



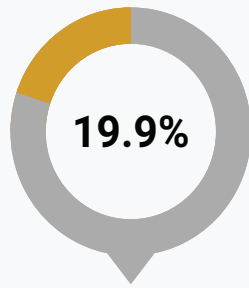
Central Bank
of Armenia

Financial Stability Report **2023**

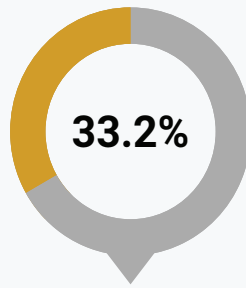




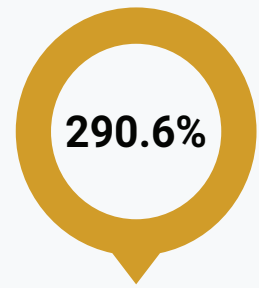
The banking system is characterized by robust capitalization and high level of liquidity.



Capital adequacy

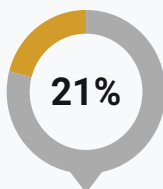


Total liquidity

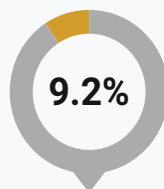


Liquidity coverage ratio

The credit and deposit portfolios of the banking system have grown.

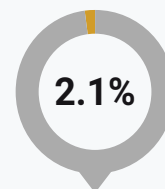


Growth of Loans

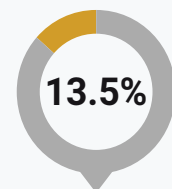


Growth of Deposits

The profitability of the banking system has been preserved.

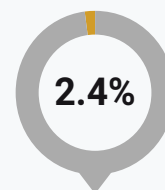


Return on Assets (RoA)

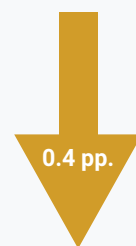


Return on Equity (RoE)

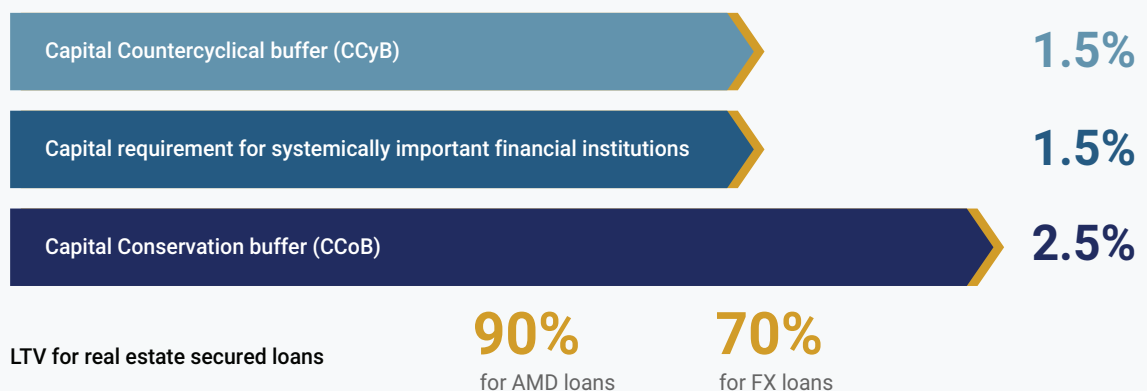
The share of non-performing loans decreased.



Share of non-performing loans



Current requirements of macroprudential instruments



Risks to the stability of the financial system



High level of geopolitical and regional uncertainties



Persistence of potential overheating risks in the mortgage and real estate market

The most detailed information on the macroeconomic environment of Armenia is available in the Status Report on Implementation of the Monetary Policy Program.

Previous publications of the Financial Stability Report and Status Report on Implementation of the Monetary Policy Program 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 April 2024.

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Financial stability is one of the primary objectives of the Central Bank of Armenia along with price stability. Financial stability is a crucial element of overall macroeconomic stability and an essential precondition for stable long-term 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 infrastructure) is capable of withstanding probable shocks and instability, minimizing the probability of interruption of intermediation function.

In defining financial stability, the potential risks endangering the stability of the financial system because of internal and external macroeconomic developments, as well as their possible sources are monitored and assessed. As a result of the comprehensive analysis of these risks and assessment of their potential impact on financial stability, an appropriate policy is developed and implemented.



INTRODUCTION

The Financial Stability Report of the Central Bank of the Republic of Armenia is published annually and incorporates the assessment of risks that might potentially threaten the stability of financial system as well as hamper the capacity of the financial system to withstand such risks. Through the publication of information on financial stability developments, the Central Bank aims at soliciting the attention of the stakeholders on those risks and eventualities that might jeopardize the financial stability of the Republic of Armenia, as well as present the policy to manage and reduce those risks.

Financial stability and price stability are components of overall macroeconomic stability and effectively complement each other. Financial instability can hamper the implementation of effective monetary policy and impede long-term and sustainable economic growth. Concurrently, macroeconomic stability, including price stability, helps to reduce the risks to financial stability. The financial system plays an important role in the overall economic system, and it is essential that the financial system maintains the continuity and stability of its processes, thus contributing to the normal growth of the economy.

In order to identify risks endangering financial stability timely, the Central Bank of the Republic of Armenia conducts continuous monitoring and analysis of the financial system and general macroeconomic developments. The report presents the risks in the macro-environment and the financial system, their impact on the development of various sectors of the economy and financial system, as well as the implemented macro prudential policy.

Economic and non-economic risks affecting the financial stability of the Republic of Armenia may arise in the domestic macro-environment, in the external economy, and in the financial system itself.

Based on the above, the potential risks threatening the financial stability of the Republic of Armenia are presented in the report in the following main 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 infrastructure of Armenia.

The report presents accumulation of risks in these areas and their possible impact on the development of all sectors of the economy and financial system, as well as macroprudential policy of the Central Bank of Armenia, the regulation and infrastructure surveillance, aimed at addressing the above-mentioned risks. Furthermore, financial stability report mainly emphasizes the risks and development directions of the banking system, as commercial banks have a dominant position in the financial system of Armenia.

Hence, the condition of the banking system predominantly dictates the overall financial stability and sets the course for development.

1. EXECUTIVE SUMMARY

Amid high levels of geopolitical and regional uncertainties, the financial system of Armenia maintained the normal process of financial mediation, fulfilling the demand for financial services from the population and business entities.

Throughout the year, the steady growth dynamics of the banking system's credit portfolio and deposits were sustained. Loan growth was recorded across all main lending areas. Specifically, the expansion of the banking system's credit portfolio was driven equally by the growth of loans to households and businesses. The increase in loans to the economy was accompanied with the high economic growth of Armenia, leading to the absence of a significant rise in the economy's debt burden or the associated credit risk. An exception was the mortgage lending sector, where trends indicating potential overheating from previous years persisted.

Unlike the previous year, the growth of deposits in the banking system in 2023 was driven by the continuous high growth of deposits from residents exclusively.

In 2023, there was notable activity in the consumer lending, which still does not show signs of excessive or risky lending. Compared to previous years, a relatively high growth rate of consumer loans was recorded this year. The increase in demand for consumer loans was driven by the high growth of incomes in the economy and the increased demand for purchasing long-term household goods, amid the high activity observed in the real estate market in recent years.

However, given the moderate annual growth rates of consumer loans over the past three years and the almost unchanged consumer loans/GDP ratio amid relatively high income growth, any significant risk accumulation in this sector is not currently anticipated.

Risks of overheating in the mortgage lending and real estate markets have persisted. The Central Bank has repeatedly communicated about overheating trends and risky developments in the real estate market in its previous publications and press conferences. In

2023, the substantial growth of new mortgage loans continued, accompanied by a continuous increase in real estate prices. As a result, the risks of overheating in the mortgage and real estate markets persisted. Additionally, past and current developments in real estate demand and supply suggest that the market may be near the upper inflection point of the cycle. Under these conditions, the possibility of decreased activity in the real estate market and potential price adjustments remains.

In the context of high geopolitical and regional uncertainties, the risks a decrease in the future economic activity and new inflationary pressures remain elevated. Under these conditions, there may be risks of increasing the debt burden and difficulties in servicing the debt. Throughout the year, expectations of a "soft landing" prevailed among global financial market participants, meaning that inflation rates would continue to fall while the world economy would avoid a deep and prolonged recession. However, with the further escalation of geopolitical tensions, the risks of new inflationary pressures and decreased global economic growth persist, which could as well impact the Armenian economy. In this scenario, the risks of an increased debt burden and the materialization of credit losses thereof are considered high, both in terms of the magnitude and speed of the impact.

The banking system exhibits robust capitalization and liquidity levels. The banking system has consistently maintained capital adequacy and liquidity reserves well above the minimum regulatory requirements, demonstrating a strong ability to withstand possible shocks. Despite a certain decrease, the banking system recorded sufficiently high profitability for the year. Unlike the previous year, profitability in 2023 was significantly boosted by an increase in net interest income, driven by the relatively high interest rates in global and domestic markets and structural changes in banks' balance sheets. In the context of high economic growth and increased credit market activity, the quality of the credit portfolio has improved.

The results of the macro stress testing indicate that the Armenian banking system has sufficient risk absorption capabilities under a severe scenario. The stress testing assessments also considered the potential materialization of risks accumulated in the real estate market. Specifically, the assumed highly pessimistic macroeconomic scenario accounted for credit risks resulting from the deterioration of mortgage loan quality and the financial conditions of construction companies. The results demonstrate that the banking system possesses adequate capital to withstand the events outlined in the scenario.

However, given the persistent high level of uncertainties, the uncertainties regarding the pessimistic scenario, its duration, and the extent of its impact remain significant.

Consequently, the Central Bank underscores the importance of commercial banks adopting balanced and prudent approaches in risk management, capital

management, balance sheet management, and dividend distribution processes.

The Board of the Central Bank increased the countercyclical capital buffer. At the beginning of the year, the countercyclical capital buffer rate was raised by 0.5 percentage points, to be set at 1.5% from August 1, 2023. In its decisions on setting the countercyclical capital buffer (CCyB) rate, the Central Bank Board considered the cyclical developments in the credit market, as well as the assessments of the risks already accumulated in the banks' balance sheets. Throughout the year, the cyclical developments regarding the total credit portfolio were balanced¹.

From the perspective of credit risk already accumulated in the banks' balance sheets, the continuous high growth of the mortgage loan portfolio, which the CBA assesses as containing risks of overheating, was pivotal to the decisions regarding the CCyB.

¹ At the beginning of the year, the CBA revised the methodology for setting the CCyB rate, according to which, in the normal phase of the financial cycle, when cyclical credit risks are balanced, the CBA tends to set a positive neutral countercyclical buffer up to 1.5%. For more details, see "CBA's Approach to the Application of the Countercyclical Capital Buffer". <https://www.cba.am/Storage/EN/finstability/CCyB%20methodology.pdf>

2.

MACROECONOMIC DEVELOPMENTS

- 2.1. External environment developments
- 2.2. Domestic developments
- 2.3. Household debt and associated risks
- 2.4. Real estate market developments and associated risks

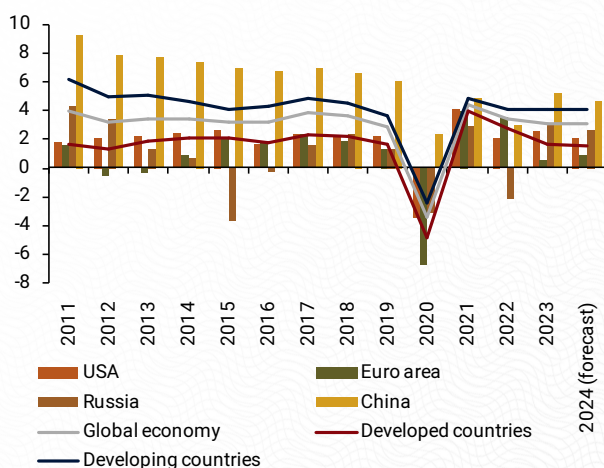
2.1. External environment developments

The decline in global inflation rates and stronger-than-anticipated economic growth fostered expectations of a “soft landing”² among financial market participants. Nevertheless, amid rising geopolitical uncertainties and stringent financial and credit conditions, risks to global economic growth and financial stability remain elevated.

In 2023, global economic growth was estimated at 3.1%, approximately 0.2 percentage points higher than projections at the beginning of the year.

According to the International Monetary Fund’s forecasts, global economic growth will remain steady in 2024 (see Chart 2.1)³. However, the projected growth rate is still below the historical average of around 3.8% per year (2000-2019). The primary drivers of global economic growth include increased public and private consumption, favorable labor market conditions, and the resolution of supply chain issues from the pandemic. Growth was notably sluggish in Eurozone countries, primarily due to the lagging effects of high energy prices and a weak investment environment sensitive to interest rates.

Chart 2.1. Economic growth indicators by regions (%)



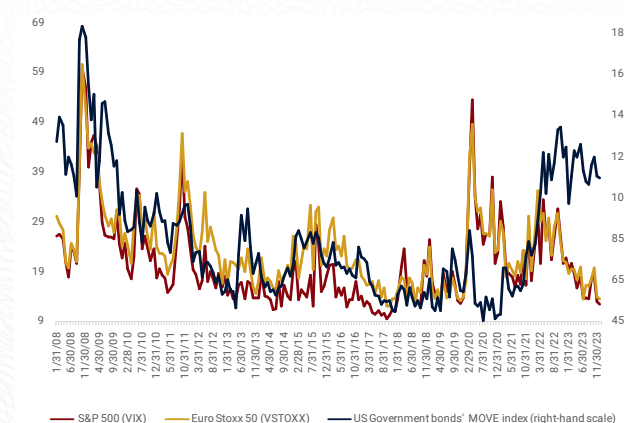
Source: IMF

Amid easing global inflation and stronger-than-anticipated economic growth during the year, financial market participants were largely guided by expectations of a “soft landing” – anticipating that inflation rates would continue to decline while the global economy would avoid a deep and prolonged recession. This outlook, among other factors, contributed to a reduction in stock market volatility. These trends are reflected in measures of market volatility, as seen in the Euro Stoxx 50 (VSTOXX) and S&P 500 (VIX) indices. However, it is important to note that bond market volatility remained high, indicating significant uncertainty about future interest rate changes among market participants (MOVE index) (see Chart 2.2)⁴.

In the event of escalating geopolitical tensions, the risks associated with new inflationary pressures and the outlook for global economic growth remain high.

Should new inflationary pressures arise, financial market participants’ expectations of a “soft landing” may be revised, potentially leading to increased volatility in financial markets.

Chart 2.2. Financial market volatility indexes



Source: Investing.com

² Expectations that inflation rates will keep decreasing while the global economy steers clear of a severe and prolonged recession.

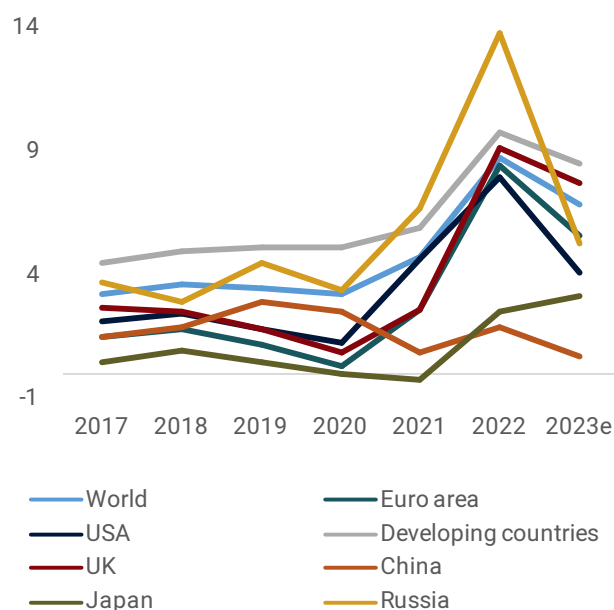
³ <https://www.imf.org/en/Publications/WEO/Issues/2024/01/30/world-economic-outlook-update-january-2024>

⁴ <https://www.investing.com/>

Due to stricter monetary policies and beneficial supply factors, global inflation has declined in 2023, but continues to stay elevated. In this context, challenges of maintaining interest rates higher for longer may apply.

Although inflation has decreased significantly in most countries, it still remains above the target indicators set by policymakers (see Chart 2.3)⁵. In addition to tight monetary conditions, the reduction in global inflation has been largely driven by favorable developments in supply-side factors, particularly lower energy prices and the addressing of supply chain issues. Despite the significant tightening of monetary conditions, central banks in many countries have communicated that they will continue to reduce policy interest rates, but with a higher for longer scenario.

Chart 2.3. Annual inflation in countries and regions (%)

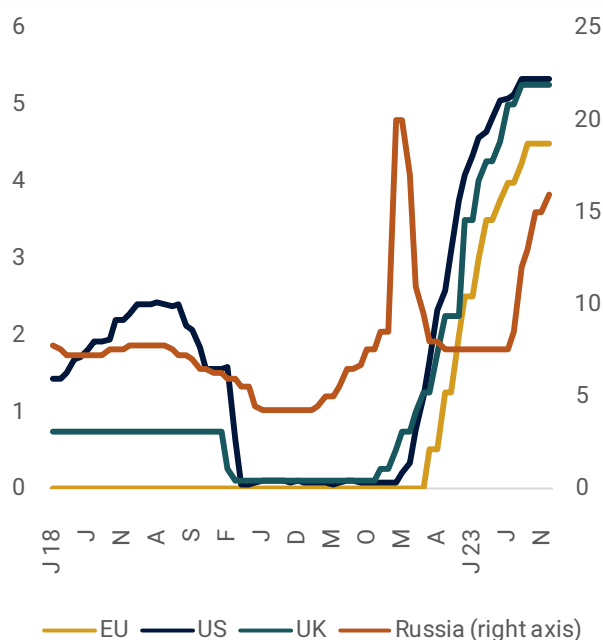


Source: World bank

The increase in the policy interest rate to reduce inflation, along with policymakers' intentions to lower it more slowly and moderately, has contributed to the growth of medium and long-term interest rates, creating a high interest rate environment.

Yields on key benchmark government bonds have continued to rise amid tightening monetary conditions (see Chart 2.4⁶ and Chart 2.5⁷). The yields on 10-year government bonds in the USA, Eurozone countries, and the Russian Federation continued to grow, showing some downward trends at the end of the year. However, these yields remain at historically high levels.

Chart 2.4. Policy rate in selected countries (%)



Source: Bank for international settlement

The high interest rate environment has also heightened tensions in financial markets. Early in the year, issues emerged in several banks in the United States and Switzerland, prompting regulatory bodies in these countries to intervene to prevent the potential spread

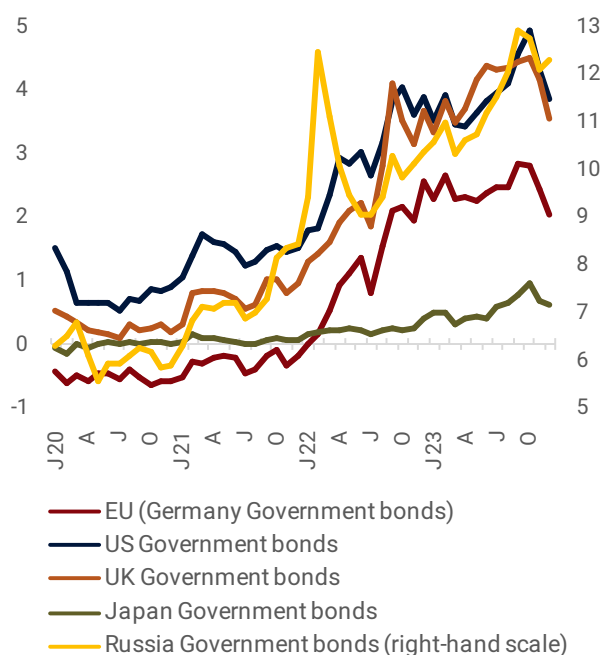
⁵ <https://data.worldbank.org/>

⁶ Source: Websites of given Central banks. <https://www.bis.org/cbanks.htm>

⁷ Source: <https://www.investing.com/>

of adverse effects throughout the financial system. These events indicate that a sharp and rapid increase in interest rates can exacerbate and materialize existing vulnerabilities within the financial system.

Chart 2.5. 10-year Government bond yields for selected countries (%)



Source: Investing.com

Geopolitical tensions, coupled with the high interest rate environment, have contributed to increased financial stability risks.

