

FINANCIAL STABILITY REPORT 2020-I

FINANCIAL SYSTEM IS STABLE AND ABLE TO ABSORB RISKS

Macro risks			
Credit risk			
Market risk			
Liquidity risk			
Risk-absorption ability			
	2018 IV	2019 IV	2020 II



THE ECONOMY CONTRACTED



Services	-5.3 %
Industry	-2.0 %
Constructions	-30.4 %
Agriculture	1.8 %

ECONOMIC GROWTH - 5.7 %

GLOBAL ECONOMIC RECESSION



GDP growth rate slowdown was observed in the partner countries. Economic recovery rates and prospects are highly uncertain.



FINANCIAL INTERMEDIATION LEVELS WERE SUFFICIENT



62.8%	5.8%	6.9%	4.8%
LOANS/GDP	CREDIT GROWTH	Loans to Individuals	Loans to Enterprises/Companies

NO CRITICAL CHANGES IN LOAN PORTFOLIO QUALITY



Credit risk may rise in the future due to the systemic nature of current uncertainties and risks.



BANKING SYSTEM IS LIQUID AND STABLE



26.9%	119.4%	17.4%
Minimum 15%	Minimum 60%	Minimum 12%
Total liquidity	Current liquidity	Capital adequacy

TIER 1 CAPITAL REQUIREMENT WAS DECREASED FROM 10% TO 9%



The CBA urged banks to use prudent capital management approaches within the scope of the reduction of Tier 1 capital adequacy ratio.



FINANCIAL STABILITY REPORT

**2020
1st half**

This Financial Stability Report presents an assessment of potential risks that could threaten the stability of the Republic of Armenia's financial system as well as the capacity of the financial system to absorb such risks.

More detailed information on Armenia's macroeconomic environment is available in the Status Report on Monetary Policy Implementation.

Previous publications of the Financial Stability Report are available on the official website of the Central Bank of Armenia: www.cba.am.

The data published in this report are as of 30.09.2020

The Central Bank of the Republic of Armenia
Vazgen Sargsyan 6, Yerevan 0010
Phone: (374 10) 58 38 41
Fax: (374 10) 52 38 52
Website: www.cba.am

TABLE OF CONTENTS

Preface	6
Notification	8
Abstract	9
1. Macroprudential dashboard	11
2. Macroeconomic developments	13
2.1. Developments in the external environment	13
2.2. Domestic developments	15
<i>Box 1. Measures implemented by the Central Bank of Armenia to respond to</i> <i>COVID-19 pandemic</i>	16
2.3. Household debt and risks	18
<i>Box 2. Support programs of the Government of the Republic of Armenia through</i> <i>targeted lending aiming to neutralize the impacts of the pandemic</i>	22
2.4. Real estate market developments and risks	23
3. Developments in the financial system of Armenia	26
3.1. Developments in the internal financial market	26
3.2. Risks in the financial system and infrastructures: stress scenarios	27
3.2.1. <i>Risks and risk scenarios of commercial banks</i>	28
<i>Box 3. Protection of consumer rights</i>	36
3.2.2. <i>Other financial institutions</i>	37
<i>Box 4. Changes in the regulatory framework for the first half of 2020</i>	40
4. Macroprudential policy	42
5. Financial market infrastructures stability	44
5.1. Interbank payments VIA electronic payment system of the central bank	44
<i>Box 5. Features of card transactions</i>	47
Charts	49
Tables	50
Glossary of terms	51
Abbreviations	53

Financial stability is one of the primary objectives of the Central Bank of Armenia (along with price stability), being a crucial element of overall macroeconomic stability and an essential precondition for long-term stable economic growth.

Financial stability can be characterized as the concurrence of financial and macroeconomic conditions at a time when the financial system (i.e., financial institutions, markets, and market infrastructures) is capable of withstanding probable shocks and instability, minimizing the probability of interruption of intermediation function.

In defining financial stability, it is taken into consideration that financial instability can emanate as a result of the interruption of internal functions of the financial system, as well as possible risks stemming from adverse developments in domestic and world economies, credit risk issues connected with major borrowers and lenders, shifts in economic policies and infrastructures.

Maintaining financial stability involves efforts to identify primary risk sources, poorly-managed financial risks, ineffective asset pricing, and, finally, implementation of the policy as appropriate.

PREFACE

The ***Financial Stability Report*** of the Central Bank of the Republic of Armenia is prepared and published on a semiannual basis. It incorporates a broad assessment of risks that might potentially threaten the stability of the financial system as well as hamper the capacity of the financial system to withstand such risks. By means of publishing information concerning a variety of reviews on financial stability, the Central Bank aims at soliciting the attention of the interested parties on those risks and eventualities that might jeopardize the financial stability of the Republic of Armenia. Furthermore, this might instigate measures targeted at minimizing such risks.

On April 9, 2018, the financial stability became the main objective of the Central Bank, parallel with the price stability (following the amendments of the Constitution of the Republic of Armenia, implemented in 2015).

Disruptions in the financial sector might bring forward impediments to the effective implementation of monetary policy and long-term and stable economic growth. At the same time, monetary and macroeconomic stability contributes to the minimization of risks that might jeopardize financial stability. The financial system carries out a vital role in the overall economic system. It is essential that the financial sector retains the continuity and sustainability of processes, thus contributing to the sound growth of the entire economy.

The Central Bank carries out constant monitoring and analysis of financial stability in order to identify early disclosure of any changes and variations that could threaten financial stability. The report incorporates the risks revealed in the macro environment and the financial sector, as well as the impact on the developments in all areas of the economy and financial system.

Risks that might affect the financial stability of Armenia can emerge in the internal macroeconomy, external economy, and the financial sector itself.

Taking into consideration the facts mentioned above, risks that can potentially jeopardize Armenia's financial stability are presented in this report in the following directions:

- ✓ risks derived from developments in the global economy,
- ✓ risks derived from developments in the macroeconomic environment of Armenia,
- ✓ risks derived from developments in the financial market of Armenia,
- ✓ risks derived from the financial institutions of Armenia,
- ✓ risks derived from the financial infrastructures of Armenia.

The report addresses the risks revealed in those areas and assesses their possible impact on the developments in the overall economy and all parts of the financial sector. Furthermore, the report mainly focuses on the risks in the banking sector and its development trends, because the assets of commercial banks account for 84 percent of the entire financial system assets in Armenia. Therefore, the banking sector stance mainly determines overall financial stability and development trends.

NOTIFICATION

The “2020 1st Half Financial Stability Report” semiannual periodical analyzes the financial stability of Armenia and its risks for the 1st half of 2020 based on data available until 30 September.

At the moment of the publication of the report, martial law was declared in the whole territory of Armenia by the decision N 1586 on Declaring Martial Law in the Republic of Armenia of the Government of 27 September 2020. This was conditioned by the large-scale attack along the defensive positions of Artsakh organized by the armed forces of Azerbaijan. The Central Bank is conscious about possible risks and adverse economic developments due to the above mentioned circumstances which haven't been presented in this publication.

During the period that martial law was declared, the banking system is operating as usual, it is capitalized, and liquid, and is capable to ensure the service of financial flows in the economy. The Central Bank continues the monitoring of the current developments daily and is capable to react to the future developments to ensure financial stability with the execution of appropriate tools within its mandate.

ABSTRACT

During the first half of 2020, the challenges to financial stability due to COVID-19 pandemic differ drastically from the challenges of all previous crises. The unprecedented scale and nature of the pandemic have lead to deep economic recession and uncertainties. The Government of the Republic of Armenia, and the Central Bank of Armenia have taken important measures to mitigate and neutralize the overall consequences of the decline of economic activity, consumption, and income, uncertainties in the financial markets and the banking system due to the pandemic.

The financial system of Armenia during the first half of 2020, has operated under ever-changing and uncertain macroeconomic environment. An economic decline has been registered because of the economic restrictions imposed to stop the spread of the pandemic and to mitigate its consequences. The Central Bank, taking into account the low inflation environment, and the delay of the recovery of external demand, continued implementing expansionary monetary policy by decreasing the refinancing rate. The lightening of the monetary conditions and the continuity of the anticrisis measures by the Government are aimed at recovering internal demand.

The financial system has managed to ensure the continuity of the provision of financial services in the economy. Under the restrictions to stop the pandemic, the retail Banks have continued providing banking services. The priority was given to making online banking services more available. The credit holidays offered by the initiative of the commercial banks and the review of loan conditions allowed the borrowers most hit by the pandemic to redistribute the credit servicing burden according to their future expected income.

During the first half of 2020, the growth rate of credit to the economy has been preserved.

Thanks to the relatively high level of capital and existence of liquidity buffers in the banking sector, the anticrisis measures of the RA Government, as well as the appropriate policy response by the CB to the created situation, there has been no decline in the credit growth rate. The growth level of the lending is conditioned by the credit holidays provided by the financial institutions, as a result of which loan repayments have been postponed. However, it should be mentioned, that the developments related to the pandemic and the prospects related to the economic recovery are not certain, and with the weak recovery of incomes in the economy, it is possible that the growth rate of lending will slow down in the future.

Due to the restrictions to prevent the pandemic, the decline of economic activity and incomes will influence negatively the the

credit portfolio quality of financial institutions. It is assumed, that the loan holidays provided by the financial organizations has allowed to redistribute the expressions of credit risk growth and related losses over time, which will show up partially in the expensis of the second half od 2020 and the credit portfolio quality.

The existence of enough capital buffers is an important preconditions for financial stability, and the banking system should utilize rational approaches to capital management. In the current situation, the the CBA prudential regulation and the macroprudential policy measures are exclusively directed towards enhancing the resiliency of the banking system towards the negative influences of the pandemic. Currently the banking system has enough capitalization. However, taking into account the possible expressions of credit risk due to the uncertainties related to the spread and duration of the pandemic, the banking system should manage capital carefully, avoid or postpone paying dividends.

In 2020, the CBA has realized prudential measures targeted at ensuring the continuity and resilience of the banking system under the risk conditions due to the pandemic. Particularly, the CBA has decreased for 1 percentage point the requirement for Tier 1 capital. This measure was in the list of actions planned for the past few years, but it was being postponed due to the existence of credit overheating risks.

The counter cycle capital buffer has been preserved at the level of 0 percent conditioned by the expectations of decline in credit overheating risks.

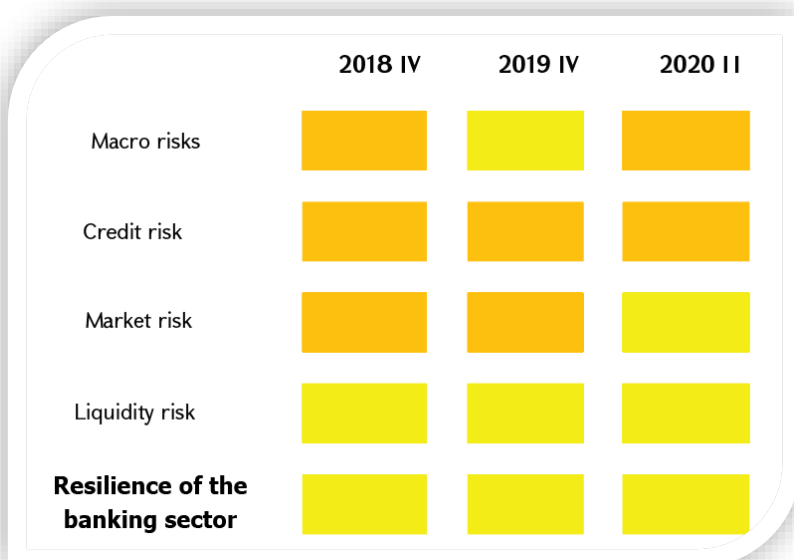
The measures taken by the CBA are aimed at increasing the banking system's risk absorbtion capacity, and at the same time creating the opportunity to use the capital buffers developed in the past to satisfy the demand for lending in the economy.

1. MACROPRUDENTIAL DASHBOARD

The macroprudential dashboard ¹ consists of two sections, namely, risk sources endangering financial stability and the risk-absorption capacity of the system.

The section describing the **risks** represents systemic risk accumulation differentiated by sources, the materialization of which may threaten the stability of the financial system. The second section represents the **resilience of the system**, that is, the availability of liquidity and capital buffers.

Macroprudential Dashboard, 1st half of 2020

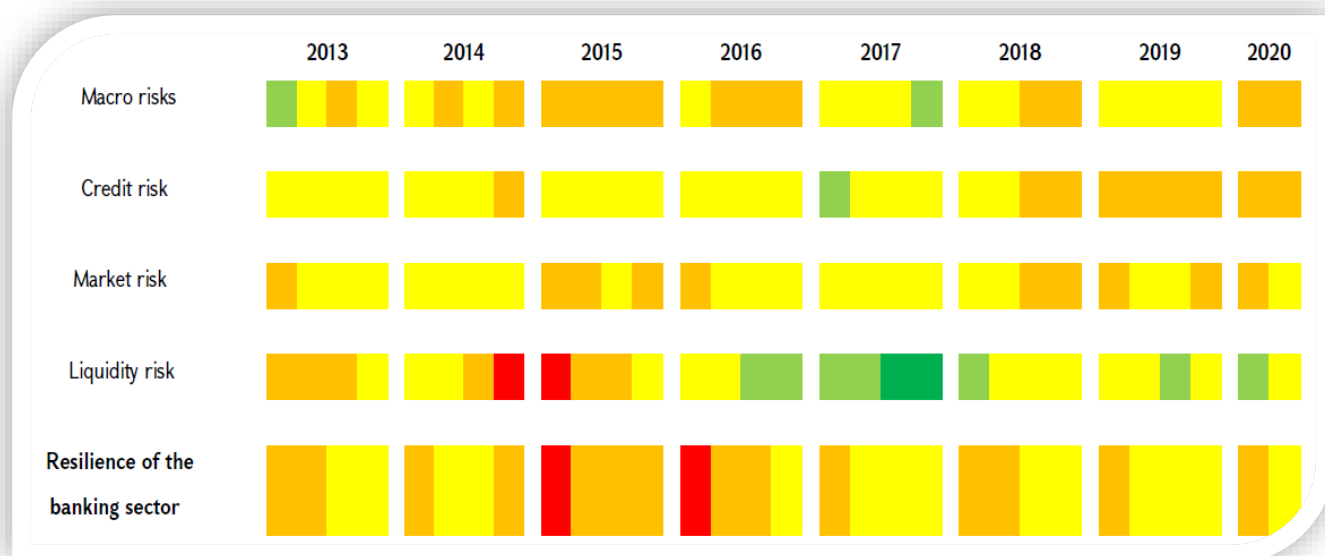


In comparison with the last year end, some increase of risks has been recorded during the 1st half of the current year. This was mostly due to adverse developments for the pandemic situation in the world and in Armenia and its influence on economy. Particularly, the level of risks in the macro-risk subgroup has increased due to economic downturn in Armenia and uncertainties of further economic recovery. Remittances have declined due to the economic growth decline in partner countries. The high level of government debt, continued to have a negative impact on the aggregate indicator of macro risks (see more in chapter 2: “Macroeconomic developments”).

¹ The macroprudential dashboard consists of 23 indicators aggregated in 2 main groups: the risk sources and the risk-absorption capacity. The indicators have been equated by comparable moderation; the harmonization of the indicators has been achieved through the Gaussian kernel function of cumulative distribution, as a result of which normalized indicators fluctuate/ lie between (0,1) intermediate. The colors of the dashboard represent the division of (0,1) intermediate to 5 equal intermediates/portions. Red color indicates risk growth, while green color indicates risk reduction. The evaluations are updated and calculated quarterly.



During the half-year, there has been a significant growth in risk accumulations.



The comparably high level of **credit risk** continues to be conditioned by the high growth rates of household lending (see more in chapter 2.3.: “Household debt and risks”).

