



CENTRAL BANK OF THE REPUBLIC OF ARMENIA

FINANCIAL
STABILITY
REPORT
2007

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

Central Bank of the Republic of Armenia
Vazgen Sargsyan 6, Yerevan 375010
Phone: (374 10) 58 38 41
Fax: (374 10) 52 38 52
Internet website: www.cba.am

Table of Contents

Preface	4
1. Developments in Global Economy	5
1.1. Macroeconomic Environment.....	5
1.2. International Financial Markets.....	10
1.3. Russian Federation	14
2. Financial Stability in Armenia’s Macroeconomic Environment	16
2.1. Foreign Trade	19
2.2. Net Factor Incomes and Remittances	22
2.3. Household Incomes and Debt Burden	23
2.4. Change in Real Estate Prices	24
3. Armenia’s Financial Market Stability	26
3.1. Money and Capital Markets	26
3.2. Foreign Exchange Market	28
4. Financial Institutional Stability in Armenia	30
4.1. Commercial Banks.....	30
4.1.1. <i>Financial Intermediation, Concentration</i>	30
4.1.2. <i>Credit Risk</i>	33
4.1.3. <i>Liquidity Risk</i>	36
4.1.4. <i>Market Risk</i>	39
4.1.5. <i>Capital Adequacy and Profitability</i>	41
4.2. Credit Organizations	43
4.3. Insurance Companies	44
4.4. Securities Market Participants.....	46
4.5. Other Financial System Participants.....	46
5. Financial Stability in Armenia’s Financial Infrastructures	47
5.1. Payment Infrastructure.....	47
5.1.1. <i>Telecommunication Networks</i>	47
5.1.2. <i>Interbank Payments</i>	49
5.1.3. <i>Securities Settlement Systems</i>	53
5.2. Deposit Insurance.....	53
5.3. Credit Registry of the Central Bank and ACRA Credit Bureau	54
5.4. Anti Money Laundering	56

PREFACE

In the recent decade, central banks of developed countries have considered a country's financial stability as another area of primary concern in addition to stable prices. The Central Bank of Armenia, too, has taken on a function to ensure financial stability, and since 2006 it has been conducting regular financial stability assessment and monitoring. In 2006, the first review of Armenia's financial stability was included in Annual Report of the Central Bank. According to the amended Republic of Armenia Law on the Central Bank, the Central Bank has undertaken to release, since 2007, a report on financial stability, too.

The purpose of the report on financial stability is to keep financial market participants and general public informed about risks that may undermine Armenia's financial stability and possible directions of their expansion. The report is called to assess flexibility and capability of Armenia's financial stability in order to absorb existing and potential risks that jeopardize financial stability, trying not to weaken effective performance of financial markets and institutions and efficient redistribution of financial resources of companies and households.

Risks that affect Armenia's financial stability may arise in the Armenian economy, as well as such may emerge outside the country, in external environment, and in financial system in particular. In this regard, key preconditions for ensuring financial stability are:

- A sustainable domestic and external macroeconomic environment in which households and enterprises would be sufficiently credible.
- A sound and efficient financial system in which risks would be reasonable and controllable.
- Well-organized financial infrastructures that would help the financial system to function properly.

In view of the aforementioned, the report identifies 5 main areas of risks that may pose threats to Armenia's financial stability:

- Risks deriving from developments in global economy.
- Risks deriving from developments in domestic macro-environment.
- Risks deriving from developments in Armenian financial market.
- Risks deriving from financial institutions in Armenia.
- Risks deriving from financial infrastructures of Armenia.

The report presents the risks that exist in these areas and their likely impact on all sector developments of the economy and financial system. A principal emphasis has been on the likely impact on the Armenian banking system because assets of domestic commercial banks account for more than 90 percent of assets of all financial institutions. The other two components of the Armenian financial system – financial markets and financial infrastructures – have a small share in the financial system, on the one hand, and are not developed enough to have a significant influence on financial stability, on the other.

1. DEVELOPMENTS IN GLOBAL ECONOMY

A sustainable development of global economy and the lack of undesirable shocks in international financial markets are important preconditions for Armenia's financial system stability. The sustainable development of global economy creates favorable conditions for normal development of Armenia's external trade, i.e. stable prices of imported goods, more demand for exported goods, as well as for persistent inflow of foreign private investment, private remittances and factor incomes. More demand for exports and stable prices of imported raw materials, foreign private investment in different sectors of the economy will, all other conditions equal, ensure continued performance, stable revenues, and further development of economic agents of Armenia. The sustainable development of the Armenian economy, stable prices of imported goods, and inflow of private remittances and factor incomes will, in turn, make it possible for household income to grow continuously. With higher income households and profitable enterprises, the banking system will have a growing depositor base as well as solvent and diligent borrowers. In view of the above-said correlations, there is need to develop sufficient understanding about likely developments in global economy and financial markets and the risks that threaten them.

Starting 2007, further development of global economy appears to be concomitant with increasing uncertainties in financial markets. The impact of factors coming from external environment on Armenia's financial system stability will depend on how these irregular developments will further evolve.

1.1. MACROECONOMIC ENVIRONMENT

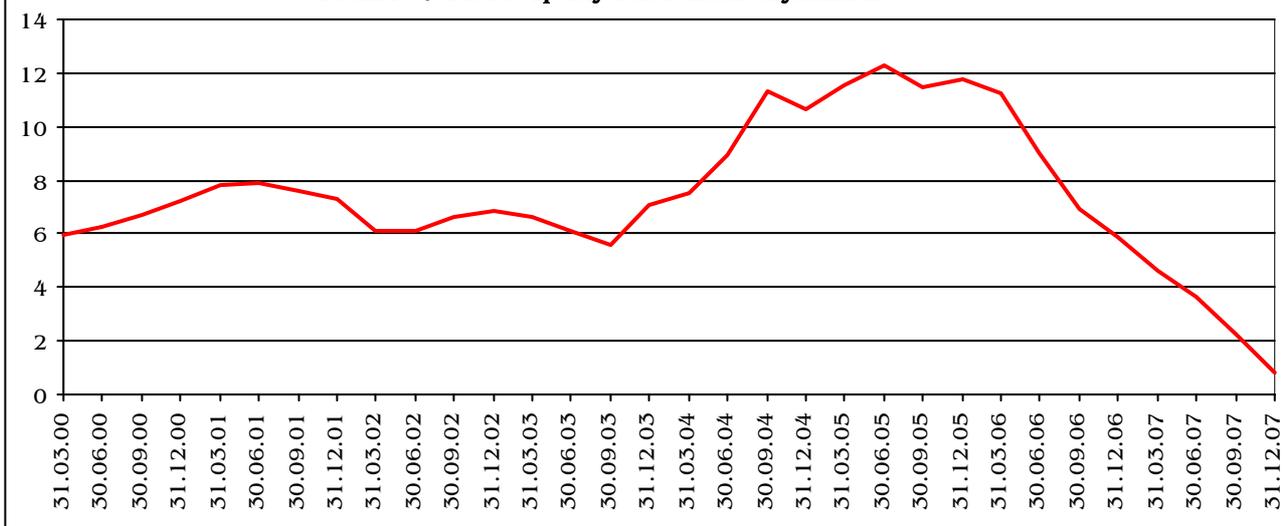
In global economy in 2007, previous year's stable development trends have persisted, although the impact of factors undermining such development was slowly growing during the year. The main factors that impeded the development of global economy were the slowing of the US economy, rise in prices of oil and consumer goods, remarkable growth of incomes and inflationary pressures in developing countries as a result of their dynamic economies.

The year 2007 was marked with risks associated with globalization of economy and their consequential effects as well as structural changes in global economy. The progress of events shows that the direction of development of global economy will from now on be determined not only by the impact of developed countries but also by the impact of developing countries. The level of global economic growth in 2006 was rather high (5.0 percent¹) owing to a relatively high economic growth in Eurozone, Japan, China and India. The economic growth rate in 2007 declined slightly against the previous year to 4.9 percent, even though optimistic projections for economic growth at the start of the year were in the range of 5.6 percent. The decline has been determined mostly by a considerable slowdown of economic growth rate in developed countries and, particularly, the USA where adverse effects of mortgage crisis keep on aggravating and expanding into the rest of developed world. As a consequence of mortgage crisis, the growth of property prices in the USA has decelerated and neared a zero level; new construction volumes and current property sales have abruptly downsized. The effect of the crisis became more evident after publications about reduced new home sales and losses incurred by construction companies. Despite high economic growth recorded for the first three quarters of 2007, the GDP growth rate in the USA for the fourth quarter has slowed down, mostly due to the slowing of growth in construction. So, in the USA in November 2007 alone, compared to the same month of the previous year, home sales were reduced by 20 percent. Property prices were sharply reduced, too.

Property price index calculated by S&P, which includes the data of 20 largest cities of the USA, dropped in October by 6.1 percent compared to the same month of the previous year.

¹ Source: IMF "World Economic Outlook, April, 2008".

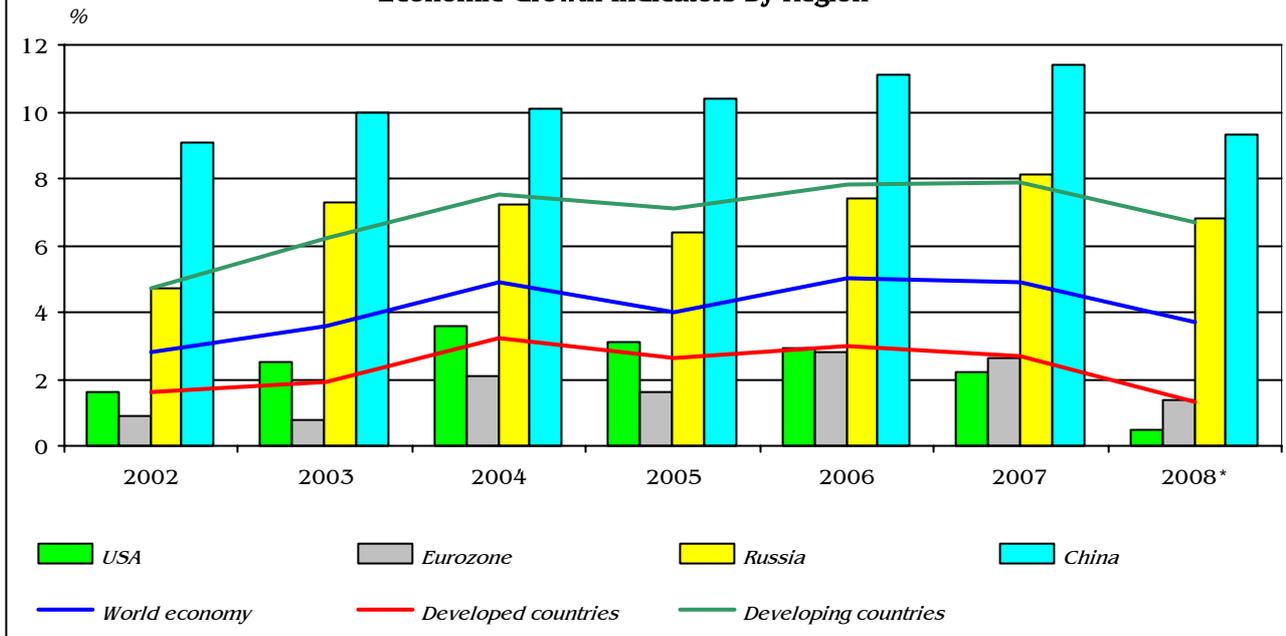
OFHEO², USA Property Price Index Dynamics



Source: Bloomberg.

Due to mortgage crisis, indirect influence and pessimistic expectations, the volumes of consumption of households were reduced as well, although the US economy development forecasts for 2007 were promising, since in the period 2006-2007 households and enterprises had been financially stable and profitable enough and no sharp drop of unemployment had occurred. In the second half of the year, however, an up to 5 percent rise of unemployment was recorded, since employers, because of incurred losses and uncertainties towards the time ahead, were averse to opening new jobs. In Eurozone states in 2007, the main components of economic growth were private investment in fixed assets and consumer expenditures. Both increase in wages as a result of efforts spent by trade unions and growth of employment have contributed to the growth of consumption. Growth rates of construction sector in Eurozone have reduced twice as much, echoing the effects of mortgage crisis in the USA. Volumes of exports during the year have also reduced because of appreciation of euro, although the impact of such reduction on the fall of GDP has been limited.

Economic Growth Indicators by Region



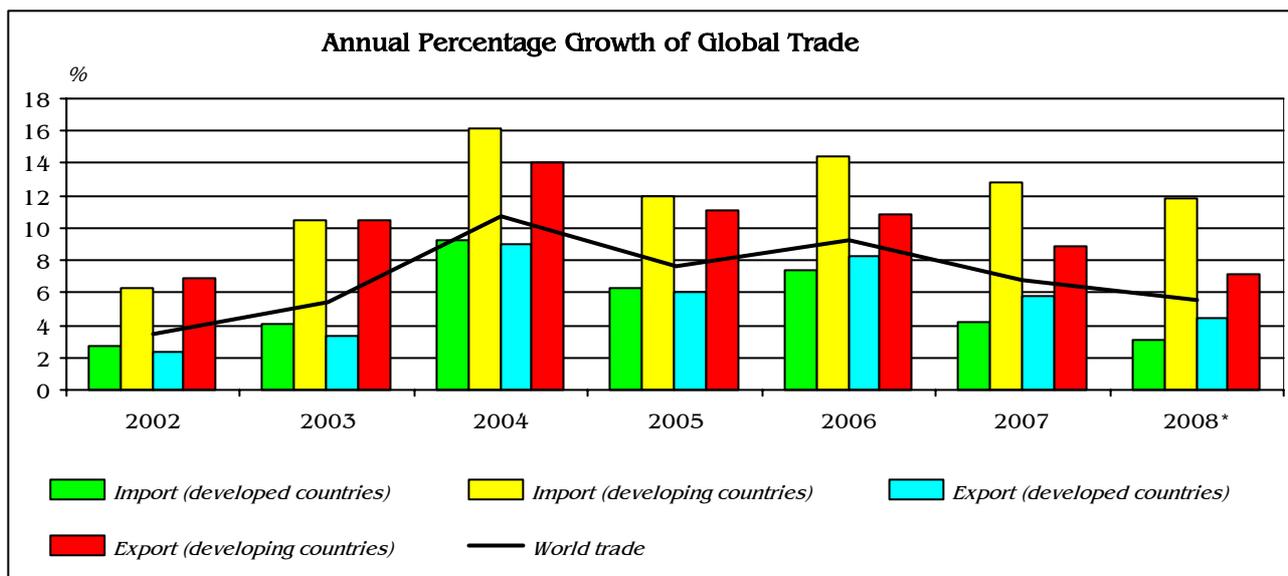
Source: IMF "World Economic Outlook, April, 2008".

² Office of Federal Housing Enterprise Oversight.

In 2007, developing countries remained safeguarded from an influence of unfavorable developments of the global financial market, and generally retained the previous year's high economic growth, again mostly owing to high economic growth in China and India.

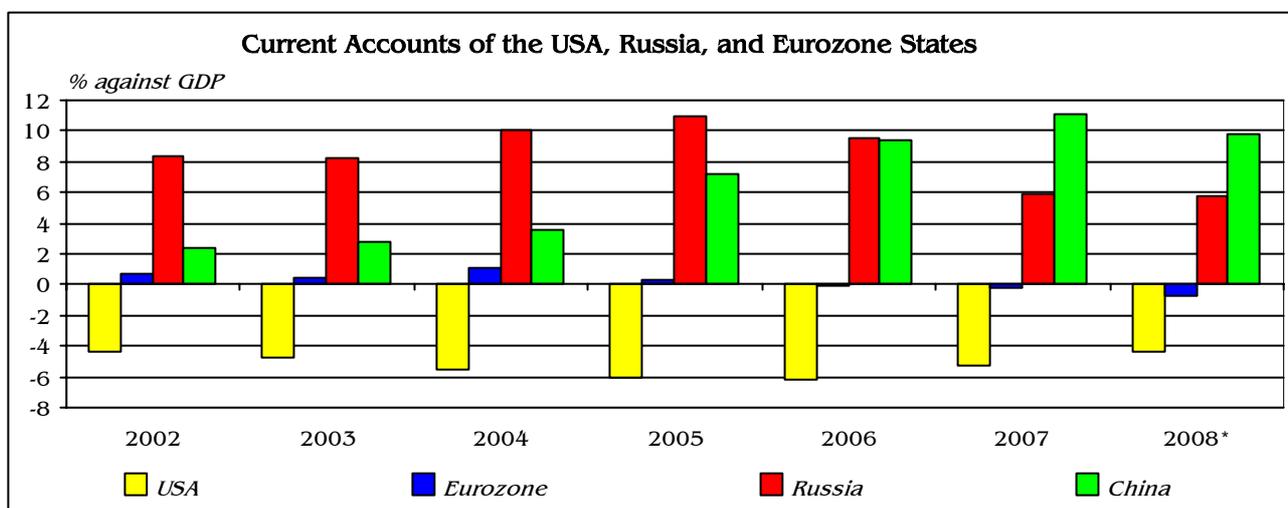
Growth of world trade in 2007 has reduced mostly determined by shrinking domestic demand in the USA and Eurozone states due to the slowing of economic growth there. In line with these developments, disproportionate patterns of current account shaped in the previous years have not changed essentially.

As a result of slowdown in economic activity in mature economies and risks emerged in international financial markets external trade volumes were reduced in 2007. Growth rate of global trade in 2007 was reduced by 2.4 pp to 6.8 percent.



Source: IMF "World Economic Outlook, April, 2008".

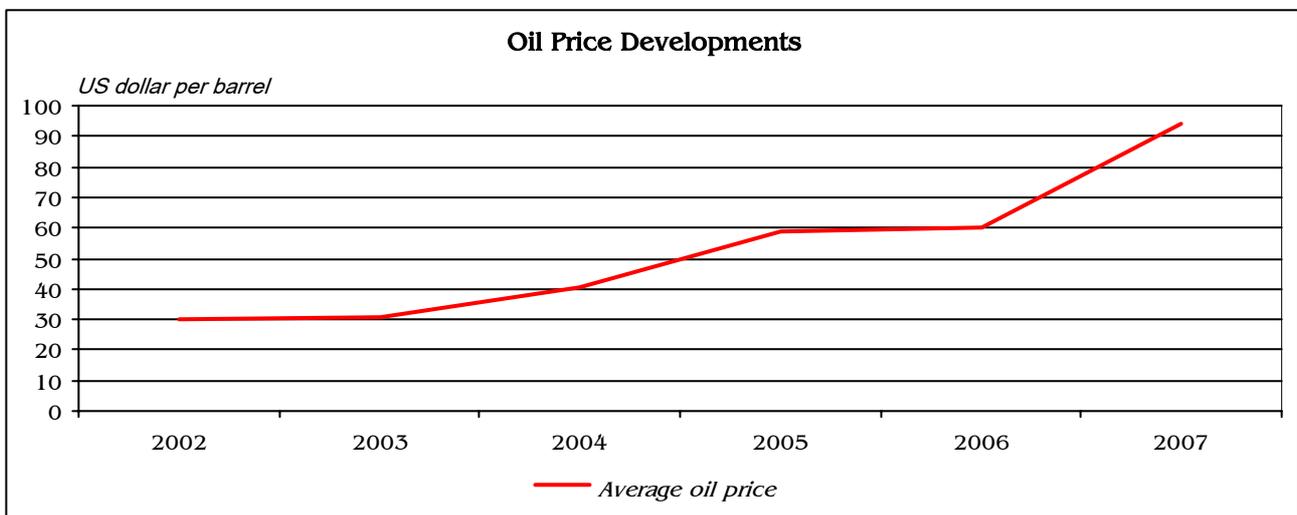
The decreasing demand in the US economy (in which imported goods have a big share) in the recent quarter and continued weakening of the dollar have contributed to the shrinkage of that country's current account deficit in 2007 which had been consistently growing in recent years. It is noteworthy that in the last quarter of 2007 US exports have grown at an unexpected rate of about 25 percent. Concurrent with slowing rates of imports in the USA, China's current account surplus in 2007 reached 11.1 percent which lags behind the IMF forecast by 0.6 pp. Such current account disproportions – a big deficit in the USA, and surpluses in China and Russia put these countries at a great risk and increase their dependence on partner countries.



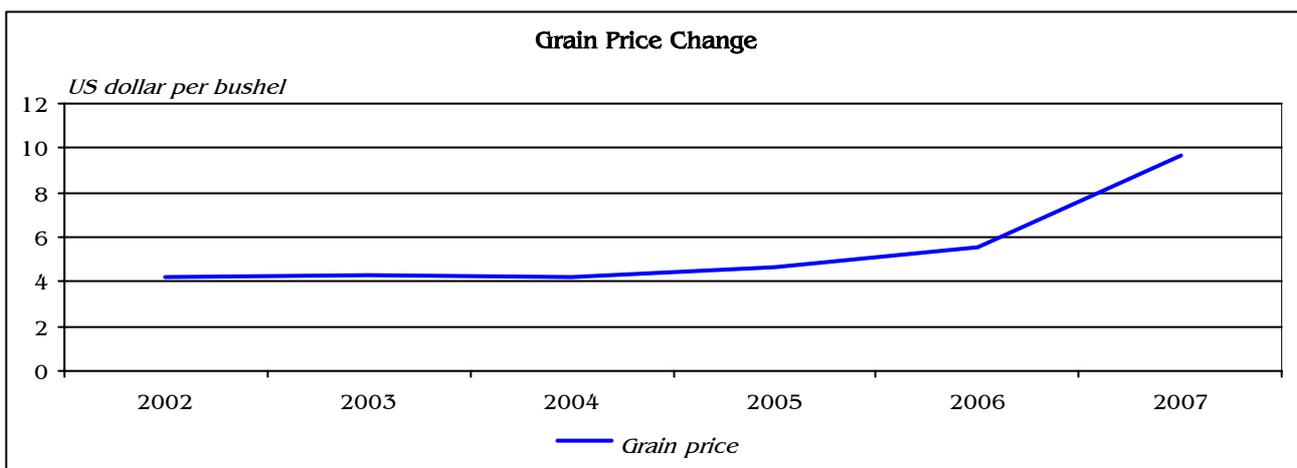
Source: IMF "World Economic Outlook, April 2008".

Prices of energy resources, raw materials and consumer goods grew in 2007, and there are forecasts that price-rise may carry on during 2008. In the recent decade, with high global economic growth levels and continuously increasing living standards, prices of energy resources and consumer goods have started accelerating. Buoyant economic growth in developing countries has spurred a growing household income, living standards and, eventually, a healthy demand for consumer goods. In the meantime in these countries, (China, India and Brazil in particular), volumes of consumption of production inputs and energy resources have augmented as industry developed. As a matter of fact, developing countries too, are starting to place some influence on the price formation in global markets of raw materials and energy resources.

In 2007, oil prices grew by 56.1 percent to reach USD 93.89 a barrel in the end of the year whereas the IMF's yearend forecast was merely USD 68.5 a barrel. Growth of prices of grain during the year made up 75.1 percent explained by: 1/ reduced harvest due to adverse climatic conditions in grain exporting countries; 2/ mounting demand by the developing countries; 3/ increased usage of biofuel. According to forecasts by the UN Food and Agriculture Organization, price-rise on commodities in 2008 may carry on as well and reach as high as 80 percent annually. The growth of commodity prices, goods is determined by growing aggregate demand, on the one hand, and unprecedented high growth of oil and grain prices, on the other.

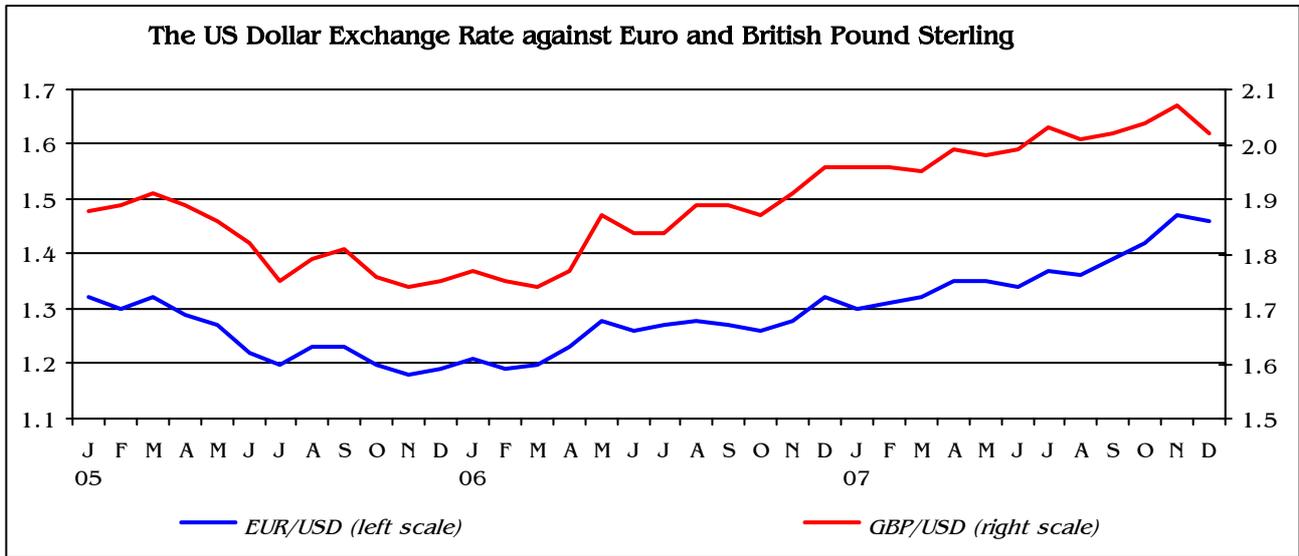


Source: Bloomberg.



Source: Bloomberg.

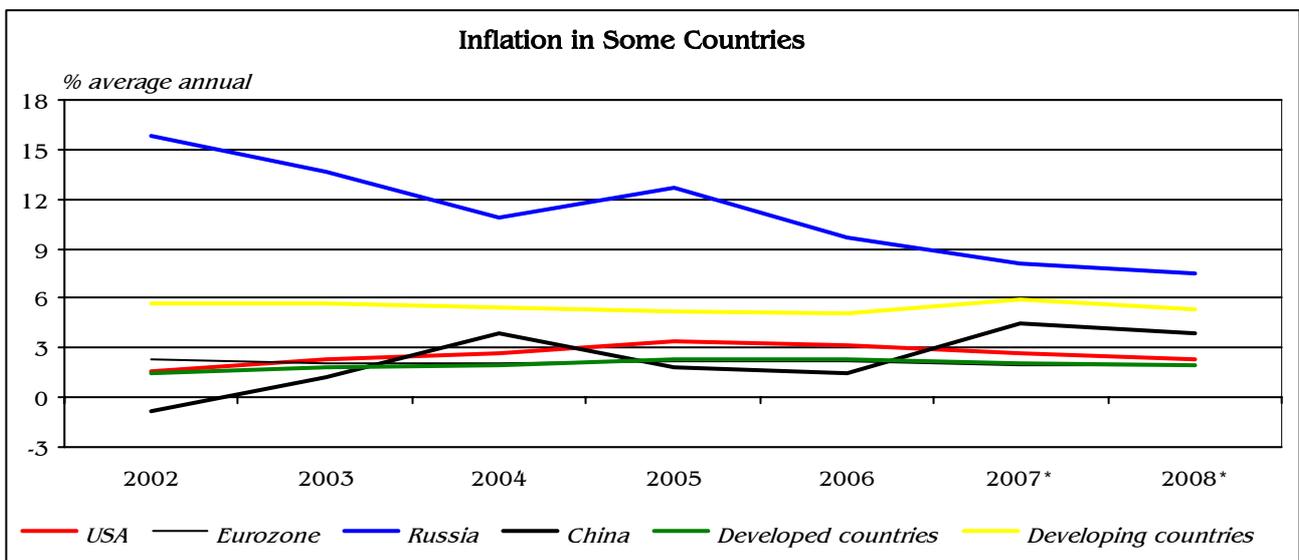
During 2007, geopolitical developments around Iran's nuclear program and Turkey's military actions in northern Iraq also had essential impact on the rise in prices of energy resources. Another 'technical' factor affecting the price-rise was the US dollar's 10-15 percent depreciation vis-à-vis other key currencies in the course of 2007.



Source: Bloomberg.

In developing countries, as opposed to developed countries, high inflation rates are primarily determined by high growth rates of domestic demand. Global price-rise on energy resources, cereals and consumer goods during 2007 has created additional inflationary pressures in developing countries since the share of food in consumer basket in such countries is high. Inflation in developing countries reached 6.4 percent in the end of the year compared to the previous year's indicator of 5.4 percent. The IMF forecasts that such inflationary pressures will not ease in 2008, too.

In matured economies there have been no abrupt inflation deviations, and inflation in the end of the year has made up 2.2 percent against 2.3 percent in the previous year. Economic growth in developed countries in the fourth quarter of 2007 started to slow down and deviate from the predicted line due to mortgage crisis in the USA. To prevent inflationary pressures, central banks of developed countries in Eurozone continued implementing restrictive monetary policy during the year, and have embarked on liquidity injections at much a later point. However, despite a tight monetary policy, prices have further grown because of expectations of slowing of economic activity. In the USA, Japan and developed European countries in the second six months of 2007, private consumption has reduced notably and peoples' expectations that prices would rise have intensified, which is mostly caused by further uncertainties about economic development in these countries.



Source: IMF "World Economic Outlook, April 2008".