In many countries, commercial banks have raised interest rates on loans, negatively impacting the debt servicing capacity of households and organizations. This risk is particularly pronounced in countries with a high share of floating interest rate loans. As a result of tighter lending conditions, there are noticeable trends towards a reduction in the volume of new loans, especially mortgage loans. It is noteworthy that the global credit cycle has begun to turn due to a decrease in borrowers' ability to repay debt and a slowdown in credit growth.

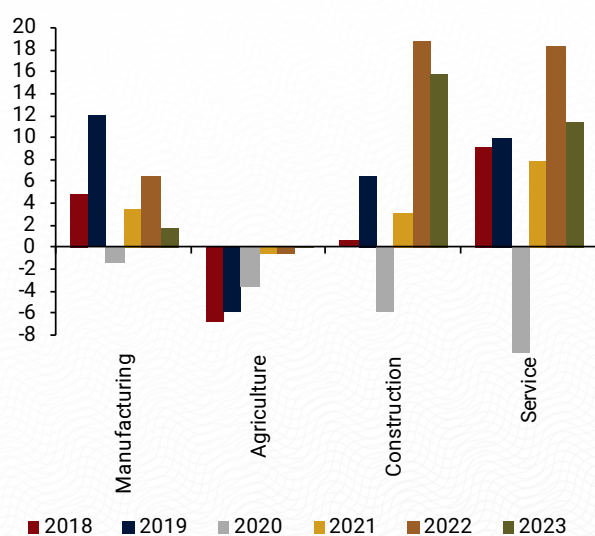
Although lending margins and profitability for banks have increased as a result of rising interest rates, the heightened debt service burden has led to asset quality deterioration in banks. In the context of high interest rates and increasing uncertainties regarding economic growth prospects, a decrease in real estate prices (particularly in commercial real estate) has been observed. This, in turn, has further exacerbated potential credit portfolio quality deterioration and posed additional challenges to credit risk management.

2.2 Domestic developments

In 2023, high economic activity was sustained in Armenia, driven by the construction and services sectors, including trade. The inflationary environment has softened significantly due to the weak deflationary effects from the external sector, the restrictive monetary policy implemented in previous years, and the continuous appreciation of Armenian dram.

The main challenges for the Armenian economy continued to be mitigating the impact of geopolitical uncertainties and overcoming the high inflation environment. The Central Bank of Armenia's monetary policy, aimed at anchoring inflation expectations, enabled inflation to approach the target level more rapidly than in other countries.

Chart 2.6. Growth dynamics of economic sectors (%)



Source: Statistical committee of the RA

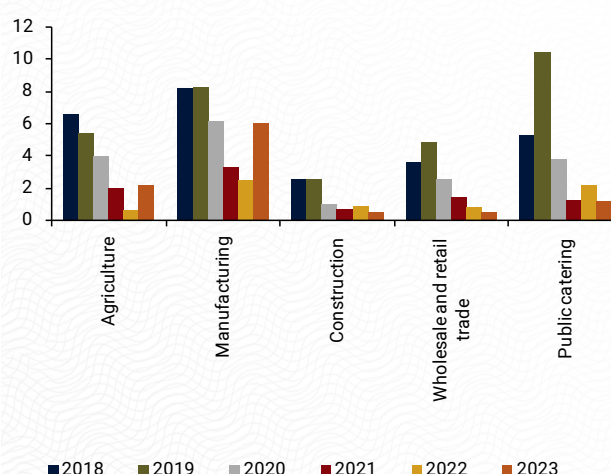
Domestic demand was the primary driver of robust economic growth. The slowdown in international visitor and tourism growth during the year led to a decline in external demand, while domestic demand remained resilient, driven largely by increases in aggregate consumption and investment. Private consumption expanded as a result of sustained growth in incomes and the use of accumulated savings.

In 2023, high economic growth of 8.7% was primarily driven by the construction, trade, and services sectors (see Chart 2.6). The construction sector expanded by 15.7%, largely driven by rapid growth in housing construction. The services sector, including trade, grew by 11.4%, supported mainly by foreign demand and income growth in the domestic economy. The manufacturing sector saw relatively modest growth, mainly fueled by significantly increased exports of manufactured goods.

It is notable that alongside the vigorous activity in sectors significantly contributing to economic growth, there was an expansion in the credit portfolios of these sectors, accompanied by a decrease in the proportion of non-performing loans (see Chart 2.7).

According to surveys on credit conditions, the credit standards index (actual supply) for business loans, while showing a decline over the year, remains indicative of a net easing. The reduction in the actual supply index was primarily driven by tighter lending standards for large enterprises. Meanwhile, the standards for lending to small and medium-sized enterprises (SMEs) were eased.

Chart 2.7. Percentage of non-performing loans by economic sector (%)

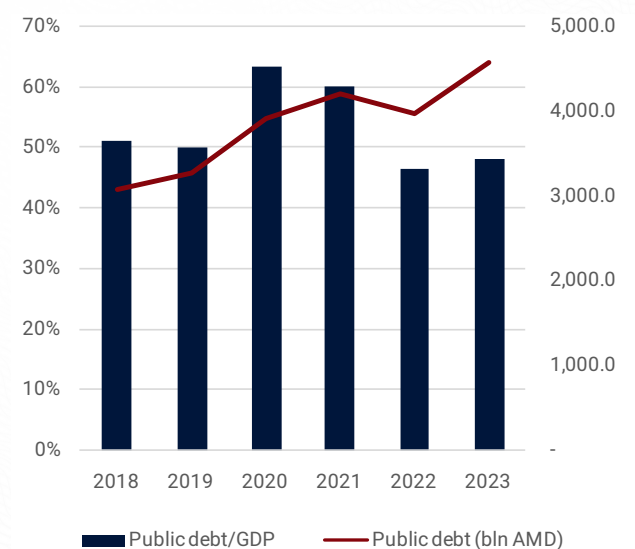


Source: CBA

In 2023, the government debt-to-GDP ratio increased. However, it is anticipated that medium-term changes in the debt structure will positively impact macroeconomic external balance and debt level management. Government debt⁸ increased by 15.2% to 48.1% of GDP (see Chart 2.8). In recent years, the internal debt in the Government's debt structure has been growing at a progressive pace, which is in line with the debt management strategy announced by the Government⁹. The 31.1% increase in domestic debt in 2023 is partly due to the government's debt restructuring related to the Nagorno-Karabakh events. The government's external debt grew at a slower pace, by 3.8%.

In recent years, the Armenian government's debt-to-GDP ratio has shown a tendency to decrease, excluding the rise in internal debt related to the Nagorno-Karabakh events at the end of 2023. However, it remains high compared to countries in the region (see Chart 2.8.1¹⁰). It is worth noting that the shift of domestic debt in the structure of the government's debt is considered positive from the perspective of reducing debt-related FX risks.

Chart 2.8. Public debt/GDP



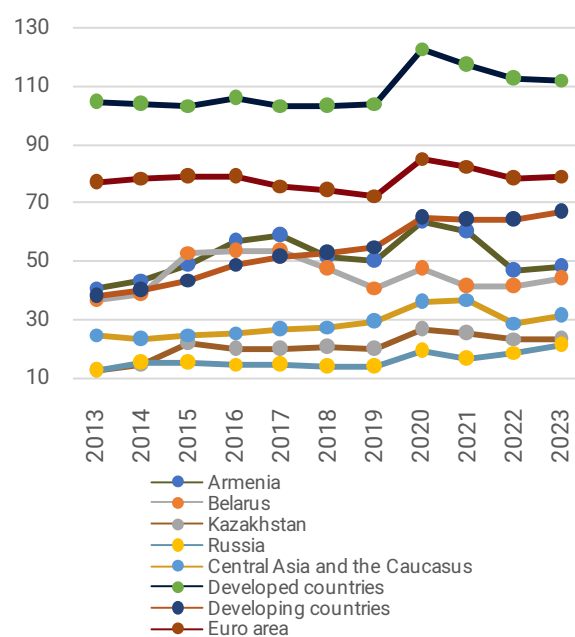
Source: Ministry of Finance

⁸ https://minfin.am/en/page/summary_data_on_public_debt/

⁹ <https://minfin.am/en/page/strategy/>

¹⁰ The data are taken from the latest update of <https://www.imf.org/en/Home> database.

Chart 2.8.1 Public debt/GDP, %



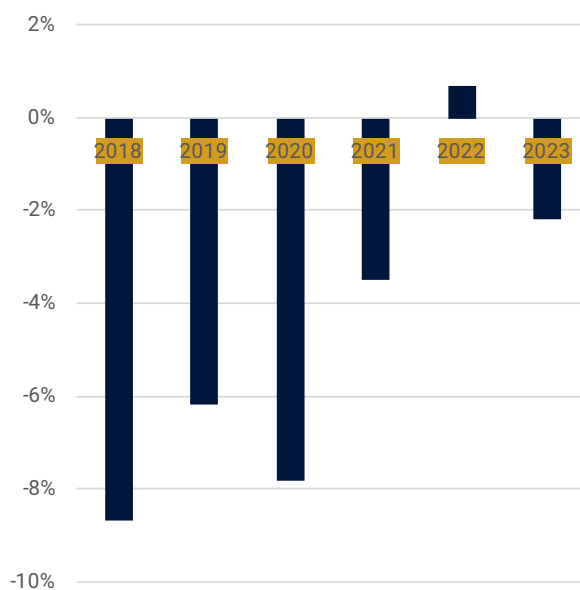
Source: IMF

The increase in domestic demand was also reflected in the changes of the external balance of Armenia.

During 2023, the current account deficit deepened, with the current account/GDP ratio at 2.2% (see Diagram 2.9). The accumulation of wealth and income over the past two years has sustained high demand for imported goods. It should be noted that the improvement in the investment environment was evidenced by a significant increase in the import of capital goods. Concurrently, strong external demand for domestically produced goods has been maintained, resulting in substantial export growth. Regarding the elimination of external imbalances and absorption of excess demand, the primary uncertainty is the impact of the cyclically appreciated national currency. If the appreciation of the real effective exchange rate is largely cyclical, its adjustment will contribute to an

increase in the current account deficit. Conversely, if the current level of external demand reflects new opportunities that enhance long-term export potential and capacity building, this may help reduce the current account deficit.

Chart 2.9. Current account deficit/GDP ratio



Source: CBA

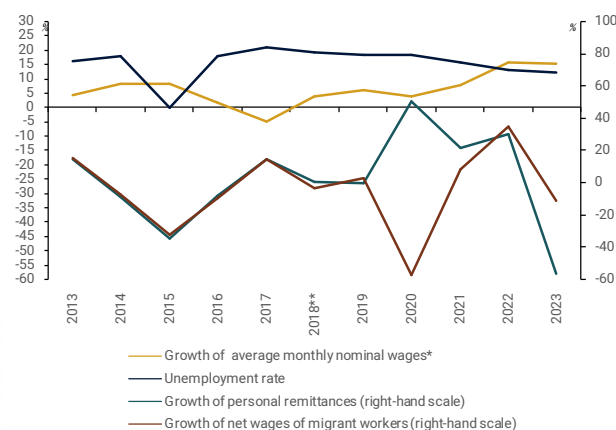
2.3 Household debt and associated risks

In 2023, amidst high economic growth in Armenia and an active lending market, the household debt burden increased slightly. However, the ongoing extension of credit obligation maturities has kept the debt service burden of households almost unchanged, mitigating their financial vulnerability. In an environment of high uncertainty, the risks of decreased economic activity and the emergence of new inflationary pressures persist. Under these conditions, the likelihood of households facing debt servicing difficulties increases, potentially exerting pressure on the financial vulnerability of households, especially those with low income and high debt burdens. Meanwhile, the continued decrease in the dollarization of household credit portfolios contributes to the improvement of their credit risk profiles.

Improvements in income and employment have positively impacted households by reducing their vulnerability to debt burden. In 2023, amid a period of low inflation, the growth of nominal wages was almost equal to real growth. Nominal wages increased by about 15% during the year (see Chart 2.10), while both the upward trend in average real wages and the improvement in the employment rate by about 1 percentage point were maintained.

The changes in the structure of household incomes have somewhat mitigated the dependency on unfavorable external developments. The decline in net personal remittances to Armenia, as well as the net remuneration of migrant workers, was partially offset by an increase in demand for and consumption of services by international visitors in Armenia, thereby ensuring a rise in household income. On the other hand, this shift has reduced the uncertainties associated with external dependency risks concerning household income.

Chart 2.10. Changes in personal remittances, migrant workers' remuneration, wages and unemployment



Source: Statistical committee of the RA

* Annual Average Wage Index (AWI) in Armenia.

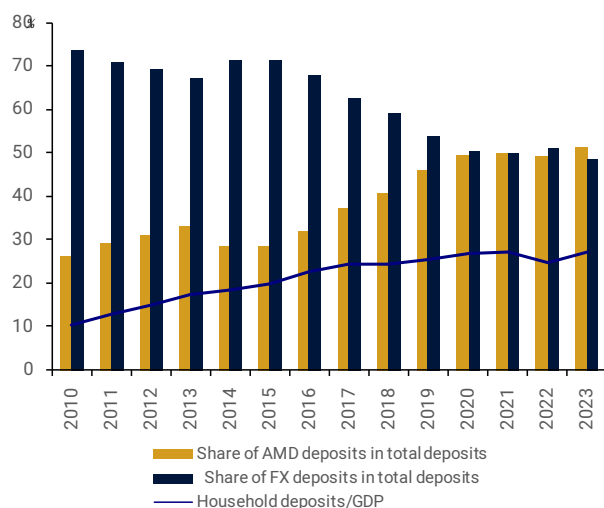
** Since January 2018, the Statistical Committee of RA has revised the methodology of labor market statistics and has changed the magnitudes of a number of indicators. Accordingly, from now on, the average nominal salary applies to organizations with 1 or more employees.

In 2023, the total financial assets of households continued to grow, primarily directed towards low-risk investments. The total financial assets of households¹¹ increased, with the financial assets/GDP ratio exceeding the pre-pandemic level of approximately 6%. Deposit investments remain the predominant component of households' financial assets, showing the largest growth compared to other assets. Since 2021, deposits of individuals have grown steadily, averaging about 16% per year. In 2023, they increased by 23.1%, with the deposits/GDP ratio fluctuating between 25% and 28% (see Charts 2.11, 2.12). Additionally, there was a significant increase in AMD deposits, and for the first time, the share of AMD deposits in total household deposits exceeded that of foreign currency deposits. This increase in deposits was mainly driven by the rise in incomes of individuals and the continued growth of bank accounts and savings deposits from international visitors.

11 Financial assets include investments made by households in deposit instruments during the year, pension allocations, insurance premiums/compensations, cash/savings in foreign currency, and other investment instruments.

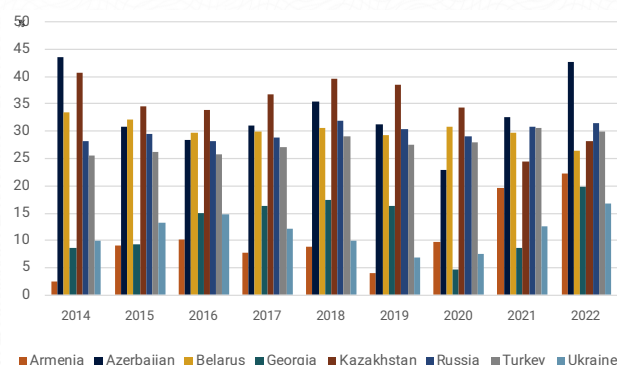
As a result of the abovementioned developments, household debt leverage has improved due to the steady growth of incomes and financial assets in recent years. This has reduced the vulnerability of households with high debt leverage from adverse changes in income, providing the opportunity to take loans with more favorable credit terms.

Chart 2.11. Household deposits



Source: CBA

Chart 2.12. Gross Domestic Savings/GDP



Source: CBA

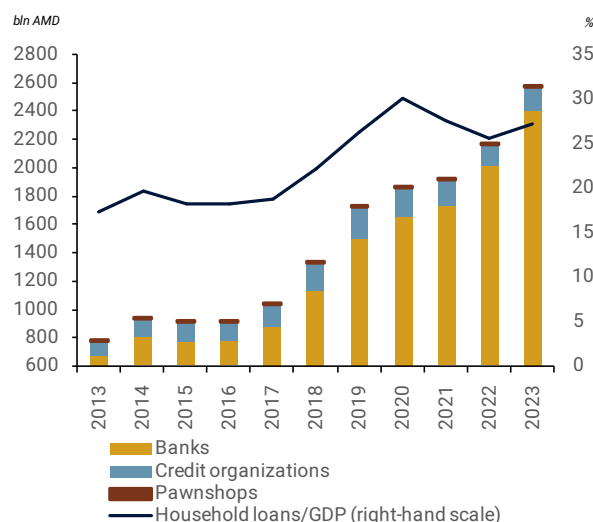
The indicators in the chart may differ from other similar indicators presented in the report, as the data sources are different, and the indicators presented are not as of the end of the year, they are the most recent indicators available for the given period;

<https://www.ceicdata.com/en/indicator/belarus/household-debt-of-nominal-gdp>:

The growth of household lending has generally been aligned with GDP growth, resulting in an almost unchanged debt burden for households. Improvements in lending conditions and longer loan maturities have somewhat reduced the debt service burden. In 2023, the household loans/GDP ratio stood at 27.1% (see Chart 2.13). This indicator in Armenia, as well as in some European countries of the region, has remained relatively stable over the past three years (see Chart 2.14, with September data presented for comparability).

Over the same period, while maintaining a stable household debt burden, there has been a significant increase in household financial assets, indicating the stabilization of their net financial position and the accumulation of savings¹².

Chart 2.13. The structure of household liabilities

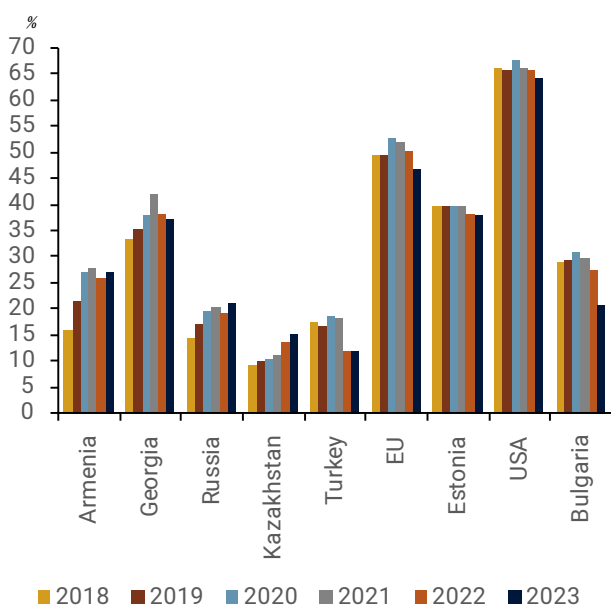


Source: CBA

Relatively high growth in lending to households has been recorded, with no obvious signs of lending overheating. In 2023, the growth of loans to individuals was 23.3%, which was almost equally contributed by the increase of consumer and mortgage loans: by 11.1 and 12.2 percentage points, respectively (see Charts 2.15, 2.16).

12 Statistical Committee of the RA, Household's Integrated Living Conditions Survey <https://armstat.am/en/?nid=205>

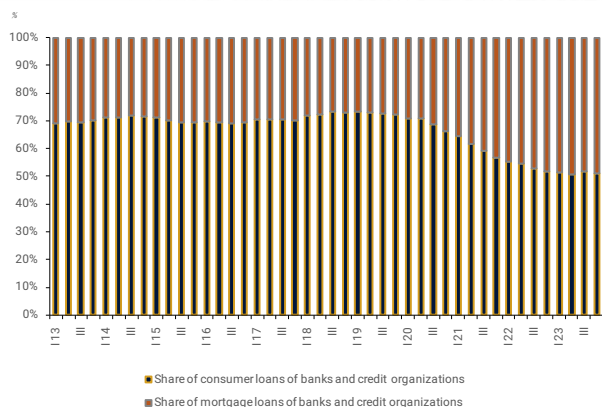
Chart 2.14. Household loans/GDP ***



Source: CBA

*** The value of the Household debt / GDP ratio in the chart may differ from the value of the same indicator presented in the report. To ensure comparability, the most recent figures available for the period are used instead of year-end indicators.