Risk accumulation in the sub-group of **market risks** is conditioned by the still continued increase of real estate prices. The latter one has been conjoined with an increase in mortgage lending. To avoid the risk of further overheating of the market, the Central Bank continues monitoring the trends on loan to value ratio in the banking system (see more in chapter 2.4.: “Real estate market developments and risks”).

The growth of **liquidity risk** is conditioned by the growth of “Interbank financing” indicator, which represents the deviation of the level of interbank liabilities and claims from their historic averages.

The **risk-absorption capacity of the financial system** continued to remain high. This has been conditioned by the maintenance of high levels of liquidity and capital adequacy ratios. In the case of the risk materialization, the availability of such a level of risk-absorption capacity will allow the banking system to ensure resilience, maintain continuity and sustainability of processes, and a sufficient level of financial stability (see more in chapter 3.: “Developments in the financial system of Armenia”).

In general, the dashboard reflects the observations and conclusions presented in the following sections of the Report.

2. MACROECONOMIC DEVELOPMENTS

Armenia is a small open economy and is sensitive to a number of external shocks. The deviation of the current account to GDP indicator from its equilibrium level, high level of external debt and the level of dollarization make the economy and the financial system dependent on unfavourable developments and possible external risks.

Therefor Armenia is exposed to downside risks of global growth, the commodity prices, the economic conditions of main partner countries, as well as adverse developments of external demand.

The mentioned risks are continuously monitored and assessed with regards to financial stability.

The scenario described in the "Inflation Report" for the third quarter of the Central Bank is considered as a basic macroeconomic scenario².

2.1. DEVELOPMENTS IN THE EXTERNAL ENVIRONMENT

The spread of a pandemic in the first half of 2020 posed unprecedented healthcare, economic and financial challenges for all countries of the world, and has significantly changed the prospects for the development of the global economy.

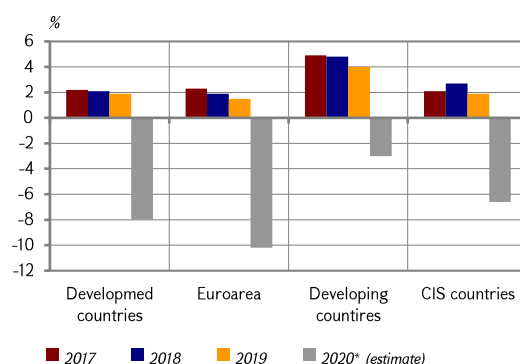
During the first half a deep decline was registered both in the developed and developing countries.

According to the IMF estimates the world economic downturn is projected at -4.9% in 2020 including -8.0% in developed countries, and -3.0% in developing countries.

However both in the developed and developing countries have been made large-scale injections into economies through both fiscal and monetary expansionary policies. The possible positive effects will be noticeable in the short term.

The decline of the world economy, in turn, has created negative risks for Armenia's economic growth, businesses, household incomes, and, consequently, the financial system.

Global economic growth



Source IMF.

² More detailed information on Armenia's macroeconomic environment is available in the Status Report on Monetary Policy Implementation.

With the spread of coronavirus pandemic the world economic downturn has been registered, while the terms of recovery and the pace are uncertain.

The economic downturn amid coronavirus pandemic during the first half of the year was actually deeper than projected and the recovery anticipated to be slower and gradual.

Specifically, economic decline and adverse developments were registered in the main partner countries of Armenia, and there are significant uncertainties related to further developments.

During the first half of 2020 economic decline was registered in the main partners to Armenia, while recovery is expected in the second half.

Particularly economic downturn in the USA is projected at 5.3% for 2020, in turn Euroarea's projection is -7.9%, and for Russian Federation -4.5% respectively.

Although the economic downturn will be milder than expected as conditioned by fiscal stimulus, in the face of high levels of uncertainty, private spending will be curbed further, slowing economic recovery in key partner countries. Conditioned by the economic downturn in RF, the inflow of private remittances to the Republic of Armenia decreased during the first half of the year, while the export of goods and services decreased significantly.

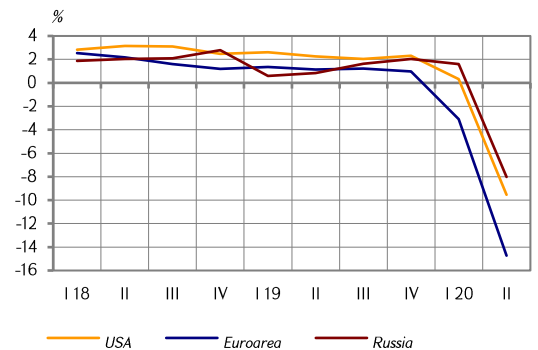
However should be noted that the persistent decline of the inflow of private remittances has substantially reduced its share in the household income, thus reducing sensitivity of households to the risks posed by the decline in private remittances.

The main commodity markets showed deflationary trends during the half-year.

The spread of pandemic has adversely affected commodity markets, meanwhile both from supply and demand side. Price falling was conditioned by drop in demand because of country lockdowns and disrupted production chains, as well as slowdown of global economic growth. It should be noted that the continuous decrease during the first four months was followed by a certain stabilization of prices.

Thus, copper prices fell sharply in the first half of the year compared to the same period last year because of spread of the pandemic and the growing risks associated with China's economic growth, while at the end of the half year prices are already recovering due to the recovery of demand from China.

Economic growth in main partner countries



Source: Bureau of Economic Analysis (BEA), Eurostat, Rosstat.

The reduction of demand for oil because of mass cancellations of flights, as well as disagreements over the reduction of supply by OPEC+ member states, in turn significantly reduced international oil prices, which at the end of the semester showed a certain recovery trend.

Above described developments and uncertainties have posed significant risks to the internal macro-financial environment, and further developments continue to be dominated by high levels of uncertainty and high probability of materialization of those risks.

2.2. DOMESTIC DEVELOPMENTS

The rapid spread of the Covid-19 pandemic during the half-year, the application of a number of anti-epidemic measures, restrictions, as well as the reduction of domestic and foreign demand had a negative impact on the economic growth of the Republic of Armenia.

The economic decline was 5.7% in the first half of the year, mainly due to the 12% decline of the second quarter.

According to the estimates of the Central Bank of Armenia, during the next quarters of the year the rate of decline will gradually decrease, as a result of which the year will end with a 6.2% economic decline.

Supply side factor contributing to the economic downturn will be the reduction of output in the construction and services sectors.

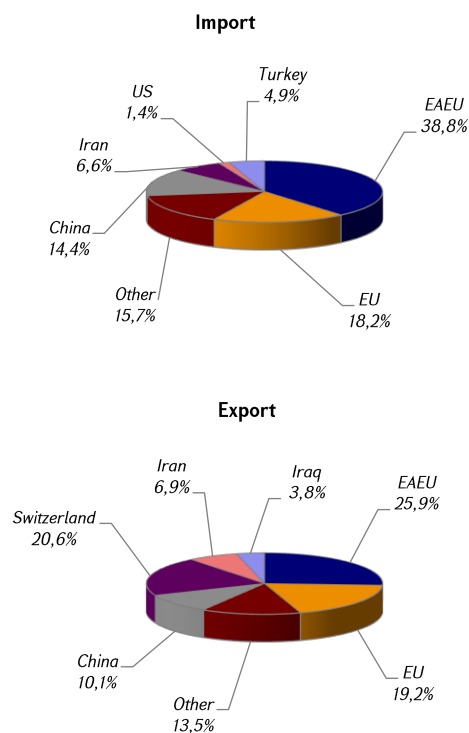
Meanwhile from the demand side the reduction of private spending had a negative impact on the economic growth of the first half of the year, which will continue in the second half if the current uncertainty persists.

According to the semiannual data the pandemic did not have a significant effect on interest rates and lending volumes.

During the first quarter of the year, credit growth mainly maintained the trends of the previous year, while in the second quarter, due to the tightening of healthcare restrictions and the uncertainties of economic development, the growth rate of loans began to slow down.

The deep downturn in the world economy and the imposition of restrictions by partner countries to prevent the spread of pandemic have significantly reduced export growth, while declining domestic incomes have been reflected in significant reductions of import.

Armenia's foreign trade, by country (as of 30.06.2020)



Source: National Statistics Service of Armenia.

During the first half of the year, amid declining external demand and falling prices for raw materials, exports of goods and services fell, which, according to forecasts, will be somewhat mitigated in the second half of the year. Annually, exports and imports are projected to decline by 29-32% in real terms.

It is predicted that the significant reduction of the Russian economy due to low level of oil products' prices, the restriction on migration inflows during the pandemic will significantly reduce the inflow of remittances from natural persons by about 15.0-22.0%.

The current account deficit will improve compared to the previous year, amounting to 5.0-6.0% of GDP, mainly due to the progressive decrease of imports compared to exports. As a result of the improvement in the current account deficit, the net export contribution to real economic growth has been positive and tensions over exchange rate risks have not emerged.

Box 1

Measures implemented by the Central Bank of Armenia to respond to COVID-19 pandemic

- ***The CBA Board has decided to reduce the Tier 1 capital adequacy regulation defining it at 9% instead of 10%. According to the adopted long-term policy, the CBA always ensures the compliance of the regulatory principles of the banking system (including capital structure requirements) to the prudential standards/macprudential instruments suggested by the Basel Committee. To mitigate the negative impacts of uncertainties on the economic activity and its perspective conditioned by the spread of the pandemic, the CBA Board decided to increase the share of additional capital in the total capital structure, enabling banks to contribute to the smooth lending to the economy by involving subordinated debts and other capital instruments. The decision is a part of the long-term policy on financial stability adopted by the CBA and ensures a sufficient level of instruments to absorb possible risks and losses of the banks.***
- ***The CBA has sent appropriate signals to commercial banks on the requirements for formed capital buffers. For the cases of violation of capital buffer requirements, the CBA extended the period required by banks for their restoration, which will expand the capabilities of banks to absorb the growing credit losses at the same time contributing to the smooth lending to the economy in the current situation of declining economic activity. Within the framework of measures mentioned above, the CBA urged the banks to refrain from paying dividends and thus avoid sending misleading signals to the market.***

- *To smooth out the fluctuations of the financial market, reduce the risks and uncertainties, as well as to ensure the uninterrupted operation of the transmission mechanism of the monetary policy, the CBA provided monetary liquidity to the commercial banks in line with the growing market demand through the main repo instrument of the monetary policy. As a result of this intervention, the short-term interbank interest rate remained within the target interest rate of the policy and ensured stabilization of the yield curve of the treasury bills (short-term government securities).*
- ***The CBA has postponed the terms of implementation for LCR and NSFR prudential regulations suggested by Basel 3 for banks to smoothly finance the real sector of the economy. New liquidity prudential regulations will enter into force on January 1, 2021. At the same time, it should be mentioned that prudential regulations/standards for the total and current liquidity managing the liquidity risk of the banks are still in operation.***
- ***Conditioned by the difficulties in fulfilling credit obligations under credit agreements the terms of fulfillment of contractual obligations of individual and business/ borrowers particularly affected by the pandemic have been revised.*** Taking into consideration the circumstance that in the current situation the deterioration of the creditworthiness of some borrowers is conditioned by the systemic risk arising from the pandemic, mechanisms have been formed as a result of the cooperation between the CBA and the lending organizations, the use of which made it possible to take an **individual approach** to borrowers, as well as avoid **deteriorations of credit history** because of not making timely payments by the borrowers under the credit agreement.

Following the situation and aiming to support the borrowers facing financial difficulties the “National Mortgage Company” Refinancing Credit Organization CJSC, “Home for Youth” Refinancing Credit Organization CJSC and German-Armenian Fund created an opportunity to defer/delay the principal payments on the loans provided to customers by banks within the framework of their programs for up to 6 months.

- ***Coordination of activities and development.*** The CBA regularly makes situational statements aimed at both internal and external audiences. At the same time, in the current situation, the CBA continues to investigate the measures implemented by the international organizations, central banks of other countries, and policymakers, as well as global financial and economic developments more effectively.

2.3. HOUSEHOLD DEBT AND RISKS

In the first half of 2020 the spread of Covid-19 pandemic and the restrictions that came into effect already from March have affected negatively the employment conditions and household income. The latter has increased the household's financial vulnerability and their difficulties to serve debt obligations. The monitoring of household sector risks makes in evident that they have been maintained within manageable scopes.

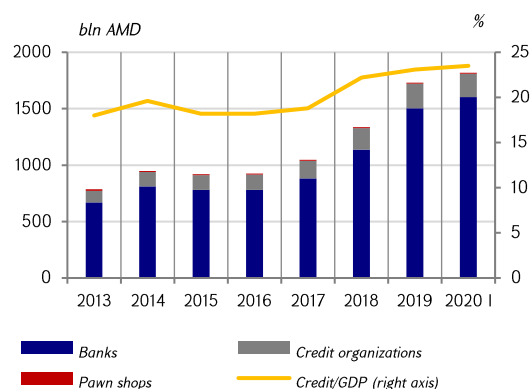
In this case, it is of outmost importance to implement the policy that aims to improve macroeconomic conditions, to contribute to the growth of household income, to decrease the debt burden or to strengthen debt service capacity. It is expected that the repercussions of the Covid-19 pandemic will continue affecting households negatively also during the year. Those households that have high debt burden are more prone to have difficulties serving their credit obligations. Though the measures undertaken by the banking system and the Government³ may mitigate it to certain extent. The financial system has provided loan payment holidays for almost 550 thousand borrowers, the principal of whose loans reach to 682 bln AMD. It was reviewed or loan holidays were set for 958.9 thousand loans, for which some 45.1 bln AMD payments have been postponed.

In the first half of of 2020 the household credit to GDP⁴ ratio somewhat increased, inching to 23.5% (it was 23.1% in the year of 2019). This indicator is increasing quite slowly and is not high in comparison with the median for the countries in the region, but it implies an increase in households' debt burden. Conditioned by the economic downturn, compared to the same period of the last year, for the first half od 2020 the growth rate of consumer lending has slowed down. This has led to some mitigation of household debt burden indicator.

At the same time, during the recent years, the decrease in interest rates and the increase of the maturity of the household loans (other things equal) have somewhat mitigated the likelihood of possible downside risk developments around the households' debt service.

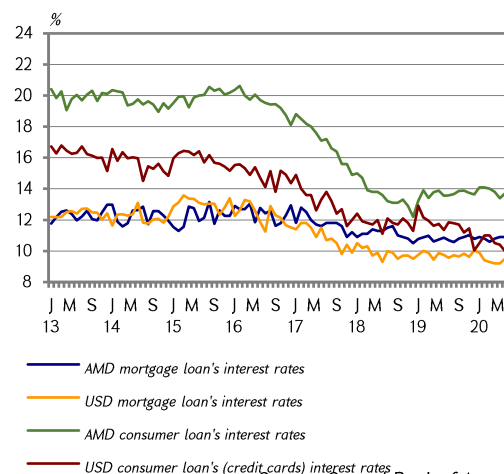
The results of the survey conducted within the CBA's initiative on "Population Debts and Finacial Behaviour" indicate the increase of the ratio of household gross debt burden to household disposable income. The latter is the result of a faster rise in credit and other liabilities in comparison with the household income.

The structure of household liabilities to financial institutions



Source: Central Bank of Armenia.

Interest rates for household loans



Source: Central Bank of Armenia.

³ See Box 2.

⁴ Household loans consist of loans given to the resident households by commercial banks and credit organizations.

The probability of materialization of risks related to households' debt service has increased. Under the conditions of the spread of the pandemic, the growth rates of the loans of natural persons have declined. According to the results of the survey conducted by CBA among financial institutions in the second quarter of 2020⁵, in the directions of lending to natural persons, there have a decline in both demand and supply. The respondents have noted some deterioration in credibility of households because of which the criteria of evaluation of creditworthiness have been stricened. The financial institutions expect that the supply of lending might probabaly increase, though at a lower pace. It is expected that on all directions lending demand will increase.