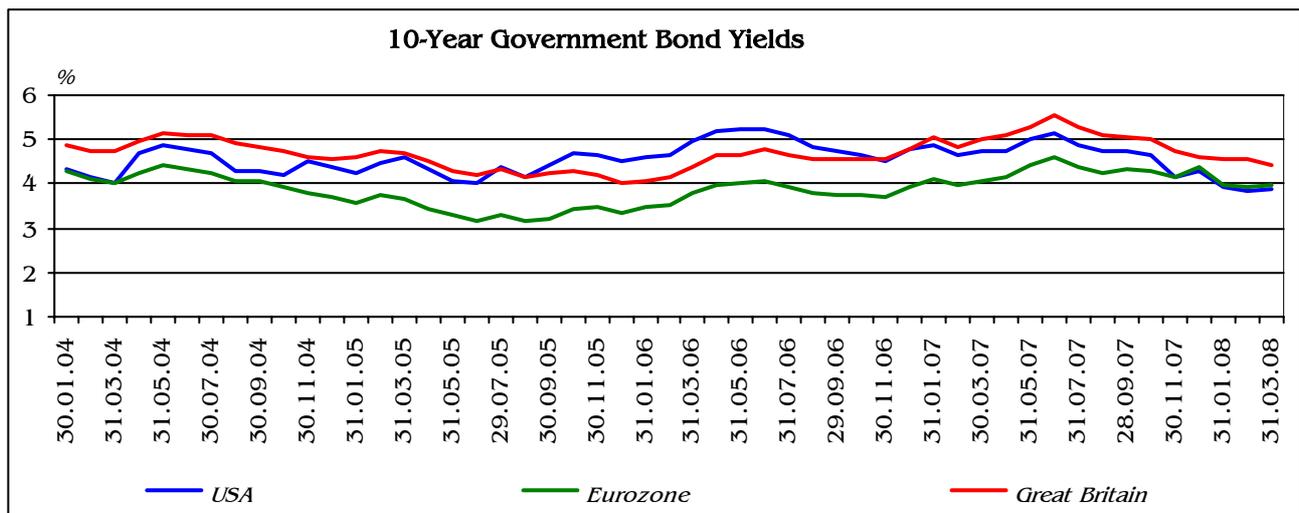
There have been considerable shifts in global labor market as well. In pursuit of reduced costs for labor force supranational corporations have started moving low-skilled and labor-intensive productions to the developing world. Concurrent with the growth of employment in these countries, household incomes have grown, additionally promoting increasing private demand. In spite of such shifts in global labor markets, costs of low-skilled labor in developed countries are not dropping but tend to grow instead, reflecting high living standards and a general rise of costs for high-skilled workforce. Fast-growing wages in developed countries have further added to private demand-driven inflationary pressures. Therefore, in the end of 2007, in the light of reducing costs due to expected slowdown of economic growth, a number of major US corporations announced job cuts.

Forecasts for 2008 made by the IMF and some other renowned analysts change repeatedly, and the latest ones represent less optimistic scenarios. The IMF forecasts a drop of global economic growth rates to 3.7 percent which would be a consequence of reduction of economic growth rates in the USA and developed European countries. According to these forecasts, the US and European employers will do a considerable amount of job cuts during 2008 with an intention to downsize activity volumes and costs. This will reduce household incomes and consumption expenditures and will somewhat loosen demand-driven inflationary pressures. Tight monetary policy conducted to reduce inflation in developed (except for the USA) and developing countries may deepen the slowing of economic growth. Well-developed infrastructures and sound economic fundamentals will allow developed countries of Eurozone to prevent faster slowdowns of economic growth rates.

1.2. INTERNATIONAL FINANCIAL MARKETS

Following stable and favorable developments of the past years, international financial markets faced real hardships in summer of 2007. Shocks triggered in international financial markets in 2007 seem to pose a challenge to innovative financial instruments which are increasingly popular in the recent decade and are used to share financial risks among various segments and participants of a contemporary market.

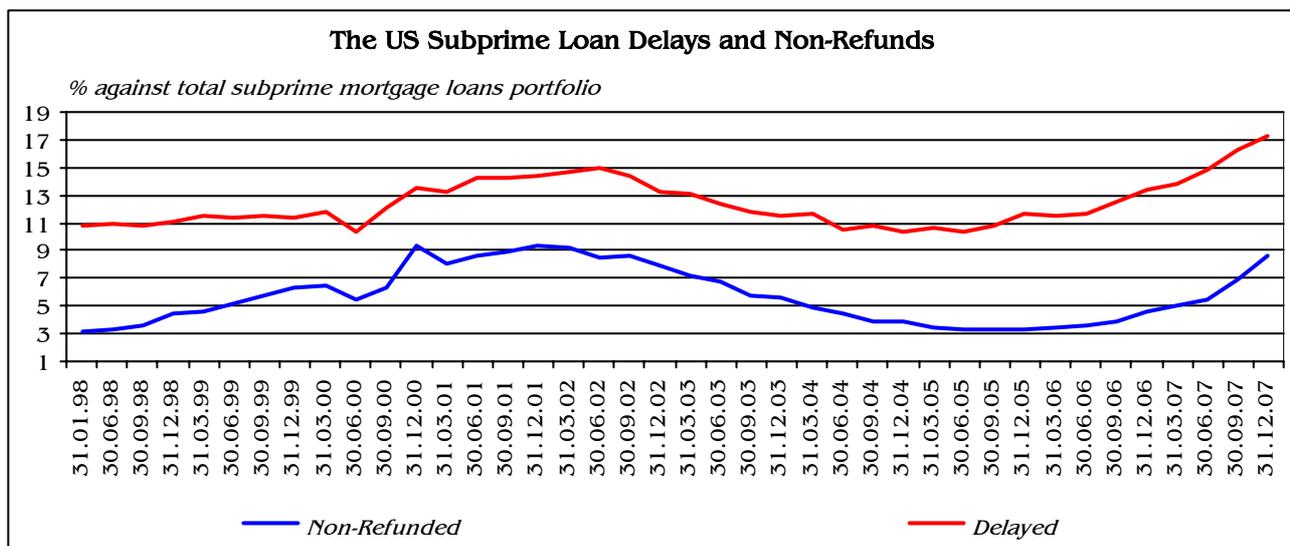
In the last couple of years, yields on the US and European corporate bonds and corporate securities have been low determined, particularly, by sustainable macroeconomic developments of global economy and high solvency levels of companies.



Source: Bloomberg System.

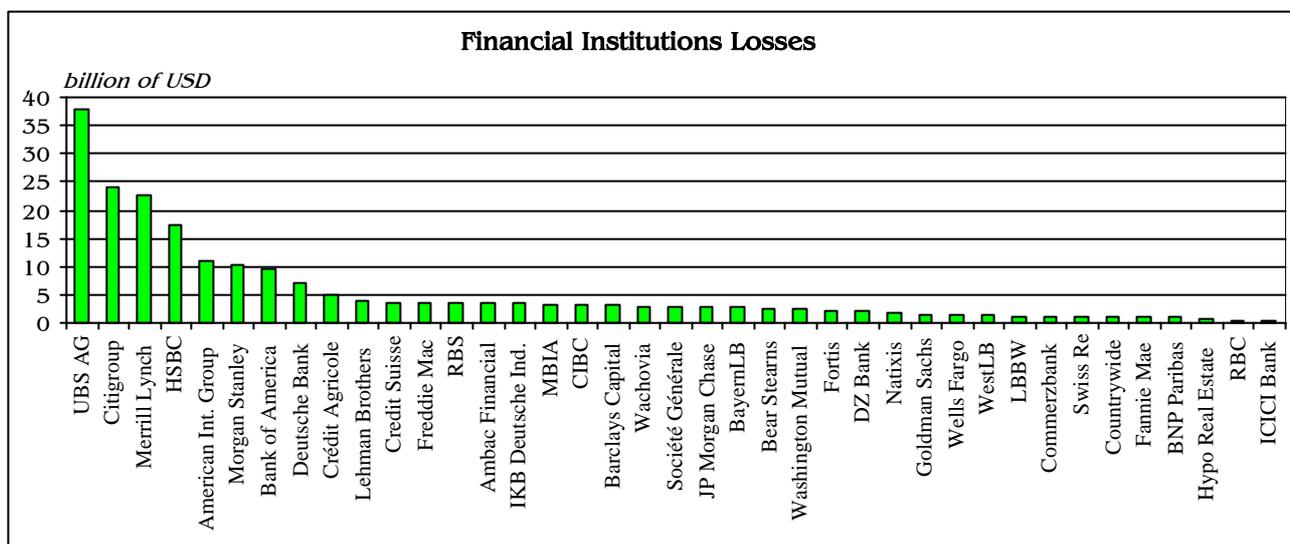
With low levels of yield, investors started looking for sources of higher, even though, riskier profits. Over time, investors demonstrating more appetite for profits moved, deliberately or not, to a riskier territory of mortgage securities market. Banks, in their turn, mitigated lending conditions amidst a tensed competitive environment, by taking

a greater risk, i.e. a subprime mortgage lending. Back in 2006, non-payments on high-risky US mortgage loans started growing, which served an incentive for internationally recognized rating agencies to lower ratings on the US mortgage securities. In panic, holders of mortgage securities rushed to get rid of high-risky securities, creating turmoil in stock markets in the USA, Eurozone and Japan and, later on, in Russia.

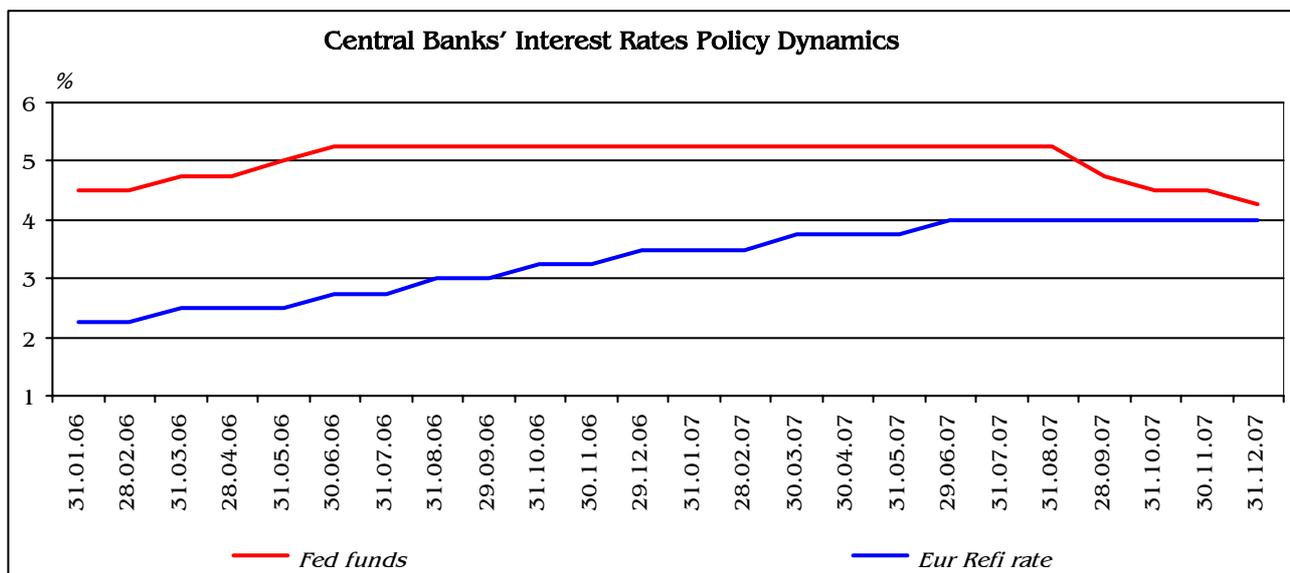


Source: Bloomberg.

Investor panic and uncertainties about future developments fuelled further involvement of turmoil and contagion in the financial system on a global scale. The crisis very quickly moved to developed European states, causing damage to those banking institutions that had huge amounts invested in US mortgage securities. In money markets, the financial crisis showed up in the form of high tension of short-term liquidity. Financial institutions, in their turn, started incurring big losses, being unable to refinance their short-term liabilities. In the third quarter, most of investment banks started getting rid of mortgage-backed securities and securities backed by other related assets, thus having incurred massive losses, too. Specifically, the German IKB Bank announced that it had big losses from investment in US subprime mortgage-backed securities; and the British Northern Rock Bank could not refinance its liabilities because of the 'freezing' of that securities market. Giants such as UBS, Citigroup, Merrill Lynch and HSBC topped the list of banks that had incurred massive losses. Overall, losses incurred by investment banks and broker houses exceeded USD 200 billion. In the USA and Europe, the lending criteria and requirements were significantly tightened.

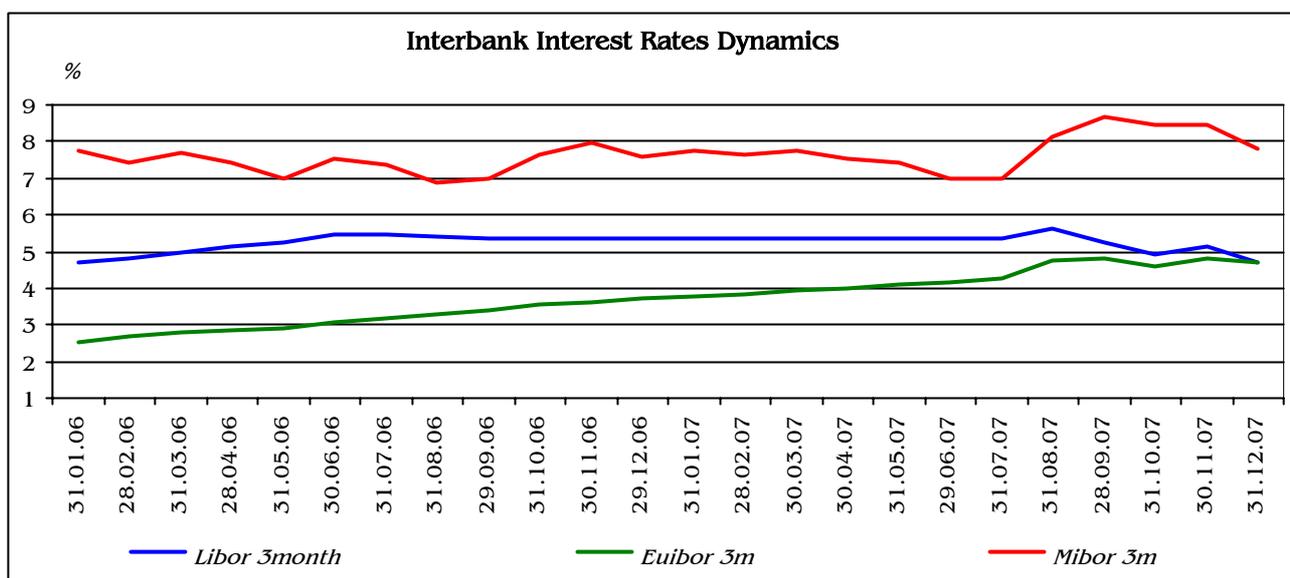


Source: Wikipedia.org.



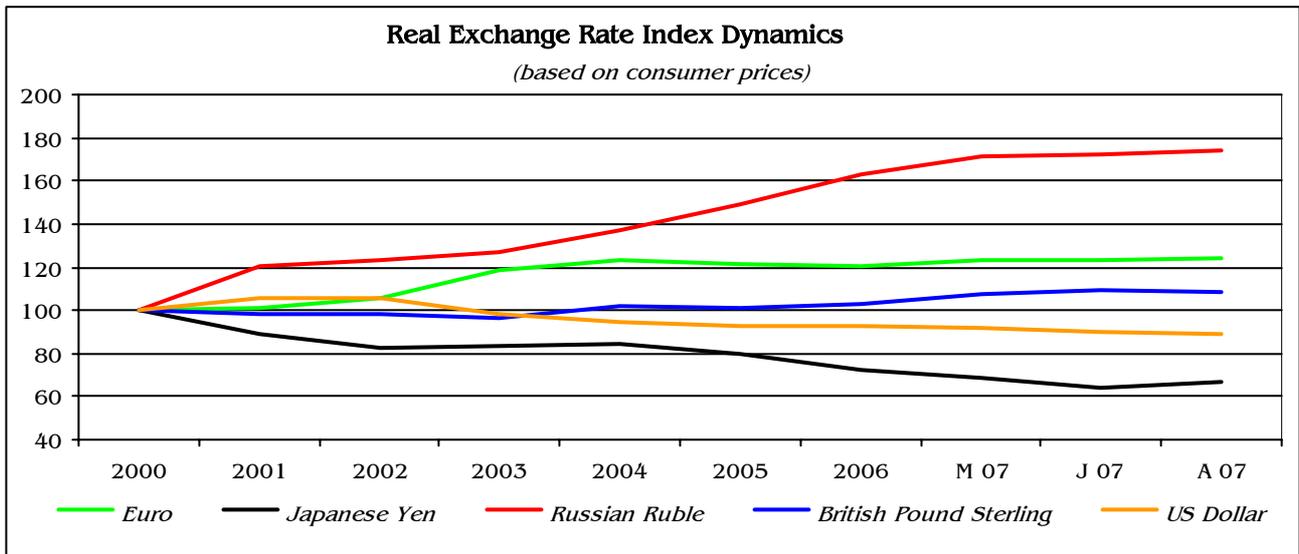
Source: Bloomberg.

In 2007, central banks of developed countries were conducting mainly tight monetary policy in order to minimize inflationary pressures. For this reason, the European Central Bank and Bank of England raised monetary policy interest rates during the year. In the second half of the year, the demand for liquidity in financial markets has resulted in a notable rise in short-term interbank rates. The central bank reference rates and interbank rates spread, which has normally been negligible, got much bigger. To overcome a liquidity crisis, central banks of European countries carried out additional liquidity injections and the US Federal Reserve Bank also lowered Refinancing Rate and Repurchase (Repo) Rate. Particularly, the Fed cut Federal Fund Rate and Discount Rate by 125 and 100 basis points down to 4.25 percent and 4.75 percent, respectively. Concurrent with this, the 2-year maturity government bonds yield dropped to 2.85 percent, which is its lowest since November of 2004.



Source: Bloomberg.

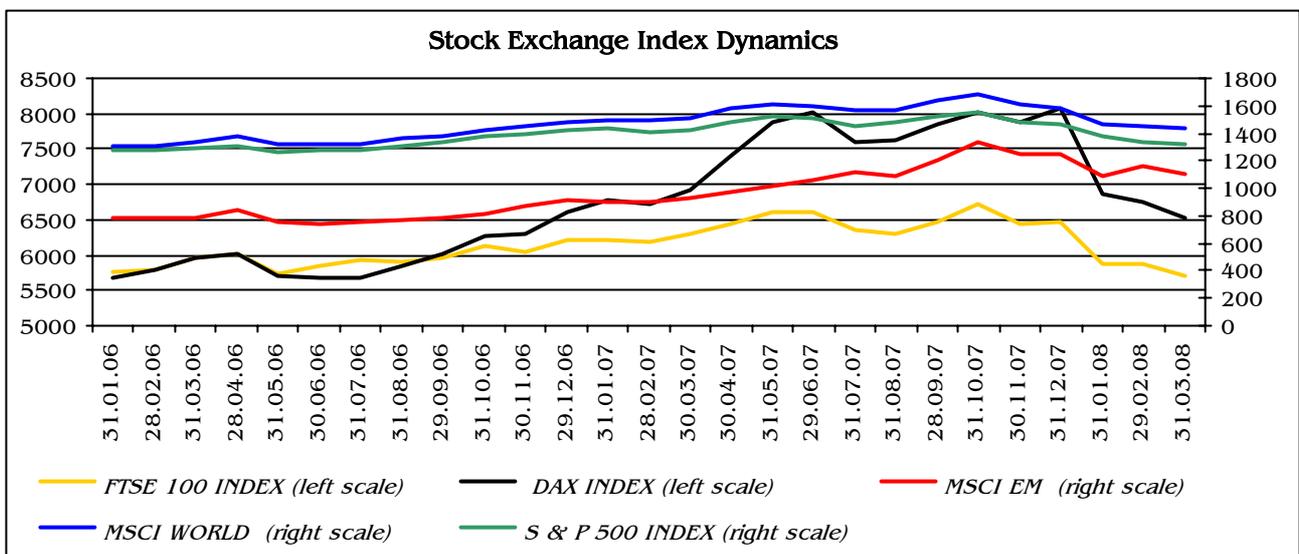
The US dollar exchange rate in 2007 remained trending downward and it even deepened after the Federal Reserve Bank cut Refinancing Rate and Repurchase (Repo) Rate. The declining of the US dollar exchange rate is concomitant with steady appreciation of euro, and, according to forecasts, depreciation of dollar vis-à-vis the main currencies may carry on in 2008, too, determined primarily by the US Fed's policy and realistic expectations of economic recession in the country.



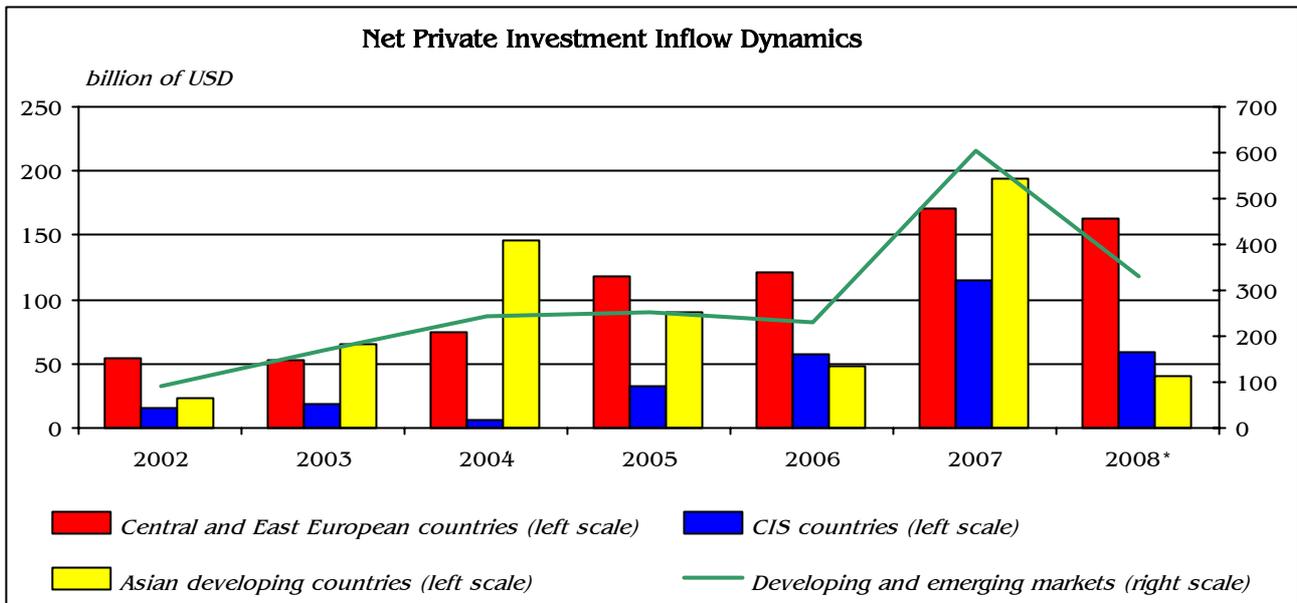
Source: IMF "World Economic Outlook, April 2008".

Unlike the developed countries, in developing countries the US liquidity crisis did not have material impact on financial institutions, except the countries in which banking systems have had short-term liabilities to financial institutions of the USA and developed European states. Banks of such countries started experiencing difficulties in attracting funds from international markets and, therefore, tightened to some extent terms of lending and raised interest rates on loans. Many banks in Russia and Kazakhstan had problems associated with refinancing of those liabilities. So far in Brazil, India and China, the crisis has only shown up through deterioration of stock market indices.

Uncertainties of market participants regarding further advancement of events in interbank market brought in more volatility in stock markets. Although being rather volatile, stock markets have demonstrated growth trends in the period 2006-2007. Positive predictions about profitability of companies were showing an increase of stock indices despite central banks' policies for interest rate rises. In the end of 2007, shocks of the US mortgage market crisis came in anew when major companies announced their financial losses. In developed countries, increased company losses triggered an abrupt fall in stock indices in stock markets. Investments in risky assets started to outflow to less risky government securities and, at a later point, to a commodities futures market, creating demand-side shocks in those markets.



Source: Bloomberg.



Since 2003, the main streams of capital inflow had been pouring into emerging Asian and European countries where both interest rates and profitability are rather high and economic growth is booming. Net private investment inflow to developing countries in 2007 doubled, which is partly explained by unpredictable and panic outflow of investment from stock markets and mortgage securities. The IMF forecasts that net inflow of private investment in 2008 is expected to reduce by 40 percent; specifically in the CIS countries, investment may shrink almost twice as much.

1.3. RUSSIAN FEDERATION

Developments in Russian Federation have important implications for the Armenian economy as Russia remains one of the principal trade partners to Armenia, and Russian investments into various economic sectors of the Armenian economy are growing day by day. Besides, a large amount of Armenian people lives there permanently; many travel Russia for seasonal work and direct a significant amount of remittance to Armenia.

Over three quarters of 2007, Russia's GDP growth rate has remained on quite a high level (7.6 – 7.9 percent per annum). All GDP components have contributed to the persistence of such economic growth rate. Private investment further ensured a double-digit growth owing to both foreign and domestic investors. Increased government spending thanks to growing resources in the Stabilization Fund and State Budget surplus has also contributed to the economic growth. In anticipation of Winter Olympic Games in Sochi in 2014 public procurement and investment are intended to grow considerably, which is already reflected in the 2007 government expenditures growth. Given increased government spending, the 2007 Russian State Budget surplus was reduced, having made up 5 percent of GDP. Only net exports decreased which is explained by faster growing imports.

The US crisis has not affected real estate prices in Russia, so trends for price growth persisted throughout 2007. In the primary market, real estate prices rose by 16.4 percent and in the secondary market, by 12 percent³. The mortgage lending volumes increased during the year by 87.3 percent while all loans extended to households grew at a slower pace, 57 percent. Analysts predict that trends for growth of real estate prices will persist in 2008, too, at an annual rate of up to 18 percent.

Household income growth and global price-rise on food promoted an acceleration of CPI growth in Russia up to 11.9 percent that is the highest indicator of inflation in this country since 2005.

³ Source: RBC News Agency.

The level of unemployment in 2007 reduced from 7.1 percent at the start of the year to 5.9 percent at yearend. The Russian labor market has certain characteristics, and this is why the indicator of unemployment is unable to reflect a complete picture of that market. The first is the vast army of illegal migrants and the second is demographic disproportions that create additional impediments to the economic development. In the year ahead employment is expected to grow, which will be determined by high economic growth rates and reduction in the number of population.

Adverse events taken place in global financial markets have not been decisive to Russia's economic developments in 2007. Some analysts explain this phenomenon by considering that most of Russian companies have relatively a lower financial leverage ratio. However in autumn of 2007, the major Russian companies experienced serious hardships in refinancing short-term liabilities. In the second half of 2007 there was a tense, short-term liquidity shortage situation created in interbank market, which proved to be of restrictive effect on further growth of banking sector assets. To tackle the liquidity issue, the Russian Central Bank extended the list of securities eligible for the pledge in the Central Bank. True, the liquidity issue was not resolved completely but this action helped to ease the tension.

The collapse of global stock markets in January of 2008 had an impact on the Russian stock markets as well: quotations on Russian 'blue chip' stock indices fell sharply. As of the first quarter of 2008, capital outflow from Russia totaled USD 22.8 billion. However, experts reckon that the situation in the second quarter will stabilize and the capital outflow will stop⁴.

SUMMARY

Developments in global economy and financial markets are less likely to have a material adverse impact on Armenia's economy and financial stability. The Armenian banking system has no reliance on international financial markets for short-term liabilities. Banks' investment in foreign securities is small. So, the Armenian banking system can avoid liquidity crisis in international financial markets.

It is likely that global price-rise on oil and commodities will create additional inflationary pressures in Armenia, and this may result in higher-than-projected inflation and decline in real income of households in Armenia. However, it should be noted that persistent growth of household incomes in the last 2 years may be a cushion to the possible decline of real incomes.

Forecasts for the developments in Russian Federation are rather optimistic. One may anticipate that, given persisting economic activity in Russia, the growth of inbound remittances and factor income⁵ of Armenian citizens would carry on and that trade volumes and economic cooperation with Russia would increase.

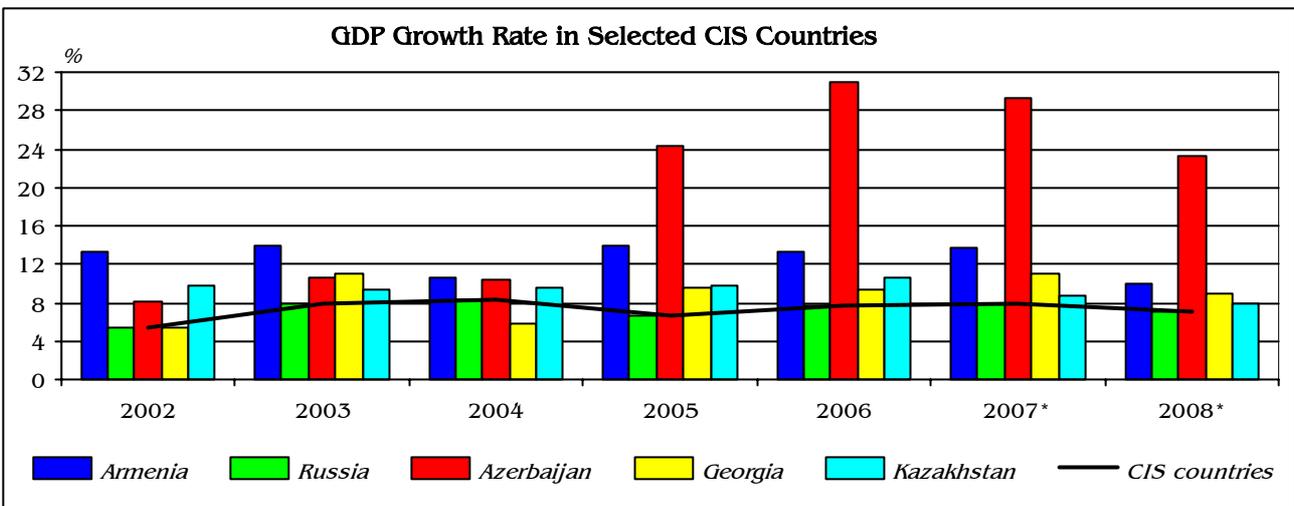
⁴ *Mediamax News Agency.*

⁵ *See details in the section Net Factor Income and Transfers.*

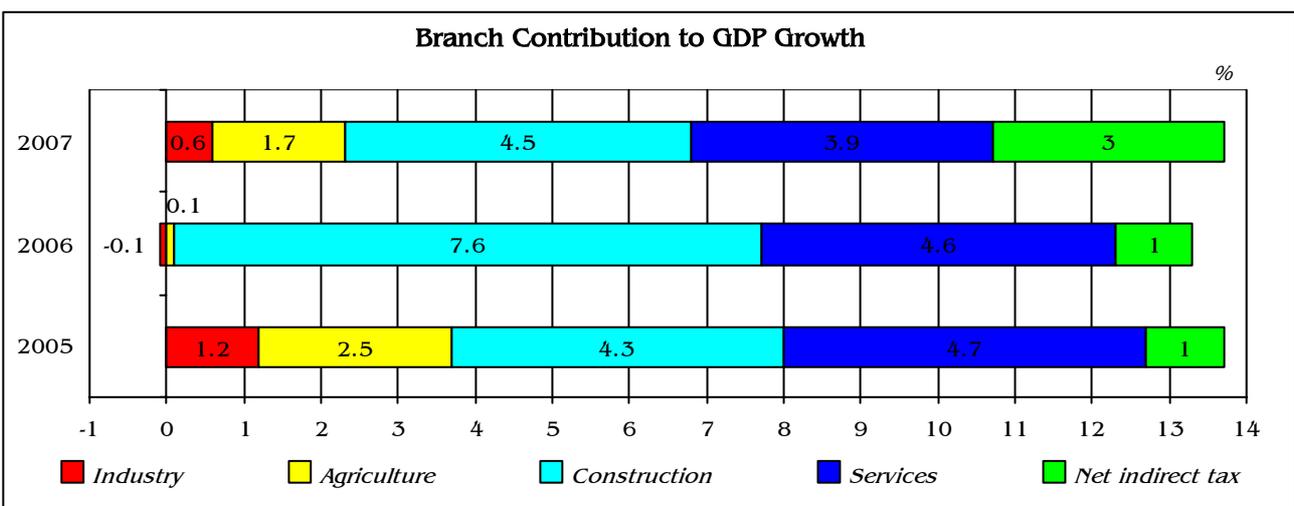
2. FINANCIAL STABILITY IN ARMENIA'S MACROECONOMIC ENVIRONMENT

In view of financial stability, favorable developments in the real sector of the economy, which will ensure a steady increase in income and profitability of financial institutions' customers, viz. households and enterprises, are crucial. Adverse changes in real estate prices may bring loss to both banking institutions and households and construction companies. This aspect is especially important for Armenia because construction branch in the last three years has greatly contributed to overall economic growth. These factors described above and some other factors relevant to economic growth will be viewed in this section of the report.