Chart 2.15. The structure of lending to households by commercial banks and credit organizations



Source: CBA

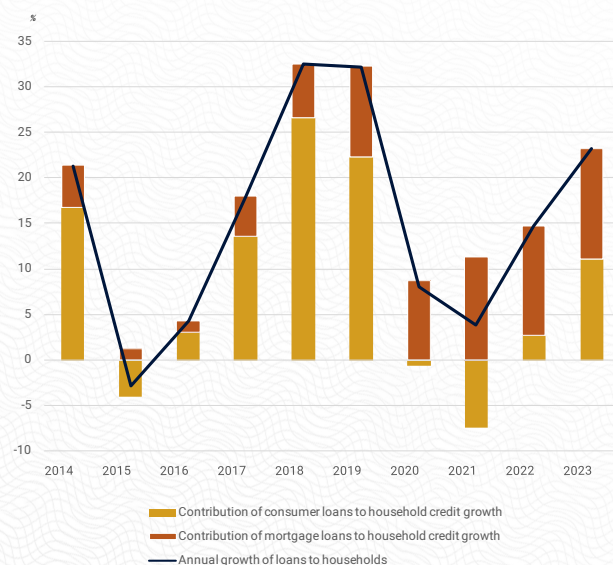
Although the growth rate of mortgage loans decreased by 2.4 percentage points compared to the previous year, it still remains high at 25.2%. The volume of mortgage loans relative to GDP continues to increase, reaching 11.6% (see Chart 2.17).

In recent years, the growth rate of mortgage loans has primarily been driven by the state program of the income tax refund to the amount of interest paid and its phase-out, as well as the rising attractiveness of real estate as an investment asset. During 2022-2023, an additional boost for mortgage loan growth has been the increased demand, higher prices and rents for real estate due to the large influx of international visitors (for details, see Charts 2.22, 2.23, 2.24 in the section "Real estate market developments and associated risks").

In 2023, there was a resurgence in demand for consumer loans, resulting in a 21.4% increase, which significantly surpassed previous years' growth rates (see Chart 2.18). Despite this robust growth, the consumer loans/GDP ratio has remained almost unchanged over the last three years, even amidst relatively high GDP growth, with no significant accumulations of risks in the given sector as of now.

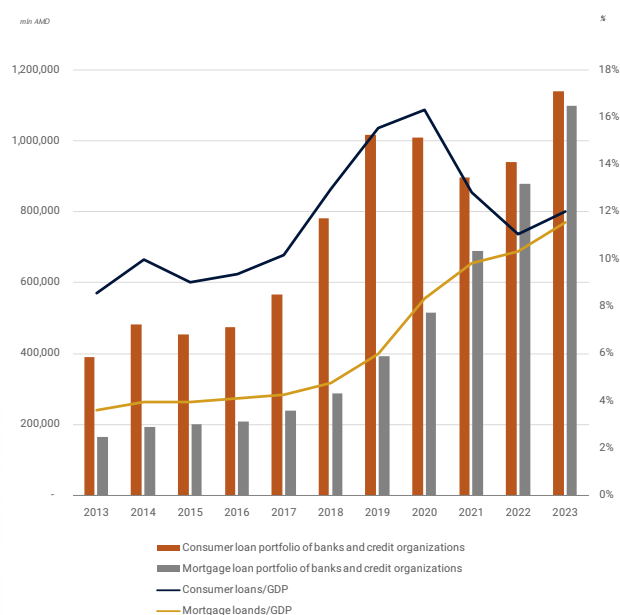
The substantial rise in consumer loans demand can be attributed to the increased household incomes and the active real estate market, where there is a need to purchase durable goods for newly acquired properties.

Chart 2.16. Annual growth of loans to Individuals by commercial banks and credit organizations and contributions



Source: CBA

Chart 2.17. Mortgage and consumer credit portfolio of commercial banks and credit organizations

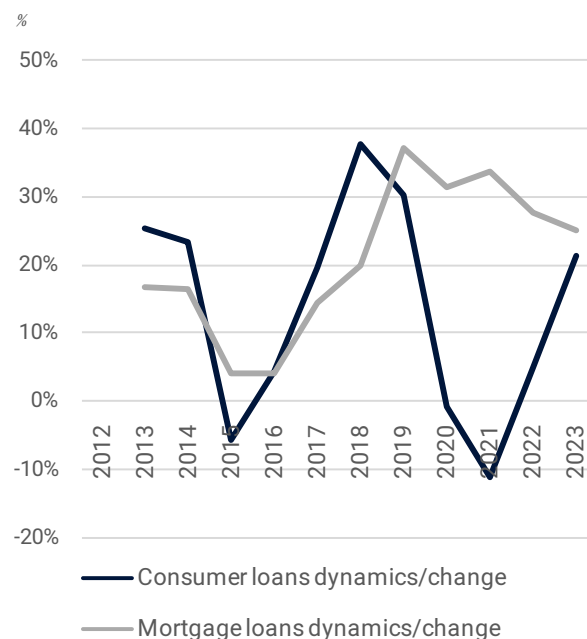


Source: CBA

Due to the nearly peer growth in mortgage and consumer loans (around AMD 200 billion each), their proportions within total household credit obligations have become equal (see Charts 2.15, 2.18).

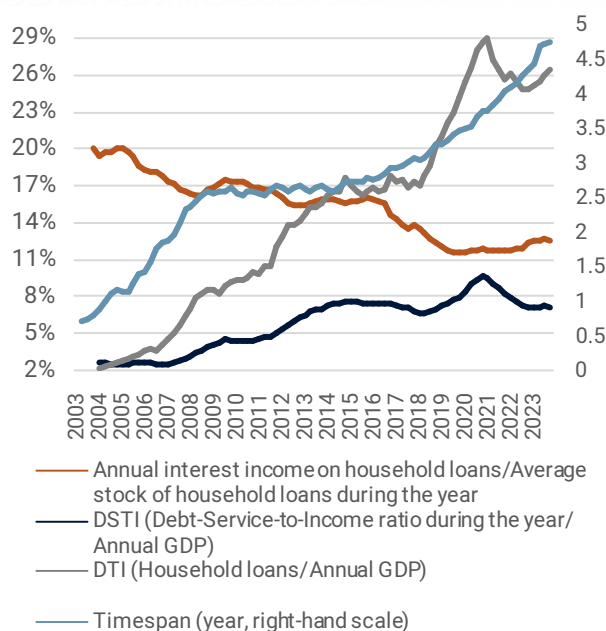
In recent years, an extension of loan maturities for households was observed, significantly easing their debt service burden. The rise in disposable income has coincided with longer loan terms, allowing households to maintain relatively manageable levels of debt service (see Chart 2.18.1). However, the beneficial impact of extended loan maturities on reducing debt service burdens has been partly offset by continued loan growth and relatively high lending rates. Despite a reduction in policy rates over the year, lending rates have not yet fully adjusted downwards. This can be attributed to factors such as geopolitical and regional uncertainties, still elevated risk-free interest rates (government bond yields), and the restrained response of credit rates to previous years' monetary policy rate increases aimed at fostering growth.

Chart 2.18. Growth rate of consumer and mortgage loans provided by commercial banks and credit organizations



Source: CBA

Chart 2.18.1 Household debt service indicators



Source: CBA

According to the results of the Central Bank of Armenia surveys¹³, easing of lending conditions were observed, mainly in terms of lending processes. According to the results of the survey on the terms of loans provided by Armenian banks and credit organizations, the net easing of the actual supply indices is due mainly to the factors of deepening competition for mortgage loans and facilitating the process of assessing the creditworthiness of customers for consumer loans. Despite rising interest rates on both mortgages and consumer loans the demand has increased.

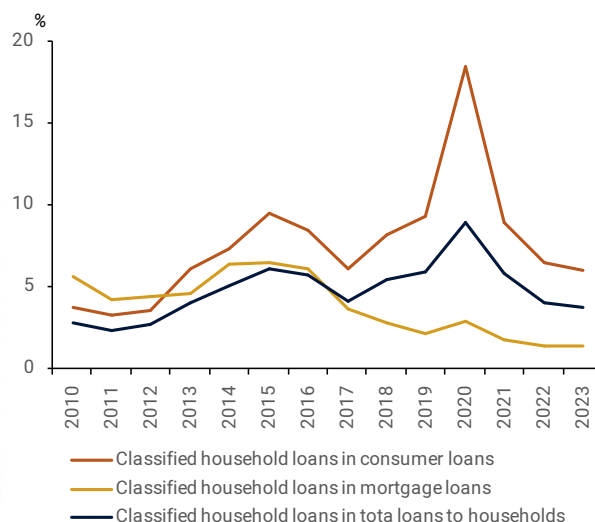
Although the high economic growth recorded in the Armenian economy in 2023 and the extension of the loan maturity have eased the debt service burden of households, the growing geopolitical uncertainties and the slowdown of global economic activity present significant risks. These risks are related to the potential retention of high economic activity and the possible increase in the debt burden in the economy.

The decrease in household credit risk reflects increased incomes and prudent credit policies of financial institutions. In recent years, the quality of the loan portfolio provided to households has continued to improve due to economic activity, favorable developments in the creditworthiness of customers, and prudent credit policies of financial institutions. With the growth of the total household credit portfolio, the share of classified loans decreased by about 0.3 percentage points, reaching 3.7%. This is lower than the average of the previous three years. The share of classified consumer loans decreased by 0.5 percentage points to 6.0%, and the share of mortgage loans decreased by about 0.1 percentage points, remaining significantly lower than other types of loans at 1.3% (see Chart 2.19). Additionally, the ongoing transition to AMD-denominated household debt has favorably impacted the reduction of credit risk associated with foreign exchange fluctuations.

The trends of shift to AMD-denominated portfolios of both savings and loans of households have been sustained. The share of AMD mortgage and

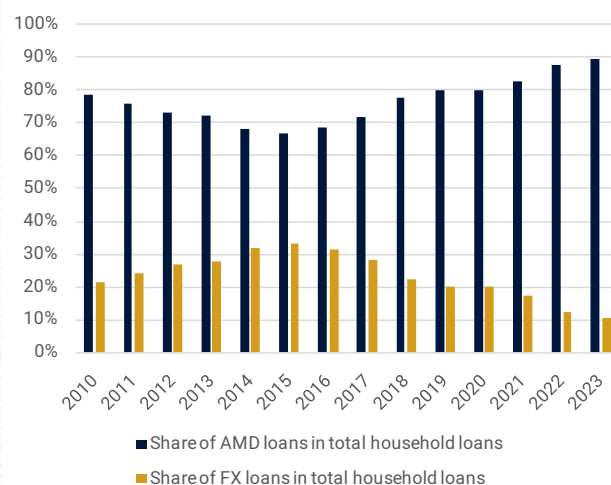
consumer loans in the total household loan portfolio reached 89.9%, marking an increase of 2.5 percentage points from the previous year. Similarly, the share of AMD deposits in the total deposit base stood at approximately 51% (see Charts 2.11, 2.20, 2.21).

Chart 2.19. Trends of Classified (non-performing and watched) household loans



Source: CBA

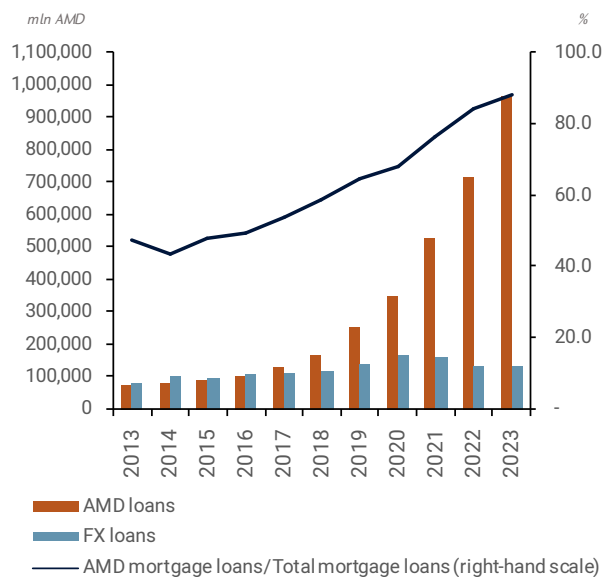
Chart 2.20. Currency structure of loans provided to households by commercial banks and credit organizations



Source: CBA

13 <https://www.cba.am/en/sitepages/statssbanks lending.aspx>

Chart 2.21. Currency structure of mortgage loans provided by commercial banks and credit organizations

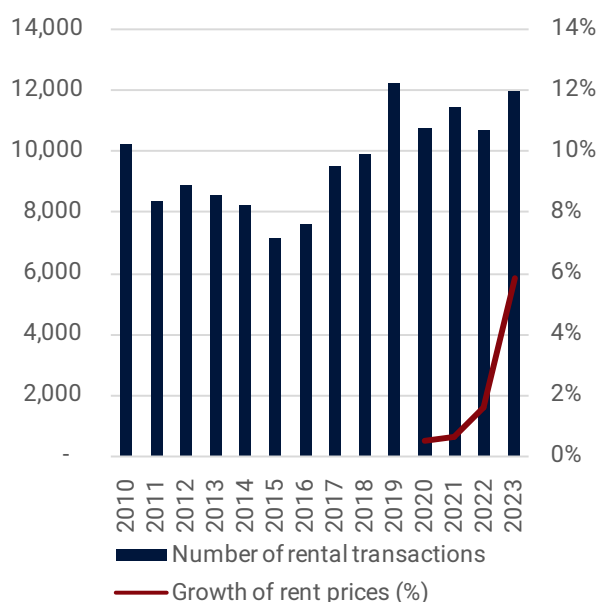


Source: CBA

2.4. Real estate market trends and associated risks

The vulnerability of financial stability due to real estate price fluctuations is analyzed from the perspective of risks related to lending to the construction sector, changes in collateral value and mortgage loans. Significant variations in real estate supply and demand, and consequently in prices, can negatively affect the quality and security of bank loans, posing risks to financial stability.

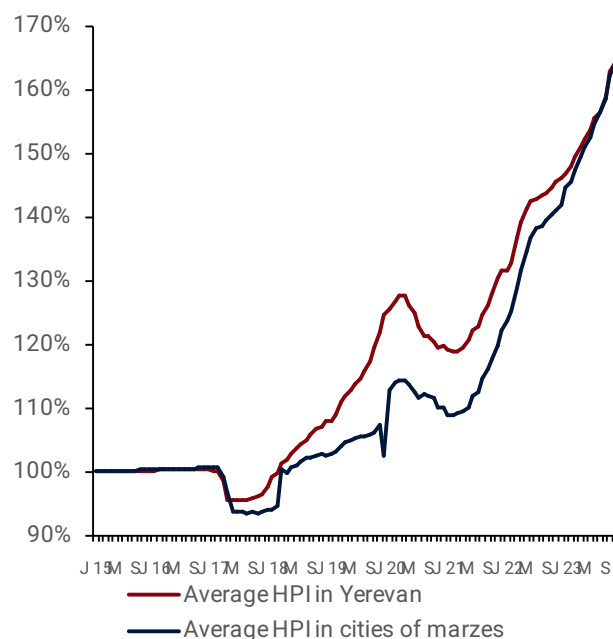
Chart 2.22 Number of rental transactions and growth of rent prices



Source: Statistical Committee of RA, Cadastre Committee

In recent years, a steady rise in demand for real estate has been observed, driven by economic growth recovery and increased migration to Armenia. This upward trend in real estate sales and rental prices is primarily attributed to heightened demand and higher supply prices of real estate, influenced by rising costs of goods and services in the construction industry. Despite the market's relative stability, regional uncertainties continue to pose risks to this sector.

Chart 2.23. The change in the average house price index (HPI) in Yerevan and cities of marzes



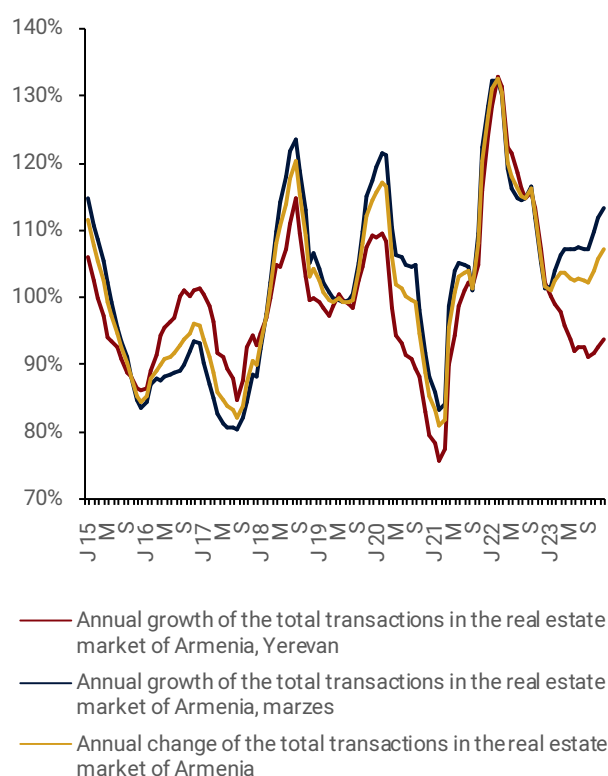
Source: CBA, Statistical Committee of RA

In recent years (excluding 2020), Armenia has experienced continuous growth in real estate market activity, marked by significant increases in both property prices and transaction volumes. Besides the state program of the income tax refund, the influx of international visitors and the heightened investment appeal of real estate from 2022 onwards have further spurred this growth.

In 2023, the growth rate of average prices for apartment purchases and rentals accelerated in Yerevan and cities of regions (see Chart 2.23). Notably, the price index growth rate in the regions has nearly matched that of Yerevan, primarily due to the gradual phasing out of the income tax refund program in Yerevan. Despite this, real estate prices continue to rise, supported by the ongoing impact of the state program of the income tax refund to the amount of mortgage interest paid in both the capital and the regions.

In 2023, the average market price per square meter of apartments in multi-apartment residential buildings in Yerevan increased by 10.3% compared to 2022. The number of rental transactions rose by 12.2%, and rental prices increased by 5.8% (see Chart 2.22). Additionally, the growth rate of rental transactions in Yerevan nearly doubled that recorded in the regions (see Chart 2.22).

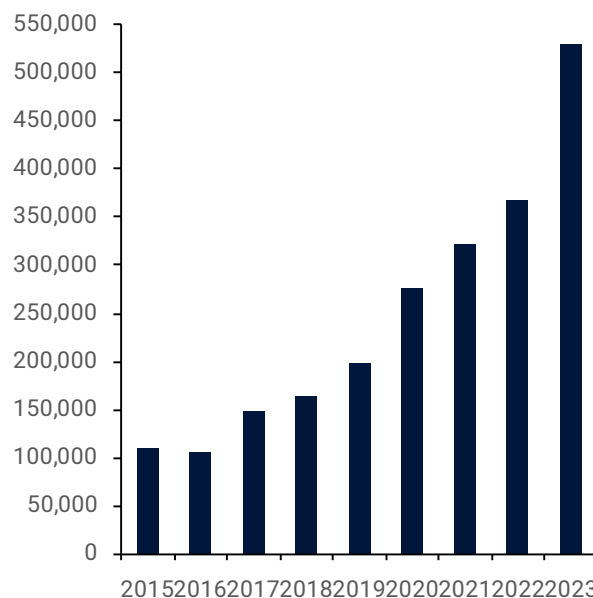
Chart 2.24. Annual average change of the total transactions in the real estate market of Armenia



Source: CBA, Statistical Committee of RA

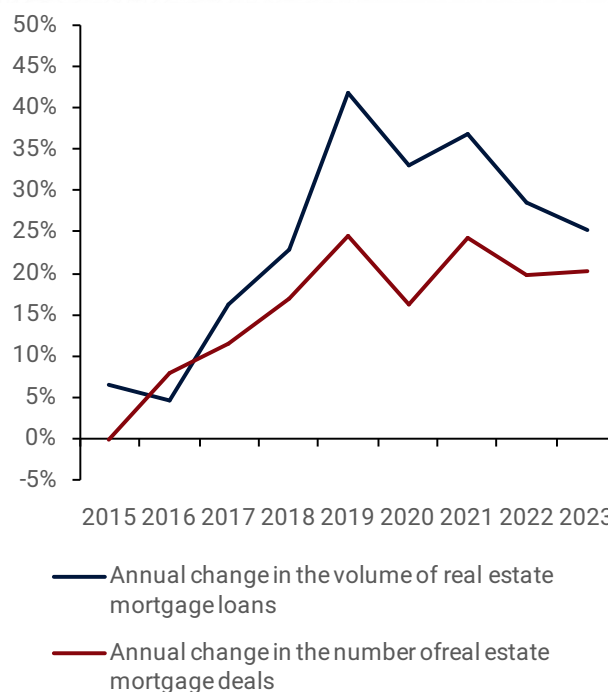
After a period of slowdown in 2022, the number of total transactions in the real estate market entered an acceleration phase, growing by 7.2% (see Chart 2.24). Unlike previous years, in 2023, total transactions in the regions significantly exceeded those in Yerevan, due to both the start of the phase-out of the income tax refund program in Yerevan and the events in Nagorno-Karabakh. The number of total transactions in Yerevan decreased by 6.3%, while urban areas in the regions saw an increase of 10.6%.