In comparison with the household income, the relatively high growth rate of lending indicates the possible underestimations of risks and their accumulation in this sphere of credit⁶. If income growth rate slows down, the possibility of risks related to the debt service of households and the losses of financial institutions will increase.

The credit risk of households, calculated as a share of non-performing loans in total household loans, has increased over the first half of this year. By the end of June 2020, the ratio of non-performing loans of households⁷, which measures the materialization of the previously accumulated credit risks, reached 8.5%. The probability of the growth of non-performing loans in the second half of the year remains high. This is conditioned the factor of slow recovery of the economy under high uncertainties, the end of credit holidays provided by the banks.

Salaries continue to prevail in the household income, followed by state pensions, subsidies, self-employment income, and remittances⁸. During the half-year, the increase in salaries was 1.5%⁹ conditioned by the influence of Government support programs on preserving jobs, and change of methodology by the Statistical Committee of Armenia related to the inclusion of the salaries of employees in forced leave in the calculation of average salary. It should be noted that already in the second quarter of 2020

⁵ CBA conducts quarterly surveys among the managers of banks, credit organizations, insurance companies, investment companies and investment funds on variables in different sectors of the economy to identify their expectations and take those expectations into account during policy implementation.

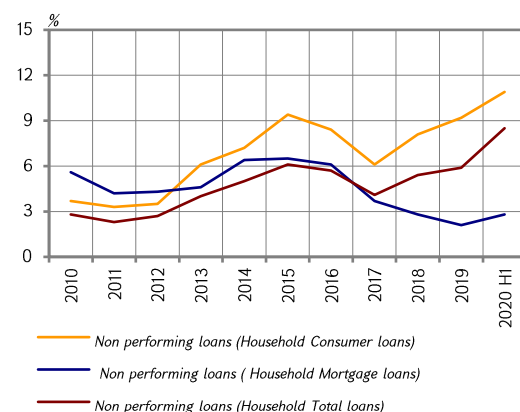
⁶ The credit growth of the previous years was due to the increase in statutory capital of the banks and growth in the supply of consumer and mortgage loans due to the existence of liquidity, as well as the easiness of getting loans due to lighter credit granting terms.

⁷ The non-performing loans of households were calculated as a share of non-performing consumer and mortgage loans (AMD and foreign currency) in the total amount of loans provided to the households by banks and credit organizations.

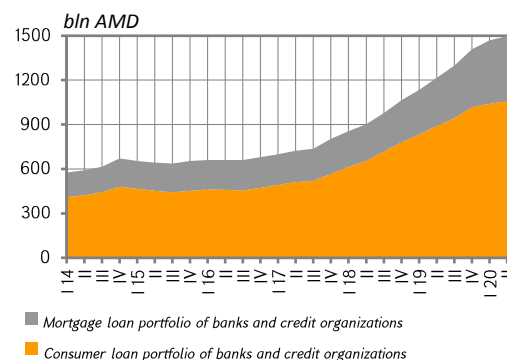
⁸ For details, see "Social Snapshot and Poverty in Armenia. Part 2. Armenia: Household Income, Expenditures, and Basic Food Consumption". SCRA.

⁹ Source: Statistical Committee of the Republic of Armenia.

Household non performing loan trends

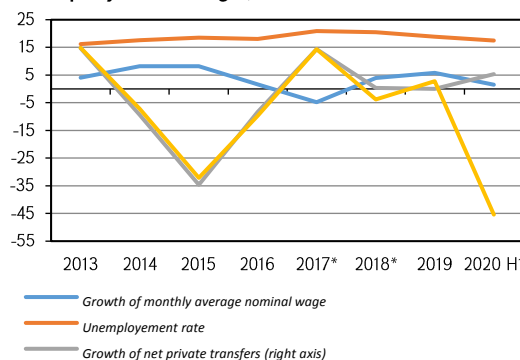


Consumer and mortgage loan portfolio of banks and credit organizations



Source: Central Bank of Armenia.

Private transfers, salaries of emigrant workers, nominal average wage, and unemployment changes, %



* From January 2018, the RA Statistical Committee has revised the methodology for labor market statistics, within which the values of several indicators were changed. According to last updates, the average nominal salary refers to organizations with more than 1 employee.

Source: National Statistics Service of Armenia.

the yearly growth of salaries in the private sector of Armenia grew by 0%. At the end of the second quarter of 2020, unemployment was 17.5%. Due to the further deepening of the adverse consequences of the pandemic, it is expected that household salaries, income from self-employment and other income will decline.

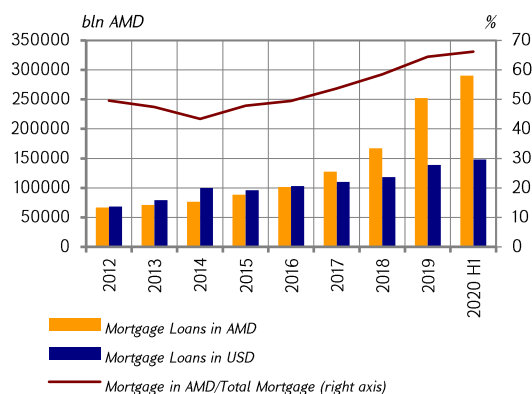
By the end of the first half of 2020, the consumer loans grew y/y by 19% (4% from the beginning of the year). According to the survey conducted by the CBA¹⁰, the most active types of consumer lending continue to be consumer loans without collateral and those that use real estate as collateral. The banks are competing to provide attractive terms for the above mentioned types of loans. Under such circumstances, online banking services are more valued and the volumes of online fast loans without collateral are growing.

Along with the slowdown of consumer lending growth rates, there was an increase in non-performing consumer loans, as a result of which their share in the total amount of consumer loans increased by 1.6 percentage points, reaching to 10.9%. According to the results of the survey conducted by CBA¹¹ during the rest of 2020, the deterioration of household loan portfolio quality will continue. Banks and credit organizations provided loan holidays, did review of credit conditions, by which the loan servicing burden was redistributed to the following time periods. With the end of loan holidays, credit portfolio quality will also deteriorate. On the other hand, very few portion of banks and credit organizations are optimistic and expect an increase in the volume of demand for consumer loans.

There was a y/y 34% increase in mortgage loans by the end of June, conditioned by the high growth of mortgage loans for real estate purchased from the primary market. Several programs of the RA Government, such as the refund of income taxes on the amount of paid interest payments, several programs on refinancing of mortgage loans have contributed to the latter. Nevertheless, the current growth rates of mortgages were due to the approval of mortgage contracts that were initiated before the pandemic and their disbursement was realized after the spread of the pandemic.

With the spread of the pandemic, and the satisfaction of high demand for mortgage loans expressed in the past few years, it is possible that further growth rates of mortgage lending will slow down.

Structure of mortgage loans by currency



Source: Central Bank of Armenia.

¹⁰ Source: Central Bank of Armenia, 2020 Quarterly Survey of Credit Terms provided by Banks and Credit Organizations.

¹¹ CBA, conducts quarterly surveys among the managers of banks, credit organizations, insurance companies, investment companies and investment funds on variables in different sectors of the economy to identify their expectations and take those expectations into account during policy implementation.

According to the results of the survey conducted by CBA, although it is not expected that the prices of real estate in the primary market will go down, the respondents have formed expectations for weak growth of demand for mortgages during the third quarter of 2020. The decline of the growth rate will be conditioned by the decline in supply, as well as the decisions of the customers to postpone purchases of apartments because of the current unfavourable conditions.

The high growth of mortgage lending was accompanied by the increase of mortgages in national currency. At the end of the half-year, the share of mortgage loans in national currency in the total amount of mortgage loans was 66.2%, picking up by 1.7 percentage points. It is noteworthy that the share of the non-performing mortgage loans continues to maintain at a shallow level; in June 2020, it was 2.8%.

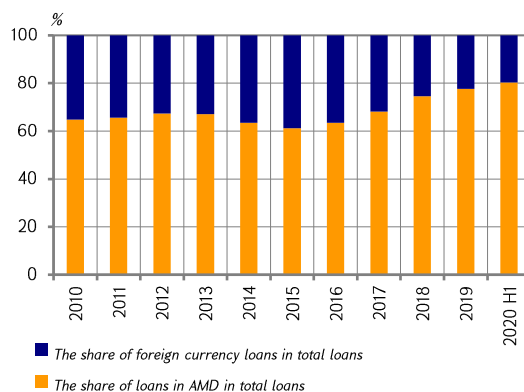
On the contrary, household savings are increasing at a slower pace than their liabilities, contributing to the increase in the debt leverage ratio. During the half-year, the volume of deposits of residential households increased y/y by 10.44%, and the ratio of household deposits to GDP peaked to 26.1%. Moreover, the share of the deposits in AMD in the total amount of deposits continued to grow; it was 48.3%¹² at the end of June.

In recent years, household loans in AMD have been increasing, which is a positive trend from the perspective of foreign currency risk reduction. According to the legislation of the RA¹³, consumer loans are provided in national currency, and the government programs mentioned above contributed to the increase of the mortgage loans in AMD.

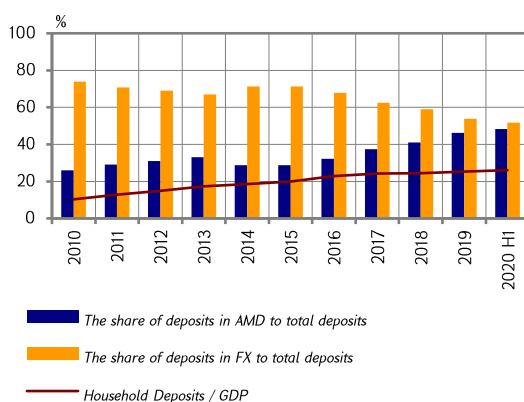
Households are mainly viewed as unhedged borrowers in the sense of foreign currency risks¹⁴ since the share of income in national currency prevails in the total income. The presence of foreign currency loans in the household debt makes them vulnerable to the increase in the debt burden due to exchange rate fluctuations and the risks derived from it. In recent years, the trend of de-dollarization of loans has had a positive impact on the balance of household risks, contributing to the decrease in the risk factor derived from exchange rate fluctuations.

The CBA has initiated certain measures to promote responsible lending among households through the execution of macroprudential tools, the protection of consumer interests, and delivering programs aiming at promoting financial education.

Household loans currency structure



Household deposits/savings



Source: Central Bank of Armenia.

¹² For the deposits of resident households.

¹³ RA laws on Monetary Regulation and Currency Control, and on Consumer Lending.

¹⁴ According to the 2019 statistical report on Social Snapshot and Poverty in Armenia. Part 2. Armenia: Household Income, Expenditures, and Basic Food Consumption, in 2018, the 95.1 % of per capita income was expressed in local currency; this figure has constantly been increasing during the last three years.

Box 2

Support programs of the Government of the Republic of Armenia through targeted lending aiming to neutralize the impacts of the pandemic

In March 2020, the Government of the Republic of Armenia approved the response plan for the impacts of coronavirus, the main purpose of the activities included in its framework is to provide support by sectors aiming to mitigate the projected current liquidity risks conditioned by the spread of the pandemic, support people who lost their jobs because of the pandemic, provide social support to socially vulnerable groups and to neutralize other socio-economic impacts. According to the priority problems to overcome, the support programs have been classified into two main programs: programs aiming to neutralize the economic impacts and programs aiming to neutralize the social impacts. In general, more than two dozen programs have been developed by the Government of the Republic of Armenia; moreover, the CBA provided support in the processes of the implementation of the first and second programs aimed at neutralizing the economic impacts.

- The goal of the first program aimed at neutralizing the economic impacts of the coronavirus is to support individual businesses to mitigate the projected current liquidity risks as a result of the spread of the pandemic.

Table 1. Summary of the first program aimed at neutralizing the economic impacts of coronavirus¹⁵

Within the framework of the first support program by the Government of the Republic of Armenia, 1382 (67.1%) applications were satisfied. The satisfied/approved applications were directed to the payment of taxes and salaries, purchase of raw materials, the volumes of which made up 44.5%, 29.7%, and 12.0% respectively.

The subsidy was used as a support tool for the majority of the satisfied/approved applications, making up 89.5% of the applications or 74 billion AMD. Refinancing and co-financing forms of support reached 5.4 billion AMD and 3.3 billion AMD respectively.

The total amount of support provided by credit institutions reached 82.8 billion AMD. The share of satisfied/approved applications for the capital replenishment tool was small; the amount of funding was about 9.6 billion AMD. The loans were mostly directed to the sectors of trade, production, and agriculture.

Within the framework of financial support, 32.3 billion AMD was provided to the trade sector, 4.5 billion AMD to the agricultural sector; most of the loans were provided to the other sectors (IT, construction, textile), reaching 41.6 billion AMD (51.1% of the satisfied/approved applications).

¹⁵ The table is composed based on the data as of 30.09.2020.

Support is provided through co-financing, refinancing, and interest rate subsidies of the targeted loans received from banks and credit organizations.

- The goal of the second program aimed at neutralizing the economic impacts of the coronavirus is to support individual businesses operating in the agricultural sector aiming to mitigate projected current liquidity risks. The support is provided through co-financing of the targeted loans and (or) interest rate subsidies of the loan/lease.

Table 2. Summary of the second program aimed at neutralizing the economic impacts of coronavirus¹⁶

Within the framework of the second support program by the Government of the Republic of Armenia, 27086 (52.2%) applications were satisfied. 78.3% of the satisfied/approved applications were submitted for financial support of agricultural microcredits (up to 1 million AMD).

The total amount of support by the credit organizations was 49.1 billion AMD, 17.2 billion AMD of which was directed to the agricultural microcredits. In general, within the framework of the second support program, 39.1% of the total amount of credit applications was satisfied.

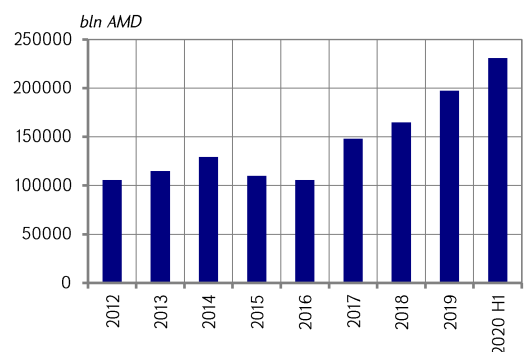
Hereby, within the first and second programs aiming at neutralizing the economic impacts of coronavirus, 52.7% of the submitted credit applications were satisfied and the volume of the satisfied/approved credits reached 131.9 billion AMD.

2.4. REAL ESTATE MARKET DEVELOPMENTS AND RISKS

The monitoring of developments in the real estate market is essential from the perspective of maintaining financial stability. Thus, the developments in the real estate market are explored in terms of the materialization of risks related to mortgage loans and construction lending, as well as the change of collateral value. The sharp fluctuations in real estate demand/supply and, thereby, sharp fluctuations in prices can react negatively on banks' asset quality, generating risks, and challenging financial stability.

During the first half of 2020 the high price growth rates that were registered in the real estate market in Armenia during the recent years, started to slow down due to the decline in economic activity and household income. The decline in demand triggered the decrease in growth rates of prices. This

Volumes of loans to the construction sector provided by banks and credit organizations



Source: Central Bank of Armenia.

¹⁶ The table is composed based on the data as of 30.09.2020.

was due to uncertainties of further economic growth, the decline of household income growth rates, as well as possible satisfaction of the demand for mortgages.

The slow down of growth in prices for apartments has been registered both in Yerevan and other cities of the country. The developments related to the prices of real estate haven't been significant from the perspective of financial stability.

