and for “Operational Day” as well<sup>40</sup>.

## **5.2. GUARANTY OF DEPOSITS**

The Deposit Guarantee Fund was established by the Central bank of the Republic of Armenia in 2005. This is an establishment which acts in accordance with the Republic of Armenia Law on “Guaranteeing Reimbursement of Bank Deposits of Individuals”. Being an institution responsible for the financial stability of Armenia, it helps strengthen the soundness of the banking system, enhance public confidence in the banking system and protect depositor interests in the country.

In 2013 the growth of bank deposits and guaranteed deposits of individuals trended upward.

As of the end of the first half of 2013, the amount of deposits of individuals has increased by around 10.5% and the amount of guaranteed deposits, by 8.7 percent, relative to the end of the second half of 2012. The number of individuals holding guaranteed deposit has grown by 11.0% to 1,517,175 persons (excluding former USSR Savings Bank depositors, who are registered in VTB Armenia Bank CJSC). In the reporting period, the share of depositors who hold only deposits in dram again prevailed, making up 84.3 percent in total. The share of depositors only holding foreign currency deposits reached 6.6%. The latter did not register a significant change relative to the previous half. Relative to the end of the second half of 2012, the share of dram deposits has grown by around 2% to 31.3 percent in total.

## **5.3. CREDIT REGISTRY AND ACRA CREDIT BUREAU**

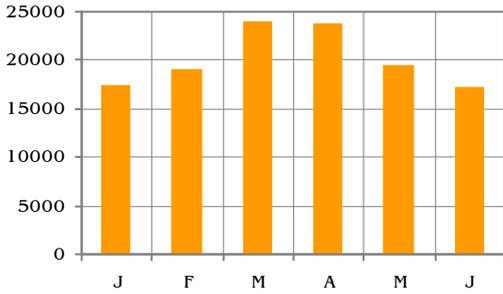
### *The Central Bank Credit Registry*

The Credit Registry has been functioning within the structure of Statistics Department of the Central Bank of the Republic of Armenia since January 1, 2003. The Credit Registry is designed to collect data on credit history of borrowers, to process such information and provide it to commercial banks, credit organizations, as well as to other divisions of the CBA. The Credit Registry keeps records of loans in excess of AMD 1.5 million and loans in the amount

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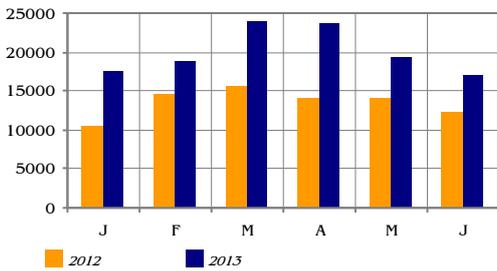
<sup>40</sup> *The 2008 Financial Stability Report of the National Bank of Denmark states that operational availability for systemically important RTGS system, which is compliant to ESCB system requirements, should be very high, e.g. operational availability of TARGET was 99.65 percent, which is considered a good indicator.*

**The number of loans in H1 2013**



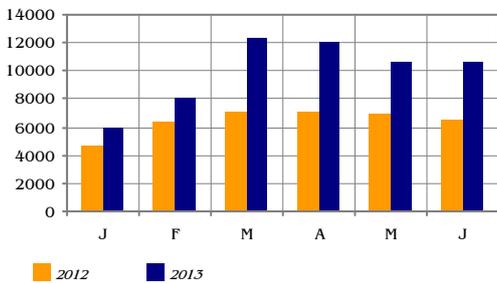
Source: Central Bank of Armenia.

**The number of loans in H1 2012 and H1 2013**



Source: Central Bank of Armenia.

**The number of requests received during H1 2012 and H1 2013**



Source: Central Bank of Armenia.

less than AMD 1.5 million that were overdue and were classified. At the end of the first half of 2013 the number of loans recorded in the Credit Registry was 1,517,250 from which 1,403,537 were loans to individuals and 113,713 were loans to legal persons.

	Outstanding	Repaid	Total
Loans to individuals	287440	1116097	1403537
Loans to legal persons	17548	96165	113713
<b>Total</b>	<b>304988</b>	<b>1212262</b>	<b>1517250</b>

The total number of loans registered with Credit Registry has increased by 321,133 in relation to the first half of the previous year. As of the end of the first half of 2013, the Credit Registry possessed information on 304,988 loans outstanding and 1,212,262 loans repaid. Based on the Credit Registry data, a total of 120,725 loans were provided during the first half of 2013 versus 80,824 loans in the first half of 2012, with an estimated 49.0% growth, pointing to a livelier activity in the credit market. Parallel to the changes of loans outstanding, the volumes of entry information also altered. In the period under review the average entry rate of information has grown dramatically (84.0 percent), which now makes up an average 16,600 registrations per day.

In the first half of 2013 the number of surveys carried out by banks and credit organizations in pursuit of assessing creditworthiness of borrowers and monitoring of loans outstanding has grown to 59,766 which is 21,210 more compared to the surveys carried out in the same reference period of the previous year.