Chart 2.25. Loans provided by banks and credit organizations to the construction sector (thousand AMD)



Source: CBA

Chart 2.26. Change in real estate mortgage loans



Source: CBA

Alongside the increase in demand, there was a significant rise in supply, with the number of building permits issued during the year increasing by about 11% (see Chart 5.12).

Concurrently to the increase in apartment sale transactions, loans provided by banks and credit organizations to the construction sector increased by more than 40% (see Chart 2.25). The volume of mortgage loans for real estate purchases provided by banks and credit organizations increased by approximately 25% in Armenian dram equivalent (the number of loans increased by around 20%). The volume of loans for the construction of residential and non-residential buildings grew by around 49% (see Chart 2.26).

According to the survey on lending conditions provided by Armenian banks and credit organizations, more than 40% of mortgage loans were for purchasing

or constructing apartments from the primary market. The number of applications for real estate acquisition and construction loans from the primary market increased by about 12%, with a 92% approval rate for these applications.

In the total volume of loans provided to the economy, the share of mortgage and construction loans increased, and the quality of these loans improved. The rapid growth in construction sector loans led to a 0.4 percentage point decrease in the weight of non-performing loans, bringing it to 0.5%, while non-performing mortgage loans remained historically low at 1.3%.

The results of stress scenarios related to real estate and the performed analyses are presented in the “Stress tests of banks” and “Macroprudential Policy” sections.

3.

RISKS IN FINANCIAL MARKET AND INSTITUTIONS OF ARMENIA

3.1. Risks in domestic financial market

3.2. Risks in financial system

3.2.1 Commercial banks

3.2.2 Non-bank financial organizations

Box 1

Transmission of climate risk to the financial system

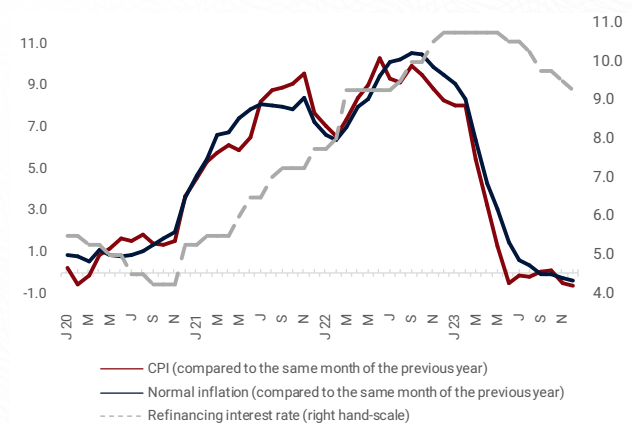
3.1. Risks in domestic financial market

Throughout the year, the Central Bank gradually eased monetary conditions, resulting in a decrease in the yield curve of government bonds across all maturities. Despite this easing of monetary conditions, a slight increase in lending rates to the economy was observed, primarily due to uncertainties related to regional and geopolitical tensions, as well as increased loan demand. At times, fluctuations in the currency market were driven mainly by non-fundamental, short-term behavioral factors.

In 2023, monetary conditions continuously were eased, with the refinancing rate being reduced by 1.5 percentage points overall to 9.25%¹⁴ (see Chart 3.1). This easing by the Central bank was prompted by deflationary pressures from international markets and a decline in domestic inflation expectations¹⁵.

Throughout the year, the short-term interest rates in the money market generally aligned with the Central Bank's policy rate. The demand for dram liquidity was met through the main repo and fine-tuning repo instruments. Additionally, banks used the standing facility Lombard repo to meet their liquidity needs (see Chart 3.2).

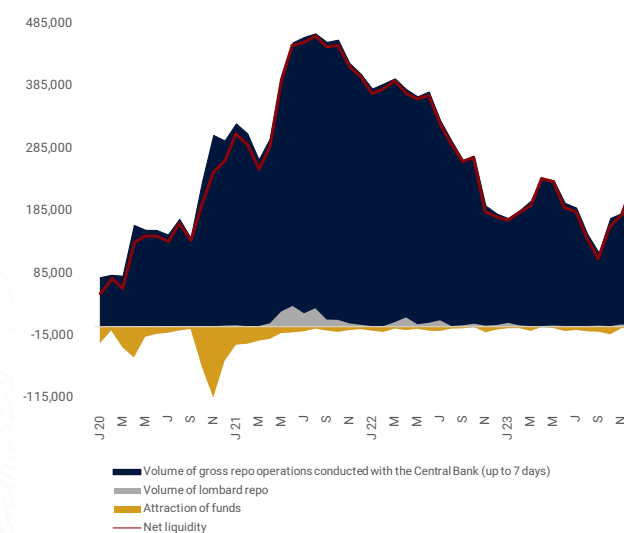
Chart 3.1 The 12-month inflation and monetary conditions through 2023



Source: CBA

There was a noticeable decrease in the banking system's demand for liquidity provided through the Central Bank's main instrument. Meanwhile, the volume of interbank dram repo operations continued to grow progressively. Nonetheless, short-term interest rates remained largely centered around the policy rate (see Chart 3.3).

Chart 3.2. Volumes of liquidity provision and attraction through the operations of the CBA (average monthly stock, mln AMD)



Source: CBA

In the framework of monetary policy of the Central Bank of Armenia, the interest rates on government bonds decreased along the entire yield curve (see Chart 3.4). Until mid-2023, the implementation of tightening monetary policy caused an increase in government bond yields across the curve. This increase was particularly significant in the short-term part of the curve, while the long-term yields decreased moderately due to the anticipated weakening of inflationary pressures resulting from the Central Bank's policy.

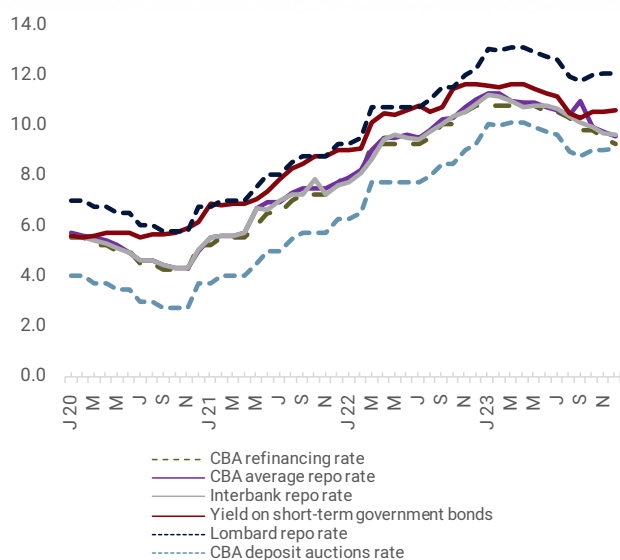
14 As of the end of 2023 (set on 12.12.2023). Source: <https://www.cba.am/en/sitepages/fmompinterestrates.aspx>

15 Source: CBA Inflation Reports: <https://www.cba.am/en/sitepages/mppubl.aspx>

Since the beginning of the year, the average yield of government bonds across all maturities has decreased by approximately 1.1 percentage points compared to December of the previous year. However, despite this overall decline due to easing monetary conditions, government bond yields for all maturities have risen by an average of 0.4 percentage points since September (see Chart 3.5).

This recent increase can be attributed mainly to heightened uncertainty regarding regional tensions following the events in Nagorno-Karabakh at the end of September, the depreciation of the dram, and a slight revision of inflation expectations. Additionally, an increase in the issuance and placement of government bonds and expectations of future interest rate changes may have also contributed to this trend.

Chart 3.3 Market short-term interest rates through 2023



Source: CBA

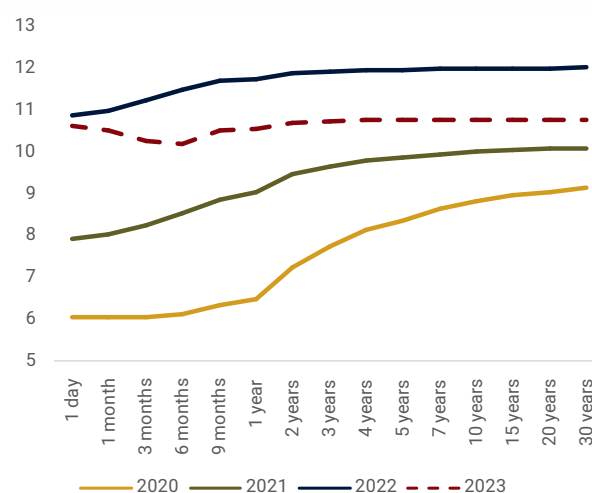
During the year, there was a decrease in the yield to maturity spreads (difference between yields to maturity) of government bonds. The yield spread of 1- and 10-year government bonds has decreased by around 0.4 percentage points since the beginning of the year (see Chart 3.6).

Along with the sharp decrease in inflation and the relative easing of monetary conditions in 2023, negative spreads were recorded until September, in which case

the yield curve was inverted. The slower decline in the yield of short-term bonds compared to long-term bonds is mainly due to lower inflation expectations of market participants, existing uncertainties and risks related to the outlook for economic growth.

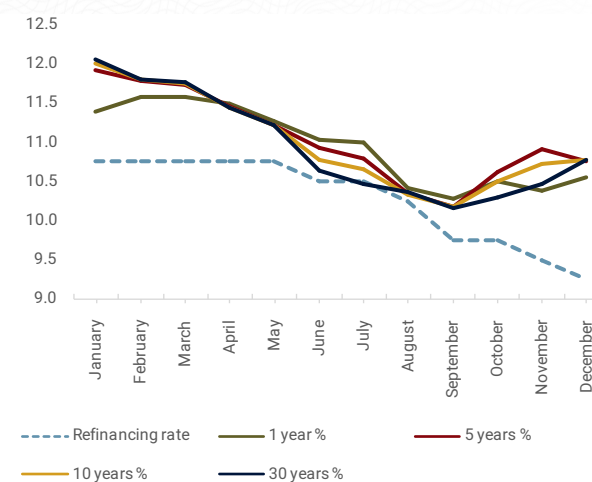
Interest rates on short-term AMD deposits held by commercial banks have decreased somewhat in response to changes in monetary policy interest rates over the year. However, interest rates on loans to the economy continued to be influenced by the lag effects of tightening of monetary conditions.

Chart 3.4. Yield curve of Government bonds



Source: CBA

Chart 3.5. Government bond yields through 2023



Source: CBA

Chart 3.6 Government bond yield-to-maturity spreads



Source: CBA

A slight increase in interest rates was also observed for certain types of loans, primarily due to regional and geopolitical uncertainties and the rising demand for loans.

In 2023, amidst high economic activity in the real sector, the volumes of funds attracted and provided by commercial banks continued to grow.

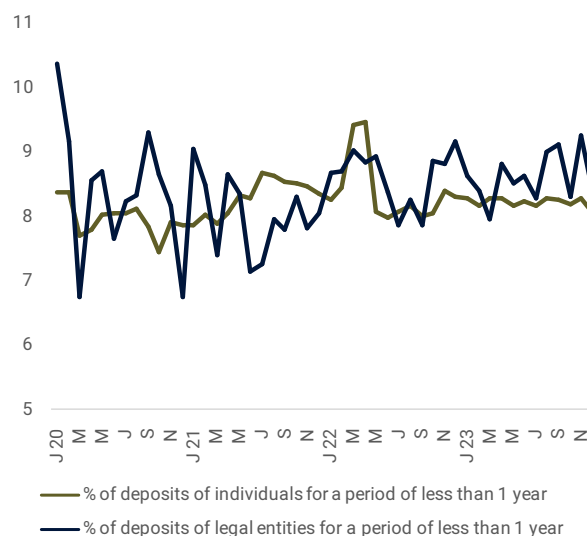
Interest rates on short-term AMD deposits decreased somewhat, generally responding to changes in the monetary policy throughout the year. Compared to December of the previous year, the weighted average interest rates of dram deposits from legal entities with terms up to one year (excluding demand deposits) decreased by approximately 0.8 percentage points, and those from individuals decreased by around 0.3 percentage points (see Chart 3.7).

Interest rates on dram deposits with terms of more than one year did not show significant decreases compared to December of the previous year, largely due to the lag effect of previous monetary tightening (see Chart 3.8).

Despite the easing of monetary conditions during the year, the aforementioned lag effect of earlier monetary

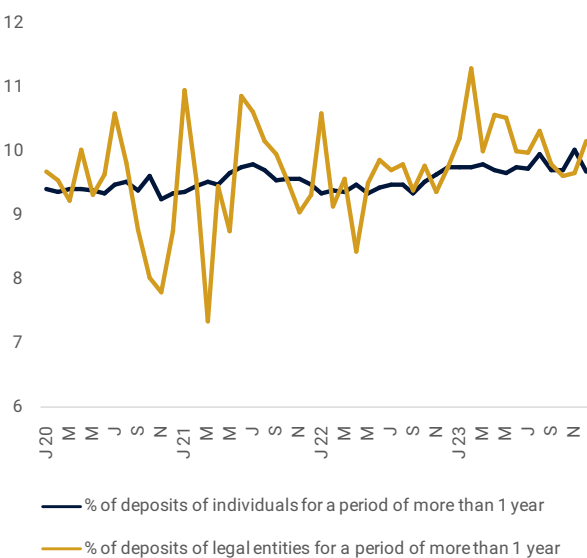
tightening continued to influence the interest rates on loans provided to the economy. A slight increase in interest rates was also observed for certain types of loans, mainly due to long-term regional and geopolitical uncertainties and an increase in demand for household loans.

Chart 3.7. Interest rates on short-term deposits attracted by banks, %



Source: CBA

Chart 3.8. Interest rates on long-term deposits attracted by banks, %



Source: CBA

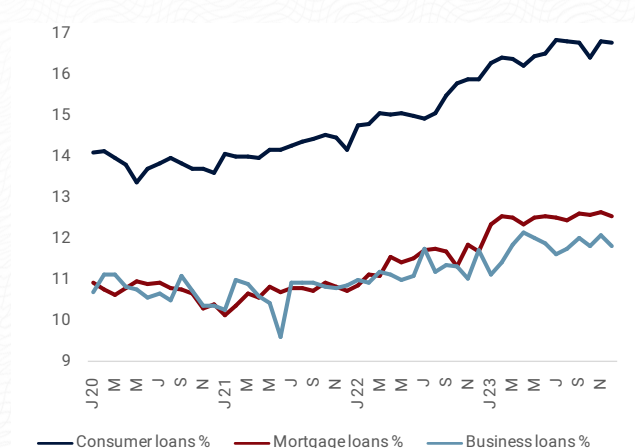
By the end of 2023, the average weighted interest rates on consumer and mortgage loans extended to households rose by 0.9 percentage points compared to December of the previous year, while interest rates for business loans remained largely unchanged (see Chart 3.8.1).

It is noteworthy that as early as 2022, improvements in profitability and liquidity observed in some banks helped to somewhat contain adjustments towards higher lending rates, thereby mitigating the increase in loan servicing burden. However, in 2023, the easing of monetary conditions also had a positive impact, somewhat moderating the potential increase stemming from risks associated with regional and geopolitical uncertainties.

At the end of the year, compared to December of the previous year, there was an improvement in the country's risk premium.

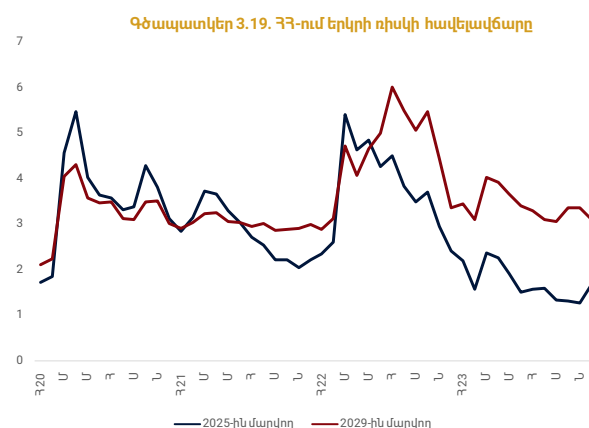
However, potential risks associated with regional and geopolitical uncertainties could lead to a negative reassessment of country's risk premium. The country risk premium is gauged by the yields and equivalent maturity of RA's Eurobonds due in 2025 and 2029, measured against the difference in risk-free yields of benchmark bonds (US Treasuries). By the year's end, the spread for the 2025 Eurobond decreased by approximately 0.7 percentage points, while for the 2029 Eurobond, it decreased by 0.2 percentage points (see Chart 3.9).

Chart 3.8.1 Rates of AMD lending, %



Source: CBA

Chart 3.9. Country risk premium in Armenia



Source: CBA

The reduction in the spread is attributable to the decline in RA's Eurobond yields over the year, alongside an increase in yields of corresponding maturity US Treasury bonds.

Following the Nagorno-Karabakh events in September 2023, the country risk premium experienced a slight rise, stabilizing by year-end at a level lower than pre-September levels. This trend mirrors broader emerging market patterns influenced by shifts in long-term US interest rates. However, it's important to acknowledge that regional and geopolitical uncertainties pose potential risks for a negative reassessment of the risk premium going forward.

In the currency market, the AMD exhibited relative stability against major currencies in the first half of the year. Towards the end of the year, there was a slight depreciation of the AMD against the US dollar and euro, while it appreciated against the ruble. Currency market volatility in certain days was largely driven by non-fundamental, short-term behavioral factors.

In the foreign exchange market during the first half of 2023, the AMD generally displayed stable behavior against major currencies. Since September, there has been a modest depreciation of the AMD against the US dollar and euro, coupled with a relative appreciation against the ruble.

By the end of 2023, compared to December of the previous year, the Armenian dram depreciated by approximately 2.8% against the US dollar, 6.2% against the euro, and 24% against the Russian ruble (see Chart 3.10). Throughout the year, the dram's performance was influenced by factors causing both appreciation and depreciation, maintaining a relatively stable trajectory.

Chart 3.10. Average daily exchange rate movements of foreign currencies against AMD



Source: CBA

During the year, appreciation was supported by strong international demand for domestic services and increased release and exports of highly productive services. Conversely, robust domestic demand and accelerated import growth in Armenia exerted depreciation pressures.

Following the Nagorno-Karabakh events in late September, non-fundamental factors, uncertainties, and short-term behavioral indications contributed to heightened volatility in the currency market, which later stabilized towards the year-end. At times, substantial foreign currency inflows exceeded the Armenian market's absorption capacity, posing risks of market disruption, prompting the Central Bank to intervene as needed. Through consistent policy implementation, the Central Bank's net purchase of US dollars amounted to approximately \$1.146 billion over the year.

3.2. Risks in Financial system

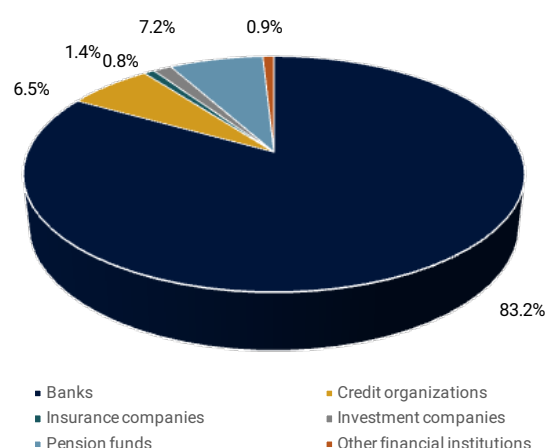
In 2023, the financial system expanded at its normal pace, adequately meeting the financial service demands of the population and business entities.