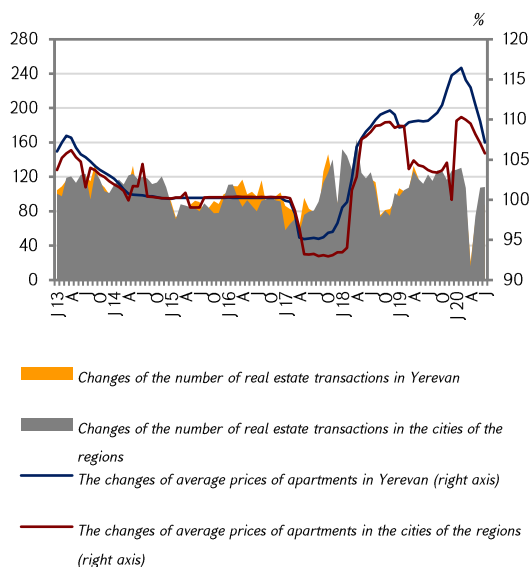
During the first half of 2020, the livelihood of the real estate market has slowed down compared to the same period of the previous year. The number of real estate transactions for apartments has decreased y/y by 15.3% (29.6% compared to the second half of 2019).

The growth rates of market price of apartments in multi-apartment buildings has slowed down. The average market price of apartments in multi-apartment buildings in Yerevan¹⁷ got increased y/y by 13.8% per 1m² (6.2% compared to second half of 2019). In the urban areas of the regions, the average market price of apartments in multi-apartment buildings increased by y/y 5.7% (3.2% compared to second half of 2019). According to the quarterly surveys conducted by the CBA, the participating credit institutions expect slowing down of the price growth rates in the primary real estate market. They expect that the prices in the secondary real estate market and non-residential real estate market will go down. The respondent credit institutions explain the expected slow-down in the real estate market with the expectations of economic slow-down because of the pandemic. Along with those expectations, the terms for new loans have been stricened (particularly, requirements for collateral). The behaviour of the prices in the primary market is based on the realization of already made agreements. Most probably, this factor will diminish in effect gradually with the materialization of negative effects of the pandemic.

Due to the pandemic, the real estate market supply wasn't that active due to the decrease in the number of new-construction building commissioning and the volume of real estate development projects. During the first half of 2012, the number of construction permits in Yerevan twice shrunk in size.

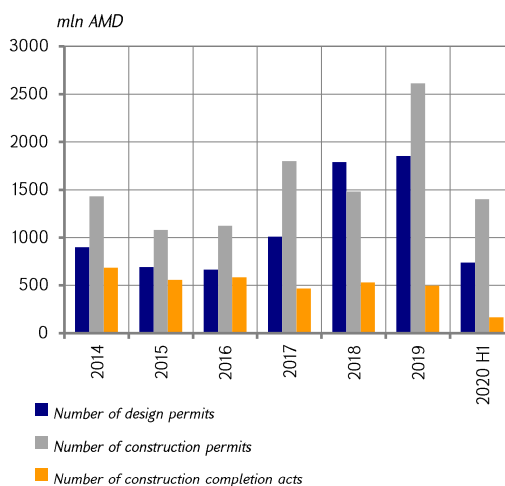
According to the quarterly survey conducted by the CBA, the increase in residential real estate prices was anticipated by the credit institutions in the coming year.

The changes in average prices of apartments and the number of transactions in Yerevan and the cities of the regions



Source: Cadastre Committee of Armenia.

Construction dynamic in Yerevan



Source: Yerevan Municipality Urban Development and Land Control Department

¹⁷ As there is no single index of real estate average price in Armenia, the real estate price developments are approximated by the average price index of apartments in Yerevan.

The growth trend of mortgage lending was maintained during the half-year. Factors, contributing to the increase in real estate demand/supply are the state program of interest expense refund according to the law on income tax since January 2015 (applicable for primary market real estate mortgages) and the state refinancing programs¹⁸, which have increased the affordability of mortgage lending. During the half year, the number of mortgage loans by banks and credit organizations decreased by 0.8% due to the decrease of the renovation loans' number. At the same time, the amount of lending to legal entities for residential and non-residential construction have increased by 18.8%. In fact, the nominal value of non-performing loans have increased, but the share of the latter has decreased comparably due to the high growth rate of mortgage loans. The decline in the share of non-performing loans doesn't speak about decline in credit risk. Accordingly to the quarterly surveys by the CBA, the banks and credit organizations have reviewed payment schedules and redistributed payments for mortgage loans which have eased the credit terms. According to the survey, during the second half of the year it is expected that the requirements for collateral and criteria for checking creditworthiness of the applicants will be tightened. The CBA continues the methodological and analytical activities started last year to start using the Loan to Value macroprudential tool, which is directed at mitigating possible risks in the real estate market.

To sum up, the tendency of slow-down in the real estate market during the first half of 2020 was due to the decrease in the number of transactions, and the decline in the growth rate of real estate prices. However, the changes in the real estate prices didn't carry any significant risks for financial stability. The latter is explained by the fact that due to the growth trends of mortgages, no significant variations in the real estate prices have been observed. At the same time, the growth of the volume of mortgages was due to the materialization of agreements signed before the pandemic. The effect of the above mentioned fact may weaken during the second half of 2020, which will be expressed in either decrease in the prices of real estate or slow down of the growth rate of mortgages. Although, no significant decline will be registered in the primary real estate market prices, however, the demand for mortgages will be relatively low due to reduction in competitive supply, and postponement of decisions to purchase an apartment by customers due to established unfavorable conditions.¹⁹

¹⁸ Since June 2020 the 2020-2023 state programs on housing support for families with kids came into action.

¹⁹ Source: Central Bank of Armenia, 2020 Quarterly Survey of Credit Terms provided by Banks and Credit Organizations.

3. DEVELOPMENTS IN THE FINANCIAL SYSTEM OF ARMENIA

3.1. DEVELOPMENTS IN THE INTERNAL FINANCIAL MARKET

Conditioned by the high level of uncertainty, in the early stages of the spread of the pandemic and launch of preventive health measures, there were devaluation pressures of the Armenian Dram exchange rate and the growth of the government bonds' yield, which, however, were neutralized in a short time. In the second quarter, the financial market rates continued to form around the CBA policy interest rates.

During the first half year the CBA has maintained the direction of the expansionary monetary policy taking into consideration the low level of inflation and expected deflationary environment of the world economy. In particular, the CBA has reduced the refinancing rate in 3 steps by 1 percentage point and in June it reached 4.5%²⁰.

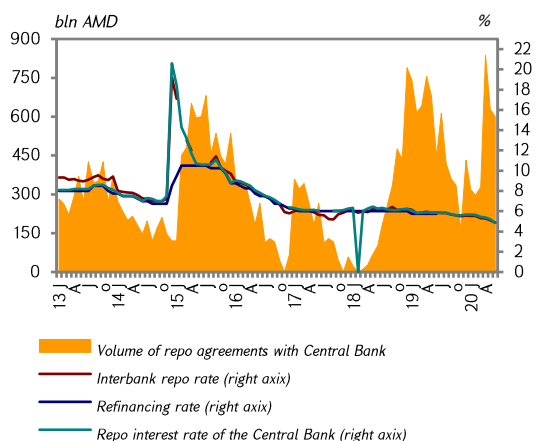
As a result of the reduction of the refinancing rate, the interbank repo interest rates have also decreased. Compared to December 2019, in June 2020 the interbank repo interest rate has decreased by 0.7 percentage points, reaching 4.9%.

As a result of health and economic restrictions in the early stage of the spread of the pandemic and uncertainty towards further developments, the demand for liquidity by banks has sharply increased, which was met by the CBA as needed maintaining the interbank interest rates close to the target level.

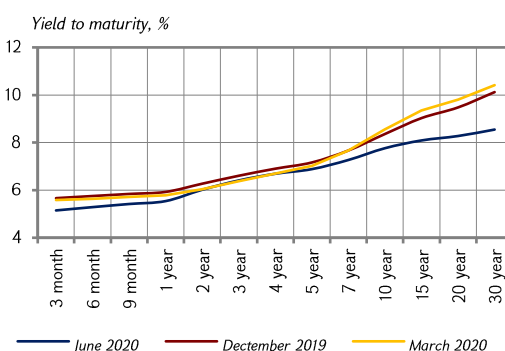
The volume of repo transactions with the CBA has increased and at the end of June, it reached 600 billion AMD (at the end of 2019 it was 432 billion AMD).

The uncertainties arising from the pandemic were also reflected in the changes in the yield curve of government bonds. In particular, at the end of the first quarter, there was an increase in the yield of government bonds, which was especially evident in the mid-to-long-term parts of the yield curve, but in the short-term part, it was mostly weak. As a result, both the level and the slope of the yield curve have increased. Due to the CBA continuously expansionary monetary policy and the decrease of uncertainty in the financial markets in the second quarter a significant decrease in the interest rates of government bonds was observed. In contrast to the mid-term part of the government bond yield curve, a larger decrease was registered in the long-term part. The observed trend

Monthly volume of repo transactions and repo interest rates (interbank and with the CBA)



Yield curves of Armenian government bonds and curve changes (base point)



June to December



Source: Central Bank of Armenia.

²⁰ On September 15, 2020, the refinancing rate was decreased by 0.25 percentage points, reaching 4.25%.

is also conditioned by the growth of issuance of the long-term bonds by the Government and demand for them.

The interventions of the CBA have mitigated the effects of short-term high demand for liquidity in the foreign exchange market since the end of the first quarter of the year, which was also expressed by the formation of exchange rate devaluation pressures. A certain high-level demand for foreign exchange liquidity was observed mainly in April, which was mostly met by the use of foreign exchange swap, as well as through US dollar purchase and sale transactions by the CBA during the quarter (net sales reached 23.9 million USD). The provision of foreign exchange liquidity through the channels mentioned above has made it possible to secure the normal functioning of the foreign exchange market.

The transmission of relevant signals to the financial market participants by the CBA and the establishment of an effective dialogue between the regulatory authority and the financial market participants have greatly contributed to maintaining the stability of the financial market. In particular, the CBA announced that in case of any developments and exposure to risks it is ready to respond accordingly, smoothing the impact of temporary events.

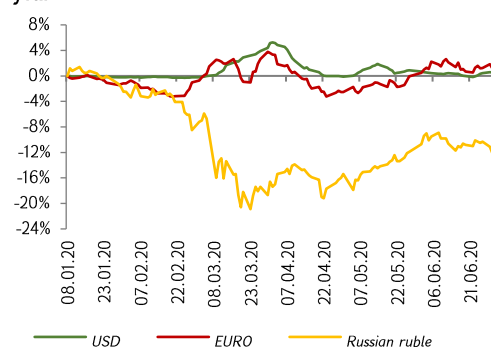
3.2. RISKS IN THE FINANCIAL SYSTEM AND INFRASTRUCTURES

Financial institutions started 2020 with high growth rates of key balance sheet indicators and with improved profitability indicators; at the same time, the main prudential ratios were at a level significantly above the minimum threshold. Conditioned by the pandemic the pace of economic recovery is still uncertain, but the results of analyses and stress-scenarios show that the financial market participants have enough capacity to withstand shocks.

In the first half of 2020, the ratios of financial system assets to GDP and credits to GDP have increased by 6.3 and 4.2 percentage points respectively, reaching 112.1 % and 62.8%. Among financial institutions, a relatively high growth rate has been provided by pension funds. The assets of credit organizations and insurance companies have decreased.

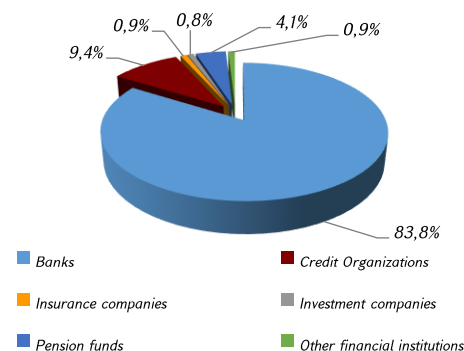
The banking system continues to prevail in the financial system of Armenia, with a weight of 83.8% of the financial system's assets. During the half year the indicators of the banking system assets/GDP and credits/GDP have increased by 5.6 and 4.7 percentage points respectively, reaching 94.6% and 56.8%. On the contrary, the ratio of deposits to GDP has decreased by 0.3 percentage point, reaching 49.4%.

The relatively changes of exchange rates of some currencies against the AMD since the beginning of the year



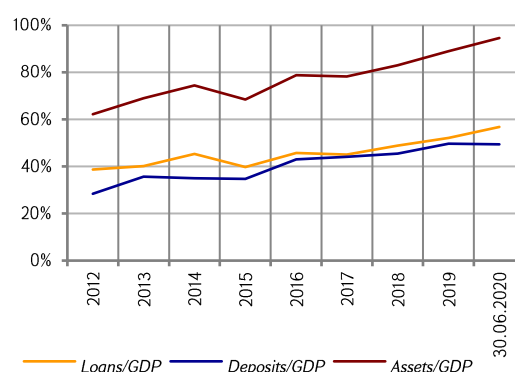
Source: Central Bank of Armenia.

Structure of financial system assets by financial institutions, as of 30.06.2020



Source: Central Bank of Armenia.

Banking intermediation



Source: Central Bank of Armenia.

3.2.1. Commercial banks

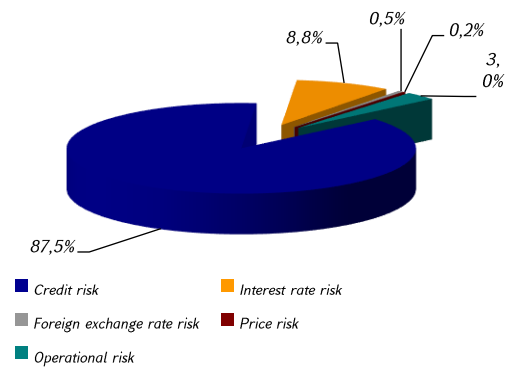
Like during the previous crises, the financial system and first of all the banking system bear the combined unfavorable impact of the current crisis. However, the current level of capital adequacy and liquidity creates enough preconditions to confront this crisis.

Capital Adequacy and Profitability

The banking system has always been characterized by capital adequacy higher than the required minimum threshold, which proves not only about the capability of banks' lending to the economy, but also absorbing losses. To assess the capacity of absorbing possible losses stress-scenarios have been implemented, as well as the repetitive impact of the historical scenario of maximum losses has been analyzed (results are presented in the attached graph). For this purpose, banks were grouped into 3 groups, where each group accounts for 1/3 of the net amount of the total normative capital of the system, and in the groups, banks are included according to the level of capital adequacy in ascending order; namely, banks with lower adequacy level are included in the first group. As a loss was considered the historical maximum 12-month net contribution/loans indicator, which was applied to the current level of loans. As a vulnerable loss was considered the size of the credit loss, in which case the level of capital adequacy decreases up to 12%. In the graph, the loss calculated according to the historical scenario, vulnerable loss, and operating income are presented as compared to risk-weighted assets for comparability. As a result of the analysis, both the system and particular groups are capable of absorbing the loss calculated according to the historical scenario. For the banks in the first group, the surplus of capital adequacy is comparatively small, but these banks are able to cover the stress loss at the expense of operational income; as a result, there is no decrease in the level of capital adequacy. For the banks in the second group, the operating income is not enough to cover the stress loss; however, the capital adequacy remains quite high even after exposure to residual risk.