In 2007, the GDP growth rate outperformed the previous year's indicator by 0.4 pp to 13.7 percent. Construction and services branches have been the main contributors to the GDP growth. High economic growth in Armenia in the last three years owes to the dynamic growth in these two branches.



Source: IMF "World Economic Outlook, April 2008", the Central Bank.



Source: National Statistics Service of Armenia.

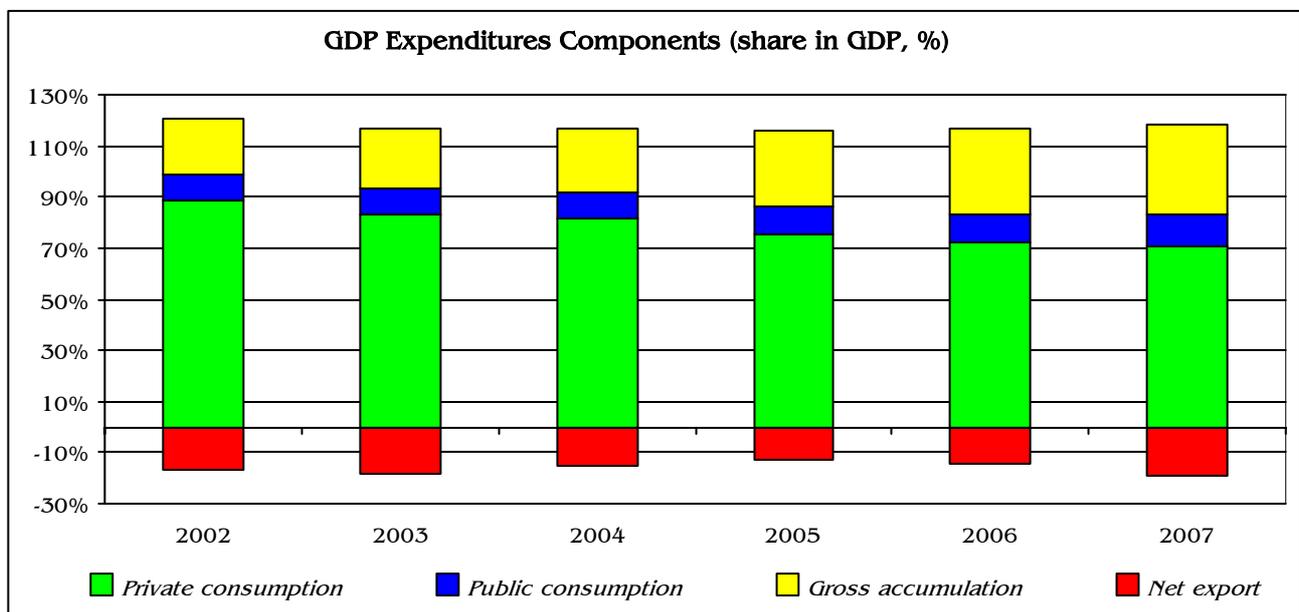
Good weather conditions have markedly contributed to the growth of agriculture. Agricultural output has increased by 9.6 percent. Prices of agricultural products have not grown much. Banking system continued originating agricultural loans and, in the meantime, the volume of non-performing loans has subsided.

As in the previous year, in 2007 too, the real growth of industry incurred a restrictive impact of the diamond processing branch which reported about 33 percent decline. As volumes of construction continued increasing branches of production of building materials reported increased output. The growth in other branches of industry has not been noticeable, and developments in industry have no any adverse risk to the banking system.

Continued rise in household income as a result of increased private remittances, wages as well as declined unemployment has contributed to the high growth of construction and services branches. A greater part of growth of construction in 2007 owed to increased volumes of road construction. Growth rates of housing construction, however, have slowed down as major housing projects embarked on in the previous year got accomplished.

Concurrent with the growth of construction and services, lending to these branches have increased during the year. The credit quality has fallen somewhat in the construction lending, which however does not pose material risks to the banking system because the volume of construction loans has a small concentration in both total credit portfolio of the banking system and credit portfolio of individual banks. Loans provided to services branch⁶ in 2007 have almost doubled and made up one quarter of credit portfolio of the banking system, but their concentration by banks, however, is low. Risks associated with the lending to this sector are basically reliant on the change in household incomes. Because household incomes are increasingly dynamic to growth the banking system is not likely to see big risks to derive from crediting of services sector.

A high economic growth indicator has been attained during the year owing to real growth of domestic demand and, particularly, private consumption. Growth of private consumption in 2007 was 16.1 percent against 12.6 percent in the previous year. The private consumption growth rates have accelerated primarily as a result of high growth of household incomes and increased volumes of consumer loans.

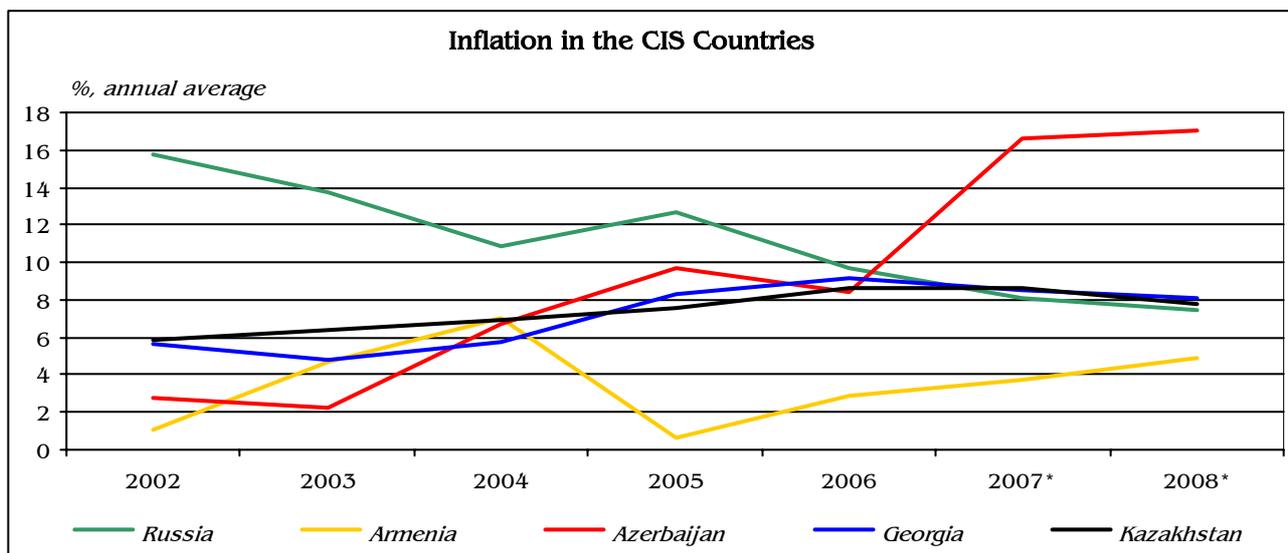


Source: National Statistics Service of Armenia.

As of yearend 2007, end of period inflation has reached 6.6 percent, having exceeded the target. Average annual inflation has made up 4.4 percent. Recorded high inflation has been a result of external factors, such as global price-rise on bread products and vegetable oil. However, inflation in Armenia has been much lower in comparison with that of recorded in the CIS countries⁷.

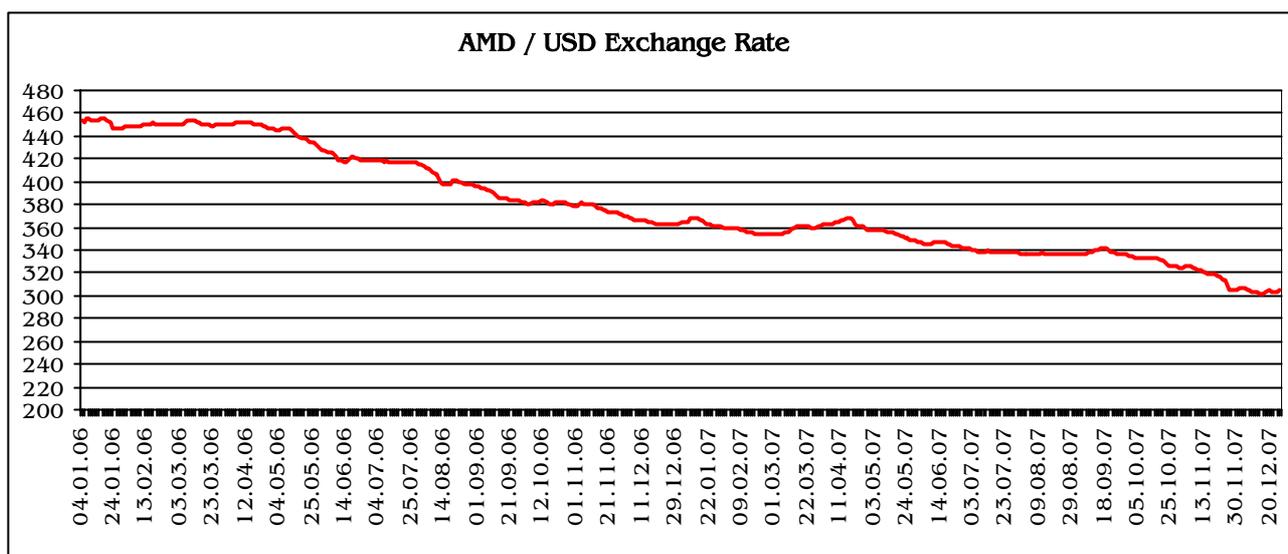
⁶ Includes sub-branches such as wholesale and retail trade, transport and communications, public catering, and other.

⁷ See a detailed report on inflation 2007 in the Republic of Armenia Monetary Policy Program, Inflation Report – First Quarter.



Source: IMF "World Economic Outlook, April, 2008".

The year 2007 saw appreciation of Armenian Dram which had been persisting from previous years. During the year, the dram appreciated by 16.3 percent, and in the end of the year the exchange rate was AMD 304.22 per US dollar⁸. Growth rates of private remittances, factor incomes and foreign investment during the year have persisted, all having fuelled a growth of foreign currency supply. With the dram appreciating, dram-denominated deposits have grown by 76 percent while foreign currency-denominated deposits declined by 1 percent.

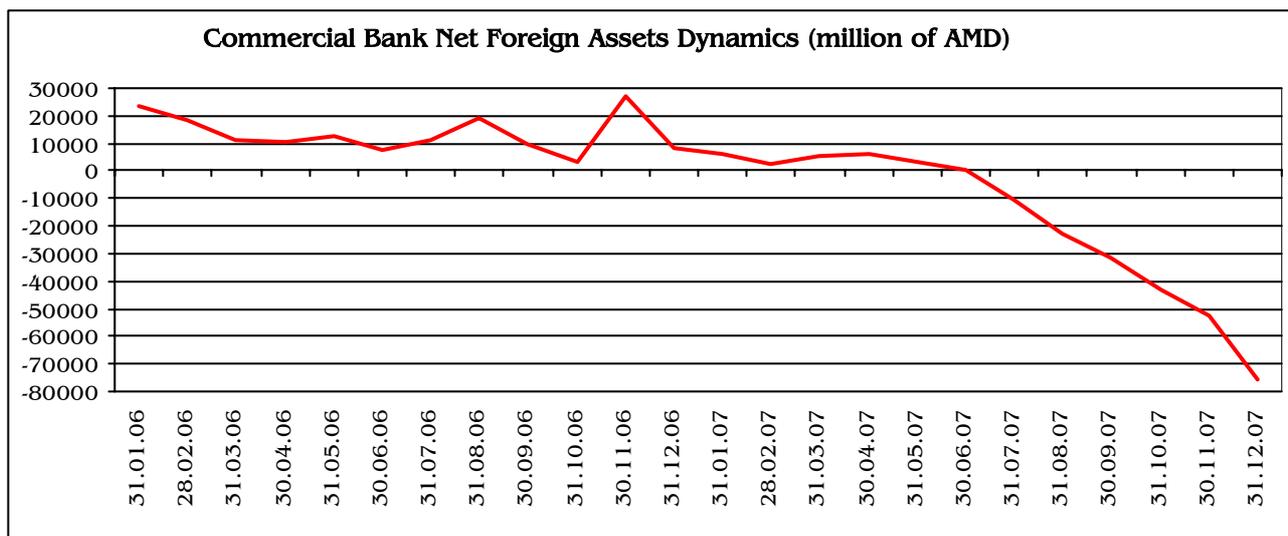


Source: Central Bank.

Since the second half of 2007, the volume of foreign liabilities of the Armenian banking system has outstripped that of foreign assets. During 2007, the volume of net foreign assets has reduced by almost 10 times down to AMD 75.8 billion at the end of the year (a negative value). Borrowings of Armenian commercial banks and credit organizations from the rest of the world have increased by USD 392 million, repayments on current borrowings have amounted to USD 145 million, and in the yearend 2007 the debt outstanding has been USD 347 million. The principal lenders to Armenian commercial banks and credit organizations were Great Britain with 18.3 percent share in the total (6.2 percent in the previous year); Russian Federation with 14.4 percent share in the total (6.4 percent in the previous year); Latvia with 10.8 percent share in the total (7.8 percent in the previous year); and the USA with 10.2

⁸ See details in the same paper.

percent share in the total (15.3 percent in the previous year). About 10.9 percent of total borrowings is from international organizations. Major part of loans attracted is long-term, which is why liquidity difficulties in global money markets did not have an impact on Armenian commercial banks.



Source: Central Bank.

In 2008, Armenia is expected to maintain a double-digit economic growth, as in previous years, in the range of 11 percent, which will be contributed mainly by construction and services branches. The inflation indicator may exceed the target 4(±)%, like in 2007, mostly due to global price-rise on grains and oil as well as their auxiliary impact on prices of the rest of commodities⁹.

2.1. FOREIGN TRADE

One peculiarity of the Armenian economy is that there are concentrations on certain commodity groups in the structure of exports and imports – oil, gas, food, copper ore, and diamond. Fluctuation of international prices of these commodities may affect domestic economic stability, leading to deterioration of terms of export and increase of prices of imported raw materials and imported consumer goods.

The growth of household incomes, private remittances and factor incomes inflow in the recent years has boosted an increase in volumes of public consumption. As imported goods have a large share in consumption, the above noted increase of consumption, in turn, has promoted the broadening of import volumes. Increased import of raw materials has also contributed to the growth of import; as such, the group “Ore and Minerals” has grown in 2007 by 42 percent. Survey¹⁰ conducted by the Central Bank showed that nearly 55 percent of raw materials used by enterprises in Armenia is imported from abroad (chiefly from non-CIS countries). The respondents listed the following reasons of why they are using imported raw materials:

- Armenia lacks or does not produce most part of raw materials imported.
- Raw materials imported are of better quality compared to what is produced domestically.
- Cost price of raw materials imported is less than those of produced domestically.

Survey further showed that raw materials imported are used primarily in production of machinery and equipment, in jewelry, food, and light industry, as well as in printing industry¹¹. In view of economic stability, risky is the likely rise of global prices of raw

⁹ You may obtain detailed information about inflation from the Central Bank periodicals the Republic of Armenia Monetary Policy Program; Inflation Report.

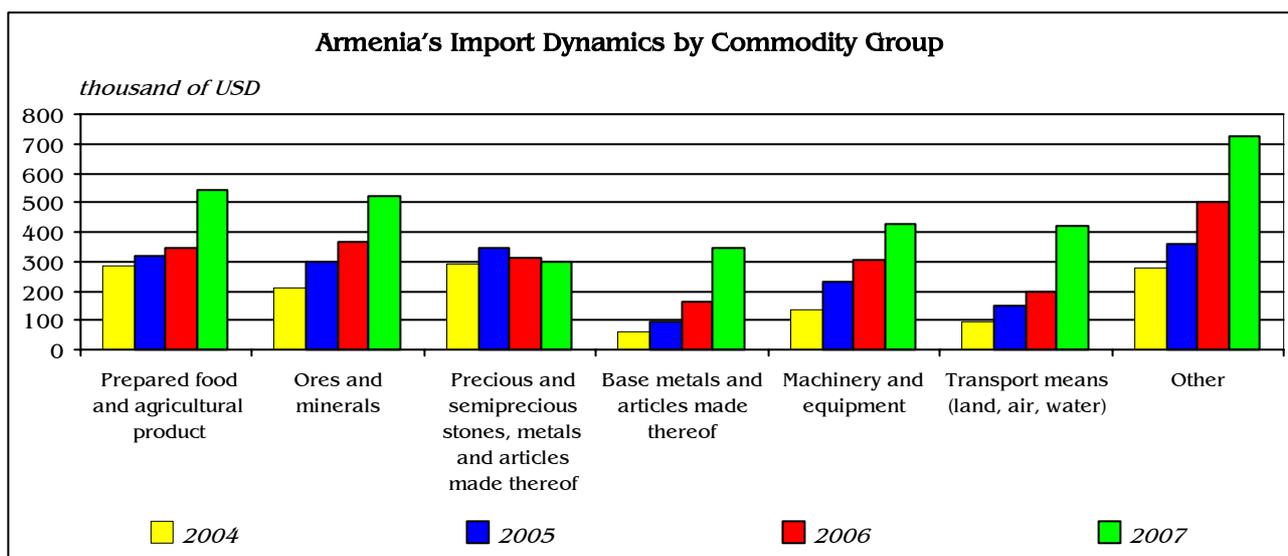
¹⁰ The Study on Enterprise Competitiveness and Financial Resources Management; about 120 different enterprises were respondents to the survey.

¹¹ The Study on Enterprise Competitiveness and Financial Resources Management; about 120 different enterprises were respondents to the survey.

materials imported, which may raise the cost price of domestic produce and thus impede the development of these industries.

The situation with food prices on a global scale as well as accelerated growth rates of prices of commodities, ores and minerals and intermediate consumption goods in 2007 all pushed dollar prices of imports up. During the year, a 20.2 percent rise in prices of imported goods was recorded which has additionally contributed to high growth of imports in dollar terms (56.1 percent)¹².

Armenia's Import Volumes by Commodity Group and Annual Growth, <i>thousand of USD</i>							
Year	Prepared food and agricultural product	Ores and minerals	Precious and semi-precious stones, metals and articles made thereof	Base metals and articles made thereof	Machinery and equipment	Transport means (land, air, water)	Other
2005	315.94	297.40	347.63	94.06	232.49	151.75	362.46
annual growth	12%	42%	19%	55%	72%	64%	30%
2006	345.49	366.01	312.50	165.73	304.38	196.65	504.85
annual growth	9%	23%	-10%	74%	31%	30%	39%
2007	559.28	519.12	296.72	348.76	429.03	423.02	725.90
annual growth	57%	42%	-5%	113%	41%	115%	44%



Source: Central Bank.

Growth of export during the year amounted to 5.8 percent. The slowing of growth rate compared to the previous year was due to a 29 percent reduction of export of the group "Precious and Semi-Precious Stones, Metals and Articles made thereof" (because of structural changes taking place in world diamond market, a smaller amount of diamond is being imported to Armenia for processing). The negative contribution of this commodity group to exports has been 11.8 pp; when this is excluded, the growth of exports in 2007 would have reached 25.6 percent. Owing to persisting favorable developments in industry, physically increased volumes of exports as well as risen prices of exported goods have contributed to the growth of exports.

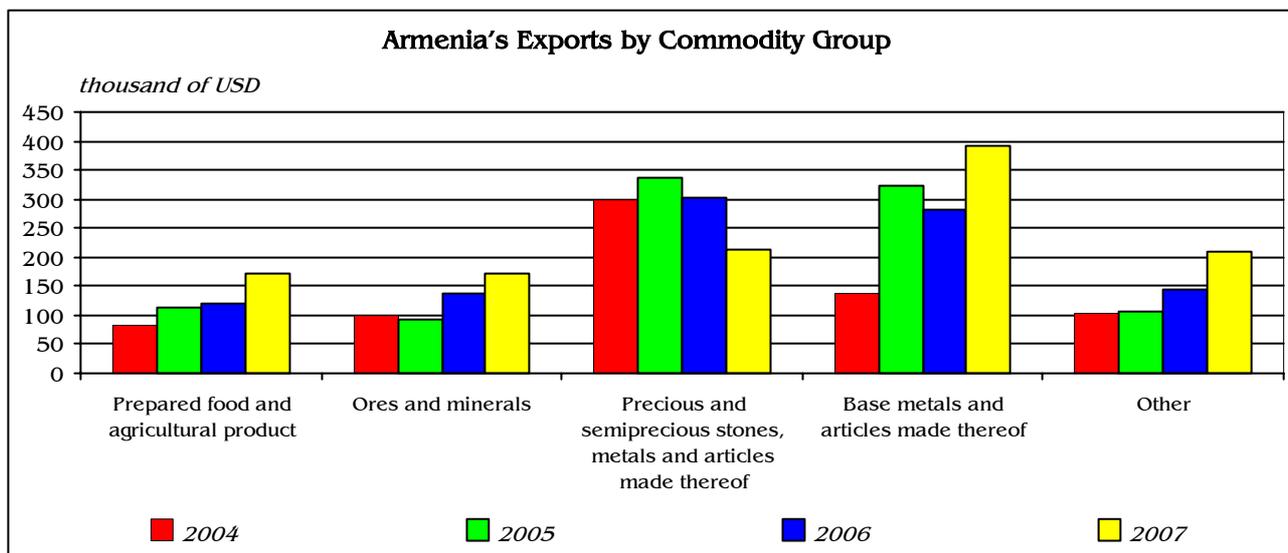
When broken down by individual commodity groups, three out of four main commodity groups – "Ores and Minerals", "Base Metals and Articles made thereof", and "Prepared Food" – remained the main contributors to the export growth.

¹² The Central Bank estimation.

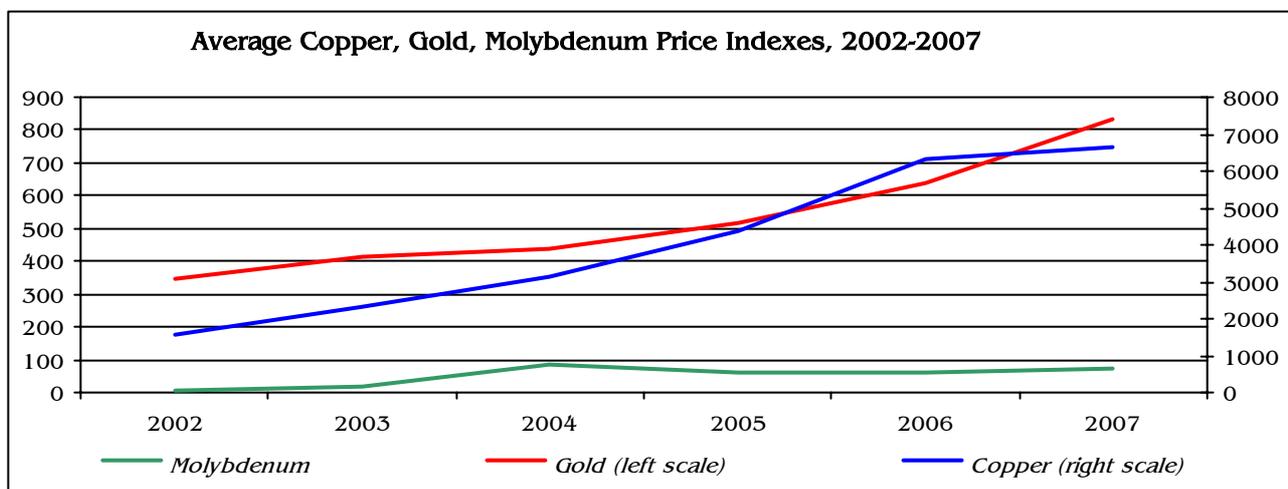
Armenia's Export Volumes by Commodity Group and Annual Growth, <i>thousand of USD</i>					
Year	Prepared food and agricultural product	Ores and minerals	Precious and semi-precious stones, metals and articles made thereof	Base metals and articles made thereof	Other
2005	114.11	93.49	336.34	321.95	108.03
annual growth	38%	-6%	12%	134%	4%
2006	121.85	136.55	300.96	280.90	144.85
annual growth	7%	46%	-11%	-13%	34%
2007	171.83	172.23	213.72	390.17	209.45
annual growth	41%	26%	-29%	39%	45%

Source: Central Bank.

Export of the commodity group "Ores and Minerals" has grown by 26 percent. Growth of export of copper ore and concentrate, molybdenum ore and concentrate and cement, recorded since the beginning of the year, persisted in contributing to the growth of export of this commodity group. Growth of commodity group "Base Metals and Articles made thereof" made up 39 percent. High growth of export of this group persisted owing to retained high level of prices of molybdenum in international markets and increased volumes of its exports. Growth of commodity group "Prepared Food" made up 41 percent mostly on account of brandy.



Source: Central Bank.



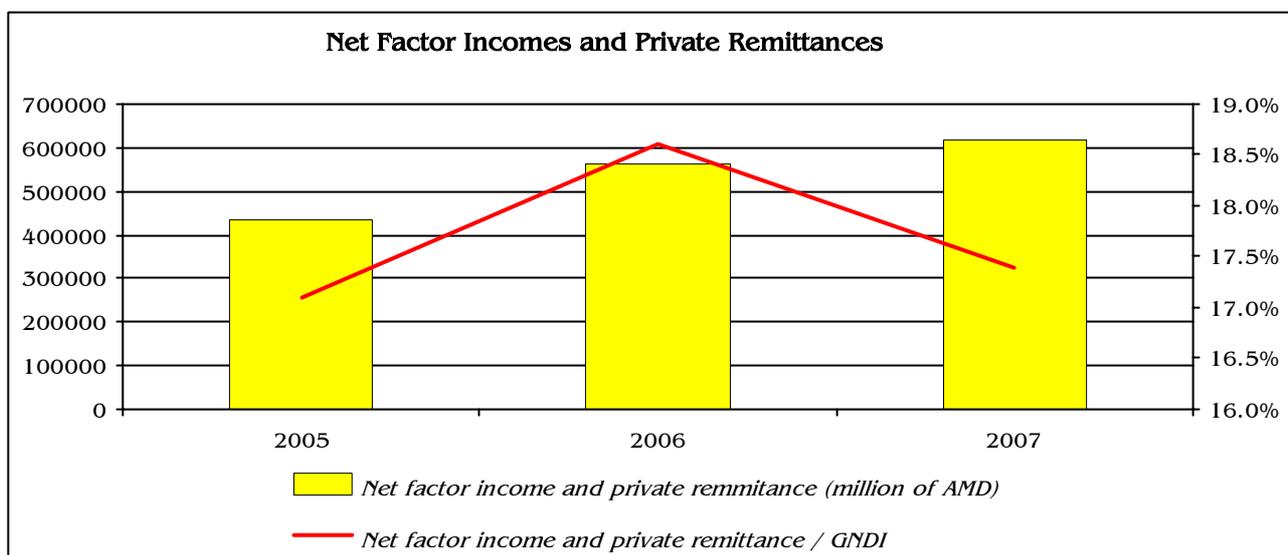
Source: Bloomberg.

In view of exports, since Armenia is exporting metals – gold, copper and molybdenum, in particular – risks are mostly associated with the dropping of prices of ores and minerals. Prices of these commodities as well as volumes of exports thereof increased in 2007. No specific risks are anticipated in this area in 2008 as metals prices are most likely to either remain on the same level or go up. Anyway, investments made in these sub-branches are guaranteeing an opportunity for growth.

According to forecasts, established trends for Armenia’s exports and imports will persist over 2008 and these will not be a source of risks threatening the country’s financial stability.

2.2. NET FACTOR INCOMES AND REMITTANCES

Influx of net factor incomes and remittances, as and when adversely changed, can be seen as one of key risks from an external environment threatening financial stability of Armenia, because these constitute an essential share in incomes of population in Armenia. The share of net factor incomes and private remittances in Gross National Disposable Income made up 17.4 percent, down by 1.2 pp in comparison with the previous year’s figure.



Source: Central Bank.

Net factor incomes and private remittances received during 2007 have amounted to AMD 619.8 billion, up by 9.9 percent compared to the previous year’s indicator. Given the appreciation of the dram vis-à-vis the US dollar, the growth of net factor incomes and private remittances in dollar terms in 2007 made up 33.7 percent.