The primary challenge faced by the financial system during year 2023 was managing geopolitical and regional uncertainties. Specifically, the events in Nagorno-Karabakh at the end of the year impacted the financial system, particularly concerning the servicing of its existing financial claims. However, through the combined efforts of the Government and the Central Bank, along with prudent policies implemented by commercial banks, the negative effects of these events on banks and certain non-bank financial organizations were minimized.

Despite the ongoing high level of uncertainties stemming from regional and global geopolitical developments, which pose risks to the normal functioning of the global economy and international financial markets, the Armenian financial system possesses all the necessary prerequisites to contribute to societal well-being through the provision of financial services and to confront future challenges.

As of the end of the year, the financial system's assets-to-GDP and loans-to-GDP¹⁶ ratios were 116.2% and 54.0%, respectively, marking increases of 0.4 and 4.1 percentage points over the year. Commercial banks continue to dominate the financial system, holding 83.2% of total assets (see Chart 3.11). With the easing of the previous year's high inflation and the stabilization of international stock markets, pension funds experienced significant growth, becoming the second largest in the financial system by asset size. Additionally, there was a noted decrease in the share of credit organizations' assets among non-bank financial intermediaries.

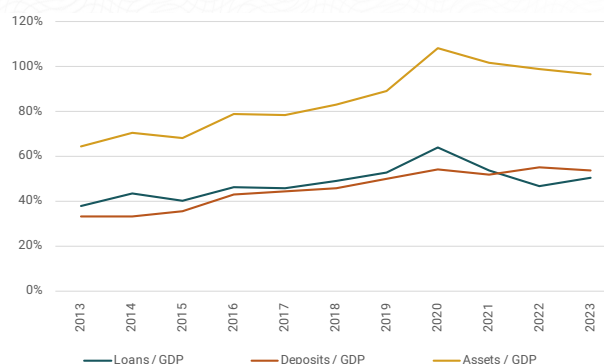
Chart 3.11. The structure of financial system assets by financial institutions (%)



Source: CBA

In 2023, loans provided by commercial banks to the real sector grew by approximately 21%. This substantial growth in the loan portfolio led to a 3.8 percentage point increase in the loans-to-GDP ratio, reaching around 51% by the end of the year. Unlike the previous year, the growth of commercial bank deposits in 2023 was driven solely by high growth in deposits from residents. Under these circumstances, the deposit-to-GDP ratio slightly decreased to around 54% (see Chart 3.12).

Chart 3.12. Intermediation indicators of the banking sector



Source: CBA

¹⁶ Includes loans, leasing and factoring granted by commercial banks and credit organizations.

3.2.1. Commercial banks

According to the year's results, the banking system demonstrated strong indicators in both capital and liquidity reserves, ensuring the system's resilience to potential shocks. Additionally, sufficient profitability enabled the continuity of lending to individuals and businesses, laying the foundations for further economic development.

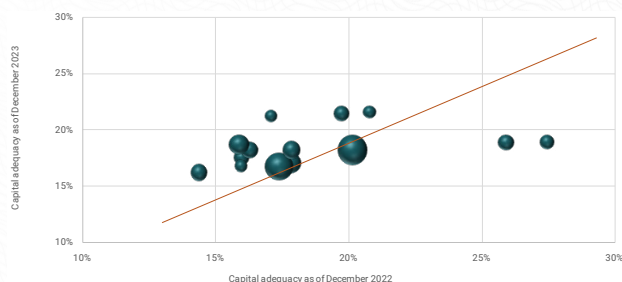
Capital Adequacy and Profitability

The banking system maintained high levels of capitalization, with actual capital adequacy ratios significantly exceeding the regulatory requirements.

The banking system's capital increased by approximately AMD 116 billion or 9.3%, reaching AMD 1 trillion 363 billion by the end of the year.

In December 2023, the total capital adequacy ratio stood at 19.9%, providing an excess reserve of around 3.9 percentage points above the regulatory limit, including all buffers. The 0.4 percentage point decrease in capital adequacy compared to the previous year was primarily due to the relatively high growth of the credit portfolio during the year and asset losses resulting from the Nagorno-Karabakh events at the end of the year. Nonetheless, most banks improved their capital positions, even compared to the high levels of the previous year (see Chart 3.13¹⁷).

Chart 3.13. Capital adequacy by banks



Source: CBA

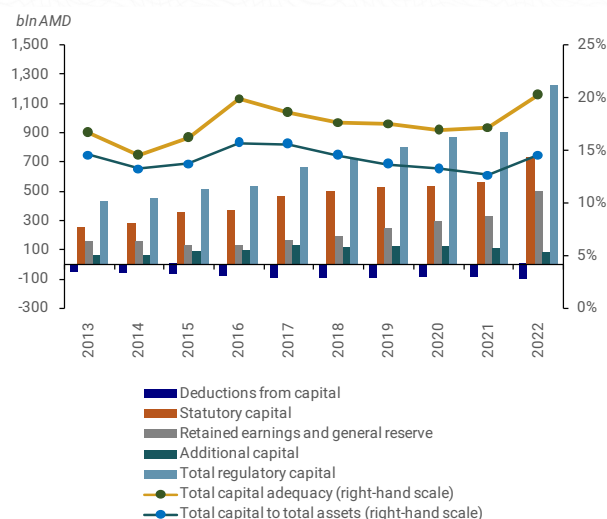
17 The chart does not include banks exceeding twice the capital adequacy requirement (including buffers). Those are 4 banks, with a 5.3% share in the banking system by assets. In the chart, the abscissa (horizontal) axis is the capital adequacy as of December 2022, the ordinate (vertical) axis is as of December 2023, and the size of the dots is the share of assets in the banking system as of December 2023.

A reduced capital adequacy requirement of 11% of risk-weighted assets came into effect in June 2023. Additionally, since June 2023, the composition of regulatory capital and the elements included within it have been revised. Specifically, given the revisions, the regulatory capital of a bank now consists of:

- Tier 1 capital,
 - Common Equity Tier 1 (CET1),
 - Additional Tier 1 capital (AT1),
- Tier 2 capital.

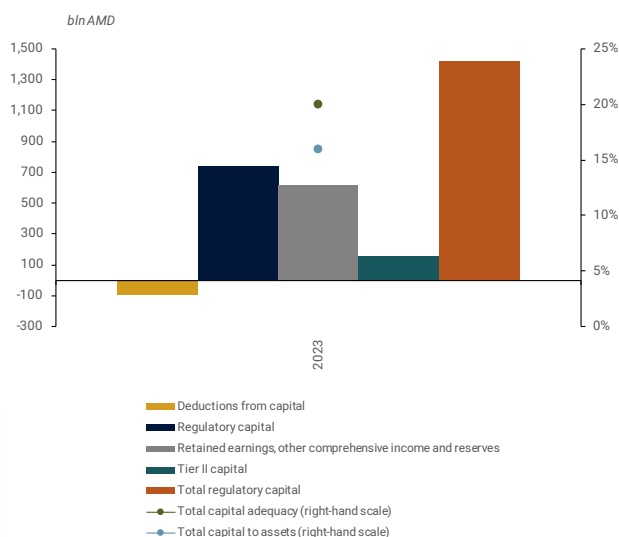
The change in the definitions of the elements of regulatory capital was also reflected in the presented Charts 3.14 (a), 3.14 (b), where the regulatory capital increased by 16.1% during the year. The biggest share of the regulatory capital, about 88%, is the common equity Tier 1 capital (CET1). It should also be noted that the ratio of regulatory capital to assets increased by 1.3 percentage points, making 15.9% at the end of the year.

Chart 3.14 (a). The structure of total regulatory capital



Source: CBA

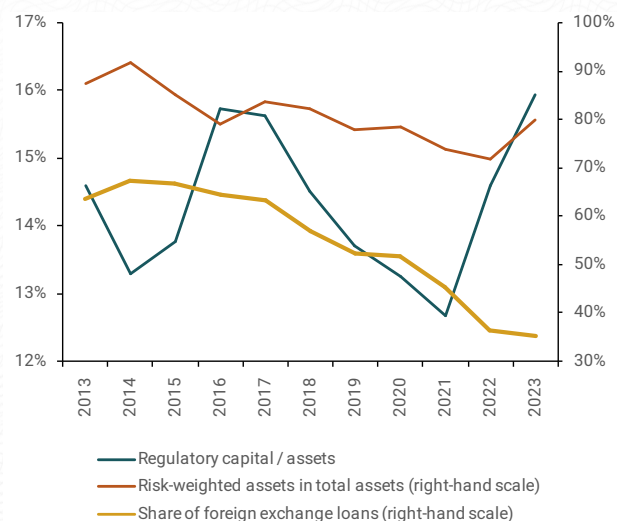
Chart 3.14 (b). The structure of total regulatory capital



Source: CBA

In 2023, the ratio of risk-weighted assets to total assets increased, primarily due to changes in the balance sheet composition, notably the rise in the share of the credit portfolio within assets. However, this increase was moderated by a reduction in loan dollarization, which somewhat restrained the growth of risk-weighted assets (see Chart 3.15).

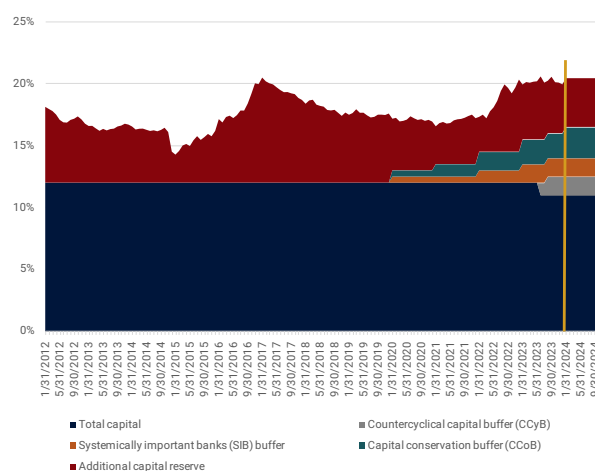
Chart 3.15. Regulatory capital to assets, RWA in total assets and the share of FX loans



Source: CBA

During the year, the Central Bank raised the countercyclical capital buffer rate by 0.5 percentage points, bringing it to 1.5% of risk-weighted assets, effective for commercial banks from August 1, 2023 (see “Macprudential Policy” section). According to the capital buffer implementation schedule, both the capital conservation and systemic risk buffers were increased from January 2023, set at 2% and 1.5% respectively. Furthermore, the capital conservation buffer was increased by an additional 0.5 percentage points to 2.5%, effective January 1, 2024 (see Chart 3.16).

Chart 3.16. Dynamics of capital adequacy components



Source: CBA

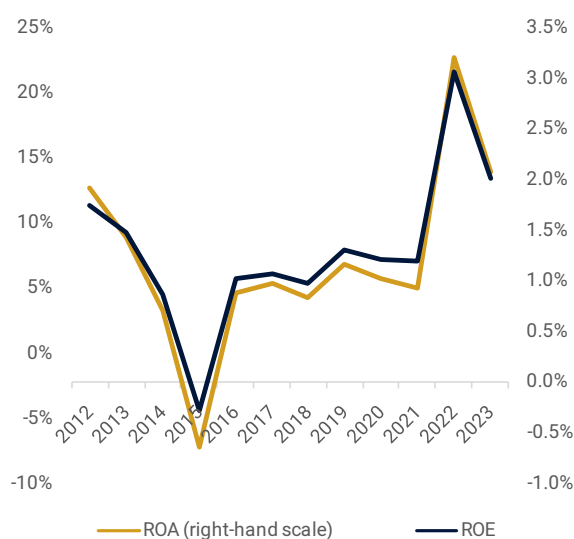
The banking system concluded 2023 with adequate profitability, largely driven by the growth in interest income. The year-end results indicated sufficient profitability within the banking system, which is crucial for the business outlook of banking activities. However, compared to the previous year, the system’s profitability decreased by the end of 2023. Notably, profitability indicators showed relative stability throughout the year, with a significant decline occurring in December. This decline was a consequence of asset write-downs due to the events in Nagorno-Karabakh.

Unlike the previous year, when increased profitability was primarily due to higher net non-interest income from payment and foreign exchange operations following a large influx of new customers, the rise

in profitability in 2023 was mainly attributed to the increase in net interest income. This was a result of relatively high interest rates in both global and domestic markets, along with a higher growth rate in consumer loans compared to previous years.

As of the end of the year, the profitability indicators of the banking system stood at 13.5% for return on equity (ROE) and 2.1% for return on assets (ROA), compared to 21.7% and 3.2%, respectively, from the previous year (see Chart 3.17).

Chart 3.17. ROA and ROE of the banking sector

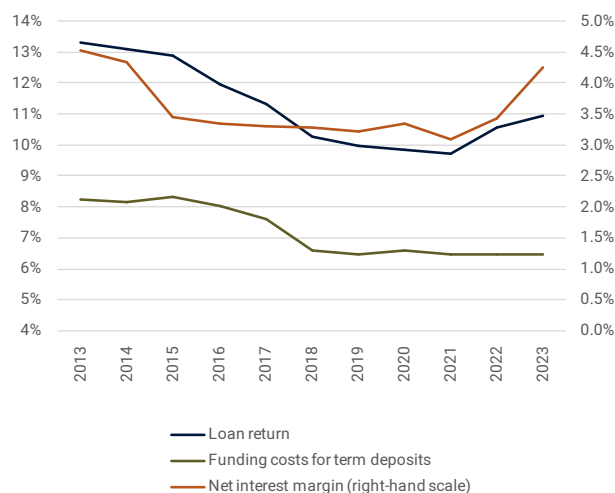


Source: CBA

The net interest margin (the ratio of net interest income to assets) increased by 0.8 percentage points compared to the previous year (see Chart 3.18). The growth of the net interest margin was driven by several factors, including the rise in the average interest rate of loans, the high yield of securities in both foreign and domestic markets, and the gradual increase in the share of demand deposits in the composition of residents' deposits, the latter being the primary funding source for banks. The average interest rate on loans increased by 0.4 percentage points, which was influenced by the high interest rate environment, the shift towards AMD-denominated loans, and the substantial growth rate of consumer loans throughout the year. Meanwhile, with minimal changes in the

interest rates of AMD and USD deposits, the average cost of time deposits remained largely unchanged.

Chart 3.18. Interest margin



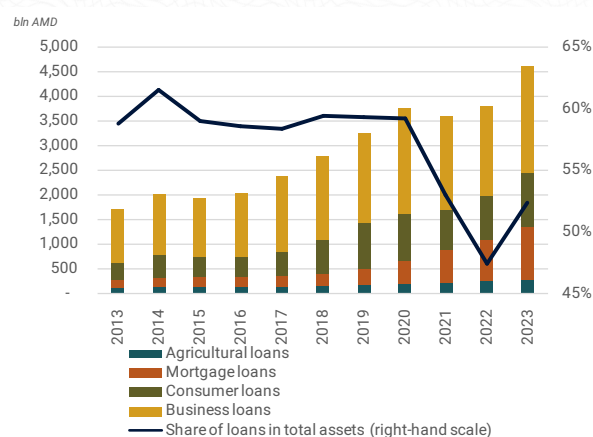
Source: CBA

Credit Risk

In 2023, the banking system's credit portfolio experienced double-digit growth, driven equally by increases in both household and business loans.

Overall, loans granted by banks to the economy grew by approximately 21%, with nearly uniform double-digit growth across all loan types (see Charts 3.19 and 3.20).

Chart 3.19. Structure of loans to residents by major types of loans



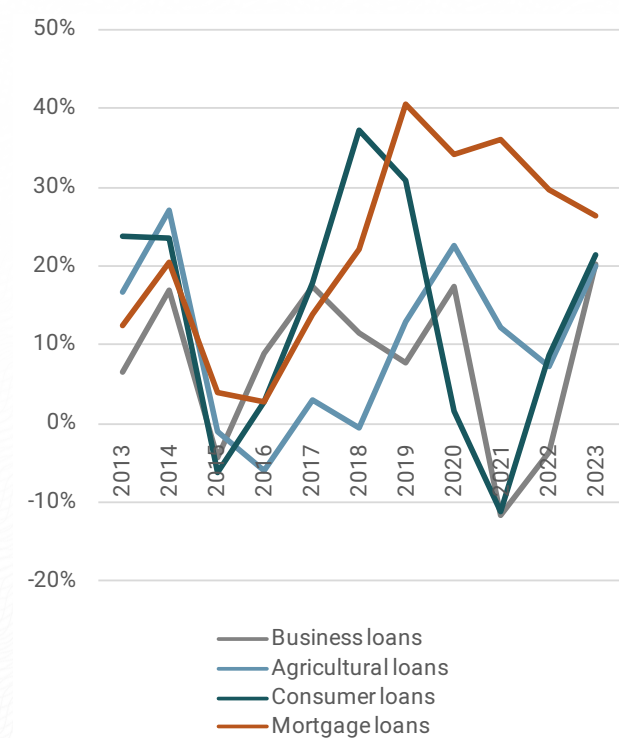
Source: CBA

Although the growth rate of mortgage loans has somewhat decelerated, it remains the highest among all types of lending (see Chart 3.20). Given the high growth rates of mortgage loans in previous years, a certain slowdown in this sector is likely in the future as a base effect.

The expansion of business loans was primarily driven by increased lending to the construction and trade sectors.

In contrast to the decline or moderate growth in consumer lending activity observed over the past three years, 2023 saw a high growth rate in consumer loans.

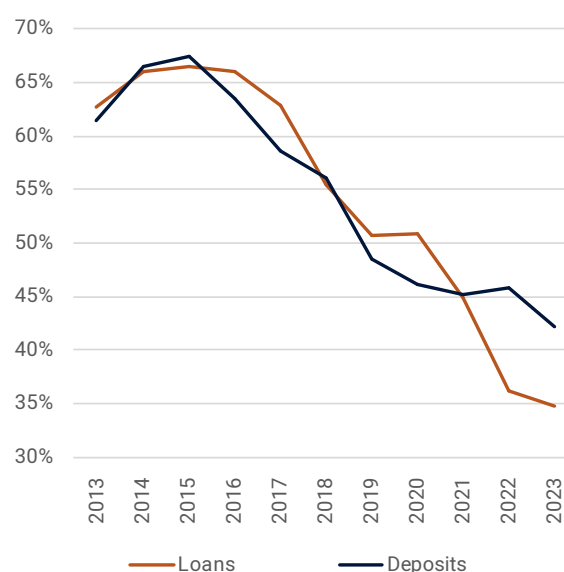
Chart 3.20. Growth rates of major loan types



Source: CBA

In 2023, the dollarization of residents' deposits and loans continued its downward trend, reaching historically low levels. By the end of the year, the dollarization of resident loans stood at 34.8%, while the dollarization of deposits was 42.1% (see Chart 3.21).

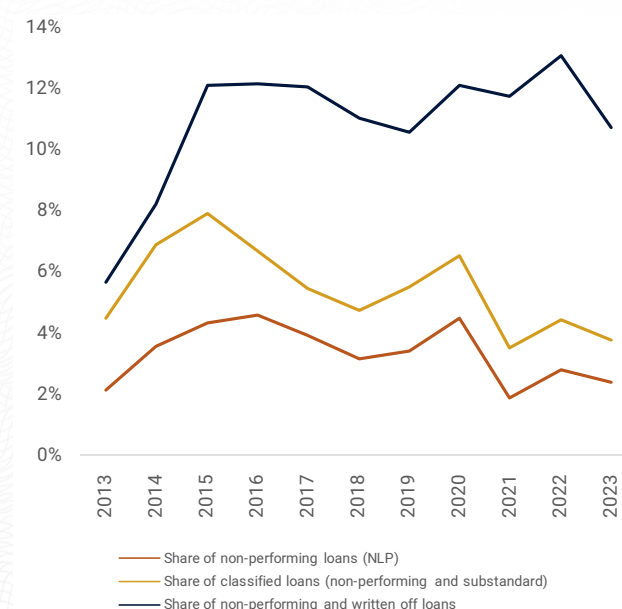
Chart 3.21. Dollarization of loans and deposits of residents



Source: CBA

Indicators of credit portfolio quality across the overall system showed improvement, particularly with a reduction in the share of non-performing loans across all major indicators (see Chart 3.22).