More methodological and software changes are designed to strengthen the capacity of the Credit Registry. In particular, some works are being done to develop integrated reporting formats and identification of database for all banks' and credit organizations' information reportable to the Central Bank Credit Registry and ACRA credit bureau. This will contribute to the effectiveness of the activities of banks and credit organizations and improve the quality of information collected about the borrowers. More work on increasing the efficiency of the use of data provided by Credit Registry for the Central Bank oversight and analytics is underway.

*The ACRA Credit Bureau*

In the first half of 2013, the number of the borrowers registered with the ACRA Credit Bureau has increased by 2.0%, relative to December of 2012, and amounted to 1,338,866 borrowers. Of this number, 97.6 percent are individuals.

In June 2013, relative to December 2012, the number of loans available in the database has grown by 10.0% and reached 7,587,770, as of the end-June.

Any citizen or legal person is entitled to receive information from the Bureau concerning his personal credit history. For the legal persons to obtain credit history of its client or counterparty, it should enter into a service contract with the Bureau and receive the written consent from the borrower.

The Bureau started providing credit reports since April 2007. The number of credit reports provided in the first half of 2013 has grown by 73.0 percent compared to the number of reports provided in the same period of 2012.

Starting from 2012, the Credit Bureau has been receiving information from “K-Telecom” CJSC, a telecommunications company. The database ACRA compiles information about payments fallen overdue. Talks are being held with “ArmenTel” and “Orange”, the telecommunications service providers, in the field of organizing information circulation. The Credit Bureau receives information from such public databases as the Republic of Armenia Police and the Ministry of Labor and Social Issues. Negotiations between the Credit Bureau and the State Revenue Committee concerning obtaining information on tax liabilities non-performed in a duly established timeframe are underway.

In 2012 ACRA Score Cards (mortgage score, car score, and card score) were introduced by the Credit Bureau. ACRA Score Cards are designed to measure the creditworthiness of the borrower for the near future. These score cards are variants of statistical modeling of credit and operational risk, which imply a delivery of digitized assessment of credit risk of the borrower. Credit scoring is based solely on statistical methods and is set to escape, as much as possible, the use of expert judgement in the processing of digitized assessment of creditworthiness.

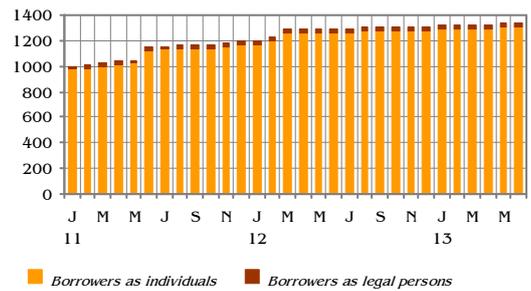
As a result of cooperation with “ArmenTel” CJSC in 2012, and “K-Telecom” in 2013, ACRA Credit Bureau has introduced an ACRA SMS-report service, which helps to obtain a summary of credit obligations as soon as possible. In 2012 ACRA Credit Bureau developed and implemented a more versatile data input module.

A multi-level coding system has been developed to protect information owned by the Bureau and to prevent its illegal usage by the third parties whatever. The system traces all actions, as well as an ongoing monitoring of the system is in place to prevent suspicious and unauthorized action.

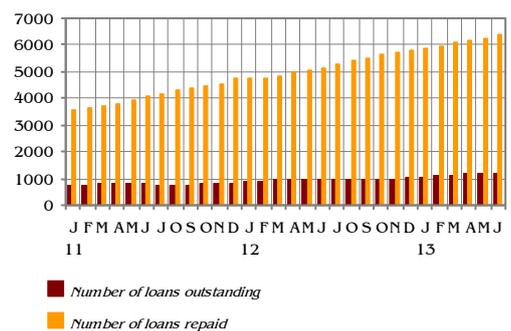
## SUMMARY

The results of monitoring denote that credit and liquidity risks to the electronic payment system are minimized, the system capacity is satisfactory, and the intraday payments

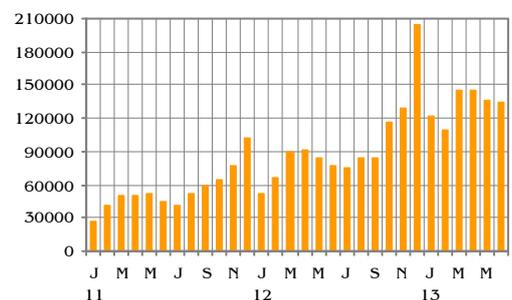
**The number of borrowers registered in ACRA database (in thousands)**



**The number of loans registered in ACRA database (in thousands)**



**The number of reports provided by ACRA**



Source: ACRA Credit Bureau.

are made uninterruptedly. No operational risks were identified in the system, so the system's availability has been at an internationally accepted level.

Overall, the EPS operation is satisfactory. From the financial stability point of view, the developments in the payment and settlement system remain manageable, while risks leave no room for vulnerability.