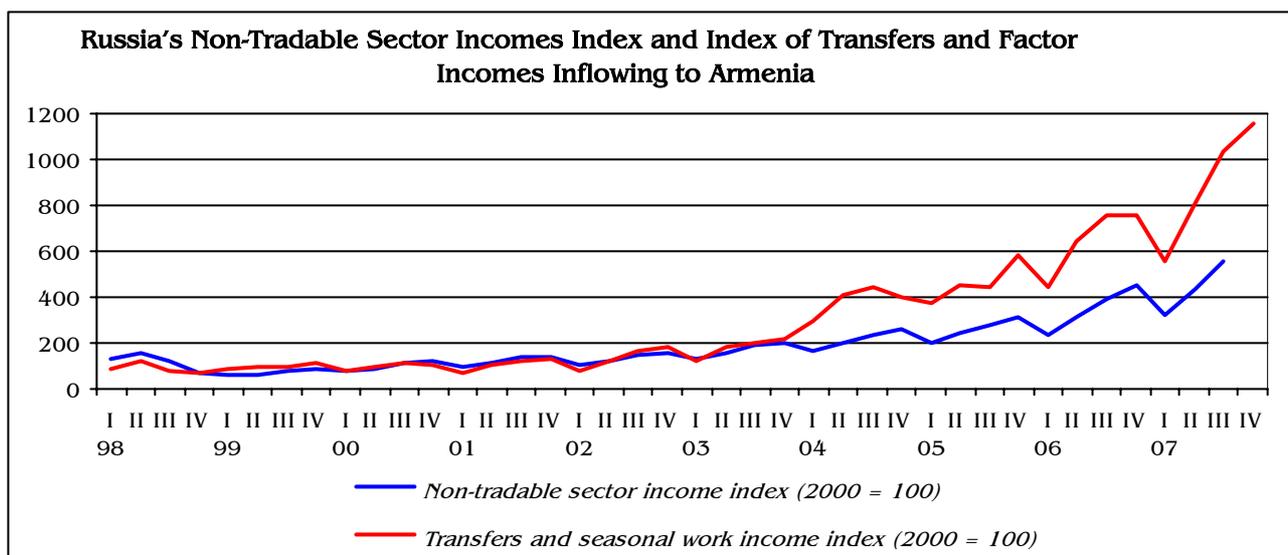
As high as 89.7 percent of inbound remittances received through the Armenian banking system are delivered by Armenian expatriates who live and work in Russian Federation. Remittances and factor incomes are by and large used to finance consumer expenditures, utility bill payments as well as private construction financing.

A prevailing part of Armenian expatriates who live or work in Russia is engaged in that country’s non-tradable sector, commerce and construction, in particular¹⁵. The volume of inbound transfers and factor incomes from Russia depends on how these branches of the Russian economy develop, which is, in turn, heavily conditional on developments in oil industry, prices of energy resources and volumes of Russian exports.

Regression analyses conducted by the Central Bank showed that the correlation between Russia’s non-tradable sector incomes and remittances inflowing to Armenia is statistically significant, which is also illustrative in the chart. In this regard, the change

¹⁵ Source: Surveyed results of the Central Bank query conducted to identify the structure of non-commercial remittances that arrive from abroad on behalf of Armenian resident individuals.

in oil prices, influencing economic development of Russia through a chained transmission, may have a material impact on Armenia in terms of inbound remittances and factor incomes. Oil prices in 2007 rose by 48.7 percent, and the most price-rise has occurred in the fourth quarter of the year for which there have been fundamental factors such as oil supply and demand disproportions, geopolitical developments, the weakening of the US dollar, and the speculative capital inflow from a collapsing mortgage market to commodities markets (see the section Developments in World Economy). Oil price forecasts for 2008 too, are mostly set towards an increase, as well as forecasts for the developments in the Russian economy are positive. Based on such developments, one may expect that in the year ahead there will be no risk of minimization of private remittances and factor incomes coming from Russia.



Source: State Statistics Committee of Russian Federation; Central Bank of Armenia.

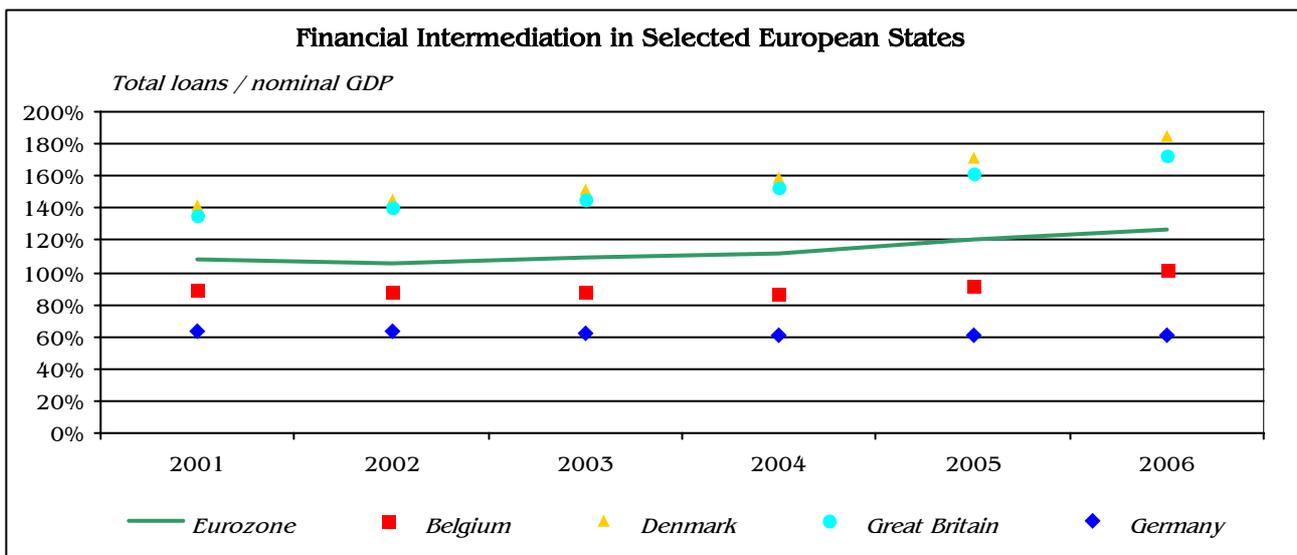
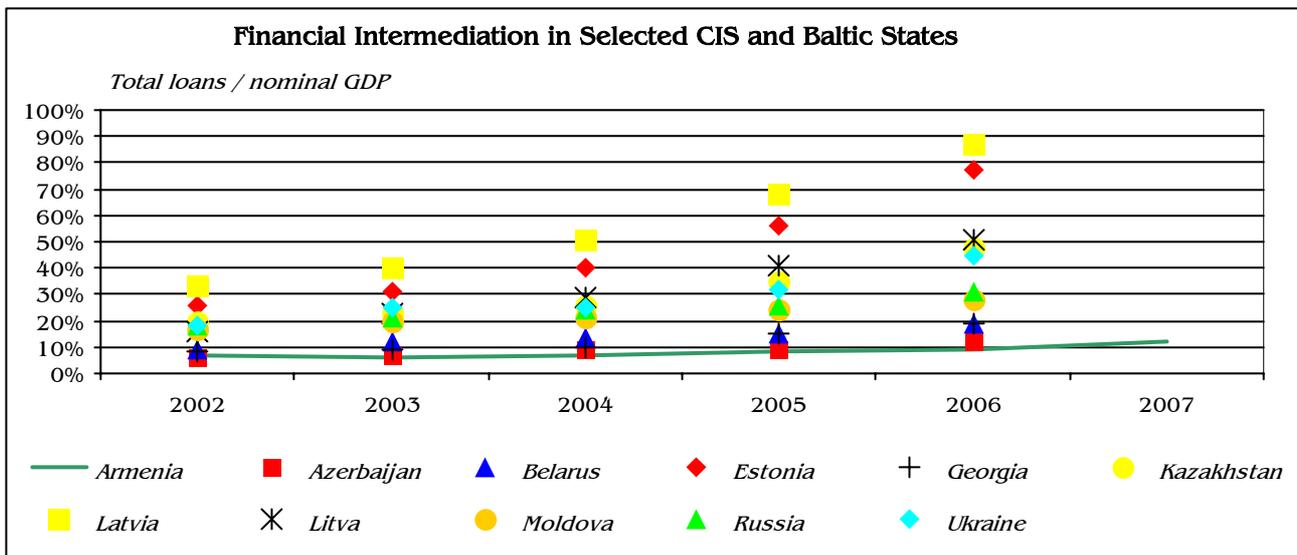
2.3. HOUSEHOLD INCOME AND DEBT BURDEN

The unemployment rate in 2007 has reduced by 0.3 percent to 7.1 percent. The growth of average monthly nominal wages has made up 24.4 percent. Reduced unemployment rate and increased wages have promoted a 25.7 percent growth of household income. The growth of wages has almost thrice as much outstripped the inflation rate, that is, household income has not reduced in real terms. The volume of factor incomes and remittances (in dram terms) that have a significant weight in household income in Armenia has increased during the year as well.

Debt and Income Indicators				
	2004	2005	2006	2007
Growth of loans extended by the banking system to economy	39%	39%	25%	78%
Growth of loans extended by the banking system to households	36%	50%	44%	89%
Growth of Gross National Disposable Income	16%	17%	19%	17%
Ratio of loans extended by the banking system to economy / Gross National Disposable Income	6%	8%	8%	11.5%

An unprecedented credit growth, 78.4 percent, has been recorded in 2007 while loans provided to households have grown by 89 percent. Faster growing lending has improved the ratio of Debt in Economy / Income to rise by 3.5 pp to 11.5 percent. Such an increase of debt burden is not risky to financial stability since the growth of household income is sustainable and banking institutions' credit losses are manageable. It is worth mentioning that in the recent 5 years, credits have been

growing at higher rates in almost all CIS and East-European countries, which is typical to countries that are in a development stage like this. In Armenia, however, the level of financial intermediation is still low in comparison with that of the rest of post-Soviet countries. For example, the ratio of Total Loans / GDP is 30 percent in Russia but it is in excess of 80 percent in developed countries.



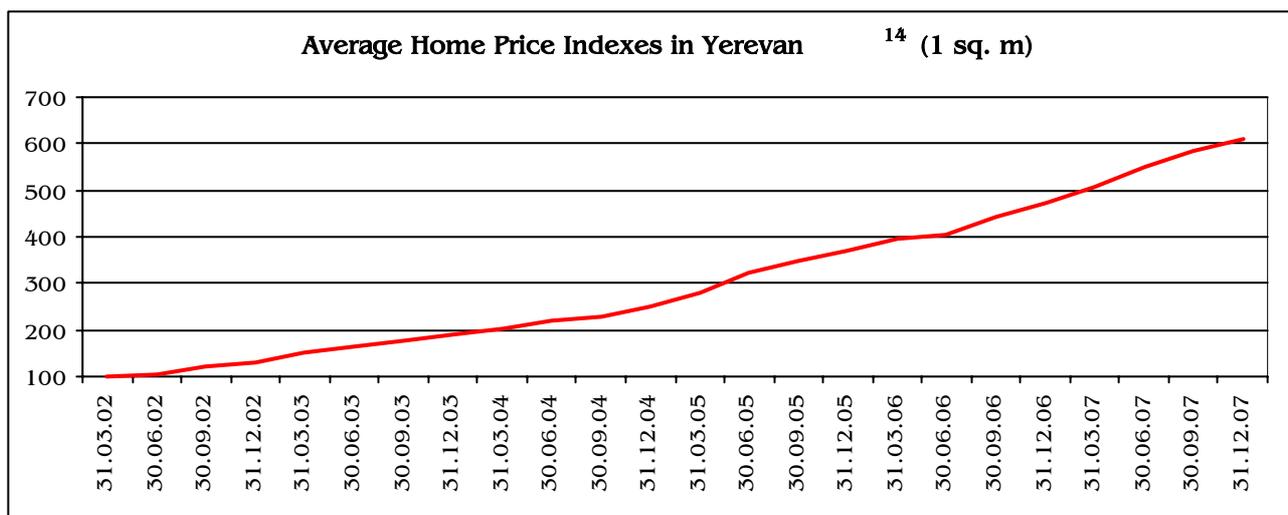
Source: IMF.

2.4. CHANGE IN REAL ESTATE PRICES

In view of financial stability, a sustainable growth of real estate prices is essential, particularly for the reasons of ensuring reliability of mortgage loans and retaining highly growing housing construction. Real estate prices in the last couple of years have been steadily growing in Armenia. The dropping of property prices in the USA and Europe in 2007 due to the US mortgage market crisis has not affected the prices on real estate in Armenia. In 2007, real estate prices in Yerevan have grown by 30.4 percent and in regions of Armenia, by 33.9 percent, which is a little higher compared to an increase in the previous year. Continuous price-rise on real estate in Armenia is determined by growing demand for real estate that is concurrent with growing household incomes.

Growth rate of new dwelling houses in 2007 has been 128.3 percent (106.6 percent in the year before). The volume of construction of dwelling houses during the year has

added a mere 0.6 percent to housing resources available as of yearend of 2006 (in 2006, the housing resources covered an area reaching 76,173 thousand sq. m). In the real estate supply point of view, the volumes of construction have not grown dramatically nor have prices fallen as a result.



Source: The Republic of Armenia State Committee of Cadastre.

Sources of financing	Dwelling houses		Share in total	Percentage change to 2006
	Number of houses	Square meter		
Total of which:	891	469 277	100%	128.3%
State budget	120	43 698	9.3%	4.6 Ի-III
Humanitarian aid	65	2 928	0.6%	109.4%
Resources from organizations	25	73 772	15.7%	144.3%
Household resources	681	348 879	74.4%	115.3%

Source: National Statistics Service of Armenia.

The main source of financing is household resources – 74.4 percent; these resources have grown during 2007 by 15.3 percent.

SUMMARY

Developments in macroeconomic environment in Armenia in 2007 have generally been favorable, have neither adversely affected credit portfolio of banking institutions nor created material risks undermining soundness and stability of financial institutions. The year 2007 has seen high economic growth, household incomes have grown in real terms, and private remittances from abroad have not reduced. Relatively faster growth of real incomes of people has to some extent eased an adverse impact of inflation recorded in 2007. Stably growing household incomes makes it possible to predict that, in spite of record growth of lending, the likelihood of an increment of credit risk is not high, especially given still a very low level of debt to income ratio in Armenia.

Real estate prices in 2007 have grown thus safeguarding banking institutions and people from a concern for possible diminution of real estate and asset values.

¹⁴ Source: the Republic of Armenia State Committee of Cadastre's website www.cadastr.am (because the website lacks a composite average real estate price index for Armenia, the average home price index for the city of Yerevan had been chosen as the best criteria/benchmark to reflect price developments in the Armenian real estate market). Before June of 2005, the real estate prices have been quoted in US dollars and, thereafter, in Armenian drams, so which is why, average price growth rates have been calculated in dollar and dram terms, respectively, in order to produce the composite average price index.

3. ARMENIA'S FINANCIAL MARKET STABILITY

3.1. MONEY AND CAPITAL MARKETS

During 2007, almost all segments of Armenia's financial market saw interest rates trending upward. The Central Bank Repurchase (Repo) Rate has climbed by 100 basis points against the beginning of the year, to reach 5.75 percent in the end of the year. Interest rates of government bonds increased mainly in a short and medium perspective, while these tended to decline in the long run.

The ratio of Average Modified Duration Indicator (D_M)¹⁵ designed to evaluate interest rate risk remained almost unchanged in comparison with the previous year's indicator, and reached 2.48 for outstanding government bonds (excluding the Central Bank bonds) as of yearend 2007. Where the Central Bank bonds are included in the calculation, interest rate risk tended to reduce. Thus, the Average Modified Duration (the Central Bank bonds included) was 1.49, down by 0.17 points in comparison with the previous year. Duration of treasury bills has not changed essentially, i.e. it has dropped by 12 to make up 988 days (974 days in the previous year).

Modified Duration of Outstanding Government Bonds as of 31.12.2007 for Different Maturities (including the Central Bank bonds)						
D_M	up to 6 months	from 6 months to 1 year	1-2 years	2-5 years	5-7 years	7-10 years
	0.18	0.53	1.23	3.02	4.94	7.33

Source: Central Bank.

Modified Duration of Government Bonds in Trading Books of Commercial Banks as of 31.12.2007 and Likely Profit/Loss in case of 1% Change in Yield for Different Maturities							
	up to 6 months	from 6 months to 1 year	1-2 years	2-5 years	5-7 years	7-10 years	Total
Government bonds in trading book (million of AMD)	38778	8801	7436	18929	5182	3353	82479
Share in total portfolio	47%	11%	9%	23%	6%	4%	100%
D_M	0.2	0.8	1.2	3.0	4.9	7.3	1.6
Price change +/- (million of AMD)	81.9	69.6	92.5	572.4	273.3	283.3	1372.9

Source: Central Bank.

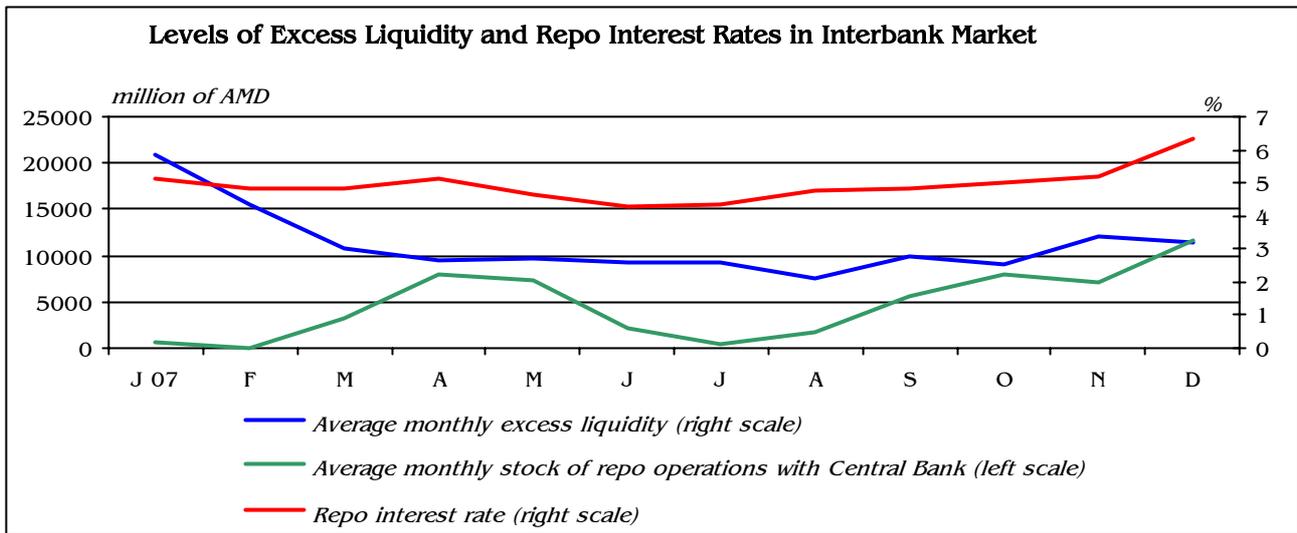
In case of increase of yield by 1 percent, the likely loss in commercial banks' portfolio of government securities may reach a maximum of AMD 572 million for securities with 2-5 years of maturity because the share of securities with such maturity period have relatively a bigger share in total portfolio of commercially available securities and a higher duration value.

Average variance of yields on operations carried out in the secondary market of government securities has dropped in 2007, against the previous year, by nearly 0.7 pp to reach 1.14. Volatility of interbank Repo interest rates has shrunk as well: average variance of interest rate spread of Repo Operations and Central Bank Repo interest rate has reduced against the previous year by 0.11 pp to make up 0.50 in 2007.

In the yearend 2007, interbank marker Repo interest rate was 6.31 percent, which is higher by 1.0 pp compared with the same indicator for 2006.

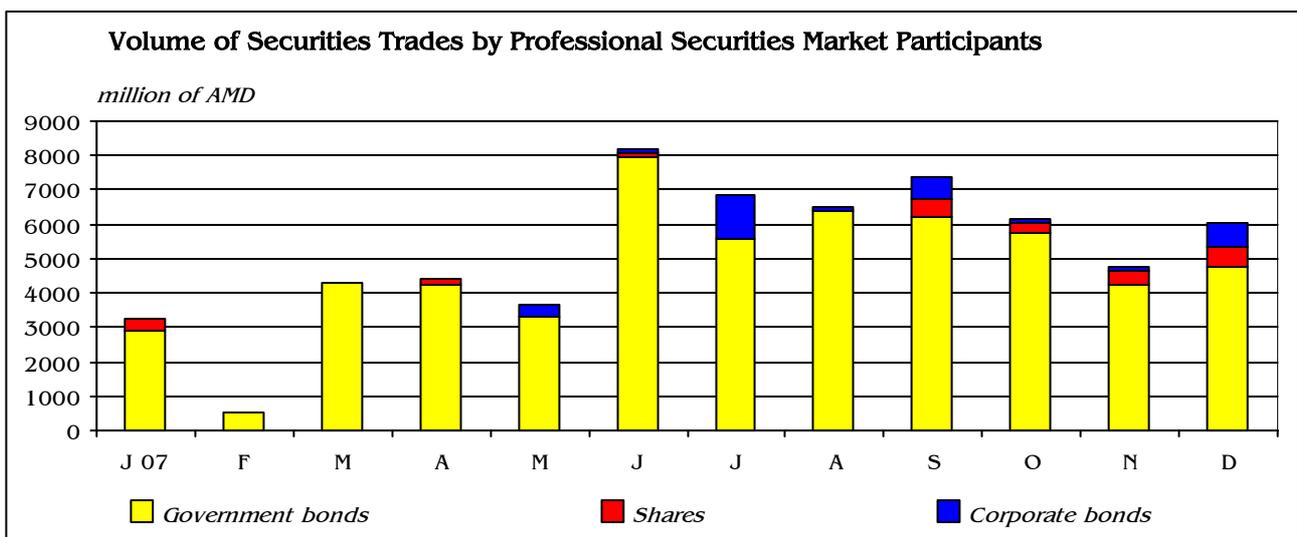
The interest rate rise in financial markets has taken place in line with overall decrease of the level of excess liquidity in the Armenian banking system and increase of the outstanding volume of repo operations with the Central Bank. In the yearend 2007, compared to the same period of 2006, average monthly excess liquidity reduced by 21.6 percent to make up AMD 11.4 billion while average monthly outstanding repo operations with the Central Bank have grown by 14-and-half times to reach AMD 11.6 billion.

¹⁵ Average Modified Duration Indicator denotes the level of change of price in relation to the change in yield.



Source: Central Bank.

In 2007, professional participants in securities market became rather active. The volume of operations carried out by them (including repo operations) amounted to AMD 332.1 billion, which exceeded the volume of operations of the previous year by 73.5 percent.



Source: Central Bank.

Operations by government bonds have accounted for the largest share, 98.2 percent, in the total turnover of securities market of Armenia. Some activity of operations by corporate bonds was observed in 2007 even though the volume of these operations was very small, having made up merely 1.0 percent of total securities market turnover.

Over-the-counter transactions have accounted for 99.3 percent of all transactions carried out in securities market. In the total stock exchange turnover transactions by shares have prevailed, making up 68.7 percent of all stock exchange transactions.

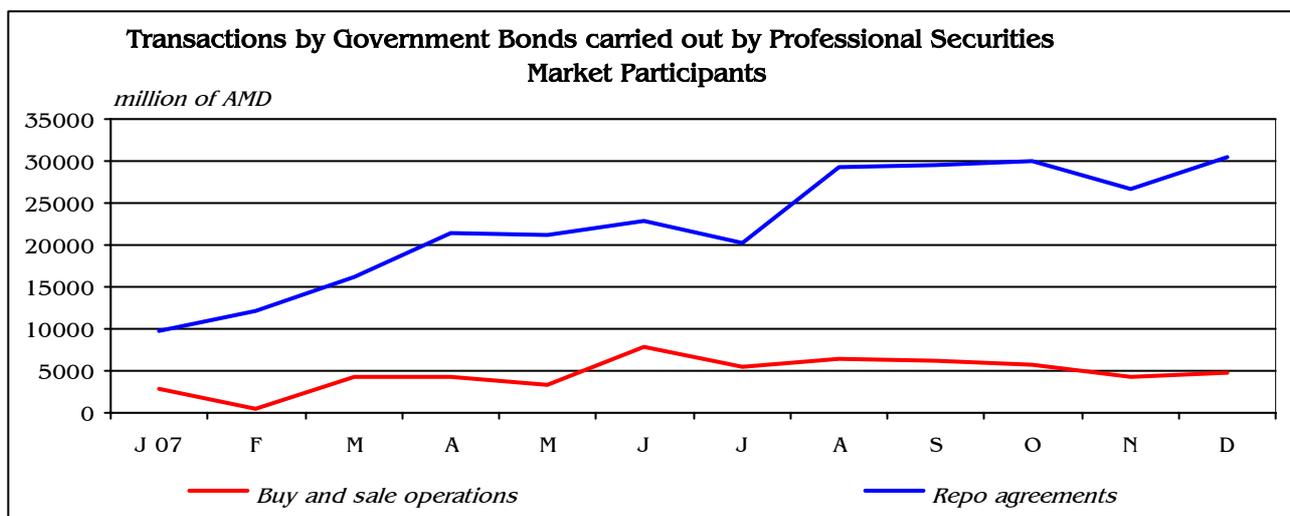
The ratio of Armenian securities market capitalization / GDP¹⁶ as of 31.12.2007 has been 1.0 percent, growing by 0.2 pp against 2006. The capital market turnover ratio¹⁷ that describes capital market liquidity made up 0.05 percent in 2007, dropping by 0.03 pp against 2006.

Several important events have occurred to the Armenian securities market throughout 2007 when the Republic of Armenia Law on Securities Market was adopted

¹⁶ Market price of stock exchange-listed shares divided by GDP.

¹⁷ Operations by listed shares divided by GDP.

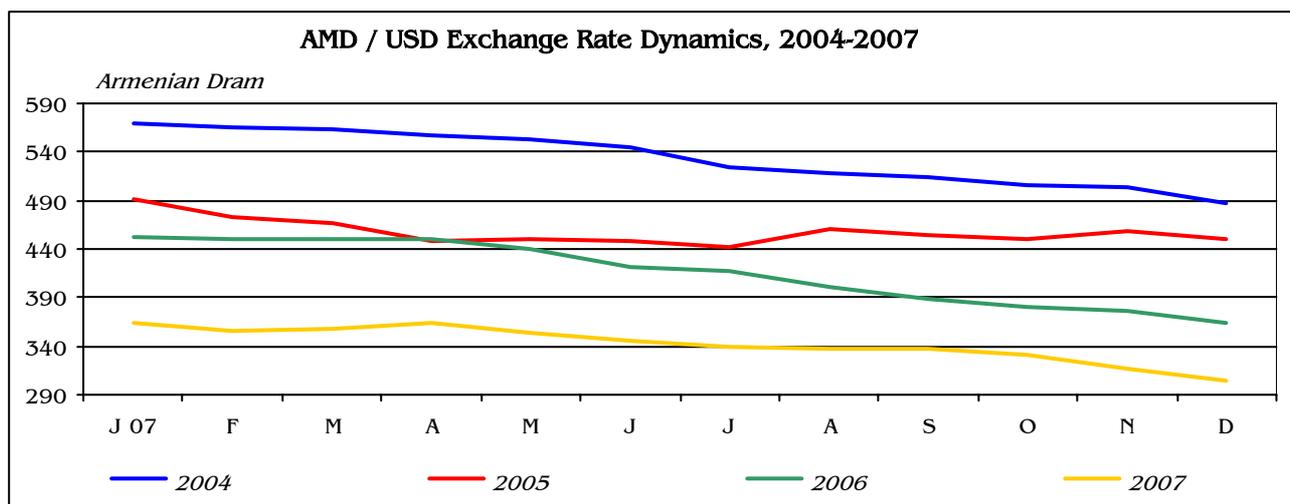
on 11-th of October. The Law provides that starting February 29, 2008, Armenian commercial banks shall become securities market participants and can perform, without limitation, functions typical to securities market activities. Another important event in 2007 was the acquisition of the Armenian stock exchange by the Swedish OMX Group¹⁸, and, starting January 2008, the ownership will be transferred to OMX.



Source: Central Bank.

3.2. FOREIGN EXCHANGE MARKET

In the recent four years, the domestic foreign exchange market has been characterized by increased volatility. Nevertheless in 2007, the market can be described as gradually stabilizing. Despite appreciation of Armenian Dram in 2007 the volatility ratio has notably reduced against the previous year to 332.0 (1003.1 in 2006).



Source: Central Bank.

Trends for the dram’s appreciation in the foreign exchange market since the second half of 2003 formed particular expectations among banks. For this reason, commercial banks tended to keep currency positions closed in order to minimize the currency risk.

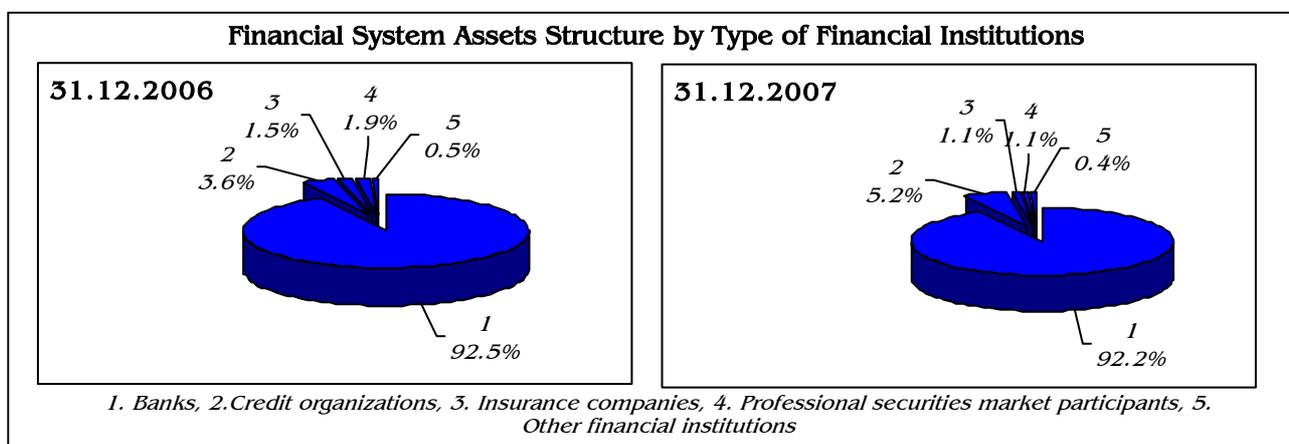
¹⁸ OMX Group is the Operator of Nordic Exchange that regulates 80 percent of securities market circulation in Scandinavian and Baltic states.

SUMMARY

During 2007, there have been no risks in the financial markets of Armenia threatening financial stability. Turmoil in global financial markets has not affected the developments in financial market of Armenia reflecting, primarily, underdeveloped nature of the Armenian securities market as well as the lack of mortgage-backed securities. Perhaps, exporting firms have somewhat faced difficulties due to appreciation of the dram but, given that most of enterprises use imported raw materials, one may affirm that reduced dram prices of imports have to some extent offset that adverse impact.

4. FINANCIAL INSTITUTION STABILITY IN ARMENIA

In view of identification and evaluation of risks that emerge in financial institutions of Armenia, the analyzing of risks¹⁹ existing in the banking system is now much important, since the banking system assets account for 92 percent of the Armenian financial system assets.