Chart 3.22. Dynamics of non-performing loans

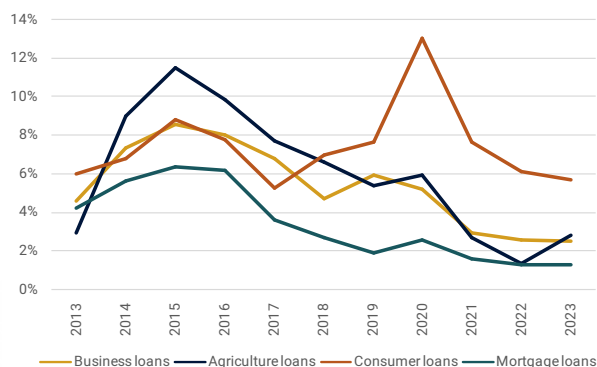


Source: CBA



The share of non-performing loans decreased to 2.4% by year-end, with declines noted in all loan types except for agricultural loans (see Chart 3.23).

Chart 3.23. Classified (non-performing and substandard) loans to residents by major loan types

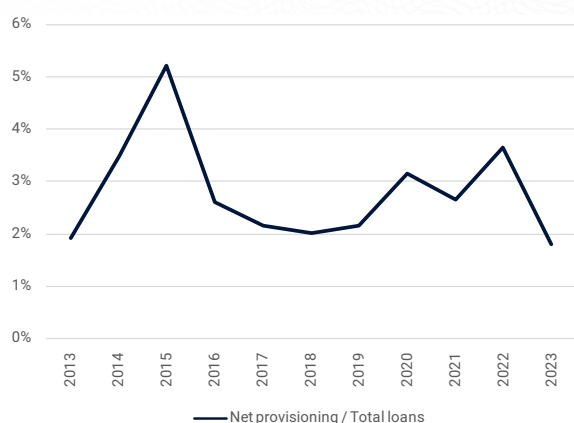


Source: CBA

The enhanced quality of the loan portfolio was also evident in the loan loss dynamics. The ratio of net provisioning and write-offs to the average loan size was nearly halved compared to the previous year (see Chart 3.24).

Regarding loan portfolio concentration, the share of loans issued to large borrowers¹⁸ increased by approximately 1 percentage point (see Chart 3.25).

Chart 3.24. Losses from loans

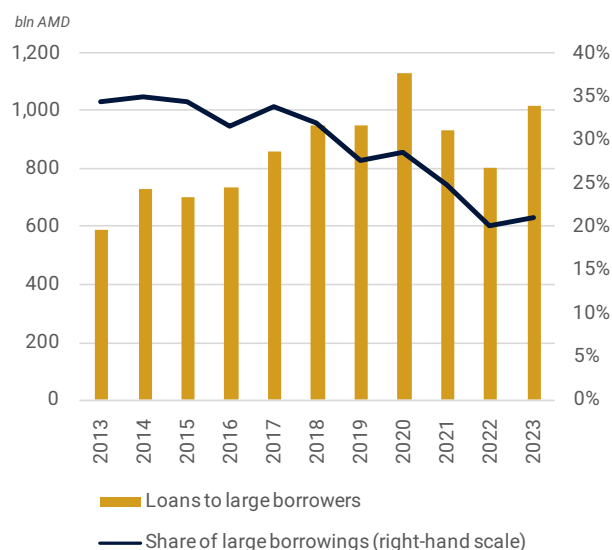


Source: CBA

¹⁸ A borrower for which the bank's risk exceeds 5 percent of the total capital is considered to be a large borrower.

¹⁹ Total liquidity is the ratio of bank's highly liquid assets to total assets.

Chart 3.25. Loans to large borrowers



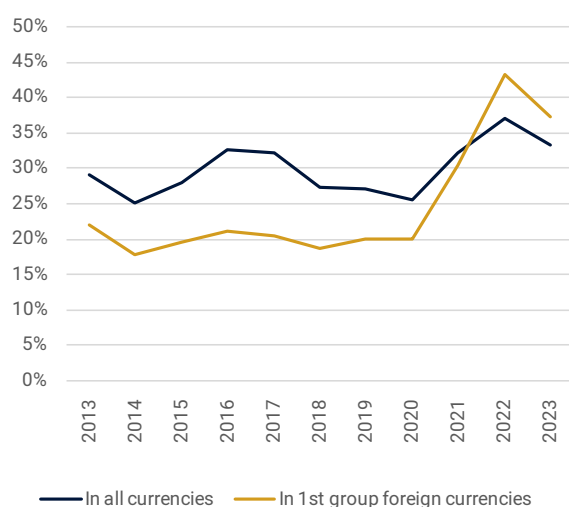
Source: CBA

Liquidity risk

The banking system maintains high liquidity reserves. However, in 2023, with the credit portfolio growing more rapidly than deposits, some decline in overall liquidity within the banking system was observed. Compared to the beginning of the year, total liquidity in all currencies¹⁹ decreased by 3.8 percentage points to 33.2%. Meanwhile, total liquidity in foreign currencies of the first group dropped by 5.9 percentage points to 37.3% (see Chart 3.26).

Nonetheless, it is important to consider the base effect when analyzing liquidity dynamics. In 2022, due to internal and external economic factors, a sharp increase in deposits (particularly from non-residents) as compared to loans was recorded, which led to a significant enhancement of the liquidity position. This is why, despite the observed decline, the liquidity reserves of the banking system remain above the long-run average.

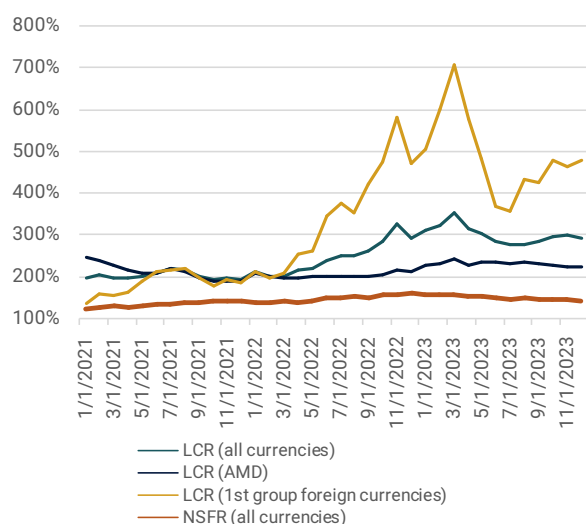
Chart 3.26. Dynamics of total liquidity



Source: CBA

In December 2023, the average Liquidity Coverage Ratio (LCR) across all currencies was 290.6%, while for foreign currencies of the first group, it stood at 478.4%. Additionally, banks complied with the Net Stable Funding Ratio (NSFR) requirements (see Chart 3.27).

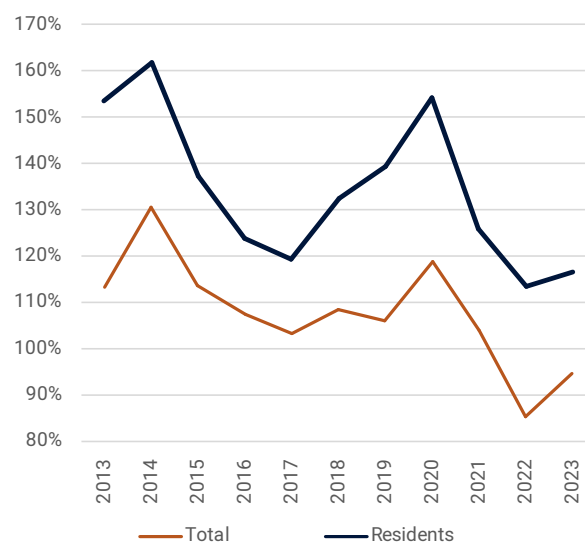
Chart 3.27. Dynamics of liquidity coverage and net stable funding ratios



Source: CBA

Throughout 2023, there was a consistent upward trend in deposit growth. By the end of the year, deposits from both legal entities and individuals had increased by approximately 9.2%²⁰. However, with the credit portfolio growing more rapidly than deposits, the loan-to-deposit ratio rose, both for the total portfolio and specifically for residents (see Chart 3.28).

Chart 3.28. Loans to Deposits ratio



Source: CBA

Market risk

The sensitivity of banks to fluctuations in financial asset prices has remained essentially unchanged, with the potential loss from open foreign currency positions being considered insignificant.

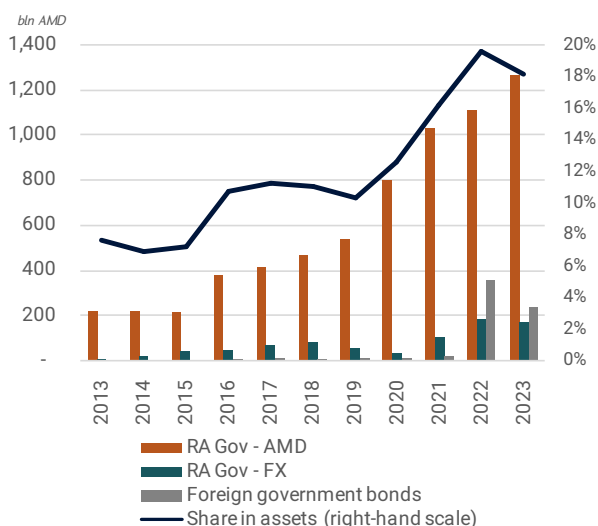
By the end of the year, banks slightly reduced their investments in foreign government bonds issued by both Armenian and foreign governments. As a result, the proportion of government bonds in the banking system's assets decreased, driven as well by the rapid growth in loans (see Chart 3.29).

Due to rising financial asset prices, the revaluation reserve of securities included in the banks' capital

²⁰ Deposits to resident and non-resident legal entities and individuals are included.

improved by AMD 19.6 billion in 2023, reaching AMD - 14.8 billion compared to AMD - 34.4 billion the previous year.

Chart 3.29. Investments in Government bonds



Source: CBA

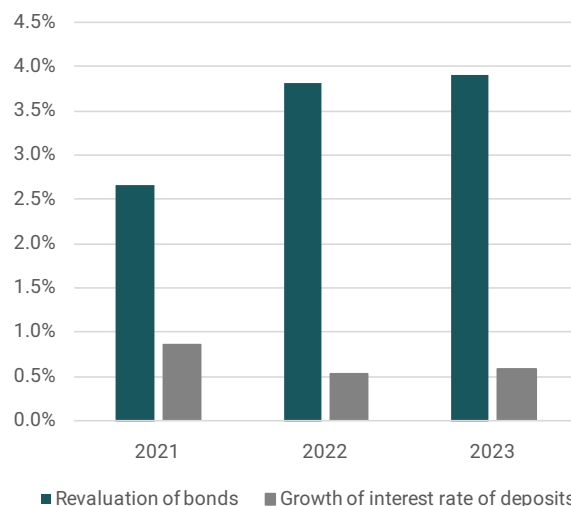
To assess the system's sensitivity to interest rate changes, two factors were considered:

- The one-time impact of a parallel 1 percentage point increase in the government bond yield curve on capital.
- The effect on capital of increased interest expenses over a 12-month period, reflecting a 1 percentage point rise in term deposit rates.

Estimates indicate that the potential impact of an interest rate shock on capital by the end of 2023 remains insignificant, despite a slight change in the upward direction (see Chart 3.30). Similarly, the impact of increased interest costs showed minimal change compared to the previous year.

Concerning foreign exchange risk, it is notable that with effective management of foreign currency positions by banks, the credit risk impact associated with the unhedged borrowers is more significant among the risks stemming from exchange rate fluctuations.

Chart 3.30. Impact of changes in interest rates on capital



Source: CBA

Thus, given the current structure of banks' balance sheets, the potential impact of market risk on capital remains insignificant.

3.2.2 Non-bank financial organizations

The share of non-bank financial organizations within the financial system remains relatively small. However, as anticipated, the share of pension funds is gradually increasing. Overall, the impact of the activities of non-bank financial organizations on financial stability is currently assessed to be insignificant.

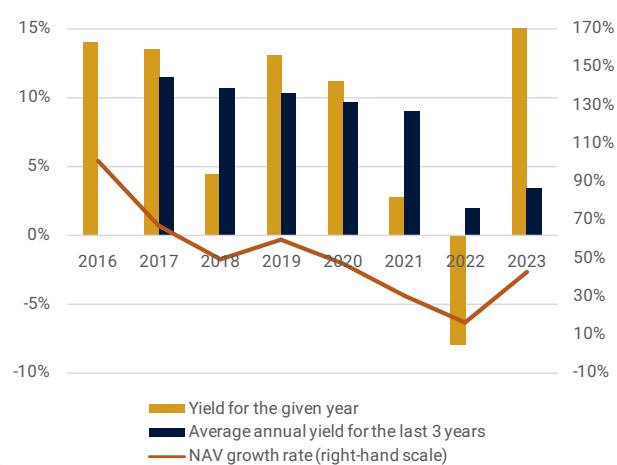
Developments in pension funds

In 2023, the performance of pension funds was 15.3%, with the net asset value (NAV) of the funds increased by 42.6% due to implemented contributions as well as high profitability of funds (see Chart 3.31). The cumulative performance of the funds since inception was 103.8%, which is equivalent to an annualized return of 7.5%. The primary driver of high profitability

recorded by pension funds in 2023 was the growth of prices of the Armenian government bonds, as well as foreign equity and debt securities. The aforementioned instruments held the highest weights in their investment portfolios, at 40.3% and 30.8%, respectively (see Chart 3.33).

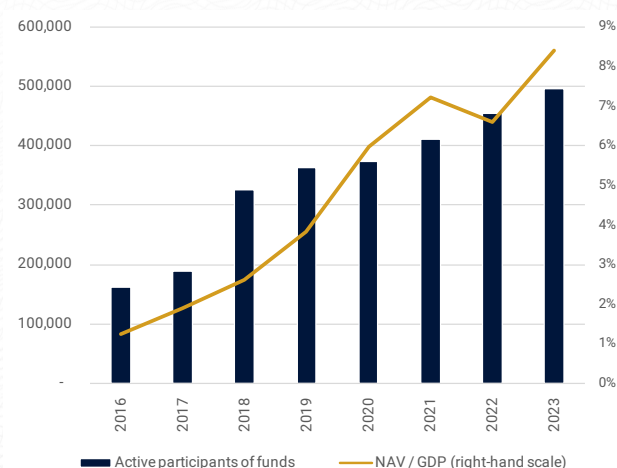
Throughout 2023, global economic activity and amoderating inflationary environment set off a chain effect on financial markets, leading to increased prices for both debt and equity securities.

Chart 3.31 Yield of funds and NAV growth rate



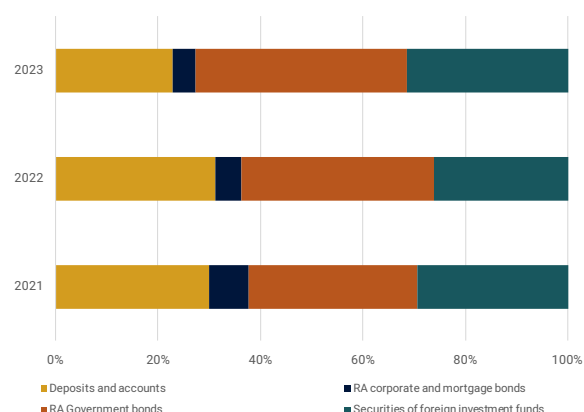
Source: CBA

Chart 3.32. Number of active participants of funds and dynamics of NAV to GDP ratio



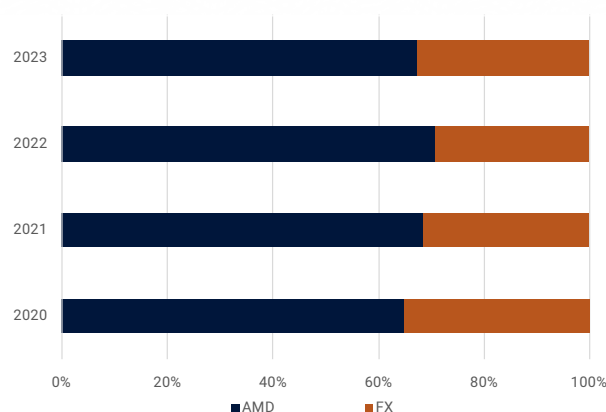
Source: CBA

Chart 3.33. Investment directions of funds



Source: CBA

Chart 3.34. Currency structure of funds



Source: CBA

Due to favorable economic conditions, stock markets, especially in developed countries, experienced high profitability rates. Amid these conditions, low inflationary environment prompted central banks in developing countries to ease monetary conditions, thereby boosting prices of debt securities.

The Central Bank of Armenia gradually eased monetary policy, resulting in an increase in prices of RA government bonds within fund portfolios.

Additionally, a moderate depreciation of the Armenian dram in the fourth quarter resulted in an upward revaluation of foreign currency assets, thereby contributing to the growth of pension funds' return.

Due to the growth in fund net assets, the ratio of NAV to GDP increased by 1.8 percentage points, reaching 8.4% (see Chart 3.32).

Within the investment structure of pension funds, the share of RA government bonds rose by 3.2 percentage points, while the share of investment in securities of foreign investment funds increased by 4.9 percentage points (see Chart 3.33).

Changes in the structure of pension funds' portfolio, coupled with Armenian dram depreciation, led to a 3.6 percentage point rise in the share of foreign currency assets, comprising 32.7% by the end of the year (see Chart 3.34).

Sensitivity assessment and stress tests of Pension funds

The purpose of stress testing is to assess the impact of the assumed hypothetical shock scenarios on the pension funds.

Following the stress test, the total fund losses were calculated by aggregating losses from specific investment directions, in particular:

1. The stress test with respect to the RA bonds (both government and corporate) was computed based on bond duration, using the interest rate change scenario applied in macro stress testing for solvency calculations. The term structure of

pension funds' investments in RA bonds served as the foundation for assessing the impact of interest rate fluctuations.

2. The risk associated with securities of foreign investment funds was assessed using the Value at Risk (VaR) method. The maximum 260-day (approximately 1 calendar year) VaR corresponding to the 1% quantile was determined as the stress loss, considering the portfolio structure at the end of 2023 and the historical price changes of individual securities from 2016 to 2023.
3. In the solvency macro stress testing model, the scenario of exchange rate depreciation is identified as a key risk factor, which, for pension funds, contributes positively to profitability. The impact of the exchange rate factor was intentionally excluded to highlight the effects of the other two variables more prominently. Table 2 illustrates the sensitivity of pension funds to exchange rate fluctuations. The stress assessment (market risk) of deposits, another major investment direction of pension funds, was not conducted because deposits are considered held-to-maturity investments.

Based on the methodology described in points 1 and 2 above, stress testing was carried out in case of 3 to 10 percentage points increase in the interest rate. As a result of testing, net asset declines were 14.6%, 15.4%, and 15% for fixed income, conservative, and balanced funds, respectively (see Table 1).

Table 1: Stress tests of pension funds

Type of Fund		NAV and structure of Funds			NAV changes after stress scenarios mentioned in the 1st (3-10 pp. interest rate increase) and 2nd cases		
		Fixed Income	Conservative	Balanced	Fixed Income	Conservative	Balanced
NAV of fund (bln AMD)		6.4	783.7	9.0			
Structure	RA Government bonds	63.1%	54.0%	53.5%	-18.8%	-20.3%	-18.9%
	Foreign investments	23.0%	31.6%	34.8%	-12.2%	-14.2%	-14.0%
	Other assets	13.9%	14.4%	11.7%			
Total		100%	100%	100%	-14.6%	-15.4%	-15.0%

Source: CBA

Table 2: Sensitivity tests of pension funds

Scenario	Change of yield		
	Fixed Income	Conservative	Balanced
Growth of interest rates in RA by 1 pp.	-1.2%	-1.1%	-1.0%
AMD depreciation by 1%	0.3%	0.3%	0.4%
External shock (1% quantile)	-2.8%	-4.5%	-4.9%

Source: CBA

Source: CBA

Credit organizations

In the competitive environment of the credit market, credit organizations are compelled to adapt their business models to address diverse risk factors, including internal dynamics and external uncertainties, such as volatile interest rates. These challenges underscore the imperative for innovative risk management strategies to enhance organizational competitiveness and flexibility.

Compared to the previous year, the assets of credit organizations increased by 10.3%. The refinancing credit organizations accounted for 42.5% of total assets of credit organizations by the end of 2023, marking a 4.1% growth in assets compared to the previous year. In a highly competitive environment, the share of loans issued by credit organizations in the total loans is continuously decreasing (see Chart 3.35).

In 2023, credit organizations reported a net profit of AMD 14.6 billion. This financial performance benefited from the decrease in the share of non-performing loans and net provisions (see Chart 3.36).