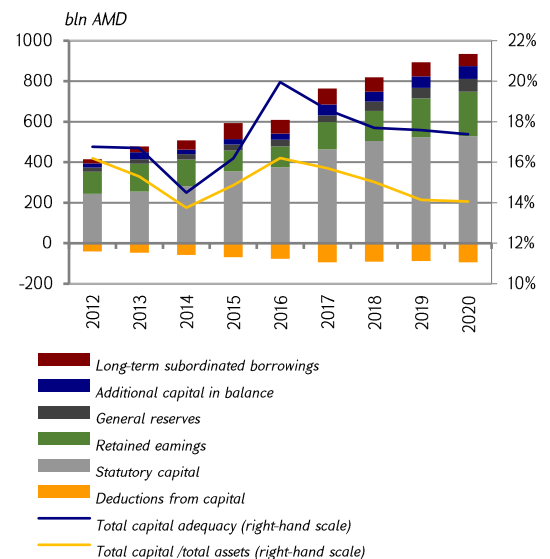
During the first half of 2020, the total capital adequacy of banks has not changed significantly and at the end of the half-year, it reached 17.4%. The increase in the absolute amount of required capital was mainly provided due to profit. The leverage ratio (capital/assets) increased by 0.5 percentage points and reached 14.6%.

Structure of risk weighted assets calculated in banking sector capital adequacy ratio, 30.06.2020



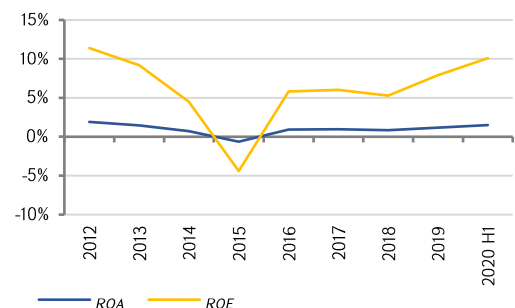
Source: Central Bank of Armenia.

The structure of total regulatory capital, 30.06.2020



Source: Central Bank of Armenia.

Profitability of the banking system by assets and by capital



Source: Central Bank of Armenia.

Capital requirements were reinforced due to the implementation of capital buffer requirements. From January 2020, capital conservation buffer and systemic risk buffers operate, each at 0.5 % of risk-weighted assets. The countercyclical capital buffer is set at 0%. The total capital of the banking system is characterized by a high-quality structure from the perspective of risk absorption capacity. The share of the Tier 1 capital in total capital reached 86.7%.

The CBA has sent appropriate signals to the banks on the use of compiled capital buffers and continuation of lending. In May 2020 The CBA Board decided to mitigate the Tier 1 capital adequacy requirements defining it at 9% instead of 10%. Due to the change, the banks were allowed to increase the share of additional capital in the structure of their capital and thus the level of total capital adequacy increasing the capacity of additional lending to the economy and absorbing risks.

Due to the growth of loans registered last year, the banking system has improved profitability indicators; on the other side, the possible losses conditioned by the pandemic have not been materialized yet to the fullest extent possible.

The growth of profitability was mostly due to the growth of net interest income. Conditioned by the developments in 2019 the share of loans to physical entities in the structure of loans was increased, so compared to the previous year, the net interest margin has slightly increased.

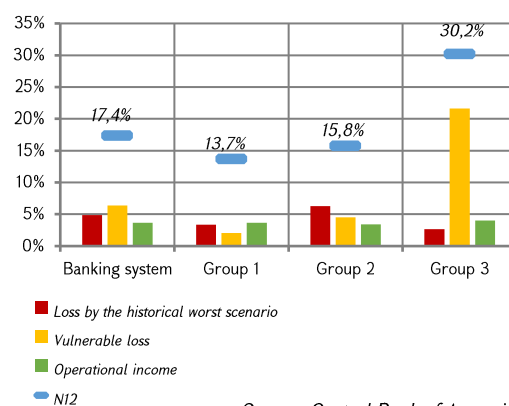
According to the CBA's supervisory reports, during the first half of 2020, all banks generated profit; the net profit of the banking system reached 43.2 billion AMD. Asset (RoA) and Capital (RoE) profitability indicators of the banking system reached 1.5% and 10.1%, respectively.

Credit risk

The picture of credits' quality does not yet fully reflect the unfavorable effects of the pandemic, which is mainly conditioned by the credit holidays provided by the banks. However, compared to the estimations performed at the early stage of the spread of the pandemic the developments of credit quality are more positive.

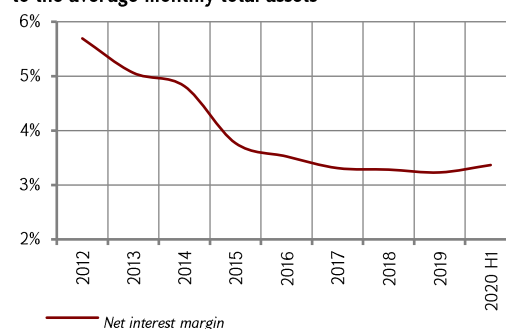
Quickly reacting to the situation banks have provided credit holidays on their own initiative. Taking into consideration international approaches to asset reviews during the pandemic and aiming to secure a proper asset review process the CBA has introduced a range of principles on the loan terms review process to financial institutions by which banks and credit organizations were guided during the crisis. Loan reviews aimed not to restrict

The capacity of risk absorption

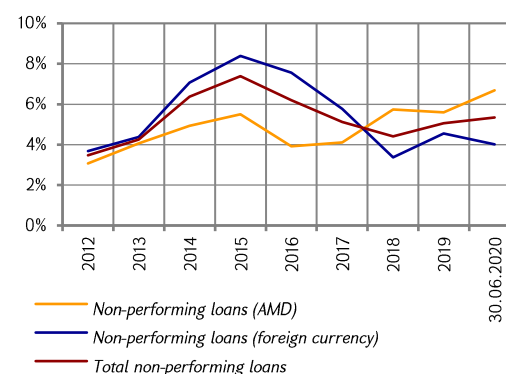


Source: Central Bank of Armenia.

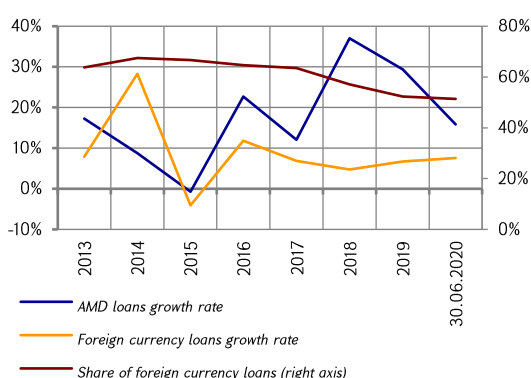
The ratio of net interest income of the banking system to the average monthly total assets



Non-performing loans weight dynamics in the banking system, 30.06.2020



The growth rate of loans in AMD and Foreign currency



Source: Central Bank of Armenia.

lending opportunities of banks, and, conditioned by the pandemic, enable them to identify/recognize credit losses more smoothly over time. According to the risk of the loan portfolio, the share of non-performing loans and receivables (classified as "watched," "substandard," and "doubtful") in the total loans and receivables increased by 0.2 percentage points, reaching 5.3%. The growth of non-performing loans was mainly due to the growth of non-performing consumer loans.

Though during the first half of 2020 growth rates of deposits significantly decreased, and conditioned by the pandemic, there was credit risk materialization, the growth rate of loans provided by banks have remained quite high. However, developments connected with the pandemic and perspectives of recovery of economic activities are still uncertain, and in the future, growth rates of loans may slow down.

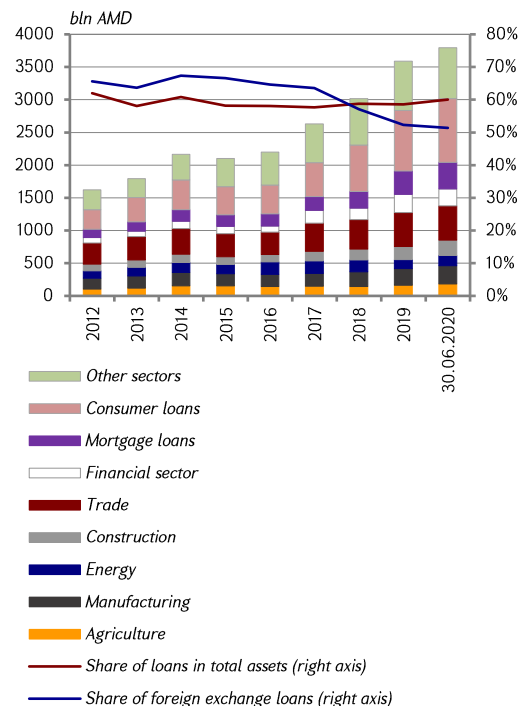
During the half-year the loan portfolio provided to the economy by the banking system increased by 5.8%. The growth of the loan portfolio was due to the growth of loans to both physical and legal entities, reaching 109.4 billion AMD (6.9%) and 87.1 billion AMD (4.8%) respectively. The growth of loans to legal entities was due to loan programs by the Government aiming to neutralize the economic impact/consequences of coronavirus. In the total amount of loans provided to the physical entities, the mortgage loans increased the most, which was due to the refund program of income taxes on the amount of interest payments. The share of credit portfolio in the assets of banks has not changed significantly and is about 60%.

The process of de-dollarization continued due to the increase in the spread of interest rates of AMD and foreign currency deposits. The latter leads to growth of liabilities in AMD in the long run, which results in the growth of the assets in AMD. During the last year, the growth of allocated funds in AMD was due to the growth of consumer loans and mortgage loan programs, as well as the provision of loans in AMD within the framework of programs/measures by the Government aiming to overcome the pandemic. During the first half of 2020, the share of foreign currency loans decreased by 1.0 percentage point, reaching 51.4%.

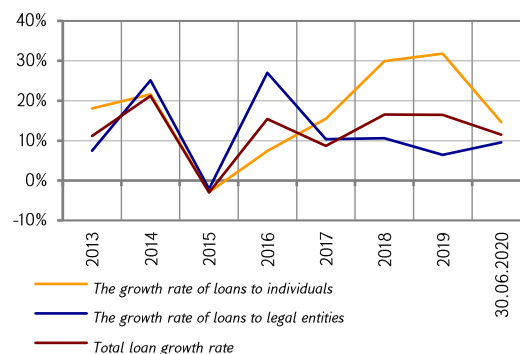
The Herfindahl-Hirschman sectorial concentration index²¹ for lending constituted 0.12, pointing to a moderate concentration of loan allocation in the banking sector.

²¹ Herfindahl-Hirschman index accepts values in the range of 0-1 and characterizes centralization (values close to 0 describe a low degree of centralization).

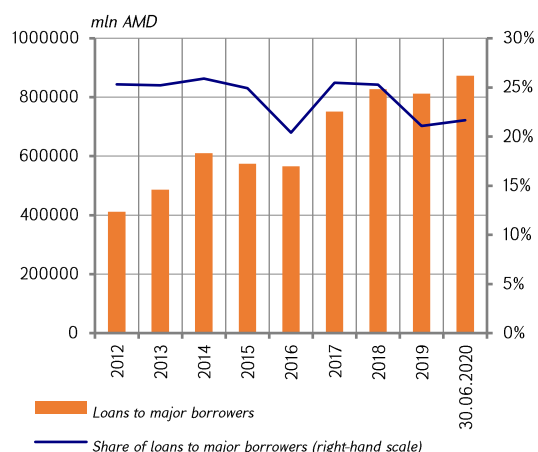
Structure of bank loans to residents, by economy sectors



The growth rate of loans provided to individuals and legal entities



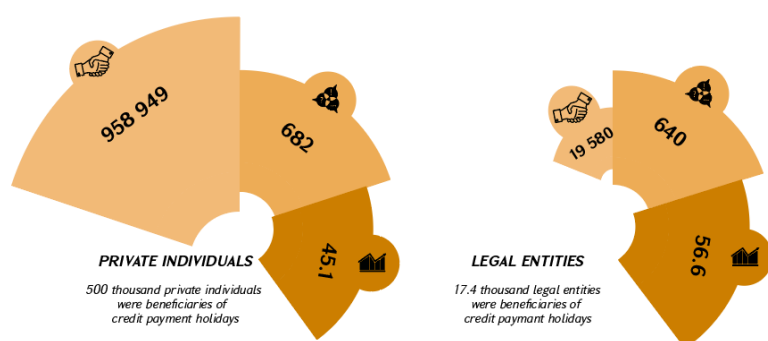
Loans to major borrowers in the banking system, 30.06.2020



Source: Central Bank of Armenia.

In terms of the loan portfolio concentration, the share of loans to large borrowers²² in total lending was 21.7%, higher by 0.6 percentage points in comparison with the previous year's figures.

Credit payment holidays or reviewed loans by financial organizations



Credit risk stress scenarios

30.06.2020	Stress scenarios		
	25% of watched, substandard, and doubtful loans classified into losses	75% of doubtful loans classified into losses	30% of standard loans classified into watching loans
Loss of the banking sector	AMD 39.2 billion or 4.6% of regulatory capital of the banking sector	AMD 15.2 billion or 1.8 % of regulatory capital of the banking sector	AMD 107.4 billion or 12.7% of regulatory capital of the banking sector
Total capital adequacy of the banking sector in case of the stress scenario	16.6%	17.1%	15.2%

Source: CBA.

Compared to the credit risk stress-test conducted at the beginning of the year the results of the same stress-test based on the data of the first half of 2020 have somewhat deteriorated conditioned by the decrease in the loan portfolio repayment of the banking system. In the worst-case scenarios observed for some banks, there were cases of violation of prudential requirements/standards for capital adequacy, but they are maintained very close to the minimum limits, and total capital is

²² The bank's risk on large borrowers exceeds 5% of average monthly regulatory total capital, considering the interdependence.

enough to absorb the losses mentioned. From this perspective the possibility of insolvency problems is low.

Liquidity risk

The banking system has a high level of liquidity, ensuring short-term liquidity shock-absorbance capacity. During the first half of 2020 commercial banks' total liquidity decreased by 0.2 percentage point, reaching 26.9% (with a minimum threshold of 15%); on the contrary current liquidity increased by 7.7 percentage point, reaching 119.4% (with a minimum threshold of 60%). Liquidity ratios were maintained at a sufficient level from the perspective of separate banks as well.

Prudential ratios of total liquidity and current liquidity for convertible foreign currencies (Group 1) increased by 1.3 and 10.1 percentage points to 21.2% and 74.8%, respectively (with minimum thresholds of 4% and 10%, respectively).

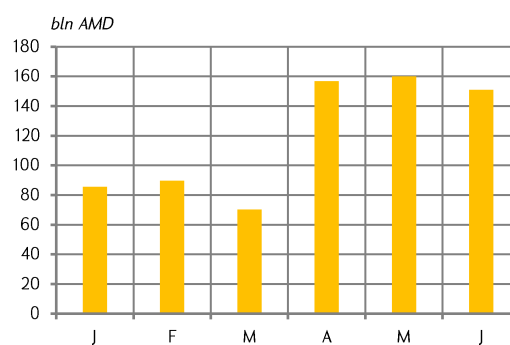
At the early stage of the spread of the pandemic, particularly in March-April, there was some decrease in the volume of attracted deposits, which, however, was gradually restored up to the level registered before the pandemic. During that period the level of liquidity of the banking system has not changed significantly.

In March-April the maximum cumulative decrease of deposits reached 3.8%. From March to June there was some increase in the volume of attracted funds from the repo transactions with the CBA.

Compared to the beginning of the year, the ratio of loan to deposit²³ increased by 9.2 percentage points, reaching 117.7%. It means that the majority of loans are funded by a more stable sources of financing. At the same time the growth of the indicator means the lending by banks from their own resources in a situation of a slowdown in the growth rate of income, and thus, decline in the growth rate of deposit savings because of the pandemic.