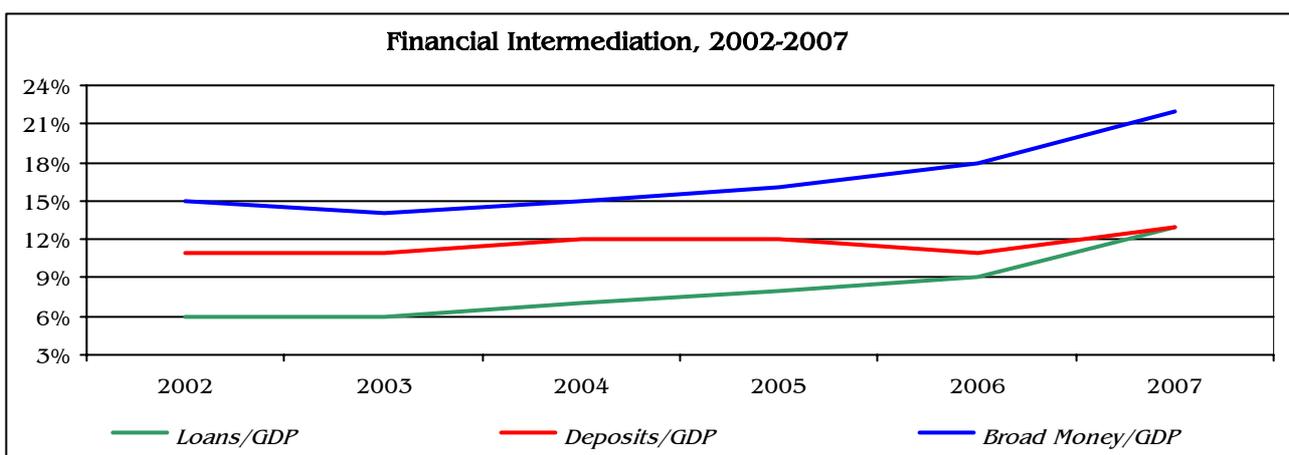


Source: Central Bank

4.1. COMMERCIAL BANKS

4.1.1. Financial Intermediation, Concentration

During 2007, fast growing banking system has boosted an increase of the level of financial intermediation though it notably lags behind the level observed in the CIS countries. The ratio of banking system assets to GDP has grown by 4.6 pp to 24.4 percent, while the bank lending to GDP ratio has grown by 4.4 pp to 13.0 percent. Although the level of financial intermediation still remains low in Armenia, sustainable economic growth and higher household income provide a strong foundation for Armenia's financial system to expand.

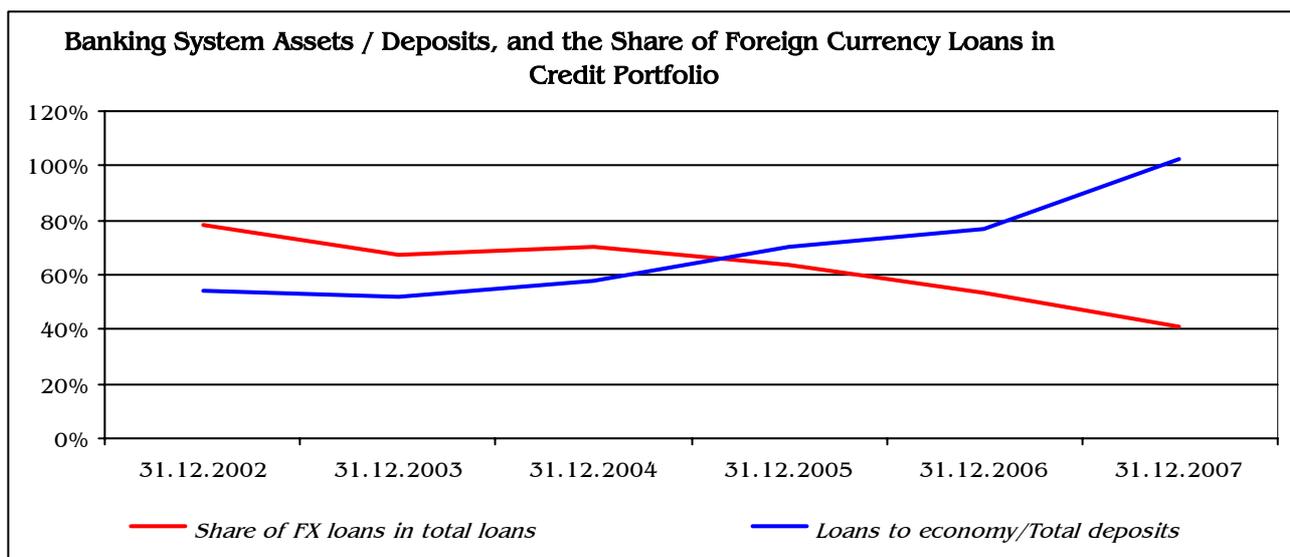


Source: Central Bank.

Another indicator describing financial intermediation is the ratio of loans granted to the economy to total deposits attracted, which is set to denote the effectiveness of

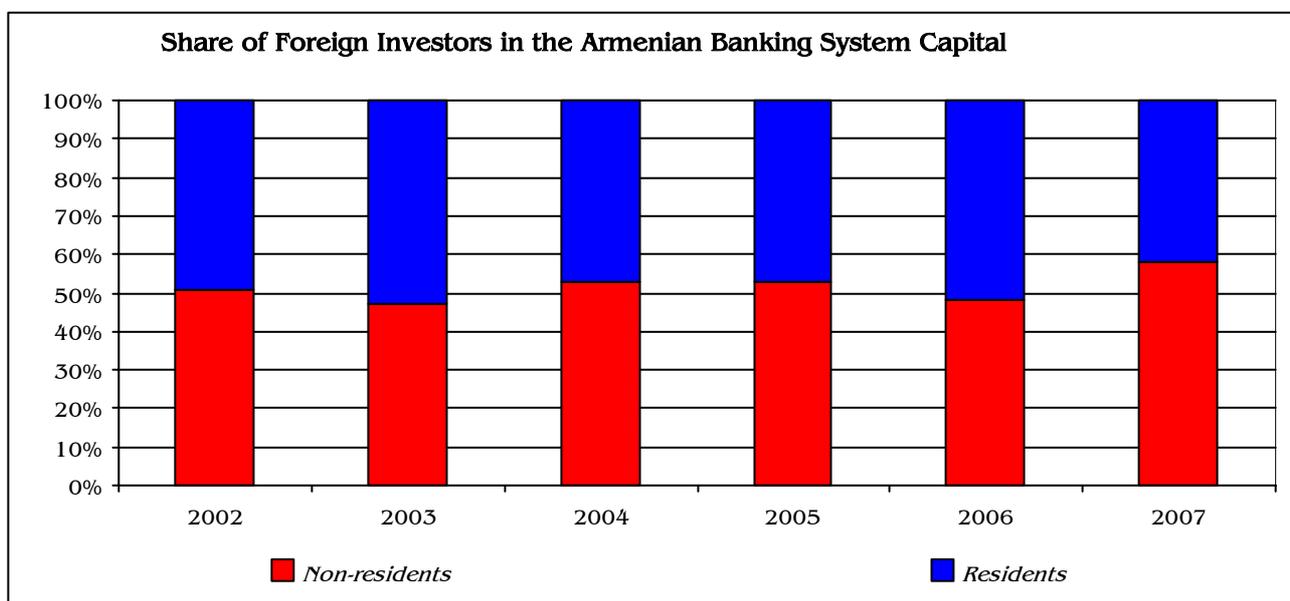
¹⁹ Involves presentation of activities of Armenia's financial market participants and evaluation of risks that may emerge in the course of these activities. However, the main emphasis is placed on identifying risks emerging in the banking system and measuring of how bank-specific risks can influence Armenia's financial stability in case of shock scenarios.

moving from savings to investments. This indicator of the Armenian banking system in the last couple of years has shown sustainable growth trends, having reached 102.6 percent in yearend 2007.



Source: Central Bank.

In recent years, foreign investors have been increasingly interested in Armenia's banking system. German (ProCredit Bank), Lebanese (Byblos Bank), and Russian (Troyka-Dialog Bank and GasProm Bank) investors have invested in the banking system in 2007. Foreign capital inflow, which can be poured into the Armenian economy at the same pace in 2008 and the years ahead, has in its turn fuelled the deepening of financial intermediation.

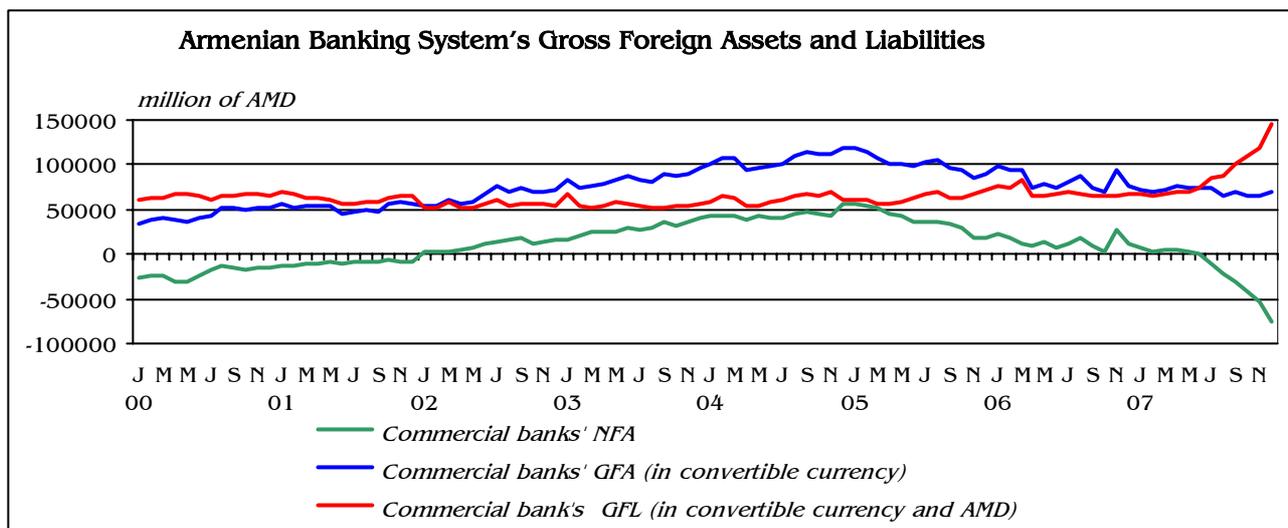


Source: Central Bank.

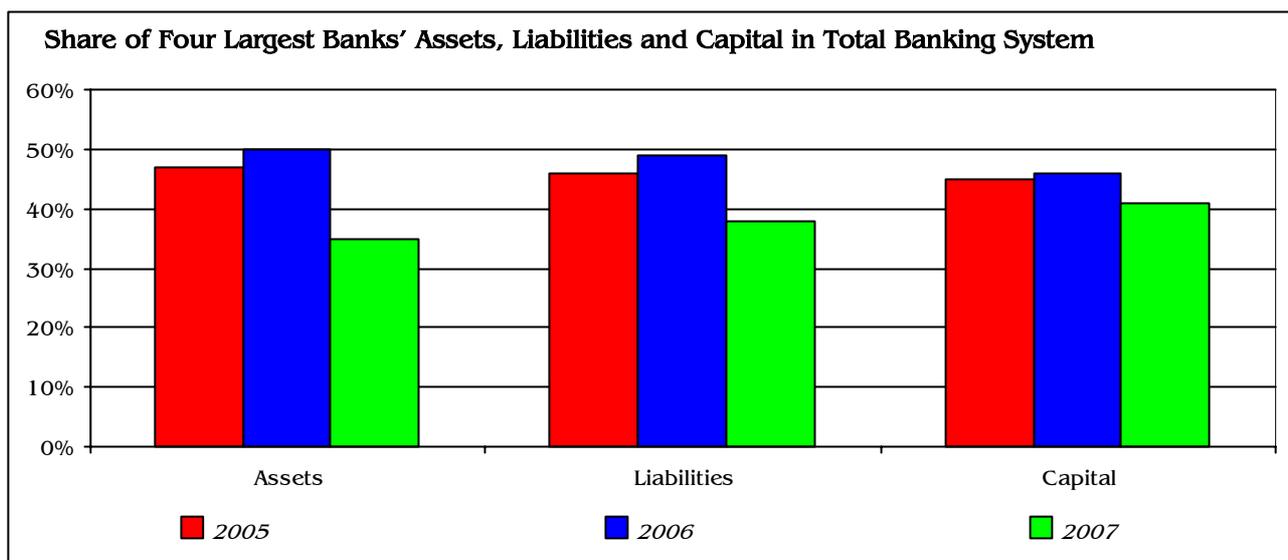
In 2007, first time ever since 2002, the volume of foreign liabilities of the banking system has exceeded the volume of foreign assets. The banking system's gross foreign liabilities have grown by 117 percent during the year. These resources have been used mostly to grant loans to domestic economy.

Concentration in the Armenian banking system is not high, and it somewhat declined in 2007, reflecting, in the financial stability point of view, a low systemic risk. As of the end of the year, 4 largest banks out of 22 functioning in Armenia have

accounted for 45 percent and 10 largest banks accounted for 77 percent of the total banking system assets. To evaluate concentration in the banking system, the Herfindahl-Hirschman Index of Concentration²⁰ is used. In the period 2005-2007, this index of concentration of banking system assets, liabilities and capital has not changed much and is rather low – 0.8 for assets and liabilities and 0.7 for capital.



Source: Central Bank.



The Herfindahl-Hirschman Index of Concentration			
Indicator	31.12.05	31.12.06	31.12.07
Total assets	0.08	0.08	0.08
Total liabilities	0.09	0.09	0.08
Total capital	0.06	0.07	0.07

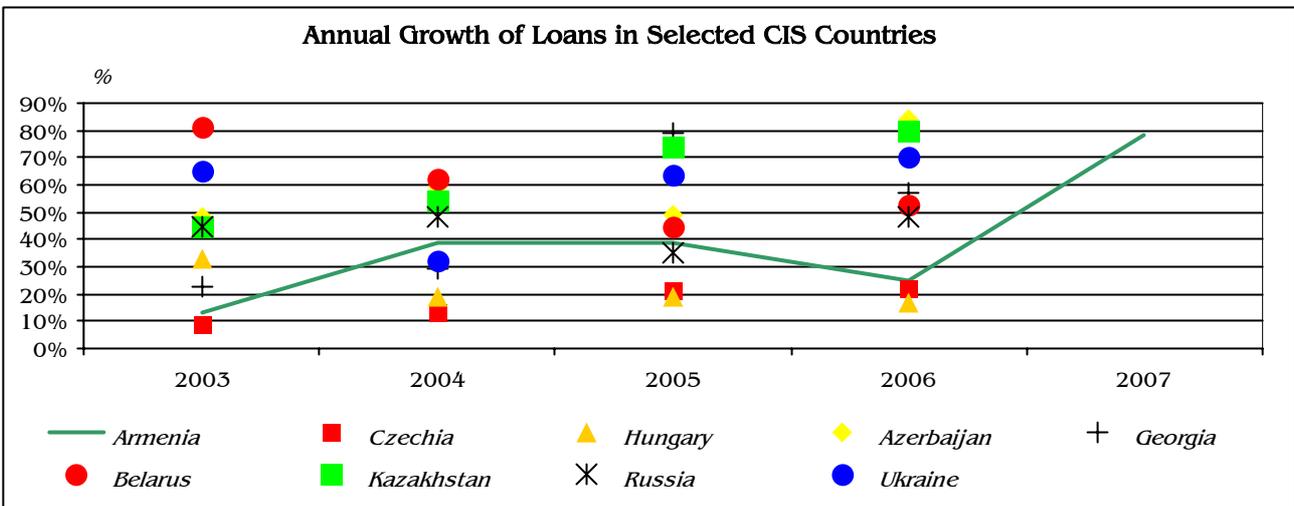
Source: Central Bank.

During the year, growth rate of total liabilities of the banking system has slightly exceeded that of total capital (liabilities growth, by 46.6 percent, and capital growth, by 42.8 percent). As a result, the ratio of total capital to total liabilities (a leverage ratio) has declined by 0.8 pp to 28.9 percent in the end of the year. However, the leverage in the banking system is rather high, and it supplies the banking system with a greater ability to offset risks by using own resources.

²⁰ The Herfindahl-Hirschman Index of Concentration varies between 0 and 1, characterizing the level of concentration (values close to 0 denote a low level of concentration).

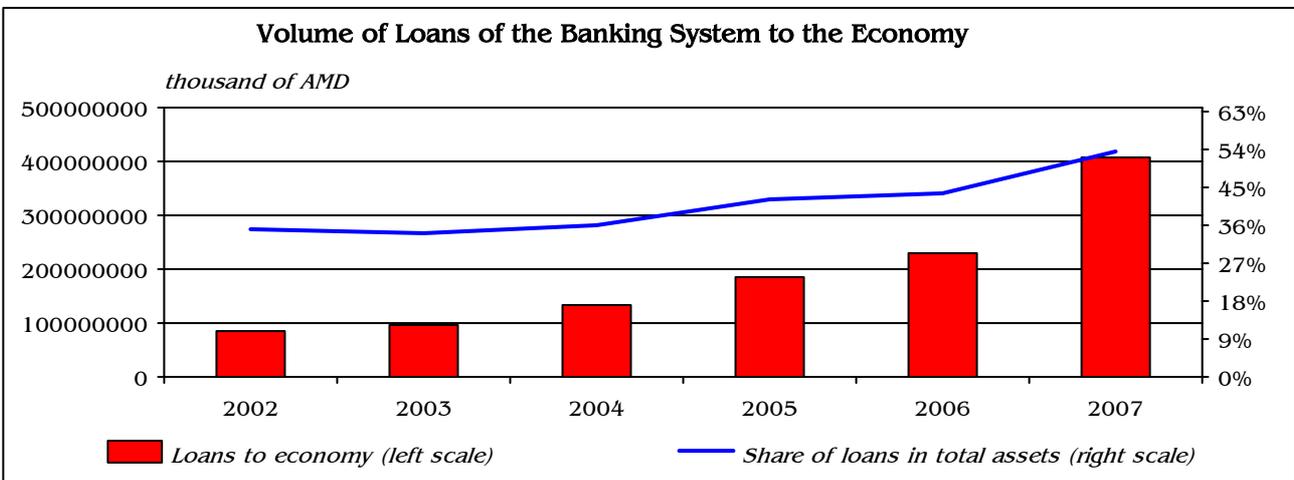
4.1.2. Credit Risk

Credit risk of the Armenian banking system can be assessed to be low as the share of non-performing loans in the recent years is not high, nor loan concentrations by economy branches are high. The quality of credit portfolio is vital for financial stability of the banking system in terms of both concentration by borrowers and sectors of economy and borrower solvency. In view of fulfillment of credit liabilities by borrowers, the report has a section *Armenia's Macroeconomic Development* that presents the possible risks associated with developments in economy branches and household incomes. Commercial banks' loan investments have been growing rapidly in the recent years under macroeconomic stability and sustainable growth of household incomes. Loans originated by the banking system to the economy have grown in 2007 by 78 percent (25 percent in 2006). Also, apart from sustainable economic growth, unprecedented growth of inflow of cheap and long-term foreign financial resources has fuelled the growth of loans. One may see that an unprecedented credit growth in the CIS and East-European countries had started earlier in comparison with Armenia that only started to see credit growth in 2007. The Central Bank experts reckon that such a high credit growth can also be recorded in 2008 if the economy sees favorable developments.



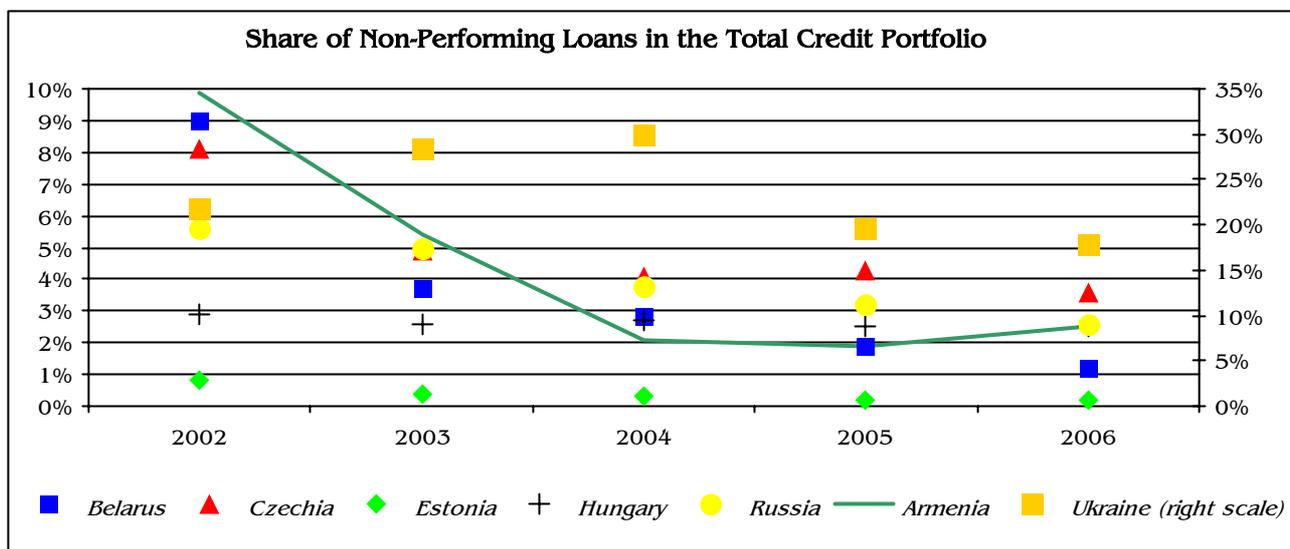
Source: IMF.

With credits growing faster than total assets of the banking system, the share of credits in total assets has increased and made up 53.5 percent in the yearend of 2007. At present, this is not a high risk in the financial stability point of view, since recorded loss on loans in the recent years has trended downward.



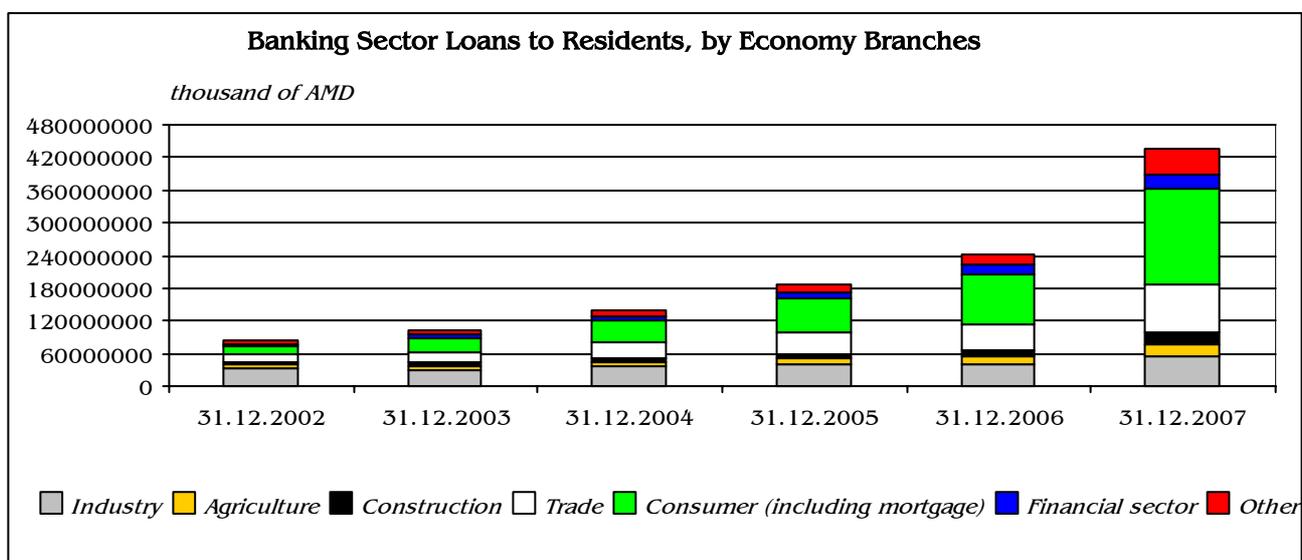
Source: Central Bank.

In Armenia, according to expert estimations, the demand for loans surpasses the supply, and terms of lending are rather rigorous. Notwithstanding severe competition between banks, loans are only extended to the borrowers with a relatively high credibility standing. This austerity enables banks to take as low a credit risk as possible to minimize associated losses in the banking system. The share of non-performing loans in total credit portfolio has been 2.9 percent as of yearend 2007. This indicator falls behind the indicator in a number of CIS and East-European countries, and it can keep on the same level in 2008, therefore it will not be a factor to undermine financial stability.



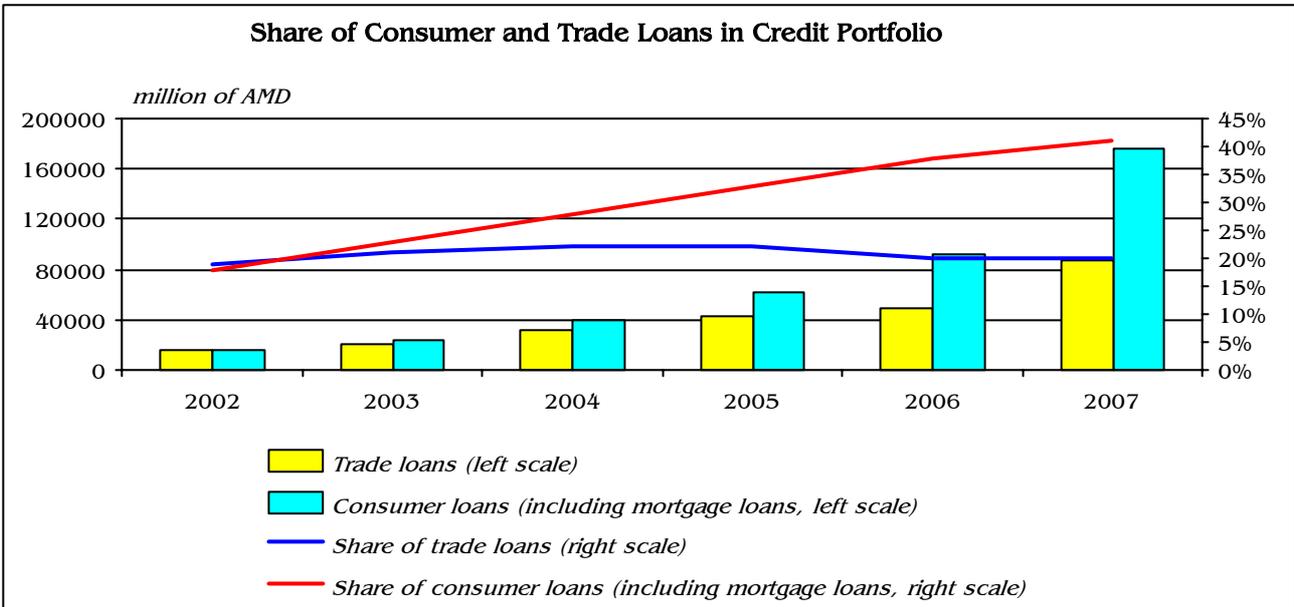
Non-performing loans of residents have relatively a bigger share in loans to construction (6.3 percent) and loans to public catering and other related services (5.5 percent). In the area of construction in 2007, non-performing loans have somewhat grown but are not threatening the financial stability of banks.

Branch concentration of credits is not high, with consumer loans and trade loans holding the largest shares of 28.5 percent and 20 percent, respectively. Although always holding a large share in credit portfolio, loans provided to these branches have at all times showed low defaults, and the expectation is that they will not generate risks to the banking system for 2008, too.



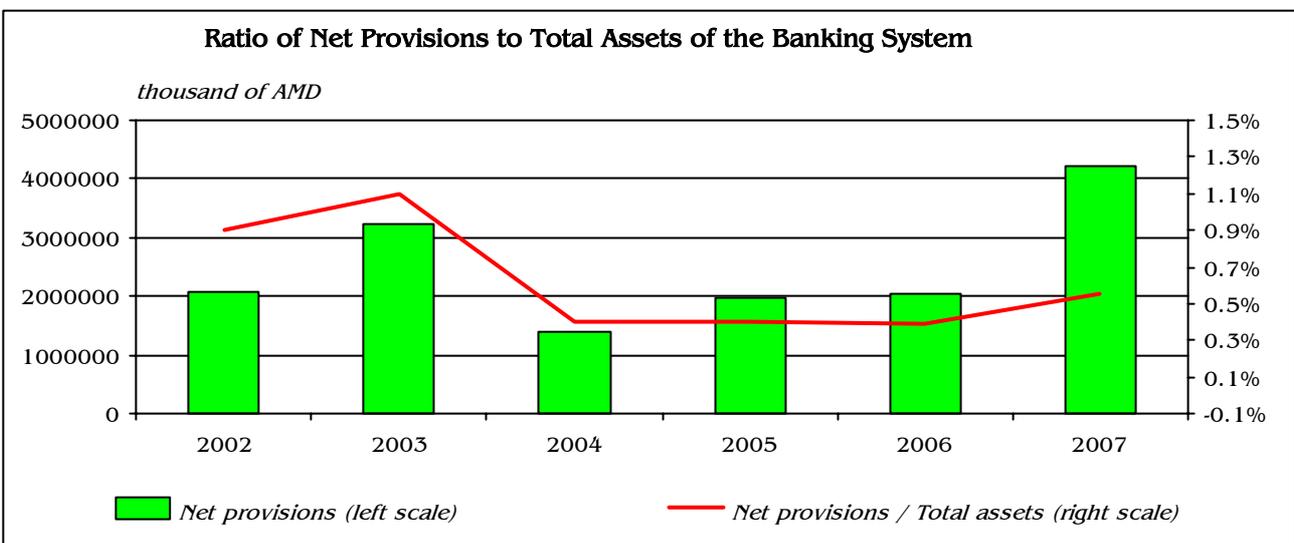
In the recent years, the volumes of consumer, mortgage and trade loans have increased dramatically, which is determined by certain factors, as follows:

- Sustainable economic growth; a faster growing branch of trade;
- Increased demand for loans due to continuous rise in household incomes (including private remittances);
- Development of a mortgage lending market;
- Inflow of cheap financial resources to the banking system from abroad;
- Usage of new financial products and technologies by banks for gaining profit and further expansion considerations.