Chart 3.35. Share of credit organization loans in total loans

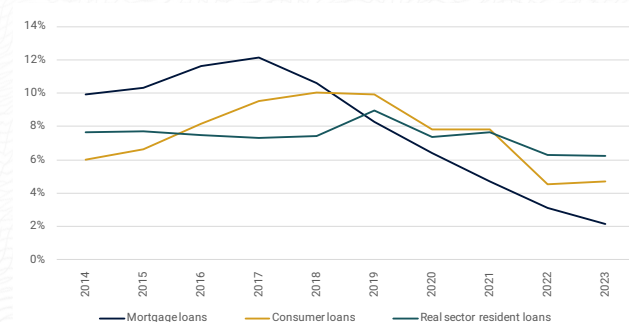
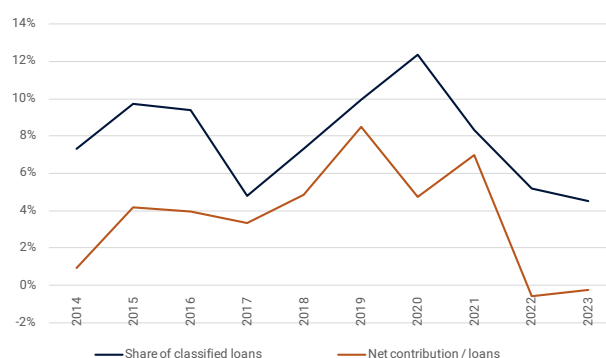


Chart 3.36. Classified loans and losses from loans



Source: CBA

Insurance companies

The share of insurance companies in the financial system remains relatively small, with moderate growth trends.

Key indicators of the insurance sector in 2023, namely insurance premiums as a percentage of GDP and per capita insurance premiums, showed positive growth, reaching 0.8% and AMD 24,483, respectively, compared to 0.7% and AMD 20,974 in the previous year. Registered insurance premiums rose by 17.6%, surpassing the average annual growth rate of 12.7% over the previous five years. The majority of insurance premiums, 75.5%, were concentrated in three main categories: health insurance, CMTPL (car insurance), and fire and natural disaster insurance (see Chart 3.37).

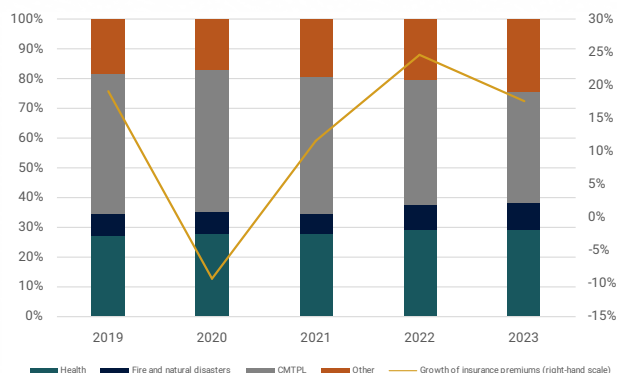
Insurance compensations increased by 28.0%, leading to a rise in the loss ratio²¹ of the insurance

21 The loss ratio was calculated using the following formula: (net accrued compensation + change in net claims reserves + settlement costs) / (net accrued insurance premiums - net amounts refunded on terminated contracts - unearned insurance premium reserve change).

sector by 3.2 percentage points to 65.2%, while the expense ratio²² decreased by 0.4 percentage points to 22.5% (see Chart 3.38).

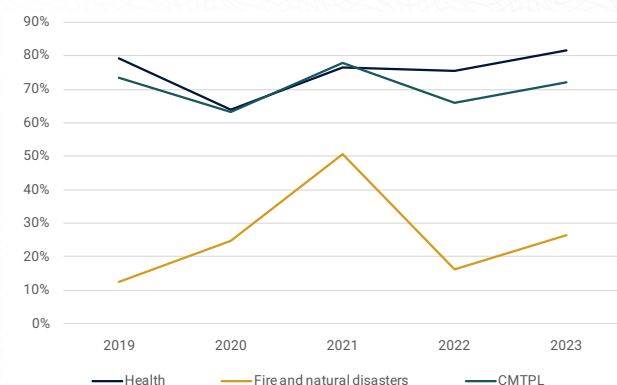
In 2023, insurance companies reported positive profitability, driven by both net interest income in a high-interest-rate environment and net income from insurance activities. However, due to a progressive increase in non-interest expenses, net profit declined by 13.3% compared to the previous year. Over recent years, on average, 84.5% of income received by insurance companies fell to insurance premiums, while 58.7% of expenses were directed to insurance compensations (see Charts 3.39, 3.40).

Chart 3.37. Structure and growth rate of gross written insurance premiums



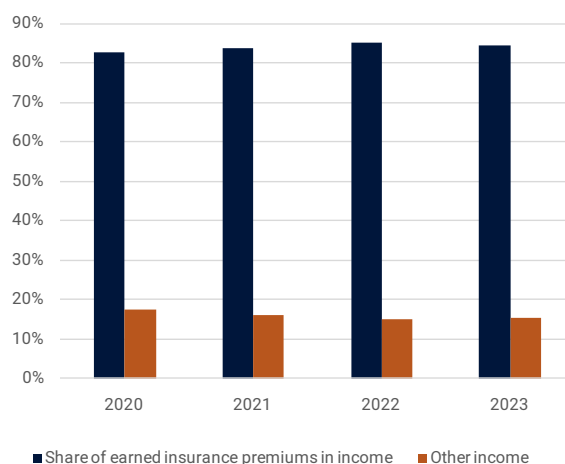
Source: CBA

Chart 3.38. Loss of the insurance system by major class types



Source: CBA

Chart 3.39. Share of earned insurance premiums in income

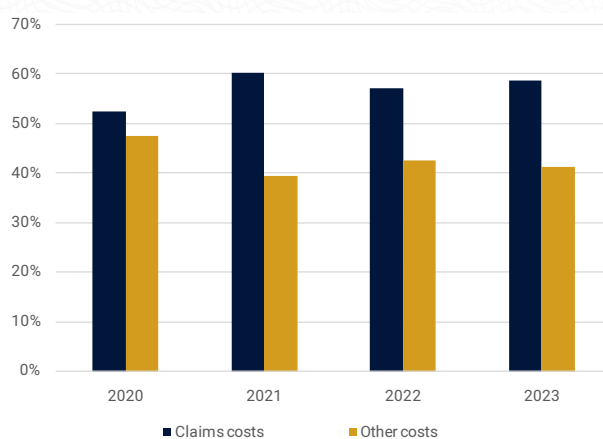


Source: CBA

The total assets of the insurance sector grew by 19.1%, reaching AMD 88.7 billion. Bank deposits and securities represented a significant portion of these assets (see Chart 3.41). The total capital of the sector increased by 18.8%, driven by growth in statutory capital and profits, totaling AMD 27.3 billion.

The insurance sector's sensitivity to potential adverse developments has remained largely unchanged, and the scenarios assessed did not reveal any regulatory violations (see Table 3).

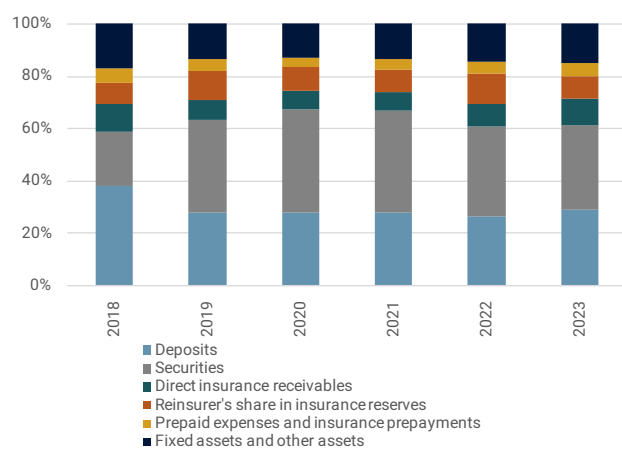
Chart 3.40. Share of claims costs in total costs



Source: CBA

²² The expense ratio was calculated using the following formula: non-interest expenses / (net accrued insurance premiums - net refunds on terminated contracts - unearned insurance premium reserve change).

Chart 3.41. Structure of assets



Source: CBA

Table 3: Sensitivity tests for assessing the solvency and liquidity of the insurance sector

	Growth by 10% in the frequency			Shock growth by 25% of reported		
	31.12.2021	31.12.2022	31.12.2023	31.12.2021	31.12.2022	31.12.2023
Loss or income decrease per scenario (bln AMD)	0.7	0.8	1.0	0.7	0.9	0.9
Loss or decrease in return on capital (%)	3.5	3.5	3.3	3.7	3.6	3.1
Change in liquidity level (pp)	-	-	-	-21.6	-21.2	-32.2
Change in total capital adequacy (pp)	-4.7	-4.6	-4.4	-4.8	-4.8	-4.1

Box 1

TRANSMISSION OF CLIMATE RISK TO THE FINANCIAL SYSTEM

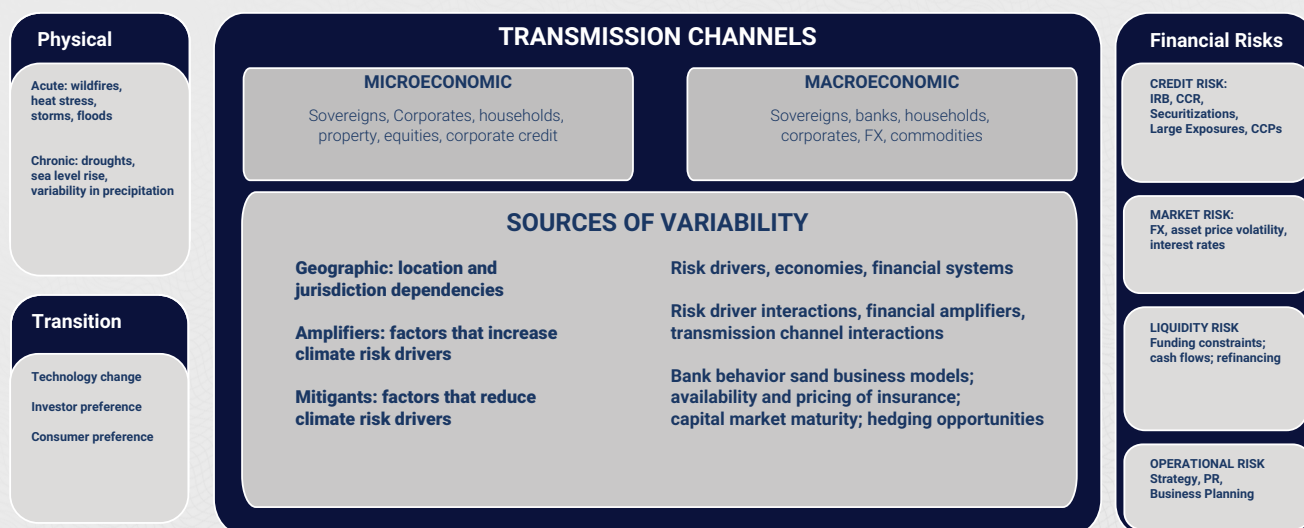
Climate risks are divided into 2 main categories: physical and transition risks. Physical risks stem from the direct effects of climate change and other environmental issues, while transition risks represent the societal costs of transitioning to a low-carbon economy.

Climate change can exacerbate financial risks. Specifically, corporate and household bankruptcies and collateral impairments can translate into credit risk stemming from climate-related factors. Revaluation of equity instruments, fixed income instruments, and commodities can lead to heightened market risk. Increasing insurance premiums add to the costs for insurance companies, thereby introducing underwriting risk. Supply chain disruptions and organizational shutdowns, in turn, result in various operational risks. Liquidity risk associated with climate change arises from increased liquidity demands and refinancing risk.

The financial system can play a crucial role in mitigating climate risks, becoming an important link in the transition to an environmentally sustainable economy and facilitating investments that will contribute to environmental protection in the long term.

Figure 1 illustrates the transmission of physical and transition risks to the economy and the emerging financial risks.

Figure 1. The transmission of climate-related risks to the economy and financial system



Roadmap

In September 2023, the Board of the Central Bank of the Republic of Armenia approved the “National Sustainable Finance Roadmap of Armenia”, which emphasizes the strategic commitment of the CBA to sustainable

development in the financial sector through four pillars, which are: *mobilize sustainable finance and funding, enhance markets, embed sustainable finance and build awareness and knowledge.*

Mobilize sustainable finance and funding: facilitate the flow of capital to industries and activities aligned with low-carbon ambitions of Armenia in a risk based, market-oriented and sustainable manner. Within the framework of this pillar, two actions are planned: 1. Design sustainable financial products and bond frameworks, 2. Introduce social considerations to enhance financial inclusion.

The Central Bank of Armenia has already initiated bilateral meetings with the private sector regarding the framework for sustainable financial products and bonds. Regarding the introduction of social considerations to enhance financial inclusion, a guideline for social risk management recommendations will be developed, which will be presented to financial institutions during 2024.

Enhance markets: enhance knowledge transfer, reduce information asymmetries, instil market confidence and strengthen the enabling environment for sustainable finance. The associated activities include: 1. Create a central sustainable finance database, 2. Study market incentives and catalysts, 3. Conduct research and assessment, 4. Design a progress tracking framework.

As part of the research and assessment activities, the Central Bank of Armenia, in cooperation with the German Sparkassenstiftung for International Cooperation (DSIK) in 2022 developed climate risk assessment tools for the financial sector, such as the Risk Radar and the Heatmap (details below). In 2023, the work continued, resulting in the second updated version of the Risk Radar and Heatmap tools. In order to assess the impact of Environmental, Social and Governance (ESG) risks on each economic sector, clear indicators have been defined, which allows for a more detailed and transparent assessment of the current situation and minimizes subjectivity.

Embed sustainable finance: Guide financial sector participants in embedding ESG principles in their business decisions. This includes: 1. Integrate ESG in supervisory framework, 2. Develop guidance and expectations on ESG integration and risk management for financial market participants (FMPs), 3. Integrate ESG into corporate governance of FMPs.

In order to implement the first and second actions, the EBRD provides support to the CBA from 2023. The development of guidelines on the integration of ESG risks and the introduction of an accountability system are in progress. Recommendations for a methodology for managing climate and ESG risks in the financial sector and reporting standards for managing such risks will be developed. It is planned to complete these projects in 2024.

Build awareness and knowledge: awarenessraising on sustainability risks and opportunities in Armenia, enhancement of CBA's internal capacities and within the financial market participants. This includes: 1. Build capacity within the CBA, 2. Establish a National Sustainable Finance Hub, 3. Participate in inter-agency sustainable finance working groups, 4. Expand and build new partnerships.

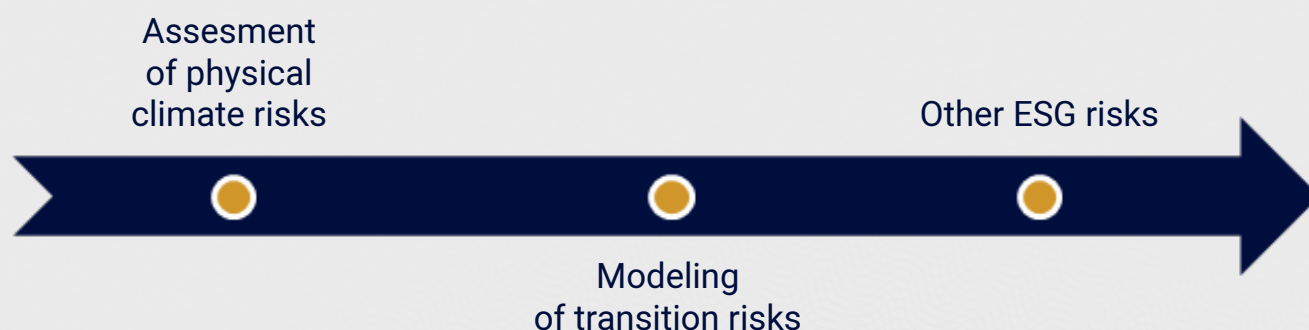
As part of the first action, the Central Bank of Armenia has formed a working group on sustainable finance with representatives of commercial banks, the purpose of which is to increase the awareness of both sides regarding the work carried out in the field of sustainable finance in banks and the Central Bank, and to increase the efficiency of the work. In cooperation with the EBRD, training and education programs for employees of the Central Bank of Armenia and experts of commercial banks are being implemented, which are aimed at raising awareness and developing climate risk management capabilities.

Expand and build partnerships: The Central Bank of Armenia is a member of international prestigious platforms such as Network for Greening the Financial System (NGFS, joined in 2020) and Sustainable Banking and Finance Network (SBFN, joined in 2021) and participates in various thematic working groups of the platforms within the framework of membership.

Risk Radar

Risk Radar is a tool that uses available data to assess the magnitude of potential climate risk of a sector. The evaluation process of each separate sector of economic activity consists of the following steps:

Figure 2. Risk assessment stages of a sector



Each category of physical and transition risks (including their specific subcategories) is assessed on a 5-point scale (ranging from 0 to 4), where 0 represents low risk and 4 represents high risk. This score is calculated as the average of various components, each evaluated separately through detailed assessment. Within this framework, each risk category can contribute a score between 0 and 1 in increments of 0.25. For instance, if biodiversity issues are negligible for a sector, the rating would be 0.25. If the issues are significant, the score would be 0.75.

Each of the three pillars of ESG risks—physical climate risk, transition risk, and other ESG risks—can be rated up to 4 points, with each pillar contributing up to one-third of the total score. Thus, the maximum overall risk score for any economic sector is 12 points.

According to this methodology, the overall risk rating scale is as follows: 0-2 indicates unassessed risk, 3-6 indicates vulnerability, 7-9 indicates high risk, and 10-12 indicates critical risks.

Table 1: High risk economic sectors in Armenia

High risk (9 points)	High risk (8 points)	High risk (7 points)
A. Agriculture, forestry and fishing	A 1.4. Animal production	A 3. Fishing and aquaculture
A 1.1. Growing of non-perennial crops	C 12. Manufacture of tobacco products	C 20. Manufacture of chemicals and chemical products
A 1.2. Growing of perennial crops	C 19. Manufacture of coke and refined petroleum products	E. Water supply;sewerage, waste management and remediation activities
A 2. Forestry and logging	D. Electricity, gas, steam and air conditioning supply	F. Construction
	H. Transportation and storage	

The risk radar was applied to the primary economic sectors of Armenia according to the NACE classification. Sub-sectors within the agriculture and manufacturing sectors were also evaluated. The analysis results, shown in Table 1, highlight Armenia's highest and high-risk sectors.

Currently, the highest score is 9, indicating that there are no critical sectors for our country yet. However, the sectors listed in the table are the most vulnerable to physical and/or transition climate risks. Conversely, these sectors also negatively contribute to climate change.

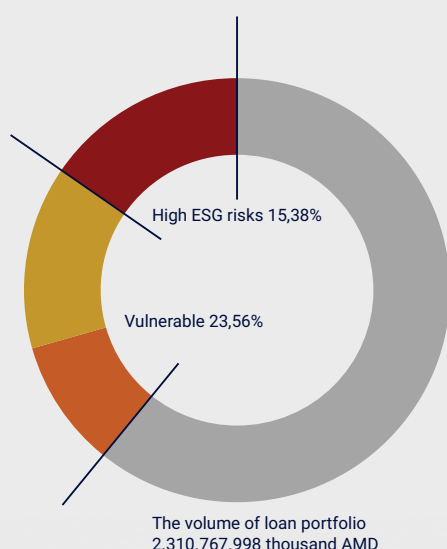
This is validated by the fact that these areas are featured in both national climate change mitigation and adaptation documents and the European taxonomy, underscoring the tool's effectiveness.

Heatmap

The heatmap is a tool that enables the use of Risk Radar results (identified sectoral risks) for the assessment of risks to the financial system, particularly the credit risk. The heatmap was developed based on the volumes of loans granted to residents in Armenia, as of March 2024.