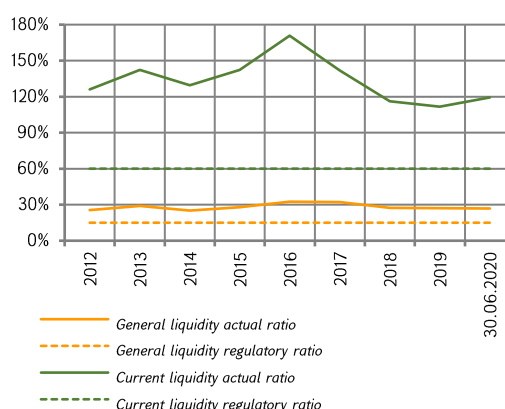
Though the intended limits of both LCR and NSFR are met from the perspective of AMD and foreign currency liquidity in the banking system, the CBA decided to postpone the deadline for implementation of the prudential regulations until January 1, 2021. The deadlines for the implementation of the prudential regulations have been postponed not to create additional liquidity management difficulties for banks and not to restrict their capability to meet the possible temporary liquidity demand. Moreover, the

The value of average daily repo with Central Bank during the 1st half of 2020

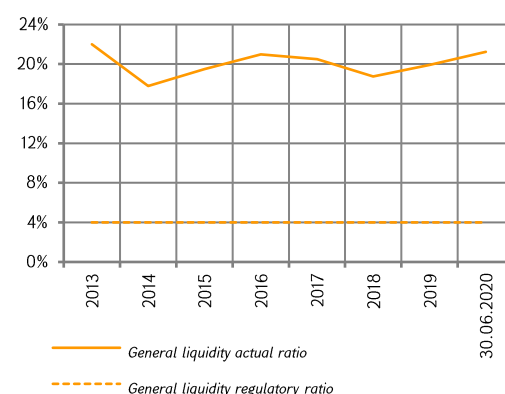


Source: Central Bank of Armenia.

The dynamics of actual and regulatory liquidity ratios of the banking sector



The dynamics of actual and regulatory foreign currency general liquidity ratios of the banking sector



Source: Central Bank of Armenia.

²³ Including also loans to non-bank financial institutions and deposits involved from them.

logic of LCR and NSFR prudential regulations assumes counter-cyclical review of the level of prudential regulations, if necessary.

The continuous improvement of total foreign currency liquidity was due to the gradual transition to mandatory foreign exchange provisioning for attracted funds in foreign currency by banks. Aiming to ensure the availability of highly liquid foreign currency assets in banks equivalent to the funds attracted in foreign currency, as well as to increase the efficiency of liquidity management by banks the CBA makes a gradual transition to mandatory foreign exchange provisioning for attracted funds in foreign currency under the policy of forming highly liquid foreign currency assets equivalent to the funds attracted in foreign currency by banks. As another step in the implementation of this policy, the CBA made a decision according to which the 10% out of 18% reserve requirement for funds attracted in foreign currency should be implemented in AMD and 8% out of 18% should be implemented in foreign currency.

The CBA considers the gradual introduction of foreign currency liquidity regulation and mandatory foreign exchange provisioning policies as complementary and is planning to implement them in parallel. In particular, the implementation/introduction of LCR and NSFR prudential regulations is intended to start from 60% and gradually increase later. At the same time, the CBA is planning to gradually increase the share of mandatory foreign exchange reserves for attracted funds in foreign currency.

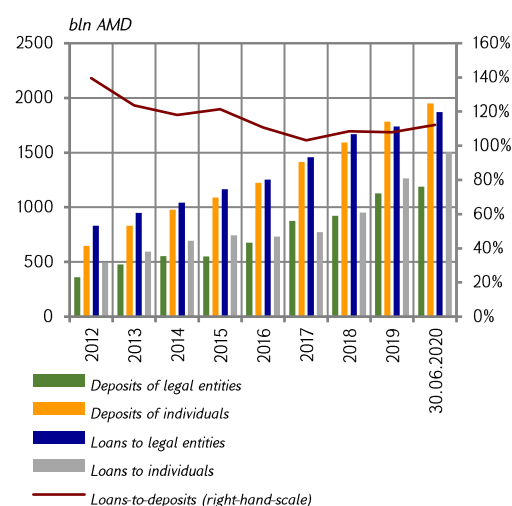
Liquidity risk stress scenarios

30.06.2020	Stress scenarios		
	Withdrawal of 25% of individuals' term deposits	Withdrawal of 25% of demand liabilities	Withdrawal of 25% of demand liabilities and 25% of individuals' term deposits
Total liquidity ratio of the banking sector	21.7%	22.9%	17.1%
Current liquidity ratio of the banking sector	89.8%	125.2%	86.8%

Source: CBA.

Compared to the results of the stress scenarios conducted at the end of 2019 the results of the same stress scenarios conducted in the first half of 2020 show that both the level of total liquidity and the level of current liquidity increased. In the worst-case scenarios observed the highly liquid assets of the banks are sufficient to cover simulated cash outflows. In this sense, the possibility of the liquidity risk undermining financial stability is very low.

The structure of banking sector loans and financing sources



Source: Central Bank of Armenia.

Market risk

The evaluated impact of market risks, in particular, foreign exchange risks and interest rate risks on the capital of the banking system is not significant. The low level of market risks is conditioned on the structural features of the assets and liabilities of the banking system of the RA, as well as the availability of prudential regulatory requirements by the CBA.

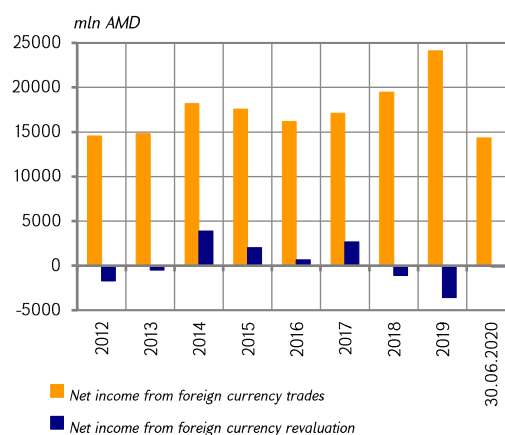
Foreign exchange risk

At the end of the half-year, the net short FX position of the banking system (including derivatives) is 2.7 billion AMD or 0.3% of the total capital (as of 31.12.2019, 2.1 billion AMD or 0.3% of the total capital).

As a result of foreign currency revaluation during the half-year, the banking system had AMD 119 million loss, and AMD 13.0 billion net income from FX trade transactions and transactions with derivatives.

As a result of exchange rate stress changes the amount of possible loss to the capital of the banking system conditioned by the open foreign currency positions of banks is not significant. The possible negative impact of the exchange changes is more significant from the perspective of credit risk and is considered within its evaluation framework.

The net income of the banking sector from foreign currency trades and revaluation



Source: Central Bank of Armenia.

Foreign exchange risk stress scenarios

30.06.2020	Stress scenarios	
	Profit (loss) in the case of 5% appreciation (depreciation) of AMD/USD	Profit (loss) in the case of 5% appreciation (depreciation) of AMD/EUR
Banking sector's profit/loss from foreign currency revaluation	AMD 120 million or 0.01% of regulatory capital	AMD 70 million or 0.01% of regulatory capital

Source: CBA.

In case of realization of the worst stress scenarios observed in the stress-tests of foreign exchange risk evaluation the possible losses of the banking system as a result of the open foreign currency position are not significant and their impact on the vulnerability of the financial stability continues to be weak.

Interest rate risk

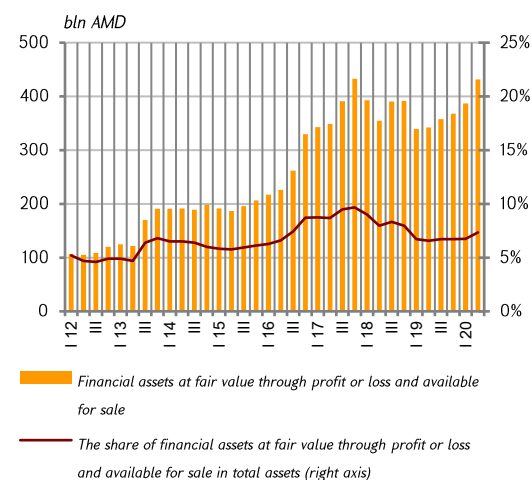
The loss from expected fluctuations in the market interest rate to the capital of the banking system is not significant.

The average weighted duration gap²⁴ of the present value of assets and liabilities of the banking sector varies in the range of 6 to 12 months.

Interest rate risk in the commercial portfolio of the banking system is estimated as low, conditioned by the relatively small amount of financial assets accounted for at fair value through profit and loss. Compared to the beginning of the year, the share of the fair value through profit and loss financial assets in total assets increased by 0.6 percentage points, reaching 7.3%.

In the first half of 2020, the banking system generated 4.7 billion AMD net income from the revaluation of fair value financial assets accounted for through profit and loss.

Share of financial assets at fair value through profit or loss and available for sale in total assets



Interest rate risk stress scenarios

30.06.2020	Impact of 2 pp. Increase (decrease) of market interest rates on the economic value of the capital, estimated through the "Duration Method"	Deviation of net interest income from the expected income of the three months ahead in the case of 2 pp. Increase (decrease) of market interest, estimated through the "Interest rate-sensitive assets and liabilities"
Banking sector's profit/loss	AMD -42.2 billion or 4.8% of banking sector capital (42.2 billion or 4.8% of banking sector capital)	AMD -926 million or 0.1% of banking sector capital (926 million or 0.1% of banking sector capital)

Source: CBA.

According to the results of the stress scenarios of interest rate risk evaluation the possible losses of the banks to the total capital average 4.8% in case of fluctuations of the market interest rates. In this context, as a result of the fluctuations of the market interest rates the losses of the banking system are not significant, and their impact on financial stability is low.

²⁴ The difference between the weighted average duration of the present value of the assets and liabilities of the banking system.

Box 3

Protection of consumer rights

The CBA ensured protection of consumer rights by securing fair behavior of financial organizations, appropriate institutional environment, and financial education.

Business ethics



To ensure business ethics TV and radio commercials broadcast by financial organizations were inspected, as well as the information published on the websites about the financial institutions and the services provided by them was monitored.

Hotline



The hotline of the CBA operated in emergency mode. Compared to the same period of the last year in the first half of 2020 the number of calls to the hotline has tripled to 10 509. The operators of the hotline provided information/knowledge to the citizens about taking the necessary actions and avoiding possible problems. In case of problems (complaints), appropriate measures have been taken.

Applications



Compared to the same period of the last year, the written applications of consumers increased by 51.1%, reaching 665. The vast majority of applications were requests on the credit holidays provided by financial organizations. The applicants were introduced the scope of CBA authority as well as their rights; necessary information was provided. In cases where citizens have not applied to their financial institutions, the applications were sent to the financial organizations as well. In cases of violations, appropriate measures were taken.

Financial education



Through the educational website www.abcfinance.am, social networks, as well as by carrying out different remote meetings/events the CBA continued the process of financial education to the public at large. Conditioned by the situation there was information published on online financial services and payment applications during the COVID-19 pandemic and other useful topics (contactless payment, credit history, budget planning, cost optimization in the current situation, etc).

3.2.2. Other financial institutions

The share of assets of non-bank institutions is still small in the financial system, and the influence of their activities on the stability of the financial system is not significant. Therefore, this report touches upon the principal risks and activities of only credit organizations, insurance companies, and pension funds, which hold a relatively significant share among other financial institutions.

Developments of credit organizations

In the first half of 2020, the volume of operations of credit organizations decreased.

According to the data of the first half of 2020, the assets of credit organizations decreased by 4.7%, reaching 33.4 billion AMD; loans decreased by 9.5%, reaching 29.9 billion AMD. As of the end of the last year, the decrease in credits is 3.5 billion AMD (1.2%) not considering the portfolio of Varks.am UCO. The consumer loans provided by the credit organizations decreased by 13.9%, reaching 14.0 billion AMD; not taking into account indicators of Varks.am UCO consumer loans increased by 2.8%, reaching 2.4 billion AMD.

During the first half of 2020, the quality of assets has deteriorated; moreover, the share of non-performing loans compared to that of banks is higher conditioned by the peculiarities of the target group of customers.

During the first half of 2020, the share of non-performing loans and receivables (classified as "watched," "substandard," and "doubtful") in the total loans and receivables increased by 0.5 percentage points, reaching 7.7%. From the perspective of consumer loans, the same indicator increased by 2.5 percentage points, reaching 26.4%.

Risks and risk scenarios of insurance companies

The share of the insurance market in the financial system continues to be small. The risks of insurance companies are manageable and do not endanger financial stability.

Conditioned by the pandemic the volume of operations of insurance companies decreased.

According to the data of the non-life insurance market of the Republic of Armenia for the first half of 2020 insurance premiums and insurance reimbursements/payments decreased by 8% and 4% respectively, compared to the same period of 2019. According to the survey by the CBA as a result of the pandemic the insurance classes of social support, aviation, cargo, financial losses, and general liabilities were considered as riskier by insurance companies.

As a result of the pandemic, the average annual growth of international insurance premiums slowed down by about 3 percentage points. The impact is stronger on the life insurance sector, where the insurance premiums decreased by 6%; in the non-life insurance sector insurance premiums decreased by 0.1%. As a result of the pandemic in the non-life insurance market, the insurance classes of aviation, business loans, trade, travel, events, and land transport are considered more vulnerable. Conditioned by the pandemic both in international practice and in Armenia health expenses are not reimbursed by insurance companies, as a result of which the demand for life insurance is not relatively sensitive to the risks²⁵ derived from the current situation.

In case of realization of the observed possible risk scenarios (growth of reimbursement rates and insurance payments increase by 10% and 5% respectively), the change in the level of solvency of insurance companies was assessed. The results show that the solvency level has not changed significantly and from the perspective of financial stability, the possibility of risks of the insurance system is very low.

Solvency risk

According to the results of stress-tests, the level of solvency of insurance companies has not changed significantly and from the perspective of financial stability, the possibility of risks of the insurance system is very low.

In case of realization of stress-scenarios shown below (according to the risk of classes the growth of reimbursement rates by 40%, 30%, 20%, 10%, and increase in insurance payments 20%, 15%, 10%, 5%) the change of solvency level of insurance companies was estimated.

Solvency assessment stress scenarios

30.06.2020	Stress scenarios	
	Growth of reimbursement rates, 40%, 30%, 20%, 10%, and insurance payment increase, 20%, 15%, 10%, 5%	Shocking growth of outstanding claims reserves, 25%
Required growth of UIPR of the insurance sector, if the stress scenario occurs.	AMD 2.7 billion or 12.2% of regulatory capital of the sector	AMD 0.6 billion or 2.6 % of regulatory capital of the sector
Total capital adequacy ratio of the insurance sector, if the stress scenario occurs	148.4%	164.6%

Source: CBA.

²⁵ Source: Swiss Re, Sigma No 4/2020.

Credit risk

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

Credit risk assessment stress scenarios

30.06.2020	Stress scenarios	
	Classified 30% of “standard” assets into “watched” category	Classified 5% of “standard” assets into “loss” category
Loss of the insurance sector	AMD 1.0 billion or 4.5% of regulatory capital	AMD 1.8 billion or 8.2% of regulatory capital
The total capital adequacy ratio of the insurance sector, if the stress scenario occurs	163.0%	157.8%

Source: CBA.

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

Liquidity risk

The liquidity risk of the insurance sector is low, proven by the results of the stress scenario.

Liquidity risk assessment stress scenario

30.06.2020	Stress scenarios
	A sharp increase of outstanding claim reserves, 25%
Required growth of outstanding claims reserves when the stress scenario occurs	AMD 0.6 billion or 2.6% of regulatory capital
Liquidity of insurance companies when the stress scenario occurs	164.6%

Source: CBA.