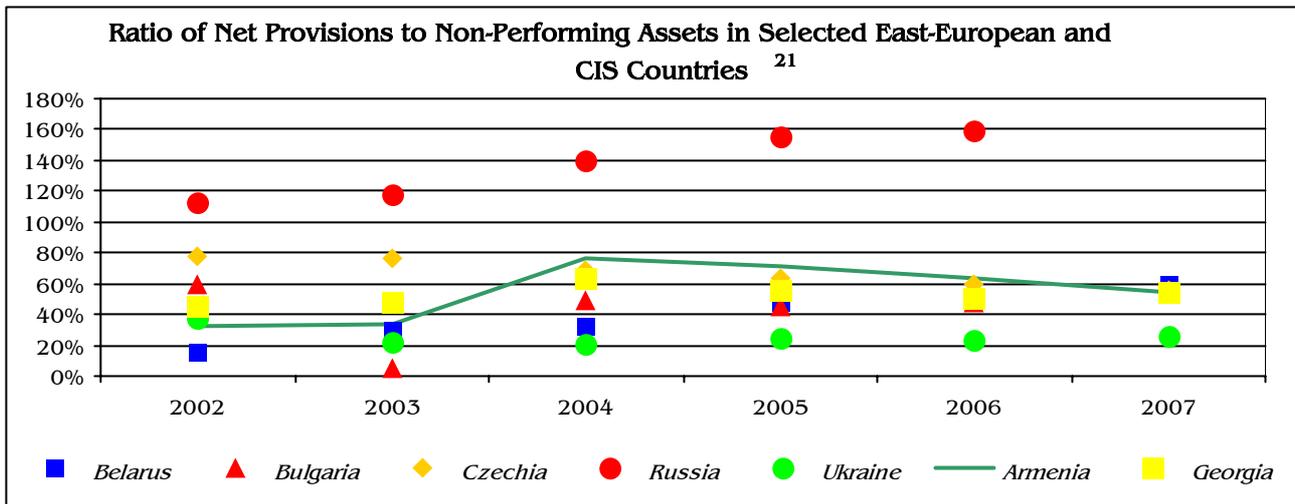


Source: Central Bank.

Mortgage lending this year has again grown at the fastest rate – 125 percent or increased by AMD 29.6 billion. Increasing share of mortgage loans makes banks vulnerable also in terms of potential risks associated with real estate market. Quality of such loans largely depends on how stable real estate prices are, in order to ensure high mortgage loan recovery rates and safeguard the banking system from loan losses. What is more, stable real estate prices would create a sound environment for sustainability of growth of mortgage lending in the years ahead. It should be noted that most of Armenian banks originate mortgage loans with a loan to value ratio not exceeding 70 percent. This restriction reduces to some extent the risk of real estate price falls.



Source: Central Bank.



Source: IMF.

Consumer loans and trade loans have reported the highest growth in volumes, by AMD 55.2 billion and 37.2 billion, respectively. Generally, a default rate of these loans highly depends on sustainable income growth of households, low level of inflation and economic development.

The ratio of net provisions to total assets is another important indicator to evaluate credit risk. This indicator has risen in 2007 by 0.2 pp to 0.6 in the end of the year.

The Credit Registry that has been operating within the Central Bank since January 1, 2003, continues to enhance business discipline of borrowers, making them consider that a good credit history is important and valuable.

The usage of stress-tests that are designed to measure the impact of *what-if-loan-category-changes* scenarios on the capital adequacy is important in assessing financial stability, predicting and identifying potential risks, and contingency planning. By classification of assets, loan investments are standard, watched, substandard, doubtful, and bad. Stress-scenarios are built based on an assumption that the volumes of bank loans are unchanged and pledged property is ignored. (In case of a scenario of classifying loans as bad, the disposal of real estate pledged against the loans is not considered)

The table below estimates that if the worst possible stress-scenarios occur, no bank will breach the total capital adequacy ratio of N1¹. As well as if the worst scenarios occur, loss of the banking system will not affect Armenia's financial stability.

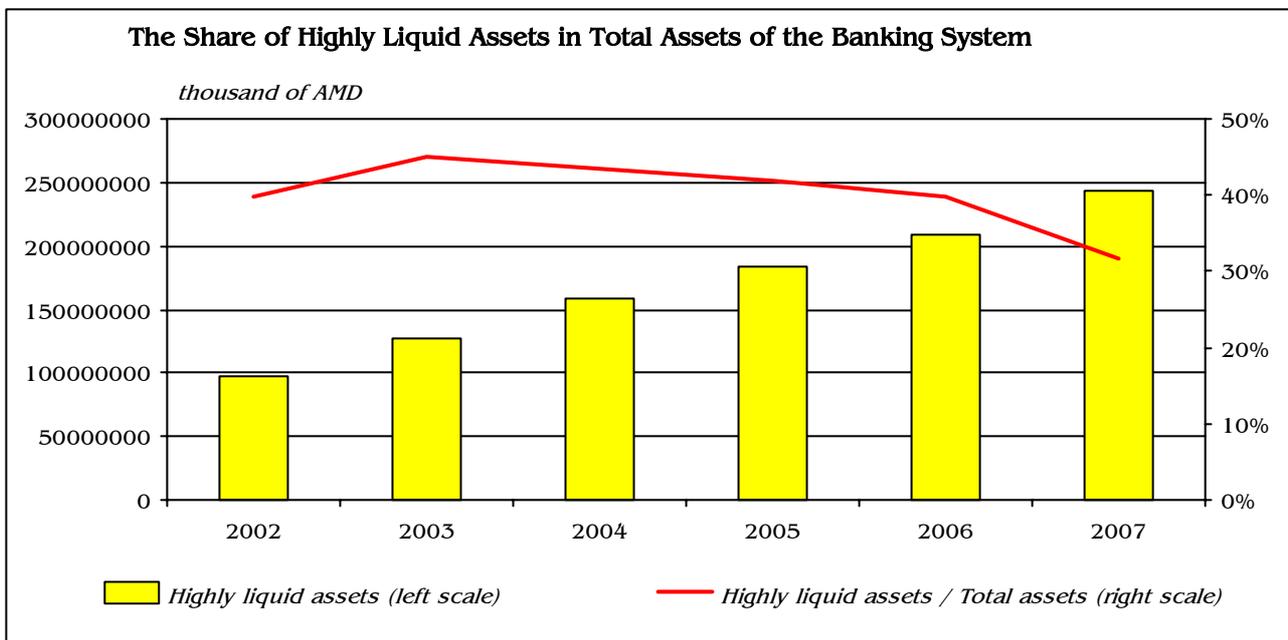
STRESS-SCENARIOS			
31.12.2007	25 percent of loans in watched, substandard and doubtful categories classified into bad loans	75 percent of loans in doubtful category classified into bad loans	30 percent of loans in standard category classified into watched loans
Loss of the banking system	AMD 1.9 billion or 1.3 percent of regulatory capital of the banking system	AMD 1.29 billion or 0.8 percent of regulatory capital of the banking system	AMD 11 billion or 7.2 percent of regulatory capital of the banking system
Total capital adequacy of the banking system	28.6 %	28.7 %	27.3 %

4.1.3. Liquidity Risk

Trends shaped in the past carried on in 2007: growth rate of loan investment outpaced that of total assets almost twice as much and, therefore, growth rate of highly liquid assets lagged behind growth rate of total assets. In the recent years, the liquidity in the Armenian banking system has remained considerably high, and banks have not faced any serious problems with liquidity that could undermine financial stability. Generally, in the recent years, the total and current liquidity fluctuations in the banking

²¹ Net provisioning involves the provisions made to general and special reserves.

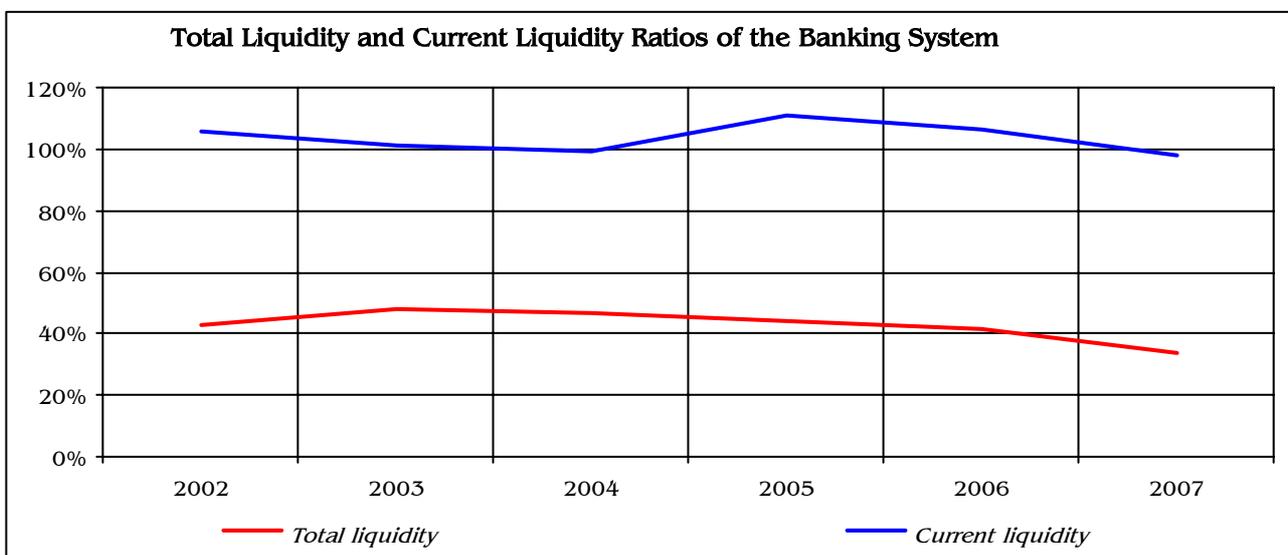
system have been very low and outperformed the required standards (before the changes in 2007, the minimum requirements were 20 percent and 80 percent but requirements today are 15 percent and 60 percent, respectively). In 2007, highly liquid assets have grown by 16 percent to reach AMD 242.7 billion. In the period under review, the share of high liquid assets in total assets has reduced, as a result, by 8.2 pp to 31.7 percent.



Source: Central Bank.

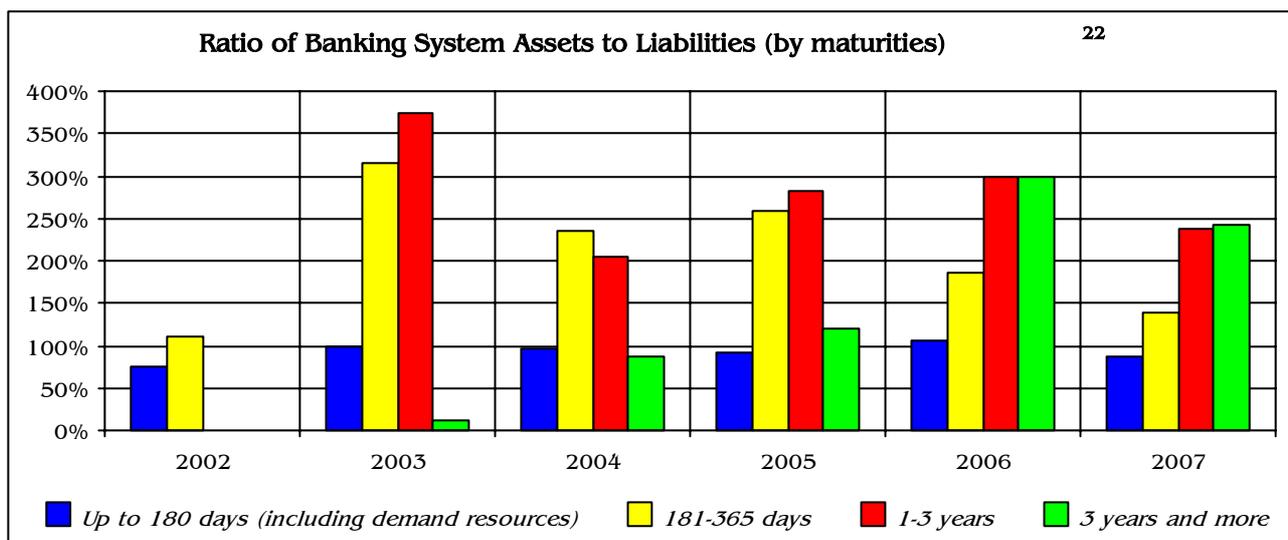
In the year under review, growth rate of highly liquid assets also has been lower than that of demand liabilities, and, therefore, the current liquidity ratio has dropped by 8 pp.

The analyses showed that the liquidity ratios applied in Armenia have been more restrictive than existing liquidity risks and that in international practice regulatory restrictions are less stringent than in Armenia. As a result, changes made to the regulatory framework in 2007 included an easing of certain regulatory liquidity requirements.

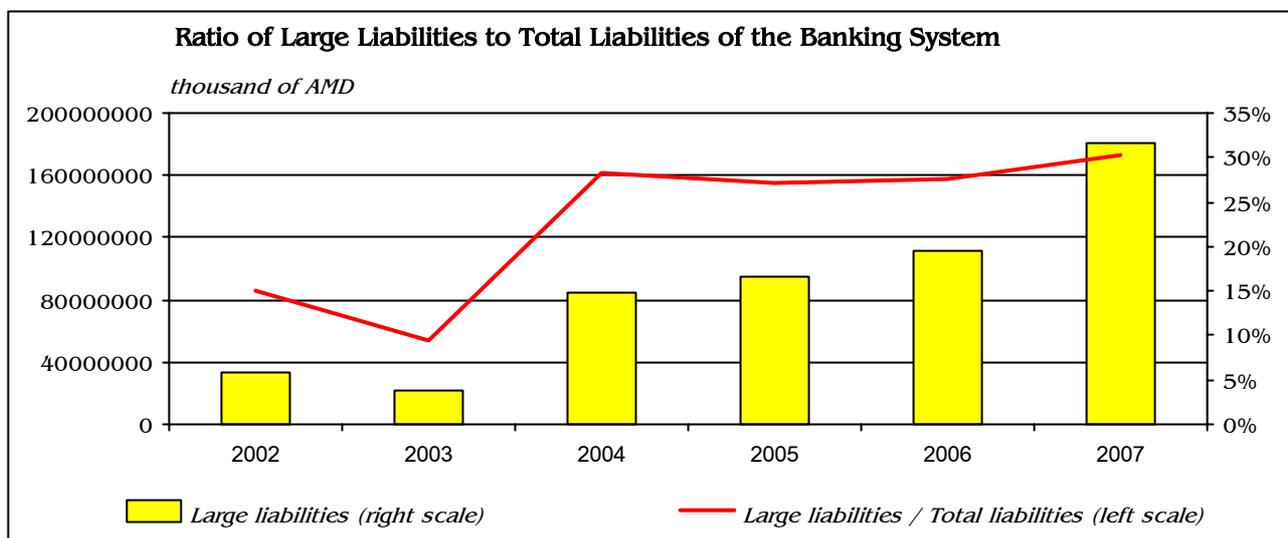


Source: Central Bank.

By maturity groups of assets, the volumes of assets in all maturity groups have outgrown those of liabilities, and it is expected that all other conditions equal the banking system in 2008 will not face liquidity risks. An increased banking system capitalization ratio also has contributed to an improvement of the situation.



Concentrations of liabilities of the banking system are also important when considering liquidity. The share of 'large' liabilities in total liabilities²⁵ in 2007 has increased by 2.9 pp and made up 30.4 percent, which is not dangerous in the financial stability point of view. More important is the fact that the banking system liabilities do not depend on major depositors and that the lack of major depositors cannot create potential liquidity problems.



The stress-tests applied point to a reasonable level of liquidity risk management in the banking system. The table below estimates that if the worst possible stress-scenarios occur, some banks may somewhat breach the total liquidity prudential of N_2^1 and the current liquidity prudential of N_2^2 . Nevertheless, the banking system will not face liquidity problems nor risks undermining financial stability will emerge.

²² In the calculation of indicators as of 31.12.2002, assets and liabilities with one year and more maturity periods are included in the category of 181-365-day of maturity period.

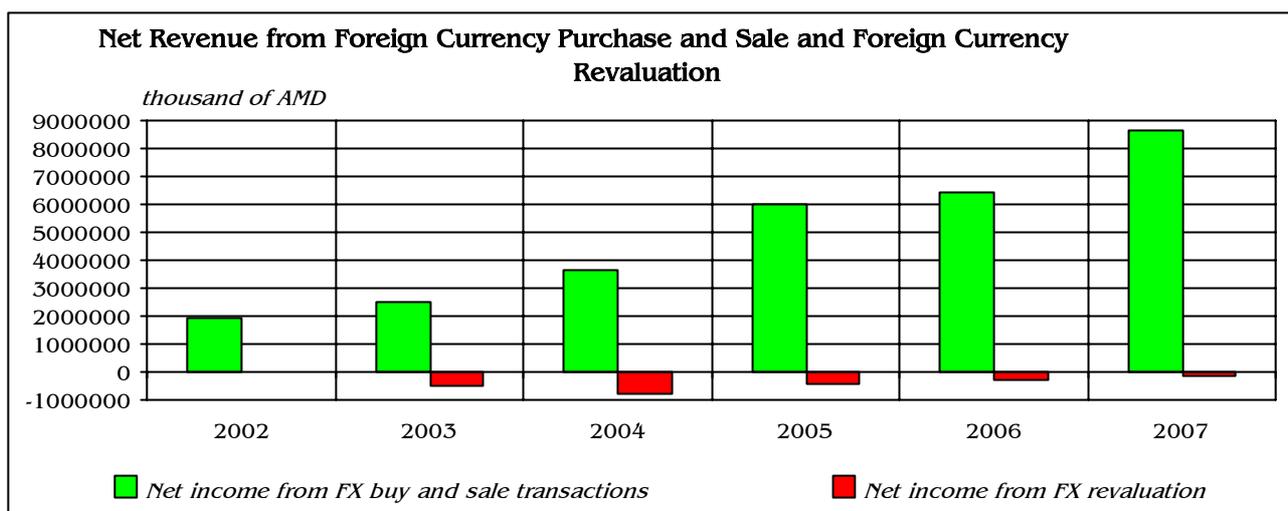
²⁵ Represents the sum of all resources which, when treated separately, exceed a 5% margin of total liabilities of a bank, without considering affiliation.

STRESS-SCENARIOS			
31.12.2007	Repayment of 25% of time deposits of natural persons ²⁴	Repayment of 25% of demand resources	Repayment of 25% of demand resources and repayment of 25% of time deposits of natural persons
Ratio of highly liquid assets to total assets of the banking system	30.4 % (one bank will breach)	27.3 % (no bank will breach)	23.5 % (4 banks will breach)
Ratio of highly liquid assets to demand liabilities of the banking system	83.8 % (one bank will breach)	95.9 % (one bank will breach)	78.4% (4 banks will breach)

4.1.4. Market Risk

Notwithstanding Armenian dram's appreciation vis-à-vis other currencies in 2007, no considerable losses associated with foreign currency risk in the banking system in terms of vulnerability of financial stability have been reported.

Due to the dram exchange rate fluctuations (average annual appreciation of the Armenian dram vis-à-vis the US dollar in 2007 was 17.8 percent and in the yearend – 16.3 percent), the banking system has as a result of foreign currency revaluation reported a total of AMD 177 million-worth loss, which made up 0.1 percent of regulatory capital of the banking system (0.3 percent in the previous year). In the outcome of foreign currency revaluation, 11 banks have incurred loss and 11 banks have reported profit. It is noteworthy that, in the banking system in the period under review, foreign currency purchase and sale operations have generated AMD 8.6 billion-worth revenue, up by 35 percent compared to the revenue reported in the previous year.



Source: Central Bank.

The table below estimates that in case of worst possible stress-scenarios, banks' losses incurred due to foreign currency risk are not considerable and cannot affect Armenia's financial stability.

STRESS-SCENARIOS ²⁵			
31.12.2007	Armenian dram's 10% appreciation (depreciation) vis-à-vis the US dollar	Armenian dram's 10% appreciation (depreciation) vis-à-vis Euro	Possible maximum reported loss in 2007 estimated through VaR Model
Banking system's revenue/loss from foreign currency revaluation	AMD 682 million (AMD -682 million)	AMD 158 million (AMD -158 million)	AMD -740 million

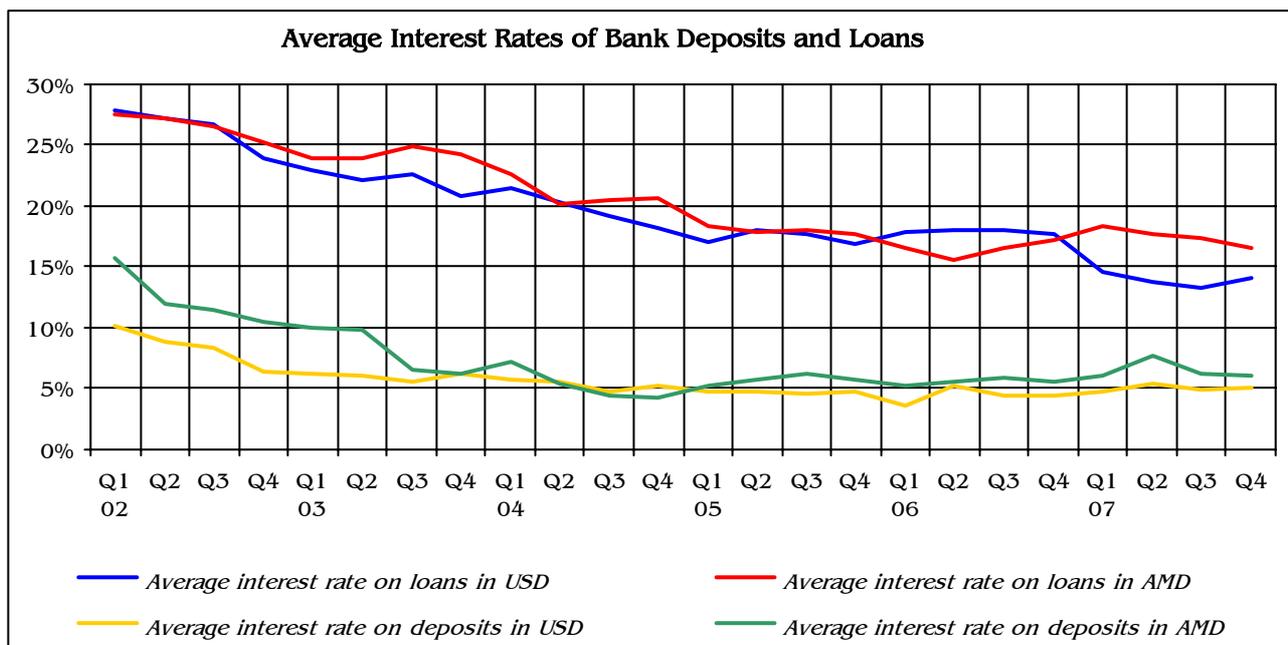
²⁴ As provided for in the Republic of Armenia Civil Code, Article 905(2), "Under any bank deposit contract, a bank must refund the amount of deposit or a part thereof at the first request of the depositor, except for deposits of legal entities for which a contract specifies other terms for refund".

²⁵ The calculation of losses estimated through stress-scenarios and the VaR Model (the VaR Model is not considered as a stress-scenario as the calculation of the model takes historical exchange rate series of currencies) is based on an assumption that the foreign currency position of the banking system would not change during the year.

The level of interest rate risk in the banking system is manageable. The average maturity of assets and liabilities is short (around one year), which enables banks to respond rapidly to changes of market interest rates and to adjust them.

Moreover, duration-based assessments of interest risk show that the spread between average-weighted maturities of assets and liabilities is small (close to six months), which indicates that fluctuations of market interest rates will not bring any serious detriment to the banking system.

In the recent years, market interest rates of loans and deposits demonstrate steady trends of decline. If such performance persists, the banking system will even report gains since average-weighted maturities of assets allocated are a little in excess of average-weighted maturities of liabilities attracted.



Source: Central Bank.

The table below estimates that in case of worst possible stress-scenarios, banks' losses on the banking system capital are not significant and will not affect Armenia's financial stability.

STRESS-SCENARIOS		
31.12.2007	<i>Impact of 2 pp decrease (increase) of market interest rates on existing total portfolio, estimated through the method of 'duration'</i>	<i>Where market interest rates increase (decrease) by 2 pp, there will be deviation from income expected on net interest income of the three months ahead, estimated through the 'Gap Method' (a method of interest rate-sensitive assets and liabilities gap)²⁶</i>
Banking system's revenue/loss	AMD 3.4 billion or 2.3% of banking system capital (AMD -3.4 billion)	AMD 73 million or 0.1% of banking system capital (AMD -73 million)

Price risk in the Armenian banking system is estimated to be rather low. The banking system has not incurred losses on price risk over 2007 but reported net revenues of AMD 789 million from revaluation of commercially available and ready-for-sale financial assets and net revenues of AMD 126 million from revaluation of fixed assets.

The table below estimates bank losses (due to price risk and credit risk) in the event the stress-scenario of 30 percent depreciation of real estate occurs. Even if such losses are substantial, these are estimated not to have any hazardous impact on Armenia's financial stability.

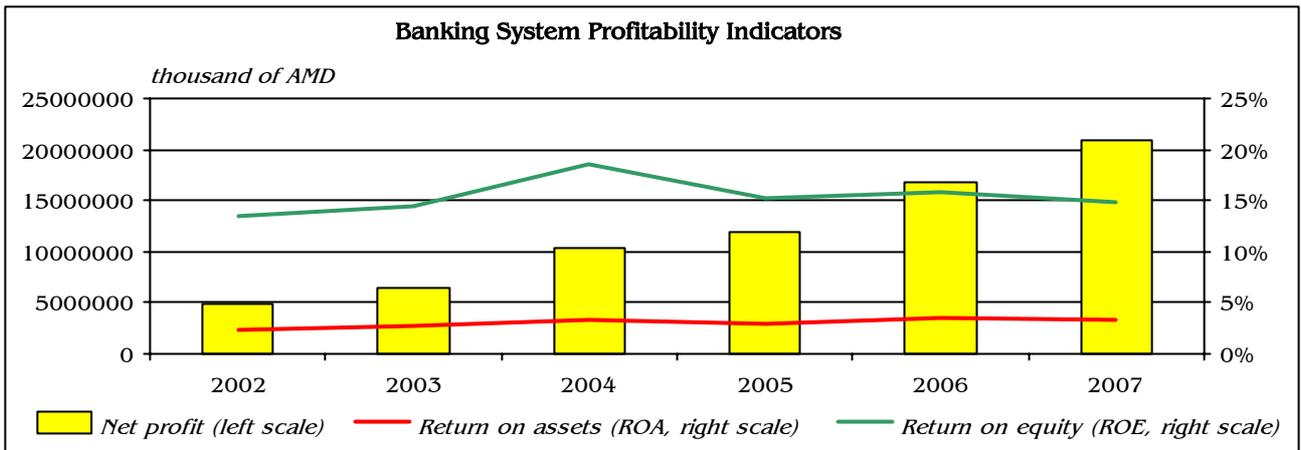
²⁶ The calculation of this methodology is based on an assumption that the structure and volumes of assets and liabilities in a reviewed (3 months) period remain unchanged, that is, the assets and liabilities repaid are re-allocated and re-attracted but a new interest rate is applied thereon.

STRESS-SCENARIOS	
31.12.2007	<i>30% depreciation of real estate</i>
The banking system's loss due to revaluation of property owned by the bank	AMD 12.8 billion (or 7.4% of banking system capital)
The banking system's loss due to a 30% non-recovery of vulnerable credit portfolio ²⁷ (taking into consideration that the property pledged against those loans has been marketed) (<i>credit risk</i>), in the event a stress-scenario occurs	AMD 1.5 billion (or 0.9% of banking system capital)
The banking system's loss due to a 100% non-recovery of vulnerable credit portfolio (taking into consideration that the property pledged against those loans has been marketed) (<i>credit risk</i>), in the event a stress-scenario occurs	AMD 5.0 billion (or 2.9% of banking system capital)

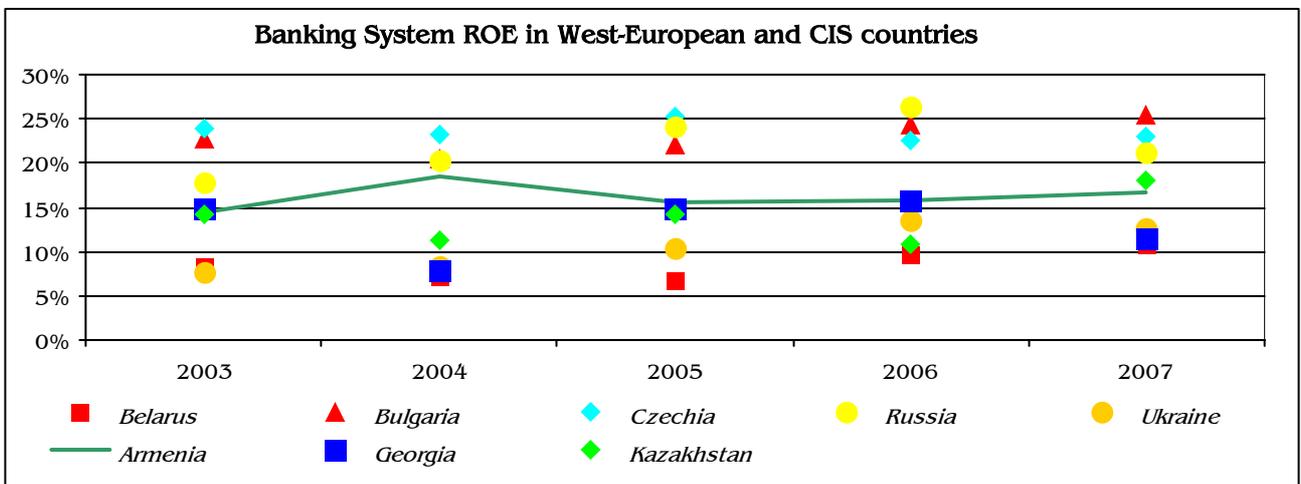
4.1.5. Capital Adequacy and Profitability

Capital adequacy and profitability of the Armenian banking system can be estimated as positive since the level of the indicators is high in relation to those of East-European and CIS countries. The banking system profitability may remain on the same level as banks will still be able to keep up with their high earnings notwithstanding stricter competition. At the same time, risks generally have been manageable, and banks have not incurred large losses. A high level of capital adequacy and growth of profit make it possible for the banking system to counterbalance risks using own resources.

By results of 2007, profit of the banking system has amounted to AMD 20.8 billion, growing by 23 percent against the previous year. During the year, 20 banks operated with profit and 2 banks operated with loss. In recent years, a return on assets ratio has not changed considerably; in 2007 it reduced by 0.2 pp to 3.4 percent. A return on equity ratio has been more vibrant; in 2007 it dropped by 1.1 pp to 14.8 percent. During the year, the profitability indicators have somewhat declined since both capital and assets of the banking system have grown more than net profit.