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## GLOSSARY OF TERMS

<i>Economic growth</i>	The growth of volume of goods and services produced in the economy during a certain period of time.
<i>Inflation</i>	An increase in the general level of prices of goods and services.
<i>Consumer price index</i>	An index of the variation in prices paid by typical consumers for retail goods and other items. The consumer price index measures the changes in the price of a market basket of consumer goods and services purchased by households.
<i>Balance of payments</i>	A system of recording of all economic transactions of Armenia (residents and non-residents) with the rest of the world over a reporting period (a quarter, a year).
<i>Foreign trade</i>	This involves an exchange of capital, goods, and services across international borders or territories, in the form of exports and imports.
<i>Gross external debt</i>	Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to nonresidents by residents of an economy.
<i>Credit risk</i>	Credit risk refers to the risk that a borrower will default on any type of debt by failing to make payments which it is obligated to do. The risk is primarily that of the lender and includes the lost principal and interest, disruption to cash flows and increased collection costs.
<i>Liquidity risk</i>	Liquidity risk is the risk that a given security or asset cannot be traded by the financial institution quickly enough in the market to prevent a loss (or make the required profit).
<i>Foreign currency risk</i>	Foreign currency risk is the risk that a change in exchange rate in the market will adversely affect profits and/or capital of the financial institution.
<i>Interest rate risk</i>	Interest rate risk is the risk that interest rate volatilities in the market will adversely affect profits and/or capital of the financial institution.
<i>Price risk</i>	Price risk is the risk that a change in price of securities in the market or price of similar financial instruments on balance sheets will adversely affect profits and/or capital of the financial institution.
<i>Standard asset</i>	An asset which is serviced under a contract, and is not problematic.
<i>Watched asset</i>	An asset which is serviced under an original contract yet certain circumstances have emerged that may undermine the borrower's ability to serve that asset.
<i>Substandard asset</i>	An asset the contractual obligations towards which are not performed due to the borrower's fragile financial standing or inability to repay the debt.
<i>Doubtful asset</i>	An asset the contractual obligations towards which are not performed; it is more problematic, making its collection at the given time very difficult or impossible.
<i>Bad asset</i>	An asset non-collectable and fully impaired uncollectible, so that its recording on the balance sheet is no longer reasonable.
<i>Nonperforming asset</i>	An asset which has been classified by the bank as watched or substandard or doubtful or bad.
<i>Major borrower</i>	A party the risk on which exceeds 5 percent of total capital of the bank.

<i>Major liability</i>	A liability that amounts to 5 percent and more of total liabilities of the financial institution, without regard to affiliation.
<i>Return on assets (RoA)</i>	A ratio of net annual profit to average annual total assets.
<i>Return on equity (RoE)</i>	A ratio of net annual profit to average annual total capital.
<i>Total liquidity</i>	A ratio of high liquid assets to total assets.
<i>Current liquidity</i>	A ratio of high liquid assets to demand liabilities.
<i>Regulatory total capital</i>	The difference between total capital as shown in statement on financial standing and deductions as specified in Central Bank "Regulation 2 on Banks and Banking".
<i>Capital adequacy</i>	A ratio of regulatory total capital to risk weighted assets.
<i>Leverage</i>	A ratio of total assets to total capital.
<i>Off-balance sheet contingent asset</i>	Off-balance sheet contingent assets include outstanding credit lines, credit cards and overdrafts as well as letters of credit, guarantees and warranties provided.
<i>Net provisioning</i>	The difference between provisions to and recoveries from assets loss reserve fund.
<i>Net foreign currency position</i>	The difference between assets and liabilities in FX assets and local currency assets containing FX risk.
<i>Gross foreign currency position</i>	This position measures the sum of absolute values of positions of various currencies.
<i>The Herfindahl-Hirschman index</i>	This index is defined as the sum of the squares of the market shares. It varies between 0 and 1, characterizing the level of concentration (values near to 0 denote lower concentration).
<i>Economic cost of capital</i>	The difference of the present value of total assets and present value of total liabilities.

## ABBREVIATIONS

<b>CBA</b>	Central Bank of the Republic of Armenia
<b>GDP</b>	Gross Domestic Product
<b>GNDI</b>	Gross National Disposable Income
<b>NSS</b>	National Statistics Service
<b>IMF</b>	International Monetary Fund
<b>UNO</b>	United Nations Organization
<b>CIS</b>	Commonwealth of Independent States
<b>ECB</b>	European Central Bank
<b>USA</b>	United States of America
<b>FRS</b>	Federal Reserve System
<b>NMC</b>	National Mortgage Company
<b>FDI</b>	Foreign Direct Investment
<b>RF</b>	Russian Federation
<b>IFRS</b>	International Financial Reporting Standards
<b>MTPL</b>	Motor third party liability insurance
<b>CDA</b>	Central Depository of Armenia
<b>TB</b>	Treasury Bills
<b>EPS</b>	Electronic Payments System