Developments of pension funds

Conditioned by the pandemic there were no significant fluctuations in the share value of pension funds.

At the end of the first half of 2020, the net asset value of the pension funds was AMD 295.8 billion. The net assets-to-GDP ratio was 4.5%, which increased by 0.5 percentage points as compared to the end of 2019.

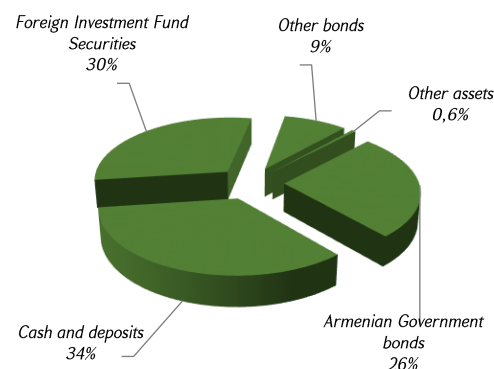
There were around 374,000 active pension fund participants.

During the first half of 2020, the investments in cash and deposits remained the same, accounting for 34% of total assets, while those in securities of foreign investment funds decreased by 3 percentage points, amounting to 27% of total assets. During the same period, the share of government bonds increased by 3 percentage points, reaching 29%. The investments in non-government bonds remained unchanged, with 9% of total assets in the investments' structure of pension funds.

At the end of the half year, the funds' share of foreign exchange assets was 32.0% or 94.8 billion AMD. The majority of foreign exchange assets (AMD 79.6 billion) were securities of foreign investment funds.

In the first half of 2020, the profitability of funds was 7.3%. Starting from the year 2014, the average annual profitability made up 9.4% (cumulative profitability at 74.1%).

Investments of pension funds, 30.06.2020



Box 4

Changes in the regulatory framework for the first half of 2020

According to the adopted long-term policy, the CBA always ensures the compliance of the regulatory principles of the banking system (including capital structure requirements) to the prudential standards/macprudential instruments suggested by the Basel Committee. To mitigate the negative impacts of uncertainty on the economic activity and its perspective conditioned by the spread of the pandemic the CBA Board has decided to decrease the main/fundamental capital adequacy regulation up to 9% instead of 10%, as a result of which banks will be able to increase the share of additional capital in the structure of total capital being capable to provide additional lending to the economy by involving subordinated debts and other capital instruments. The decision is a part of the long-term policy on financial stability adopted by the CBA and ensures a sufficient level of instruments to absorb possible risks and losses of the banks.

Aiming to ensure the availability of highly liquid foreign currency assets in banks equivalent to the funds attracted in foreign currency, as well as to increase the efficiency of liquidity management by banks the CBA makes a gradual transition to mandatory foreign exchange reserves for attracted funds in foreign currency under the policy of developing highly liquid foreign currency assets equivalent to the funds attracted in foreign currency by banks. As another step in the implementation of this policy, the CBA made a decision according to which the 10% out of 18% reserve requirement for funds attracted in foreign currency should be implemented in AMD and 8% out of 18% should be implemented in foreign currency.

Under the same policy and aiming to increase the liquidity risk management in banks the CBA Board adopted LCR and NSFR prudential standards which will come into force from January 1, 2021.

LCR prudential standard aims to ensure short-term liquidity of the bank in high-stress situations (30 days); on the other hand, the NSFR prudential standard aims to stimulate banks to finance their long-term transaction from more stable sources.

The minimum limits/thresholds of the prudential standards were set at:

- 100% for all currencies from January 1, 2021;
- 60% for each significant currency (or for significant/major currency group included in the 1st group) from January 1 to June 30, 2021;
- 80% for each significant currency (or for significant/major currency group included in the 1st group) from July 1 to December 31, 2021;
- 100% for each significant currency (or for significant/major currency group included in the 1st group) from January 1, 2022.

It should be mentioned that mandatory foreign exchange reserves for attracted funds in foreign currency are included in LCR prudential standard as highly liquid assets, the growth rate of which will significantly contribute to ensuring the smoothness of implementation of new prudential standards and creating liquidity buffers. Moreover, the latter is considered as a necessary tool for banks to ensure access to liquidity under conditions of the systemic liquidity crisis.

Within the framework of measures aiming to neutralize the economic impacts of the pandemic and to reduce the opportunity costs on funds involved from government programs, the CBA Board made a decision, according to which the funds involved from government programs within the framework of measures aiming to neutralize the economic impacts of the pandemic are not subject to reserve requirements.

4. MACROPRUDENTIAL POLICY

In the first half of 2020, the spread of the pandemic, the measures aiming to prevent it, and the uncertainties on the duration of the pandemic could not but impact negatively on the perspective of economic growth. In the current situation, the direction of the macroprudential policy by the CBA was mostly predetermined by the factors mentioned above. In particular, under circumstances of the decrease in income in the economy and thus the expected increase in credit risks, the measures of macroprudential policy were mainly aimed at increasing the risk-absorbing capability of the financial system and ensuring the continuation of the lending processes to the economy.

In this context, despite the rapid growth in some sectors of lending in recent years, in the first half of 2020, the countercyclical capital buffer remained unchanged, at 0% by the CBA. In case of violation of the countercyclical capital buffer (capital conservation buffer (CCoB) and systemic risk buffer), the CBA found it possible to extend the period required by banks for their restoration, which will expand the capabilities of banks to absorb the growing credit losses at the same time contributing to the smooth lending to the economy in the current situation of declining economic activity.

During the first half of 2020, the CBA Board decided to decrease the main/fundamental capital adequacy ratio by 1 percentage point, defining it at 9% instead of 10%. By this decision, incentives have been created to promote lending to the economy by involving additional capital by banks, which is important from the perspective of the current macro environment. It should also be mentioned that this change was in line/tune with the suggested universal approaches to capital adequacy ratio by the Basel Committee and was subject on the agenda of the CBA even before the spread of the pandemic.

Taking into consideration the uncertainties connected with the spread and duration of the pandemic and further possible exposures of credit risks derived from them the CBA highlights the importance of application of cautious approaches to the capital management by the banking system. In particular, under prudential regulations and mitigation in terms of capital buffer and capital adequacy, the CBA urged the banks to refrain from paying dividends and postpone the dividend payment process (the payment date).

The decisions of the CBA in terms of macroprudential tools of liquidity risk regulation also pursued the logic to mitigate the uncertainties conditioned by the pandemic. The CBA decided to postpone the deadline for the implementation of LCR and NSFR

prudential regulations until January 1, 2021. The deadlines for the implementation of the prudential regulations have been postponed not to create additional liquidity management difficulties for banks and not to restrict their capabilities to meet the possible liquidity demand. Moreover, the logic of LCR and NSFR prudential regulations assumes counter-cyclical review of the level of prudential regulations, if necessary.

To sum up it should be mentioned that the CBA keeps developments of the financial system in the focus by daily monitoring and in case of systemic and other risks, it is ready to address them securing the stability of the financial system.

5. FINANCIAL MARKET INFRASTRUCTURES STABILITY

Given the importance and the impact of the payment and settlement systems on the financial stability and the monetary policy of Armenia, the Central Bank further monitors the systemically important payment and securities' settlement systems and the telecommunication networks supporting their activity.

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

During the reported period, there were about 1.6 (2.5% decrease compared to the same period of the previous year) million payments (payment messages), totaling AMD 9567.6 billion (6.5% growth compared to the same period of the previous year), executed via the Electronic Payment System (EPS) of the Central Bank of Armenia (compared to the second half of 2019, there was a decrease of 20% and 13% respectively).

The interbank payments (EPS) growth rate increased by 8.3% compared to the same period of the previous year (a decrease of 19% compared to the second half of 2019). A 19.8% growth was recorded in budget payments (a decrease of 10% compared to the second half of 2019). The decrease may be due to the economic recession conditioned by the pandemic.

In the system, the risks are considered in the directions mentioned below.

Credit risk

Credit risk to the settlement bank (i.e., the Central Bank of Armenia) in the system is non-existent since the CBA provides intraday loans to the participants of the system using an intraday repo instrument, which is secured by highly liquid assets. The size of the attracted fund is calculated using the percentage subtracted from the bond's market value (haircut). Nor is there credit risk to the receiving participant as it receives the notice of the payment only after the payment is final and irrevocable.

The results of the monitoring of the EPS functioning suggest that the system is safe and does not create risks in terms of financial stability.

There is no credit risk identified in the EPS.

Liquidity risk

In the period under review, the daily average own liquidity indicator used for assessment of liquidity risk²⁶ was 3.4 (5.0 in 2019); the maximum value for 2020 was 3.8 in February (the maximum rate for 2020 was 5.7 in March). Since June 2019, banks can make reserves also in foreign currency, as a result, the balance of accounts in AMD decreased; hence, the indicators mentioned above also decreased (in the 2nd half of 2019 the daily average was 3.7). During the half of the year the average daily payments and the average daily beginning of the day liquidity were almost at the same level. Nevertheless, the average daily liquidity at the beginning of the day is more than 3 times higher than the average daily payments, which is a very high indicator. It should be noted that the calculation of the abovementioned indicator does not include incoming payments (crediting of the account) by banks and/or funds from other sources to increase liquidity, which neutralizes the liquidity risk furthermore. Besides, the number of rejections (0.001%) due to insufficient liquidity, as well as its share in the EPS payments (0.003%), remain negligible.

The indicator was also monitored across individual banks, based on which the likelihood of liquidity risk is assessed as minimal.

Intraday distribution of payments

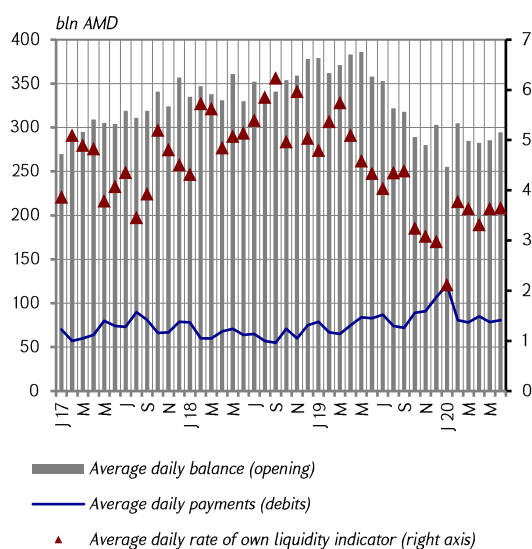
In the reported period, on average, 20% of the number of payments were settled during peak hours (10:00 – 11:00). Though, the quantitative distribution of payments during the day is mostly proportional.

The peak hour for the volume of payments (24.8 % of the daily volume of payment) in the system is also registered at the beginning of the day (10:00 – 11:00). There is a certain smoothening in other time intervals as well. Moreover, the peak hour was during the first half of the day, which smoothenes the concentration risks, as in case of problems, the participants will have enough time to take the necessary measures to settle the payments on a given day.

Considering the sufficient level of system capacity, the positive outcomes of liquidity and operational availability indicators, and a

The likelihood of the emergence of liquidity risk and systemic problems in the EPS is negligible.

Comparative analysis of average daily payments, average daily opening balances and average daily rate of own liquidity indicator (system based)



Source: Central Bank of Armenia.

Some concentrations during certain hours of the operational day did not pose problems.

²⁶ The daily average own liquidity indicator is calculated based on the ratio of opening liquidity on AMD correspondent accounts of commercial banks to debits (payments) through the account. Incoming payments are not included in the indicator so that a stress-scenario can assess the likelihood of bank rejections if additional liquidity is not available within a day, namely to which extent would banks generate their payments using only opening balances of their funds. The calculation does not include cash enhancements through their accounts of commercial banks. The indicator is calculated for a system-level (aggregate for all banks), so indicators may vary across commercial banks.

negligible share of rejections in total payments, the concentration of payments during certain hours of the day did not lead to problems. Therefore, the likelihood of the emergence of risks to the system is generally low.

System capacity

Compared to 2019, the dynamics of the maximum hourly number of payments (the maximum number of payments per hour for each month) remained merely unchanged.

The maximum hourly indicator during the first half of 2020 was 4985 payments/hour (4996 for 2019). The peak hour was from 11:00 to 12:00, making up 23.7% of the number and 5.0% of the volume of the day's payments. The peak hour of this particular day was conditioned by the increase in payments during the day.

For the reported period there is a trend of decrease in certain marginal indicators describing payments per hour (showing the significant flow of payments per hour). At the same time, the share of mentioned indicators remains insignificant, in particular, the indicator of 4300 and more payments per hour is 0.8%, for 3500-4300 payments it is 2.8%, and for 2500-3500 payments it is 12.8% of general operational hours.

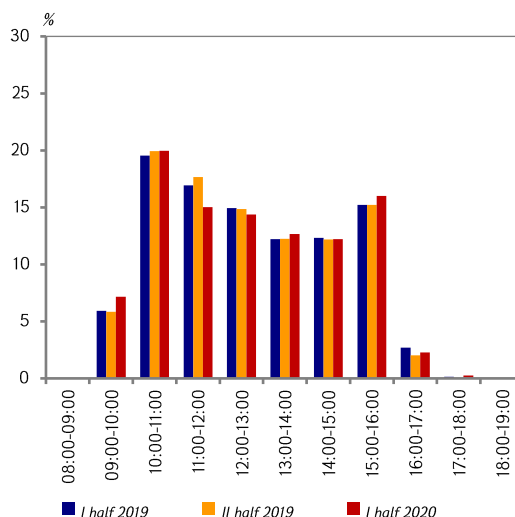
The maximum daily indicator (the number of payments per day) remained at almost the same level, accounting for 23,423 payments/day (the peak was 23,187 in 2019).

Considering that the cases of the abovementioned marginal indicators have a small share in total payments flow²⁷, the probability of the emergence of capacity-related risks is estimated to be low.

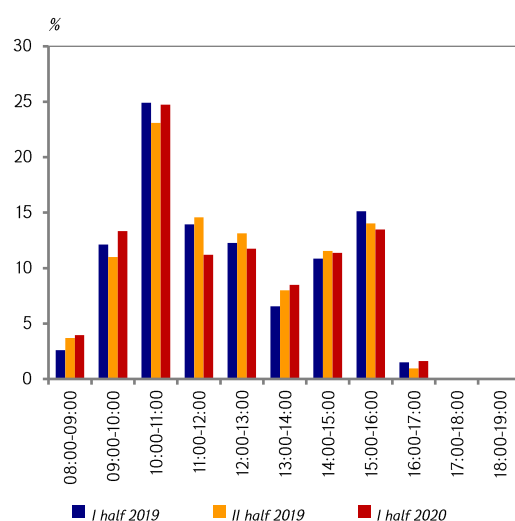
Operational availability of the system

During the reported period, no significant incident (with a 1 hour or more duration) affecting the operational availability of the EPS was recorded; as a result, the operational availability of the EPS was 100% for the given year²⁸.

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

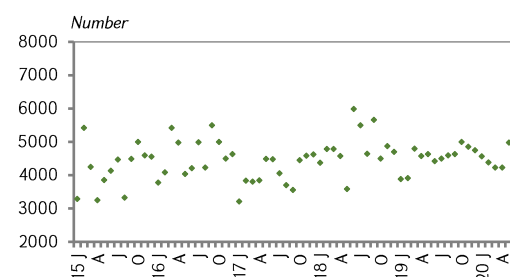


Intraday distribution of the value of payments on an average semiannual basis



Source: Central Bank of Armenia.

The maximum number of payments per hour, by month



Source: Central Bank of Armenia.

²⁷ For example, the percentage of more than 3500 payments per hour was 7.4% yearly.

²⁸ According to the EPS participation agreement, the operational availability of the system should be at least 98.0% yearly.