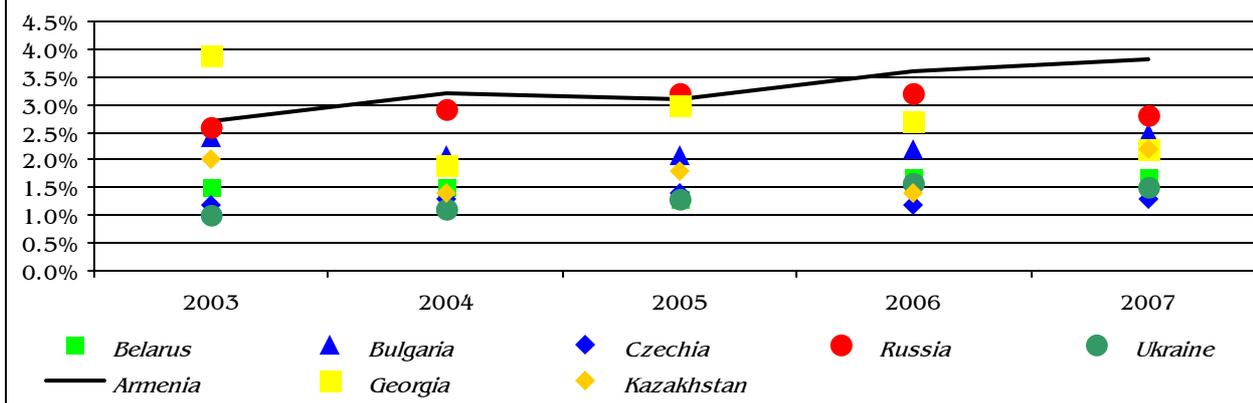


Source: Central Bank.



²⁷ A vulnerable credit portfolio involves the amount of loan residuals for which the residual value exceeds the 50 percent of the depreciated collateral value.

Banking System ROA in East-European and CIS countries

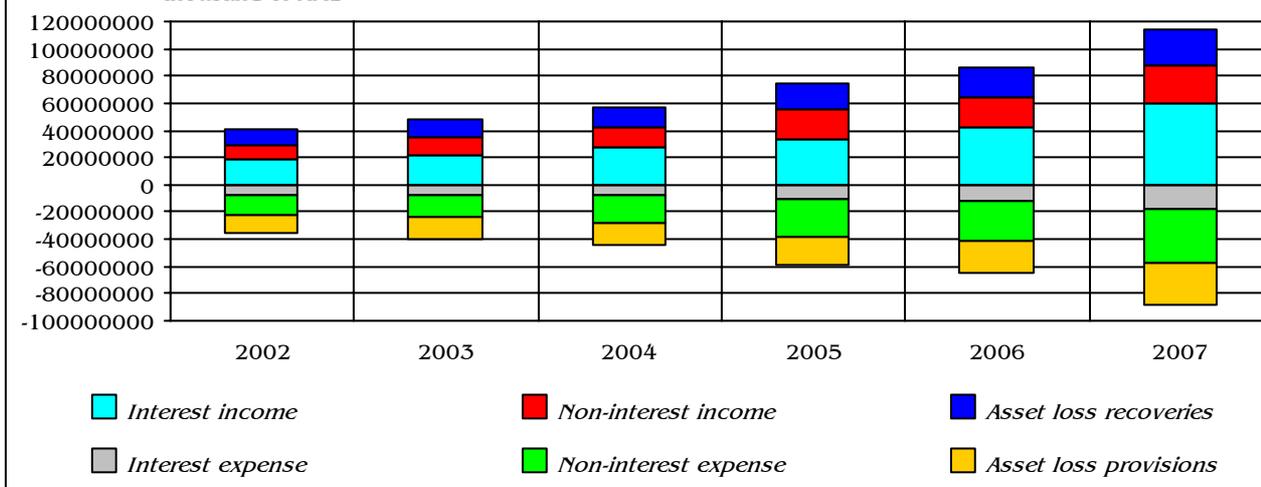


Source: IMF.

In the banking system, both interest income and non-interest expense have the largest share in the structure of gross revenues and gross expenditures, respectively. In 2007, the share of interest income has increased by 3.3 pp and made up 52.9 percent of gross revenues and the share of non-interest expense has increased by 0.3 pp and made up 44.8 percent of gross expenditures. Interest income generated from lending to the economy has contributed to 81.4 percent of interest income, while item "Salary and Salary Equivalents" accounted for 45.3 percent of non-interest expense.

Banking System Income and Expense

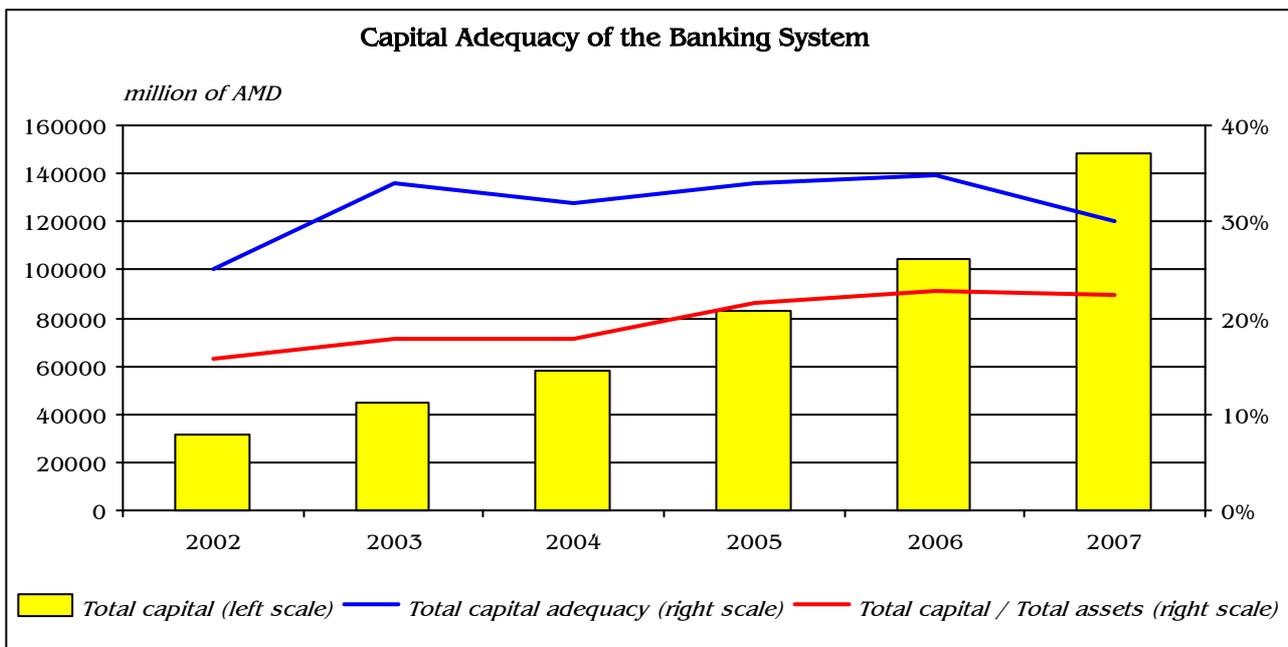
thousand of AMD



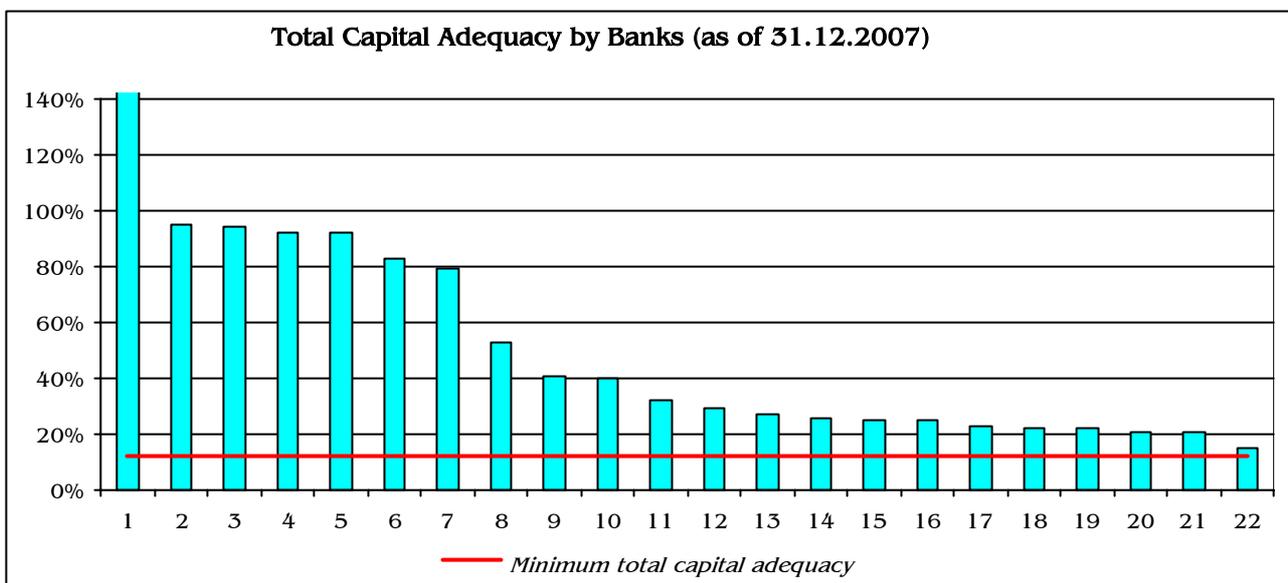
Source: Central Bank.

Faster growth rates of capital in relation to the growth of the banking system assets in the recent years have resulted in an increased capital to assets ratio as well as the level of capital adequacy all the time has been much higher from the required border. As a result of much faster growth of loans in comparison with capital in 2007, the banking system capital adequacy has fallen by 4.8 pp to 30.1 percent. Despite this fall, the capital adequacy ratio however outstrips the 12 percent prudential requirement more than two times. So, this indicates that banks still have a large capital surplus, and expected growth of loan investment in 2008 cannot undermine the stability of the banking system.

The capital adequacy indicator greatly varies across individual banks: it exceeds 6-8-fold the prudential requirement in some banks and it is rather close to the marginal value in others. Nevertheless, the level of capital adequacy of commercial banks is high yet no violation of the prudential has been observed in the banks. So, in terms of profitability and capital adequacy of the banking system, no risks are expected that would weaken financial stability in 2008.



Source: Central Bank.



Source: Central Bank.

4.2. CREDIT ORGANIZATIONS

Growth indicators of credit organizations operating in Armenia have demonstrated unprecedented high performance in 2007 and, in the meantime, credit organization activities have not been accompanied by increased exposures. Profitability and capital adequacy of credit organizations are very high and they are capable to counterbalance potential risks.

Growth rate of total liabilities of credit organizations during 2007 has been in excess of that of total capital and, as a result, the ratio of total capital to total liabilities (a leverage ratio) reduced to 40.2 percent in the end of the year. This is however a soaring indicator, and credit organizations have an opportunity to absorb risks by using own resources. The results of the year show that credit organizations have achieved high profitability levels as net profit surpassed the previous year's indicator almost 16-fold. Profitability indicators of credit organizations are much higher in relation to those of banks: in 2007 the ROA was 5.1 percent and the ROE was 17.5 percent.

Credit organizations' Assets, Liabilities, Capital and Profit (thousand of AMD)			
	31.12.2006	31.12.2007	Կ (%)
Assets	20590720	43370409	110.6%
Liabilities	12134040	30923516	154.8%
Capital	8456680	12446893	47.2%
Net profit	105949	1777556	1578%

Source: Central Bank.

In line with a 134 percent growth of loan investment (including leasing) in 2007, credit risk has declined: the share of standard loans and receivables in total has increased by 0.6 pp to 98.1 percent. In terms of loan segmentation, the share of non-performing loans (the sum of "watched", "substandard", "doubtful" category loans) is the largest – 5.6 percent in consumer loans and 2.9 percent in mortgage loans. The ratio of net provisions to possible assets loss reserves to total assets has been insignificant during the year and reached 0.7 percent at yearend (as of 31.12.2006 the same indicator had been 0.5 percent). With a high level of profitability however, such a growth does not contain risks that could threaten financial stability.

4.3. INSURANCE COMPANIES

As of the end of 2007, penetration of insurance industry (the ratio of gross premiums to GDP) has been 0.16 percent. This indicator is much higher in a number of developed and developing countries²⁸. Density of insurance industry is low, too: a per capita premium indicator²⁹ reaches AMD 1,537. In view of the aforementioned as well as that assets of the insurance sector in the end of the year have accounted for only 1.2 percent of the banking system assets, one may affirm that insurance companies in their current stage of development are less likely to lead to financial instability.

It is worth mentioning, however, that risks of insurance companies are within the manageability borders, owing to both risk management mechanisms used by insurance companies and supervision policy conducted by the Central Bank and continuous efforts to improve the regulatory framework.

Circumstances below provide evidence that at the moment activities of insurance companies cannot be counted as risky:

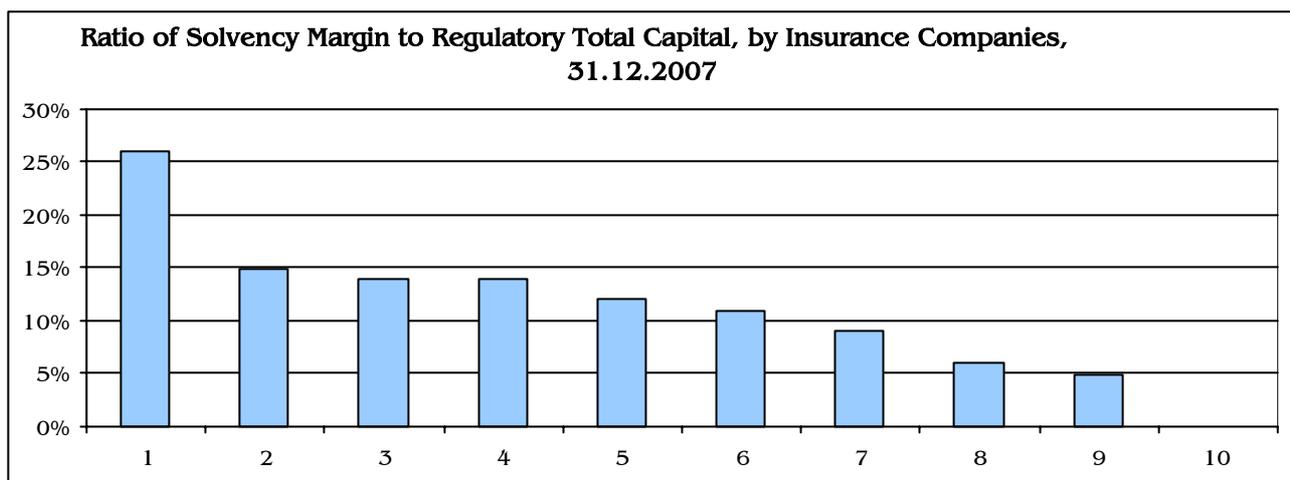
- Rates which insurance companies apply are being agreed with the Central Bank: this minimizes the risk of charging inadequate insurance premiums hence reserving inappropriate amounts by insurance companies;
- A large part of risks assumed by insurance companies is being ceded to reinsurers³⁰. A large-scale reinsurance gives insurance companies an opportunity to transfer and diversify a bigger part of their risks, hence to ease their burden of insurance claims that may take place. It is worth mentioning that the risk of non-performance of liabilities by reinsurers decreases because domestic insurance companies primarily use the services of high rated reinsurance companies;
- The loss ratio (the sum of insurance claims and change in reserve for claims reported to insurer yet not regulated to insurance premiums earned) of insurance companies in 2007 made up 39.1 percent, which is quite a firm guarantee for a financially stable insurance market;
- As of 31.12.2007, the required solvency margin for insurance sector has reached 11.6 percent of regulatory total capital. In fact, even if having calculated nearly eight times more insurance premiums, the insurance sector will all else being equal not trespass the required solvency margin.

²⁸ According to the 2006 results, the median value of this indicator has been 3.65 percent in industrially developed countries and 1.27 percent in developing countries (source: Swiss Re, Economic Research & Consulting, sigma No. 4/2007).

²⁹ According to the 2006 results, the per capita insurance premium indicator averages AMD 485704 or USD 1336.2 in industrially developed countries and AMD 10245 or USD 28.2 in developing countries (source: Swiss Re, Economic Research & Consulting, sigma No. 4/2007).

³⁰ As of 31.12.2007, insurance companies have reinsured 86.7 percent of their risks.

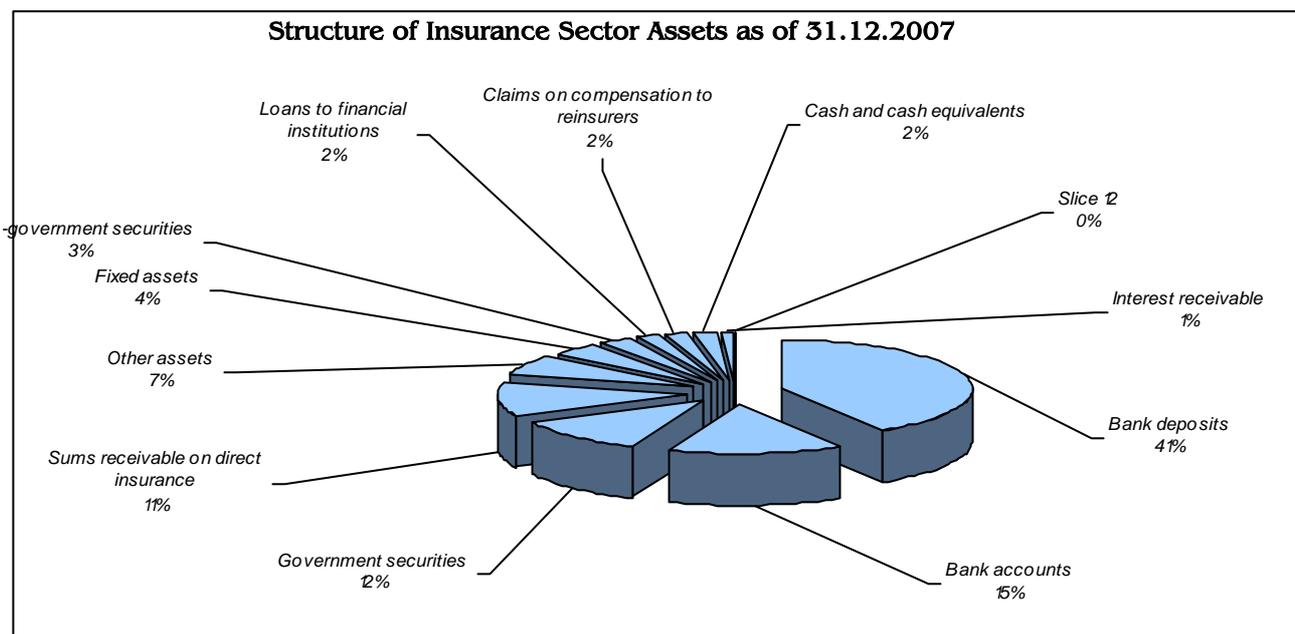
The chart below illustrates the ratio of required solvency margin in the yearend 2007 to regulatory total capital, by insurance companies³¹.



Source: Central Bank.

- As of 31.12.2007, bank accounts (15.4 percent), bank deposits³² (40.6 percent), and government securities, including securities issued by the Central Bank (11.7 percent) have constituted 67.7 percent of insurance sector assets. This means that assets are generally highly liquid and do not contain credit and market risks. Another evidence of this is that, as of 31.12.2007, no insurance company has violated the liquidity prudential.

Below is the structure of the insurance sector assets as of the end of 2007:



Source: Central Bank.

The above arguments support evidence that the Armenian insurance system for the moment is not likely to have an influence on financial system stability since the scope of activities of insurance companies is still very small while current activities of this industry can hardly be considered risky.

³¹ The total value of required solvency margin of all insurance companies has been equal to the value of solvency margin calculated using the insurance premium methodology.

³² Current deposits invested with resident banks account for 93.3 percent of deposits.

4.4. SECURITIES MARKET PARTICIPANTS

As of December 31, 2007, 15 professional participants of securities market had been operating in the securities market (20 companies in the previous yearend), of which 6 not only held brokerage licenses, but also trust management and custodian licenses. During the year, the licenses of 7 companies were revoked, while two commercial banks became securities market participants.

As of 31.12.2007, total assets of professional participants of securities market have amounted to AMD 8.7 billion and their equity AMD 2.1 billion (excluding the two commercial banks that are also specialized participants)³⁵. During 2007, the 13 non-bank specialized companies reported total profits of AMD 594 million.

In the yearend 2007, 33 reporting issuers had their securities listed on the Armenian Stock Exchange. Two of them are banks and eight of them have been rated by the Central Bank.

Recently, many companies operating in Armenia are increasingly keen to obtaining external financing through issuance of debt securities: in 2007, 6 reporting issuers have issued corporate securities, and a total of AMD 3.2 billion-worth external financing was attracted as a result.

In the Central Depository of Armenia, as of 31.12.2007, issuers running registers of owners of nominal securities numbered 734 and owners of securities issued by companies running registers numbered 127,500 individuals.

4.5. OTHER FINANCIAL SYSTEM PARTICIPANTS

Other participants of the Armenian financial system include 62 pawnshops, 283 foreign exchange offices, and 5 currency dealers. All these organizations' potential impact on Armenia's financial stability is estimated to be very low as their share in the financial system assets is far too small.

Other participants also are 7 money remitter companies and 4 organizations involved in processing and clearing of payment and settlement documents.

³⁵ Taking commercial banks' assets into account, assets of specialized companies have reached AMD 37.2 billion and their equity AMD 14.2 billion in yearend 2007.

5. FINANCIAL STABILITY IN ARMENIA'S FINANCIAL INFRASTRUCTURES

5.1. PAYMENT INFRASTRUCTURE

The Central Bank attaches great importance to payment systems for their influence on monetary policy and financial stability of Armenia and pays due attention to the country's systemically important payment and securities settlements systems and telecommunications networks that make the operation of such systems possible.

5.1.1. Telecommunication Networks

The operation of interbank system and securities settlement system is based on an interbank telecommunication network CBANet while international transfers are executed using the SWIFT international telecommunication network.

a) CBANet interbank telecommunication network

The CBANet interbank telecommunication network has been designed and introduced by the Central Bank in 1996. The CBANet is a platform on which the Electronic Payments System and Government Securities Accounting and Settlements System as well as intrabank payment systems of some commercial banks operate. When operations by the Central Bank repo and other monetary policy instruments are executed the CBANet is used to file electronic bids for such operations to the Central Bank. The CBANet is used also to provide communication of 58 ATMs out of 338 functioning in Armenia.

The importance of the CBANet for executing payments within Armenia is exceptional, since:

- 99.88 percent of value and 99.94 percent of number of interbank electronic payments are executed via the Electronic Payments System;
- 23.6 percent of value and 31.6 percent of number of intrabank payments are executed via the CBANet interbank computer network (via the Central Bank's Electronic Payments System and the Lotus Interbank Electronic Mail). As such, 11 commercial banks that own branch offices out of 17 execute transfers between branches solely via the CBANet.

The hardware and software complex of the CBANet, except for the leased lines of CDN³⁴ bearer network of ArmenTel Company, is owned by the Central Bank. The Central Bank is responsible for general administration of technical and software facilities of the CBANet (administration/management of communications equipment and the Central Server).

In 2006, the Central Bank approved a paper *Development of Interbank Telecommunications Network of the Central Bank*, whereby the Central Bank intends creating a new telecommunications network by the end of 2008. The network is to meet modern requirements to data transfer networks (unhindered and smooth operation, speedy extensive data transfer, high viability, security, and so on).

Risks

1) Assessment of risks to the Central Hub of the network

In the interbank electronic payments security point of view, the Central Hub and municipal hubs which head-offices of banks are switched to are the largest exposure.

Likely adverse effects on the Central Hub and municipal hubs serving head-office banks may include:

- delays in receiving electronic bids from commercial banks for execution of operations by the Central Bank repo and other monetary policy instruments;
- delays in trades on the Armenian Stock Exchange;
- delayed auction for primary placement of government securities because of failure to file electronic bids;

³⁴ Stands for Corporate Data Network. ArmenTel uses its CDN network and communication lines to ensure linkage between municipal (regional) hubs and the Central Hub. The Company also provides subscribers with separate lines to make sure they are able to switch to municipal (regional) hubs.

- delays in final settlement of ArCa payment system;
- delays in change of settlement limits of ArCa payment system;
- delays in final settlement of transactions executed on the Armenian Stock Exchange;
- more rejections to payments in the Electronic Payments System;
- extended operation of the Central Bank's system Operational Day;
- delays in reporting to the Central Bank by the Central Bank-licensed entities.

There have been only two failures in hubs during 2007. Investigations identified that the failures did not entail any of the aforementioned consequences. Even when non-operation of the Central Hub coincided with the time for bidding to auction for primary placement of government securities, it did not bring in adverse effects since all auction participants have resorted to back-up measures by using a back-up terminal at the Central Bank to file their bids.

2) Assessment of exposure to subscribers that are head-office banks

Likely hold-ups with subscribers that are head-office banks may entail failures in interbank payments as well as intrabank payments when executed via the CBANet. Hold-ups with a subscriber like ArCa processing company or with the municipal hub thereof, which may adversely affect ArCa payment system, are risky, too.

During 2007, there have been 12 hold-ups with subscribers that are head-office banks in Armenia, which were attributable primarily to problems with communications. Although banks have not made use of back-up (paper-based) payments, nor they are included in the list of five largest banks making interbank payments, one may assume that the delays in payments by these banks have not resulted in material adverse effects in terms of financial stability.

During 2007, there have been 6 failures in the municipal hub that serves ArCa processing company. Investigations showed that the failures did not adversely affect final settlement of ArCa payment system owing to existing special back-up lines between ArCa processing center and the Central Hub.

3) Assessment of exposure to intrabank (inter-branch) transfers

Eleven out of 17 Armenian commercial banks that have a branch office network use the CBANet to execute not only interbank transfers but also intrabank transfers between branch offices. During 2007, there have been some CBANet hold-ups with branch offices but none of them had notable impact on intrabank and interbank payments flows, since operational availability of the CBANet in 10 banks out of 11 has been above 99 percent, according to the 2007 results. Operational availability has been 96.64 percent in one bank only because of 2 long-lasting CBANet hold-ups in one of its branch offices.

b) SWIFT international telecommunication network

In Armenia, 21 commercial banks are SWIFT members. Transactions executed by banks via SWIFT during 2007 have amounted nearly to AMD 4,000 billion in value and 428,000 in number.

In Armenia, commercial banks use SWIFT to execute interbank transfers through reciprocal correspondent accounts the value of which, however, is very small – only 738 transfers worth AMD 6.3 billion in 2007. The interbank transfers via SWIFT constituted 0.08 percent of all interbank payments which is explained by the fact that executing transactions via the CBANet is cheap to banks. In Armenia, before 2006, all transactions in foreign currency have been executed via SWIFT. However, the volume of transfers via SWIFT has reduced substantially after a new format for foreign currency transfers was introduced to the Electronic Payments System in 2006.

In Armenia, the main portion of international transfers is executed using the SWIFT network. In 2007, the volume of SWIFT-assisted international transfers reached 88.19 percent, while transfers via money transfer systems, 9.43 percent, and transfers via telex, 2.38 percent.

Because SWIFT is incorporated under the Belgian jurisdiction, the National Bank of Belgium is, in accordance with Cooperative Oversight Principles³⁵, responsible for assessment of activity of the SWIFT system. According to the 2007 results of

³⁵ *Principles for International Cooperative Oversight, "Central Bank Oversight of Payment and Settlement Systems", BIS, 2005.*

assessment³⁶, the SWIFT system does not contain significant operational risks and thus offers payment systems an environment for reliable telecommunications.

According to SWIFT Annual Report 2006, there has been 100 percent SWIFTNet availability in 2006. In 2007, the SWIFT accessibility rate in Armenia was estimated to reach 100 percent, too.

To ensure communication between Armenian commercial banks and the SWIFT network, a SWIFT-certified organization operates in Armenia. The organization has an operational function of providing separate communication lines with SWIFT and ensuring its failure-free operation. During 2007, there have been no cases of serious hold-ups with SWIFT. What is more, in case of temporary failure or non-operation of separate communication lines, banks can use a dial-up connection service in order to maintain contact with SWIFT, which is an alternative to communications and ensures continuity of payments via the SWIFT network.

Needless to say that the Electronic Payments System of the CBANet can be used as an alternative to interbank transfers within Armenia in case of inaccessibility to and hold-ups with SWIFT. An alternative to SWIFT for both international and local transfers is Telex that is a readily available substitute.

Based on the above mentioned analysis it can be concluded that telecommunication networks in Armenia appear to be reliable, and whether they might seriously undermine the country's financial stability when effective back-up procedures are in place is less likely.

5.1.2. Interbank Payments

Interbank settlements within Armenia are executed primarily through the Central Bank's systems (the Electronic Payments System and the Paper-Based Gross Payments System). 88 percent of the total value of interbank payments within Armenia is executed via the Central Bank systems. Gross payments executed through the Central Bank's systems have twice as much exceeded Gross Domestic Product (the ratio of Central Bank systems-based gross payments to GDP was 2.08), having grown by 87 percent on the previous year.

Importance of the Central Bank's systems is further enhanced by the fact that these serve a ground for final settlement of operations by ArCa cards, and foreign currency trades as well as cash leg settlement of commercial securities trades are executed on the Armenian Stock Exchange.

The Central Bank Electronic Payments System:

The Electronic Payments System (EPS) of the Central Bank is a platform on which 66 percent of the Central Bank system-based gross payments is executed.

Credit risk

There are some measures arranged within the system for management of the risk:

- the Real Time Gross Settlements mechanism is applied within the system to make sure payments are executed immediately and irrevocably;
- the payment orders in the system are irrevocable;
- the system is designed for V-type payments, that is a recipient bank may only receive the payment document after it makes the payment with the Central Bank and the transaction gets final;
- the system does not provide for lending (overdrafts) by the Central Bank, and a transaction is rejected if funds are not sufficient, which means that the Central Bank is free of credit risk.

Liquidity risk

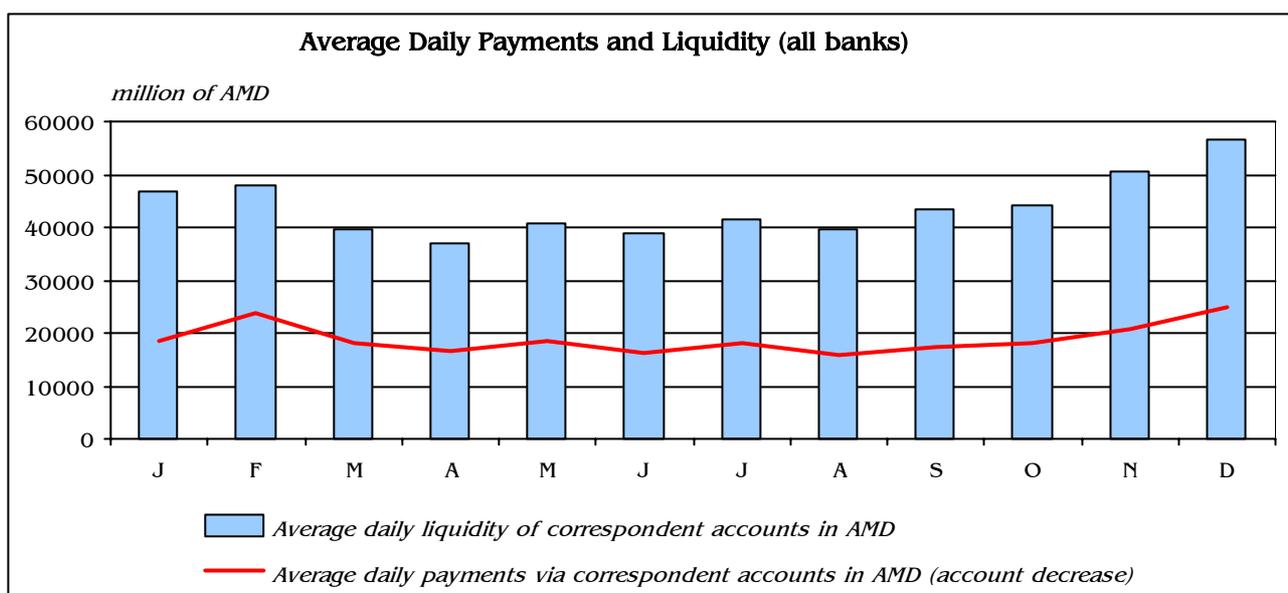
The only source of liquidity for the Armenian commercial banks for making payments through the Central Bank's payment systems derives from the funds available on their correspondent accounts, since the system does not provide for any other vehicles for liquidity to be replenished (for example, a limited collateralized lending facility).

In measuring the liquidity risk with EPS, the consideration was that though payment messages are designed in EPS, the real final settlement is executed using participants' correspondent/settlement accounts with the Central Bank that are used not only for

³⁶ "Financial Stability Review-2007", National Bank of Belgium.

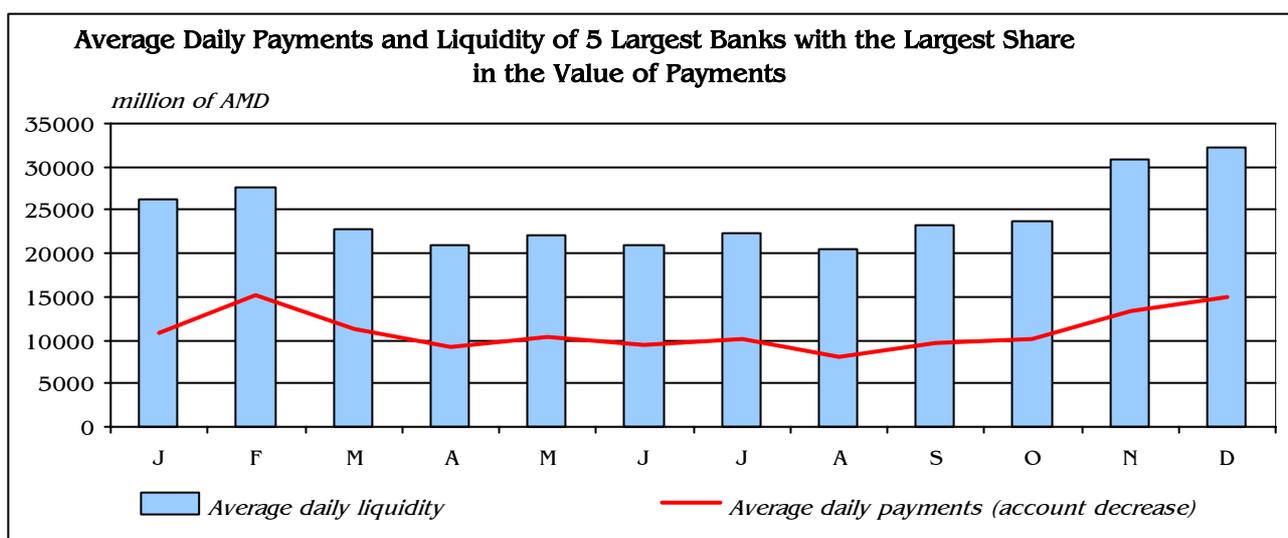
EPS payments but also for all operations carried out between the Central Bank and participants. Thus, in measuring the liquidity risk with EPS, all operations by correspondent accounts with the Central Bank are considered.

Surveys showed that commercial banks' average daily liquidity in dram-denominated correspondent accounts with the Central Bank exceeds 2.3-fold the average daily value of payments that are executed through the Central Bank systems. This means that in executing payments through the Central Bank systems, the liquidity risk is less likely to emerge³⁷. This indicator of five largest banks (in terms of value of payments) making up 58 percent of payments executed through the Central Bank systems has reached 2.2, denoting that the liquidity with these banks is more than adequate in terms of payments executed.



Source: Central Bank.

In 2007, according to surveys, opening balances on dram correspondent accounts of commercial banks have exceeded the same-day-payments by 30 percent on average, without taking reciprocal receipts into account. This indicates that the average payments executed during the day are fully sustained by the opening balances available on correspondent accounts, so existing liquidity is more than sufficient for payments even in the absence of reciprocal receipts.



Source: Central Bank.

³⁷ According to the National Bank of Hungary's Financial Stability Reports 2005 and 2006, average daily payments in Hungary exceed 2.5-fold the average daily liquidity which, by international standards, is extremely a high liquidity indicator.

A monitoring tool is used in the system as part of management of liquidity risk. This tool enables participants to watch over balances on their accounts and replenish these in the event of liquidity shortage.

In the yearend 2007, the Central Bank introduced a repo operations netting mechanism whereby repo operations being matured and concluded on the same day are settled using the principle of netting. This enables a bank-participant to save up money necessary for repayment, thereby contributing to more effective management of liquidity risk in the system.

Rejections

According to surveys, rejections of payment orders executed through EPS during 2007 have made up 0.06 percent of total number and 0.44 percent of total value, reflecting an effective usage of the monitoring tool by banks and sufficiency of liquidity on balances of correspondent accounts for making final settlement through the Central Bank systems.

System capacity

Over 2004, the active use of a new format of package payment messages by commercial banks led to the narrowing of the average daily inflow of EPS messages. In the meantime, hardware and software improvements in EPS have raised the EPS capacity, making it possible to handle up to 15 thousand messages a day. In 2007, the system capacity was extended to more than 20 thousand messages a day (an average of 2,857 payments an hour). The average daily flow of the EPS payment messages involved 5,356 messages in 2007, up by 33.7 percent on 2006.

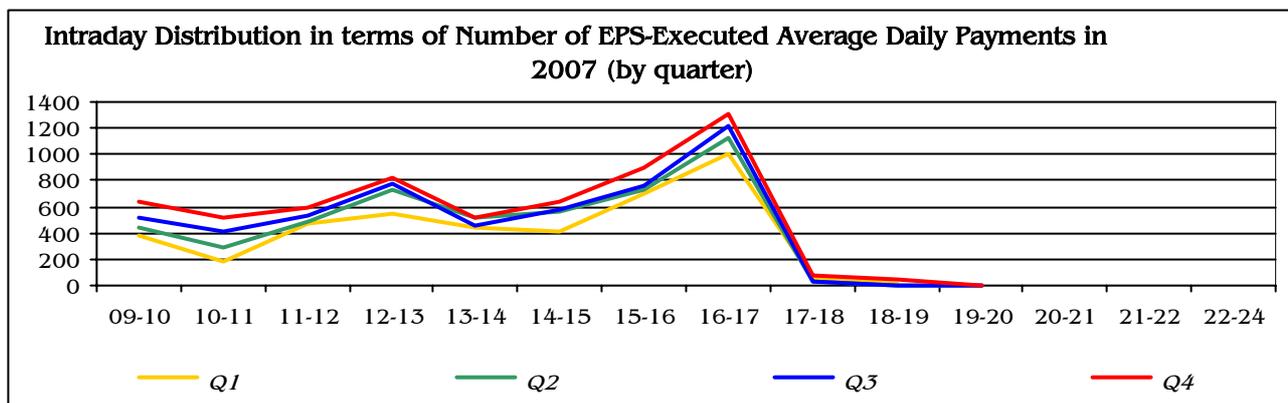
In consideration of the potential carrying capacity of the system, one may assume that even with a 50 percent annual increase in the number of payments in the 3 years ahead, the system's capacity would be far sufficient and is less likely to have led to systemic risks.

For payments, the most dynamic period of the year is the fourth quarter. In Q4, 2007, the number of the daily EPS-executed payments topped 11 thousand, way below the daily potential carrying capacity of 20 thousand payments. The maximum number of payments an hour in the same day topped 1,491, way below the potential carrying per hour capacity of 2,857 payments in number. In Q4, 2007, the number of payments an hour topped 2,270, which constitutes 26 percent of the number and 44 percent of the value of payments executed during that day.

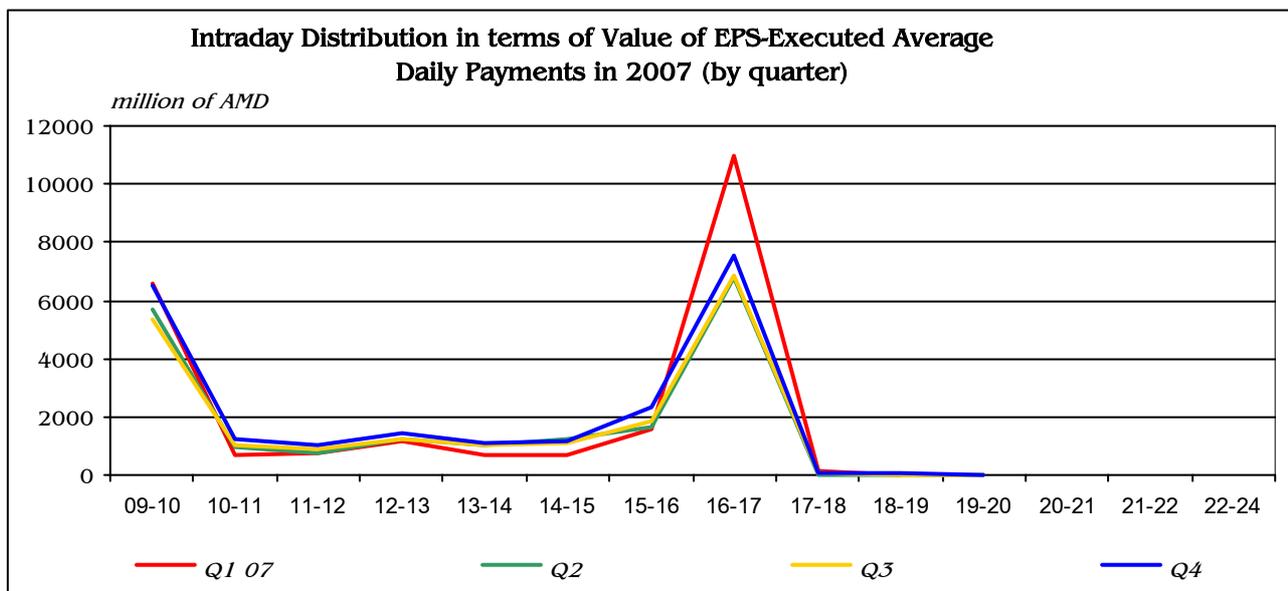
However, the share of payments exceeding the 1,500 / per hour rate has been as low as 4.8 percent in payments executed in Q4, 2007, which means that the likelihood of reaching the 2,857 / per hour rate, a critical margin under the carrying capacity of the system, is very low, too.

Intraday distribution of payments

A survey of value and number of average quarterly payments in 2007 showed that the intraday distribution of payments by hours is disproportional. The main portion of payments is processed between 3-5 pm of the day, constituting 37.66 percent of the number and 44.73 percent of the value of all payments executed in that day. Compared to 2006, the number and value of payments executed in this time of the day increased by 18.3 percent (making up 500,016 transfers) and 59 percent (making up AMD 1,720 billion), respectively. This is not a problem now as banks have enough liquidity and the system's carrying capacity is adequate for payments.



Source: Central Bank



Source: Central Bank.

System operational availability

A survey showed that the number of incidents in the system during 2007 has been very low (as few as 7 incidents), having, nevertheless, not weakened the system operational availability. The system operational availability has been estimated 99.6 percent, which is considered a high indicator by international standards.

Operational risk

The system operates based on the CBANet computer network and offers users high reliability and availability.

Software testing is applied as well as back-up servers and uninterrupted sources of energy supply are used in order to minimize technical risk. There are regular checks and controls over technical equipment and software packages; back-up replication of data and development of contingency plans are important considerations as well.

Minimizing risk of error in the system is ensured by using the STP³⁸ mechanism.

In the event electronic documents are used, the system is designed to allow using electronic signature, encoding/encryption, user access restriction, dual control, password use, a black box, and etc. in order to minimize risk of fraud.

In the event problems of technical content emerge with an individual EPS participant or on a systemic level, there are several back-up procedures in place, such as a 'hot' reserve for hardware and software contingencies, an independent, generator-assisted power supply as well as system operation in a "Reserve Bank" outside Yerevan.

Where EPS fails to operate for a longer time the Central Bank's Clearing Settlements System or Paper-Based Gross Payments System can be put into operation as a back-up alternative.

Assessment of payment systems

During 2007, a delegation of CISPI (Cooperation in the Commonwealth of Independent States Payments and Securities Settlement Initiative) visited Armenia, as was initiated by the World Bank, in order to assess the payment and securities systems of Armenia. According to the results of the assessment, the Electronic Payments System of the Central Bank generally met the CPSS core principles³⁹.

To sum up, the assessment of risk with the EPS allows concluding that the system structure and back-up procedures are more than adequate to prevent systemic risks.

³⁸ Stands for straight-through processing: this mechanism ensures a non-recurrent entry of information to the system (by an initiator), a formation of an electronic message format and its automated processing and transmission to the recipient.

³⁹ "Core Principles for Systemically Important payment Systems", BIS, 2001.

5.1.3. Securities Settlement Systems

In Armenia, settlement of securities is executed based on two systems: 1/ the Central Depository of Armenia for corporate securities, and 2/ the Government Securities Accounting and Settlement System of the Central Bank for government (treasury) securities and the Central Bank-issued securities.

Government (treasury) securities and Central Bank securities constitute more than 99 percent of the value of transactions by securities carried out in Armenia. In terms of financial stability, the GSASS of the Central Bank is of paramount importance and, therefore, is considered as a systemically important system.

The mode of gross settlements and irrevocability principles applied in the GSASS rule out emergence of credit risk in the system. The system also employs the DVP “delivery versus payment” principle that allows reducing the counterparty risk.

Financial and information documents in the system are presented electronically via the CBANet computer network, using necessary safeguards and mechanisms, such as data encryption, electronic signature, protection keys (identification of participants), etc. Therefore, in the operational availability point of view, a failure-free operation of the CBANet interbank computer network is important.

The total value of transactions executed through the GSASS in 2007 has amounted to AMD 1,393,271 million, which is a 2.2-fold increase against 2006.

The rate of operational failures in the system during 2007 has been very low, too (as few as 12 incidents), having, nevertheless, not affected the length of operational hours of the system.

The system’s auctions module has been improved during 2007, which made it possible to have fully automated execution, processing and announcement of results of auctions for the Central Bank-concluded repo and reverse repo transactions as well as procedures for implementation of final settlements. The repo/reverse repo auctions subsystem contributed to increased efficiency of execution of transactions, reduced error rates, and shorter performance timeframes.

As part of dynamic cooperation between the Central Bank and Armenian Stock Exchange during 2007 procedures⁴⁰ were developed to regulate execution, clearing and final settlement (deposit and monetary settlement) of transactions by government (treasury) securities and the Central Bank securities on the Armenian Stock Exchange. Further, the Stock Exchange has developed a special interface to establish an automated link between the EPS and the GSASS of the Central Bank and the stock exchange trades system. Testing procedures were accomplished in the end of 2007 and, starting January 2008, the Armenian Stock Exchange is home to executing and clearing and final settlement of transactions by government (treasury) securities and the Central Bank securities in accordance with the rules referenced in the footnote.

To sum up, the Government Securities Accounting and Settlement System of the Central Bank can be evaluated as a reliable and secure system. In the meantime, the Central Bank policy is aimed at increasing effectiveness of the system and facilitating the securities infrastructure.

5.2. DEPOSIT INSURANCE

The Republic of Armenia Law on Guarantee of Remuneration of Bank Deposits of Individuals has been adopted in 2004 and made effective since July 1, 2005. The aim of the law is to promote a reliable banking system of the Republic of Armenia, enhance the public confidence in the banking system and defend interest of depositors.

As required by the law, banks (other than branch offices of foreign banks and insolvent banks) operating in Armenia undertake making regular, non-recurrent and additional contribution charges to the Deposit Guarantee Fund. These charges constitute the resources of the Fund. The amount of regular contribution charges equals 0.05 percent of the average daily figure of bank deposits of the bank in a reporting quarter, but not less than AMD 1 million per annum. Newly established banks

⁴⁰ *“The Rules of Trades by Government Securities”, and “The Rules of Clearing and Final Settlement of Government Securities” of the Armenian Stock Exchange.*

undertake paying non-recurrent contribution charges of AMD 15 million within ten days upon being licensed for banking. Banks shall pay extra contribution charges only when it turns out that the resources of the Fund are not sufficient to remunerate guaranteed deposits.

The fund remunerates dram-denominated deposits to the extent of AMD 2 million and foreign currency-denominated deposits to the extent of AMD 1 million. All dram-denominated deposits of the depositor with the same bank are treated as one deposit, as well as all foreign currency-denominated deposits of the depositor with the same bank are treated as one deposit. According to the law, the remuneration of deposits may commence one month after the bank has become insolvent.

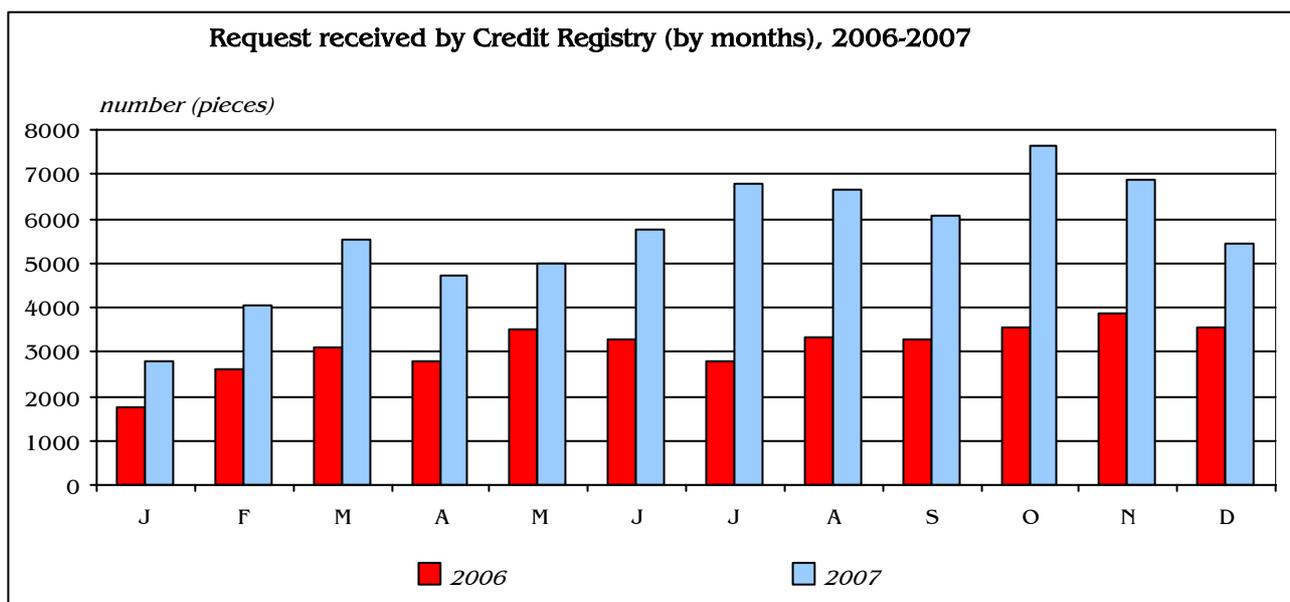
5.3. CREDIT REGISTRY OF THE CENTRAL BANK AND ACRA CREDIT BUREAU

The Central Bank Credit Registry

Since January 1, 2003, a credit registry has been functioning within the Central Bank. 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, and borrowers. The Credit Registry must enter into its records loans in excess of AMD 1.5 million and loans in the amount less than AMD 15 million that were overdue and were classified. In the year end 2007, the number of loans recorded in the Credit Registry has increased by 158713 to make up 441423 from which 407887 are loans to natural persons and 33536 are loans to legal entities. The Credit Registry keeps information about 89007 loans that are still in performance and 352416 loans that are already repaid. The total number of loans entered the Credit Registry has increased by 1.6 times against the previous year.

Each quarter, the Credit Registry publishes the names of non-diligent borrowers in the press and Internet website of the Central Bank.

The number of requests filed by banks and credit organizations to receive information about customer credit history has increased during the year by nearly 1.8 times. The assessment of credibility of a customer by using credit history reduces time spent on lending and enables curtailing credit risk and thus avoiding dealing with non-diligent borrowers. During 2007, banks have rejected loan applications from 4520 borrowers with negative credit history available in the Credit Registry.

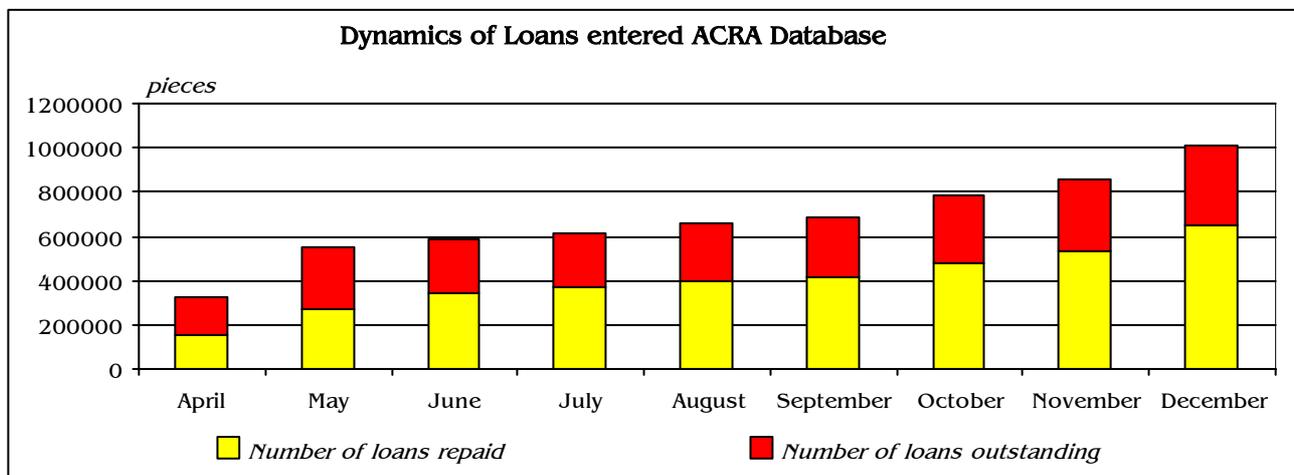
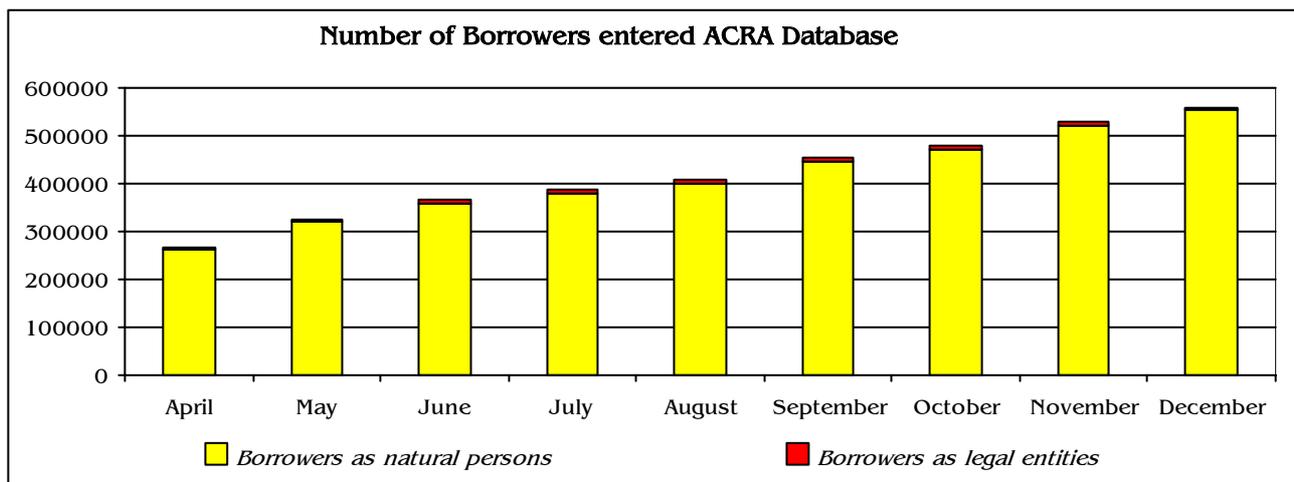


Source: Central Bank.

Thanks to the Credit Registry, delays in payments on loans in 2007 have reduced, reflecting customers' understanding of the importance to their credit history.

ACRA Credit Bureau

The ACRA Credit Reporting Company is the first private credit bureau in Armenia that started its operations from January of 2004. ACRA is a databank where information from financial and non-financial institutions pertaining to natural person and legal entity exposures is collected. All financial or non-financial institutions that originate loans or carry out transactions with overdue payments can enter into cooperation with ACRA. In order to cooperate, ACRA and the given institution shall enter into a contract on provision of services whereby the institution undertakes to supply information about its customers in exchange of receiving information, shortly after an appropriate need arises, concerning credit history of its potential borrower. ACRA has already concluded many service contracts with commercial banks and credit organizations operating in Armenia. During 2007, the number of customers recorded into the database of ACRA has increased by 111 percent to reach in the end of the year 5603 thousand customers, of which 99 percent are natural persons.



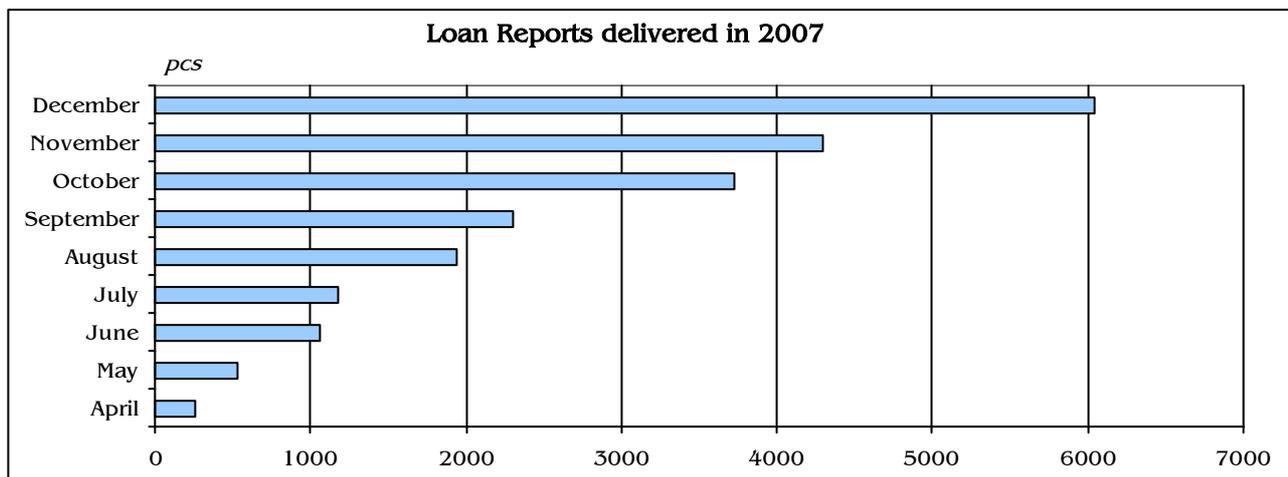
Source: ACRA.

The number of loans available in the database has doubled during the year to top one million in the end of the year.

Every citizen or legal entity can obtain information about own credit history from the credit bureau. To receive information about its customer and/or counterparty, a legal entity should enter into a contract with the credit bureau on provision of services and seek consent in writing from the subject of credit history.

ACRA has begun delivering loan reports since April of 2007. Until yearend, the number of such reports has increased by about 22 times.

A multilayer coding system, supported by special firewall hardware, has been developed to protect database and store information owned by ACRA, and to prevent unauthorized access by outsiders. The system traces all actions as well as an ongoing monitoring of the system is in place to prevent suspicious and unauthorized action.



Source: ACRA.

5.4. ANTI MONEY LAUNDERING

Following the adoption of the Republic of Armenia Law on Combating Legalization of Proceeds from Crime and Terrorism Financing in 2004 the Financial Monitoring Center of the Central Bank has been making active efforts in that direction. During 2007 AML/CFT measures were undertaken by the FMC within the scope of functions conferred upon it. In 2007, the FMC of the Central Bank continued working, specifically, on making changes into the Armenian legislation and other legal acts in the combat of ML/FT, screening of internal legal acts of reporting entities and development of cooperation with domestic and foreign bodies and institutions. Further work was done to revise reporting forms of transactions subject to mandatory reporting and of suspicious transactions. A new reporting form was adopted relating to procedures of reporting by regional units of State Committee of Cadastre of Real Estate.

The volume of information in the FMC's databank increased in 2007 by about 41 percent as compared to 2006; reports available in the databank numbered approximately 130 thousand.

After the FMC joined the Egmont Group of Foreign Financial Intelligence Units, the process of information sharing with other financial intelligence units considerably intensified. In 2007, the FMC also joined Egmont Secure Web, making it possible for the FMC to have a safe and facilitated exchange of information with financial intelligence units of foreign countries, using state-of-the-art information technologies. In the meantime, the Central Bank continued actively cooperating with the Interagency Committee of the Fight Against Forgery, Fraud in the Field of Plastic Cards and other Payment Instruments, Money Laundering and Terrorism Financing.

The FMC has released all notable changes made to the ML/FT prevention mechanisms and new developments in activities of the FMC and made them available on its official Internet website (www.cba.am/fmc/index.htm), which certainly provided public awareness on the activities of the FMC.