Box 5

Features of card transactions

In the Republic of Armenia payment cards are the most popular payment instrument, that is why the indicators on the transactions conducted by them can clearly reflect the changes in volume and quantity/number of non-cash transactions in the Republic of Armenia especially conditioned by the pandemic. To prevent the spread of coronavirus, the CBA, together with commercial banks, carried out awareness-raising activities urging the public to use online banking services, including non-cash payments for goods and services prioritizing remote payments or payments with contactless payment cards especially for those transactions conducted in the physical environment. Moreover, highlighting the importance of the role of contactless payments in the current situation, the monetary threshold for transactions without entering a PIN code has been raised to AMD 20.000 instead of the previous AMD 10.000.

Below is discussed the impact of coronavirus on card payments.

Transactions with RA/Arca cards in RA

The volume indices of transactions with RA/Arca cards in RA decreased by 3.6% in the first half of 2020, compared to the previous half, but in terms of quantity, they increased by 14% due to the sharp increase in the number of non-cash transactions. In the first half of 2020, the volume and quantity indices of cash transactions decreased by 7.5% and 2.4% respectively, compared to the previous half (for details, see graphs 1, 2).

Chart 3
The semi annual changes of the shares of cash and non-cash transactions by quantity

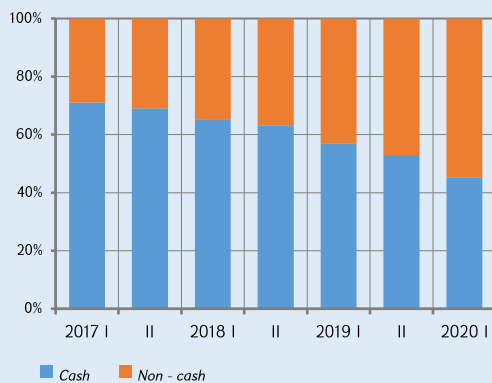


Chart 1
The volume of transactions with RA/Arca cards in RA

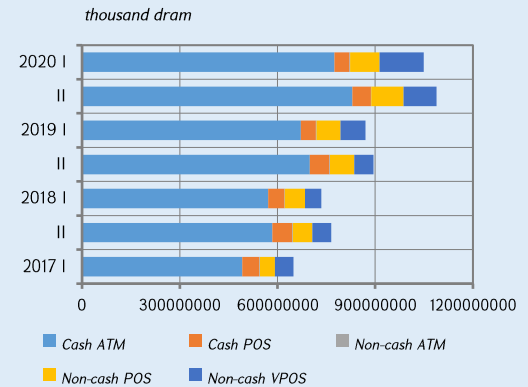


Chart 2
The quantity of transactions with RA/Arca in RA

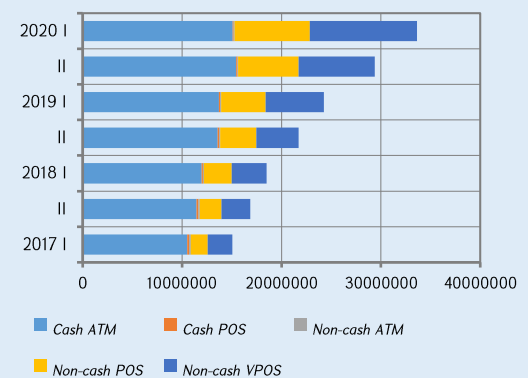
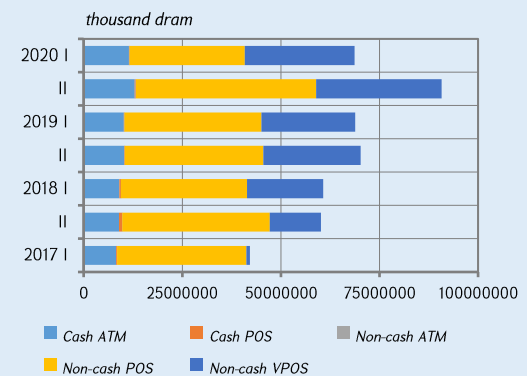


Chart 4
The volume of transactions with RA/Arca cards conducted in abroad



In the first half of 2020, both the volume and number/quantity of non-cash payments increased by 13% and 33% respectively. For the first time since 2017, the quantity index of non-cash payments has exceeded the same index of cash payments by 21%, which proves the strengthening of the culture of non-cash transactions, for which the pandemic was considered to be a catalyst to some extent. Connected with the pandemic, in the first half of 2020, the growth rate of volume and quantity indices accelerated almost twice, with the share of 22% and 55% in volume and quantity respectively (for details, see graph 3).

Although the volume and quantity of transactions in the internet environment are growing year by year, in the first half of 2020 their growth rate also accelerated, conditioned by the pandemic.

International transactions

As expected, the volume and quantity indices of both the transactions with RA/Arca cards conducted in abroad and transactions with international/foreign cards conducted in RA decreased (for details, see graphs 4, 5, 6, 7).

Chart 6

The volume of transactions with international cards conducted in RA

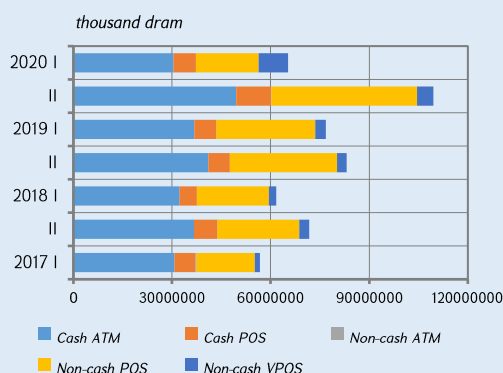


Chart 5

The quantity of transactions with RA/Arca cards conducted in abroad

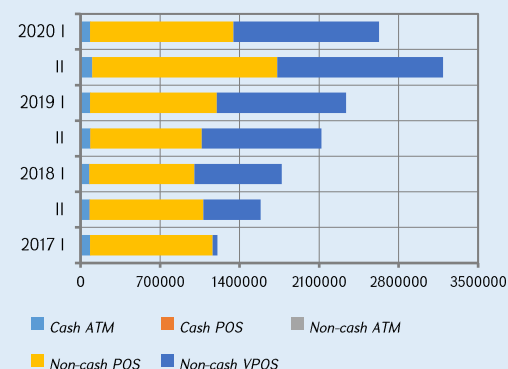
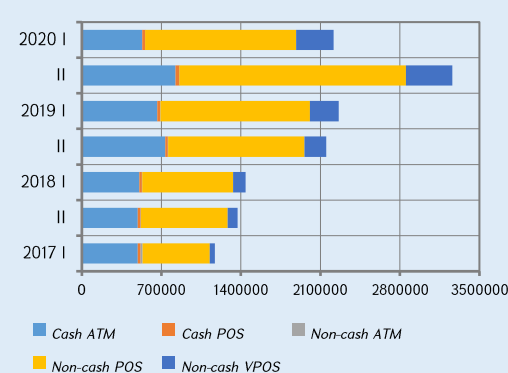


Chart 7

The quantity of transactions with international cards conducted in RA



CHARTS

<i>Global economic growth</i>	<i>13</i>
<i>Economic growth in main partner countries</i>	<i>14</i>
<i>Armenia's foreign trade, by country (as of 30.06.2020)</i>	<i>15</i>
<i>The structure of household liabilities to financial institutions</i>	<i>18</i>
<i>Interest rates for household loans</i>	<i>18</i>
<i>Household non performing loan trends</i>	<i>19</i>
<i>Consumer and mortgage loan portfolio of banks and credit organizations</i>	<i>19</i>
<i>Private transfers, salaries of emigrant workers, nominal average wage, and unemploeyement changes</i>	<i>19</i>
<i>Structure of mortgage loans by currency</i>	<i>20</i>
<i>Household loans currency structure</i>	<i>21</i>
<i>Household deposits/savings</i>	<i>21</i>
<i>Volumes of loans to the construction sector provided by banks and credit organizations</i>	<i>23</i>
<i>The changes in average prices of apartments and the number of transactions in Yerevan and the cities of the regions</i>	<i>24</i>
<i>Construction dynamic in Yerevan</i>	<i>24</i>
<i>Monthly volume of repo transactions and repo interest rates (interbank and with the CBA)</i>	<i>26</i>
<i>Yield curves of Armenian government bonds and curve changes (base point)</i>	<i>26</i>
<i>June to December</i>	<i>26</i>
<i>The relatively changes of exchange rates of some currencies against the AMD sine the beginning of the year</i>	<i>27</i>
<i>Structure of financial system assets by financial institutions, as of 30.06.2020</i>	<i>27</i>
<i>Banking intermediation</i>	<i>27</i>
<i>Structure of risk weighted assets calculated in banking sector capital adequacy ratio, 30.06.2020</i>	<i>28</i>
<i>The structure of total regulatory capital, 30.06.2020</i>	<i>28</i>
<i>Profitability of the banking system by assets and by capital</i>	<i>28</i>
<i>The capacity of risk absorption</i>	<i>29</i>
<i>The ratio of net interest income of the banking system to the average monthly total assets</i>	<i>29</i>
<i>Non-performing loans weight dynamics in the banking system, 30.06.2020</i>	<i>29</i>
<i>The growth rate of loans in AMD and Foreign currency</i>	<i>29</i>
<i>Structure of bank loans to residents, by economy sectors</i>	<i>30</i>
<i>The growth rate of loans provided to individuals and legal entities</i>	<i>30</i>
<i>Loans to major borrowers in the banking system, 30.06.2020</i>	<i>30</i>
<i>The valume of average daily repo with Central Bank during the 1st half of 2020</i>	<i>32</i>
<i>The dynamics of actual and regulatory liquidity ratios of the banking sector</i>	<i>32</i>
<i>The dynamics of actual and regulatory foreign currency general liquidity ratios of the banking sector</i>	<i>32</i>
<i>The structure of banking sector loans and financing sources</i>	<i>33</i>
<i>The net income of the banking sector from foreign currency trades and revaluation</i>	<i>34</i>
<i>Share of financial assets at fair value through profit or loss and available for sale in total assets</i>	<i>35</i>
<i>Investments of pension funds, 30.06.2020</i>	<i>40</i>
<i>Comparative analysis of average daily payments, average daily opening balances and average daily rate of own liquidity indicator (system based)</i>	<i>45</i>
<i>Intraday distribution of the number of payments on an average semiannual basis</i>	<i>46</i>
<i>Intraday distribution of the value of payments on an average semiannual basis</i>	<i>46</i>
<i>The maximum number of payments per hour, by month</i>	<i>46</i>

TABLES

<i>Credit risk stress scenarios</i>	<i>31</i>
<i>Liquidity risk stress scenarios</i>	<i>33</i>
<i>Foreign exchange risk stress scenarios</i>	<i>34</i>
<i>Interest rate risk stress scenarios</i>	<i>35</i>
<i>Solvency assessment stress scenarios</i>	<i>38</i>
<i>Credit risk assessment stress scenarios</i>	<i>39</i>
<i>Liquidity risk assessment stress scenario</i>	<i>39</i>

GLOSSARY OF TERMS

<i>Economic growth</i>	The growth of the volume of goods and services produced in the economy during a certain period.
<i>Inflation</i>	An increase in the general level of prices of goods and services.
<i>Consumer price index</i>	An index of the variation in prices paid by typical consumers for retail goods and other items. The consumer price index measures the changes in the price of a market basket of consumer goods and services purchased by households.
<i>Balance of payments</i>	A system of recording of all economic transactions of Armenia (residents and nonresidents) with the rest of the world over a reporting period (a quarter, a year).
<i>Foreign trade</i>	This involves an exchange of capital, goods, and services across international borders or territories, in the form of exports and imports.
<i>Gross external debt</i>	Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to nonresidents by residents of an economy.
<i>Credit risk</i>	Credit risk refers to the risk that a borrower will default on any debt by failing to make payments which it is obligated to do. The risk is primarily that of the lender and includes the lost principal and interest, disruption to cash flows, and increased collection costs.
<i>Liquidity risk</i>	Liquidity risk is the risk that a given security or asset cannot be traded by the financial institution quickly enough in the market to prevent a loss (or make the required profit).
<i>Foreign currency risk</i>	Foreign currency risk is the risk that a change in the exchange rate in the market will adversely affect profits and/or capital of the financial institution.
<i>Interest rate risk</i>	Interest rate risk is the risk that interest rate volatilities in the market will adversely affect profits and/or capital of the financial institution.
<i>Price risk</i>	Price risk is the risk that a change in the price of securities in the market or price of similar financial instruments on balance sheets will adversely affect profits and/or capital of the financial institution.
<i>Standard asset</i>	An asset that is serviced under a contract, and is not problematic.
<i>Watched asset</i>	An asset that is serviced under an original contract, yet certain circumstances have emerged that may jeopardize the borrower's ability to serve that asset,
<i>Substandard asset</i>	An asset the contractual obligations towards which are not performed due to the borrower's fragile financial standing or inability to repay the debt.
<i>Doubtful asset</i>	An asset the contractual obligations towards which are not performed; it is more problematic, making its collection at the given time very difficult or impossible.
<i>Loss asset</i>	An asset non-collectible and fully impaired uncollectible, so that its recording on the balance sheet is no longer reasonable.
<i>Nonperforming asset</i>	An asset which has been classified by the bank as watched or substandard or doubtful or bad.
<i>Major borrower</i>	An entity on which the risk exceeds 5% of the total capital of the bank.
<i>Large liability</i>	A liability, that itself constitutes 5% and more of the total liabilities of the bank, without taking into account interdependence.
<i>Return on assets (RoA)</i>	A ratio of net annual profit to average annual total assets.

<i>Return on equity (RoE)</i>	A ratio of net annual profit to average annual total capital.
<i>Total liquidity</i>	A ratio of highly liquid assets to total assets.
<i>Current liquidity</i>	A ratio of highly liquid assets to demand liabilities.
<i>Regulatory total capital</i>	The difference between total capital, as shown in the statement on financial standing and deductions as specified in Central Bank «Regulation 2 on Banks and Banking»
<i>Capital adequacy</i>	A ratio of total regulatory capital to risk weighted assets.
<i>Leverage</i>	A ratio of total assets to total capital.
<i>Off-balance sheet contingent asset</i>	Off-balance sheet contingent assets include outstanding credit lines, credit cards, and overdrafts, as well as letters of credit, guarantees, and warranties provided.
<i>Net provisioning</i>	The difference between provisions to and recoveries from assets loss reserve fund.
<i>Net foreign currency position</i>	The difference between assets and liabilities in FX assets and local currency assets containing FX risk.
<i>Gross foreign currency position</i>	This position measures the sum of absolute values of positions of various currencies.
<i>The Herfindahl-Hirschman index</i>	This index is defined as the sum of the squares of the market shares. It varies between 0 and 1, characterizing the level of concentration (values near to 0 denote lower concentration).
<i>Economic cost of capital</i>	The difference between the present value of total assets and the present value of total liabilities.
<i>Spread</i>	The difference between deposit and credit interest rates.

ABBREVIATIONS

AMD	Armenian Dram
BCI	Business Climate Index
CBA	Central Bank of the Republic of Armenia
CDA SSS	Securities Accounting and Settlement System of the Central Depository of Armenia
CIS	Commonwealth of Independent States
CJSC	Closed Joint Stock Company
DVP	Delivery versus Payment
ECB	European Central Bank
EPS	Electronic Payments System
EU	European Union
FRS	Federal Reserve System
GDP	Gross Domestic Product
GSASS	Government Securities Accounting and Settlement System
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
LLC	Limited Liability Company
NPL	Non-performing Loans
NSSA	National Statistics Service of Armenia
OD	Operational Day
OTC	Over-the-counter
RA	Republic of Armenia
RoA	Return on assets
RoE	Return on equity
UIPR	Unearned insurance premium reserves
UK	United Kingdom
USA	United States of America
YOY	Year on Year