FIGURE 3. RISK RADAR AND HEATMAP - Sector Risk Score

7-9	Construction	5,28%	15,38%
	Agriculture. Growing of non-perennial crops	3,93%	
	Agriculture. Growing of perennial crops	2,92%	
5-6	Financial and insurance activities	6,84%	13,86%
	Manufacture of food products	2,01%	
	Accommodation and food service activities	1,73%	
3-4	Wholesale and retail trade	7,95%	9,70%
	Real estate activities	0,40%	
	Information and communication	0,32%	
1-2	Professional, scientific and technical activities	0,51%	3,37%
	Education	0,12%	
	Other service activities	2,74%	
	Unrated	57,11%	57,11%



The findings indicate that approximately 15.38% of the banking system's loans are allocated to sectors at high risk (see Figure 3¹). These loans are directed to economic sectors with high-risk scores of 7, 8, and 9. Nearly 40% of loans are distributed to sectors that encompass not only high-risk categories (scores 7, 8, and 9) but also vulnerable sectors (scores 5 and 6).

Heatmaps can be utilized by financial organizations with both small and large portfolios. This tool offers an initial overview of the extent to which financial organizations are exposed to climate risks.

For a more detailed risk assessment at the client level, specific assessment modifiers can be defined for each sector, using a short questionnaire. This approach allows for analyzing the degree to which a given company is exposed to the same risk as its sector, and whether this risk exposure is equivalent. Consequently, both restrictions and implications for pricing and collateral requirements can be established for borrowers, further enhancing the comprehensiveness of the ESG risk management process.

¹ The figure includes the three (sub)sectors with the largest share in the credit portfolio by risk category. For example, electricity is in the 7-9 risk category, but makes up 1.29% of the loan portfolio, and is not in the top three.

4.

STRESS TESTS OF BANKS

- 4.1. Solvency stress tests of banking sector
- 4.2. Liquidity stress tests of banking sector

4.1. Solvency stress tests of banking sector

This section presents the macro stress test outcomes of the Armenian banking sector. Stress testing within the banking sector is one of the principal components of the financial stability. It aims to assess the banking sector's resilience against various hypothetical shock scenarios. Stress testing makes it possible to better understand and analyze potential vulnerabilities of the banking sector and implement targeted measures to mitigate them.

The results of conducted stress tests indicate that the banking sector has sufficient capital and liquidity reserves to withstand the events assumed by the scenario, despite the severity of the assumed shocks. As of the end of the stress horizon, the capital reserves of the banking sector remain sufficient to ensure the continuation of normal operations.

Solvency stress tests

Solvency stress tests assess the ability of the banking sector to absorb risks threatening the stability of the financial system in various shock situations. These tests encompass a comprehensive assessment of losses arising from all inherent risks in the banking sector's activities and their impact on the system's solvency. The solvency stress tests were conducted over a three-year horizon.

Baseline Scenario

The baseline scenario examines the main developments outlined in the Central Bank of Armenia's Inflation Report²³ for the fourth quarter of 2023. According to this scenario, the relatively

high economic growth observed in 2023 will stabilize from 2024 to 2026, reaching 5.4% by the end of this period.

Stress Scenario

The stress scenario presented below is an extremely adverse version of the hypothetical development of events, which in no way is the Central Bank's projection and shall not be construed as such.

The stress scenario envisages the simultaneous occurrence of multiple shock events, resulting in a substantial deterioration of the Armenian economic landscape. Specifically, economic difficulties in Armenia's partner countries due to adverse external events are projected to reduce RA's export volume by approximately 22%, accompanied by a roughly 50% decline in remittances to Armenia. Concurrently, there will be a price increase for imported goods, including energy carriers, which will exert cost pressures across various economic sectors.

Under these assumed conditions, the RA financial market will experience an increase in the AMD/USD exchange rate (AMD depreciation), which, together with rising import prices, will generate significant inflationary pressures. The worsening economic conditions will elevate country risk, leading to higher interest rates. Despite a negative GDP gap, imported inflation and resultant higher production costs will drive further domestic inflation, prompting the Central Bank to implement a substantial increase in policy rates. This, combined with increased country risk, will cause a significant rise and inversion in the government bond yield curve, with interest rates across different maturities escalating by 2 to 10 percentage points.

23 For details see "Inflation Report": https://www.cba.am/Storage/EN/publications/DVQ/Inflation_Report_2023Q4_eng.pdf

Given the high level of accumulated risks in the real estate market, the stress scenario also incorporates assumptions about adverse developments in this sector. Specifically, it is assumed that a decline in economic activity will lead to reduced demand and falling prices in the real estate market. This will result in decreased demand for mortgage loans and increased difficulties in servicing existing mortgage loans. Additionally, the decline in real estate prices will create supply-side challenges, causing financial difficulties for some construction companies. These challenges will affect their ability to service business loans and complete construction projects.

The shocks are expected to have their most significant impact in 2024-2025, gradually subsiding thereafter, following a slow recovery in economic activity.

The aforementioned events will lead to a reduction in economic growth to approximately -15% in the first year of the considered horizon. This growth rate will gradually improve over the subsequent years, reaching 4% by the end of the stress scenario horizon. A more detailed description of the scenario is presented in Table 4.

Solvency Stress Test Results

Under the baseline scenario, the high capitalization level of the banking sector is maintained. The scenario predicts that total losses within the banking sector will gradually decline over the considered horizon, attributed to relatively favorable developments in default probabilities and default loss probabilities under the given macroeconomic conditions. Concurrently, as losses diminish, the banking sector's profitability is expected to increase. Consequently, the capital adequacy ratio of both the overall banking sector and individual banks will remain above the required minimum threshold throughout the projection period.

Table 4: Values of key variables under different scenarios

Actual		Baseline Scenario			Adverse Scenario		
	2023	2024	2025	2026	2024	2025	2026
	y/y						
GDP	8.7%	6.10%	5.70%	5.40%	-15.10%	-2.90%	1.70%
Inflation	2%	3.1%	3.8%	4.00%	13.7%	5.9%	4.4%
Credit growth	21%	10%	10%	10%	0%	5%	7.5%
Probability of Default (PD)							
of Consumer loans	0.8%	1.0%	1.2%	1.1%	2.8%	6.5%	7.5%
of Mortgage loans	1.1%	1.0%	1.0%	0.8%	2.8%	5.4%	5.5%
of Business loans	1.8%	1.7%	1.6%	1.3%	4.7%	8.4%	6.0%
Loss Given Default (LGD)		40.0%	37.5%	35.0%	55.0%	50.0%	42.5%

Table 5: The main results of stress testing *

Actual	Baseline Scenario				Adverse Scenario		
	2023	2024	2025	2026	2024	2025	2026
Withdrawals from Credit portfolio (bln AMD)	-78.7	-97.8	-103.1	-82.7	-157.2	-243.3	-181.9
Weight in assets (%)	0.87	0.99	0.95	0.69	1.77	2.71	1.93
Market risk** (bln AMD)		-17.6	7.3	7.7	-175.4	55.9	71.0
Total losses (bln AMD)		115.4	95.8	75.0	332.6	187.4	110.9
Weight in assets (%)		1.16	0.88	0.63	3.74	2.09	1.18
Net interest income (bln AMD)	365.0	260.8	278.8	298.4	211.4	218.0	235.6
Net profit (bln AMD)	177.8	116.3	146.4	178.7	-121.1	24.5	99.8
Weight in assets (%)		1.17	1.35	1.50	-1.36	0.27	1.06
Capital adequacy (% as of end of the period)	19.9	18.99	19.10	19.33	17.08	16.97	17.35
Necessary capital injection (bln AMD)		0			12.32		
Weight in GDP (%)		0			0.13		
Number of banks with a capital adequacy ratio below 12%			0			1	

* Losses are indicated by (-) sign.

** Market risk losses include losses caused by interest rate changes and direct exchange rate effects. In particular, in the case of an adverse scenario, it was assumed that short-term interest rates will increase by about 10 percentage points, and long-term interest rates will increase by about 3 percentage points, resulting in an inversion of yield curve. In the baseline scenario, a milder shift in interest rates was assumed, namely, in the first year of the considered horizon, an increase in interest rates by 1 percentage point (a parallel shift in the yield curve) was assumed, which will be adjusted downward by 0.25 percentage points in subsequent

years.

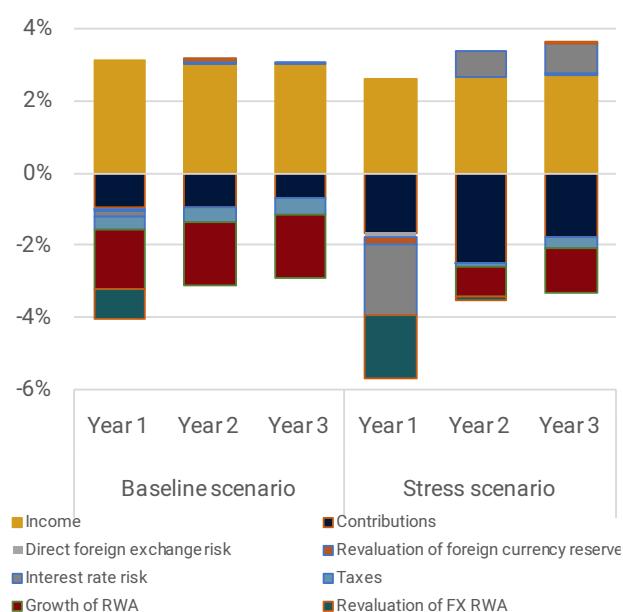
Under the assumptions of the stress scenario, credit losses within the banking sector are projected to rise substantially. The Armenian financial system is expected to experience a surge in loan defaults, driven by decreased economic income, relatively high inflation, and exchange rate shocks. This will consequently elevate credit risk components, including probabilities of default (PD) and loss given default (LGD), across various lending sectors, leading to increased credit losses and diminished profitability. Furthermore, stress testing results indicate that the process of credit loss materialization will persist, reaching its peak in the second year of the stress horizon. Notably, the reported credit losses also factor in the negative impacts of declining real estate prices, including asset revaluation losses from mortgage loan defaults and those of some construction companies²⁴.

Alongside the materialization of credit losses, the banking sector is expected to adopt a relatively conservative and risk-averse stance, resulting in no increase in the credit portfolio during the first year of the analyzed period. Due to the reduction in banks' interest income and the realization of losses from credit and market risks, the banking sector is projected to record negative profitability in the first year of the stress testing horizon. In the second year, despite the high credit losses, a modest but positive profitability is anticipated. By the final year of the stress horizon, profitability begins to recover due to a decrease in credit losses and net gains from securities revaluation, although it will remain below pre-stress levels (see Table 5). The impacts of individual factors on the capital adequacy ratio, as well as the distribution of banks' capital adequacy ratios (with interquartile ranges), are illustrated in Charts 4.1 and 4.2 below.

24 App. 18% decrease in real estate prices was assumed in the stress scenario.

Source: CBA

Chart 4.1. Contributions of different components to the change of the capital adequacy ratio (CAR)



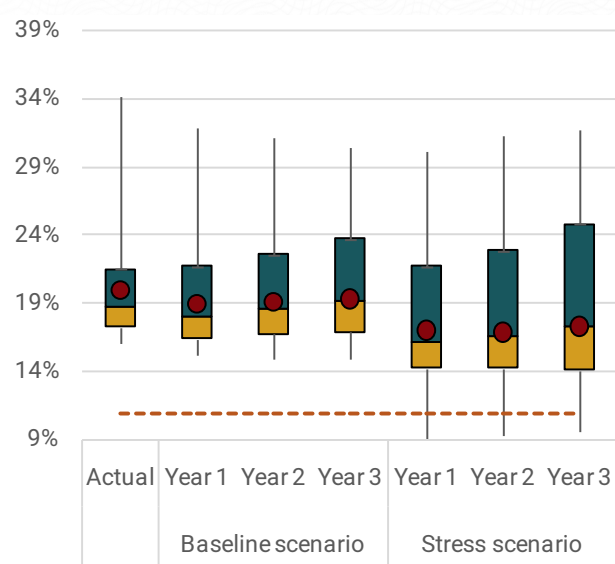
Source: CBA

Under the stress scenario, the capital adequacy of the banking system decreases but remains well above the required minimum level of 11%, and it also exceeds the level mandated by the consolidated buffer requirement throughout the stress horizon. Specifically, the capital adequacy ratio stays robust, declining to a maximum of 16.9% during the stress period (see Table 2).

Throughout the stress horizon, only one bank reports a capital adequacy ratio below the regulatory minimum. In subsequent years, as the situation gradually improves and the banking sector's profitability is restored, capital adequacy indicators increase.

Overall, the stress testing indicates that the Armenian banking system is sufficiently capitalized to endure even the severe conditions assumed in this scenario. Furthermore, by the end of the stress horizon, the banking system's capital reserves remain adequate to ensure normal operations.

Chart 4.2. Distribution of capital adequacy ratio under considered scenarios



4.2. Liquidity stress tests of banking sector

The primary objective of liquidity stress testing is to evaluate the banking sector's resilience in the event of a hypothetical deposit outflow scenario. A historically justified stress scenario of fund outflows was considered, and the adequacy of the liquidity reserve under this scenario was assessed. The key assumptions and results of the stress test, based on actual figures as of December 31, 2023, are described below.

Stress Test Scenario and Methodology

The stress test calculations are based on the following assumptions:

- Liquidity risk is systemic, meaning deposits are flowing out of all banks simultaneously.
- The duration of the shock is six months, with relatively strong outflows in the first two months and milder outflows in the subsequent four months.
- A static balance assumption was made, disregarding the possibility of banks attracting new funds or converting AMD to foreign currency or vice versa.
- Expected inflows from loans were included at 50%, corresponding to the Liquidity Coverage Ratio (LCR) requirement, while potential inflows from classified loans were ignored.
- Haircuts²⁵ were applied to highly liquid securities to adjust their value.
- Revisions in contracts were assumed for both claims and liabilities of financial institutions.
- Potential outflows on other items, such as unused credit card balances, were ignored due to their insignificant balance and actual behavior during the shock.

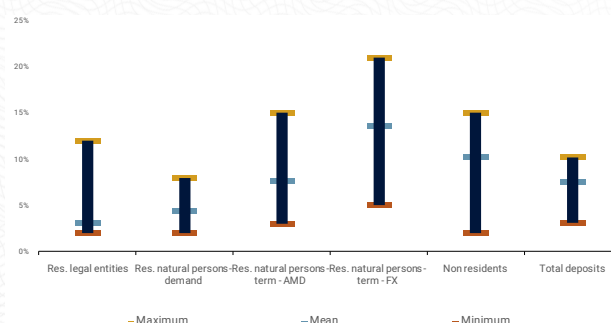
The quantitative assumptions for deposit outflows are based on actual developments from 2020. This period was chosen to create a stringent yet plausible scenario, enhancing the reliability of the stress testing input and output information. Additionally, differentiation of the shock by banks was ensured by considering the varying sensitivities of their customers and the impact of deposit concentrations.

Outflow weights were differentiated according to the following groups of deposits:

- Funds of resident legal entities
- Demand funds of resident natural persons
- AMD term deposits of resident natural persons
- Foreign currency term deposits of resident natural persons
- Funds of non-residents

Chart 4.3 illustrates the minimum, maximum, and average (that of the banking sector) outflow rates applied by banks for deposit groups mentioned above during the first two months of the stress period. The cumulative outflow scenario for the subsequent four months for total deposits shows an average outflow rate of 5.0%, a maximum of 7.3%, and a minimum of 4.1%.

Chart 4.3. Cumulative outflow of deposits in the first 2 months



Source: CBA

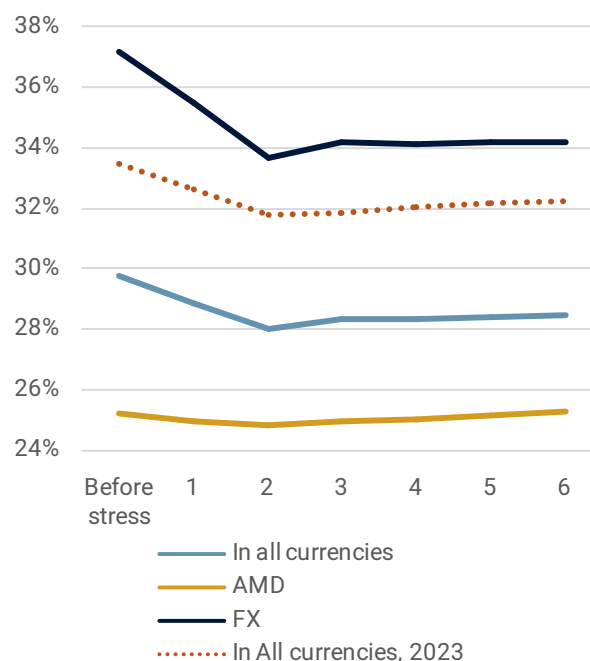
25 A haircut of 10% was applied to AMD bonds and 5% to foreign currency bonds.

Stress Test Results

Under the described assumptions, the change in the liquidity position during the six-month stress period was evaluated. Specifically, on the last day of each month within the stress period, the ratio of available liquidity stock to total assets was calculated (see Chart 4.4). The assessments indicate that, in the event of a recurrence of the trends observed in 2020, the liquidity reserves of the banking sector, as well as individual banks, are sufficient to manage the outflow of funds.

As shown in Chart 4.4²⁶, the reduction in the foreign currency liquidity position due to the shock is not significant. Additionally, the AMD liquidity position is expected to improve by the end of the six-month stress period. Therefore, similar to the previous year, the stress test results confirm the banking sector's high resilience to a severe scenario of deposit outflows.

Chart 4.4. Change in liquidity position



Source: CBA

²⁶ All lines except the dashed line refer to stress test trends for 2024. The dashed line represents the results of the liquidity stress test reported in the previous year's report.

5.

MACROPRUDENTIAL POLICY

Geopolitical and regional uncertainties, cyclical developments in credit risk, and potential risks accumulated in the banking sector's balance sheets were key factors in shaping the macroprudential policy implemented by the Central Bank of the Republic of Armenia in 2023. Throughout the year, the financial system was largely shielded from significant shocks, allowing for the smooth operation of financial intermediation.

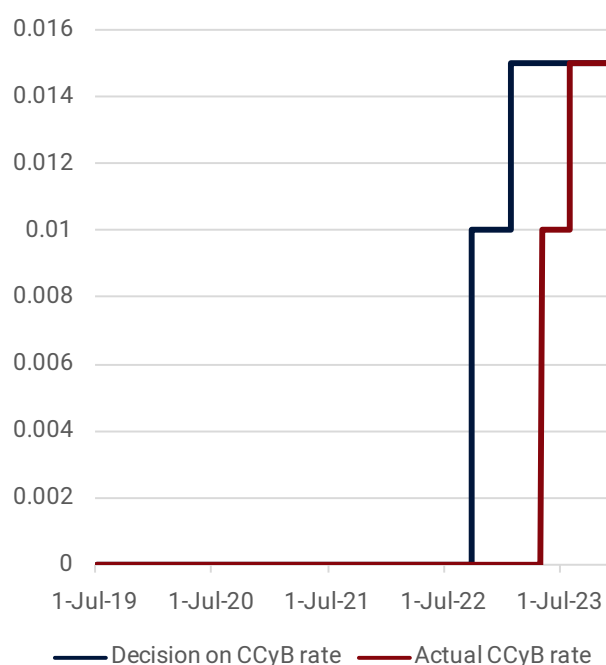
According to the decision of the Central Bank of Armenia Board on October 24, 2022, the countercyclical capital buffer (CCyB) was set at 1%, becoming mandatory from May 1, 2023. At the beginning of 2023, the CBA Board increased the countercyclical capital buffer rate by an additional 0.5 percentage points, raising it to 1.5% effective from August 1 (see Chart 5.1).

Since the beginning of the year, the CBA revised its methodology for setting the CCyB rate. A key change is the definition and application of the positive neutral CCyB rate²⁷. The use of a positive neutral CCyB rate is based on the understanding that measuring systemic cyclical risks is a complex process and there is a risk that decisions to increase the CCyB may be taken with some delays. According to the revised methodology, during the normal phase of the financial cycle, when systemic cyclical risks are neither elevated nor subdued, the Central Bank strives to set the capital countercyclical buffer at up to 1.5% (positive neutral CCyB).

Throughout the year, the CBA Board primarily followed this logic in its decisions to increase the CCyB rate, also considering current credit market developments, the risks already accumulated on banks' balance sheets, and the cost implications of capital increases for banks. It is worth noting that during the year, cyclical developments in the total credit portfolio were balanced, and the high capitalization and profitability of the banking sector helped mitigate the cost of accumulating the CCyB. In terms of credit risk already present on banks' balance sheets, the significant

growth of the mortgage loan portfolio in recent years, which the CBA considers risky, was a key factor in the Central Bank's decisions.

Chart 5.1. CCyB rate

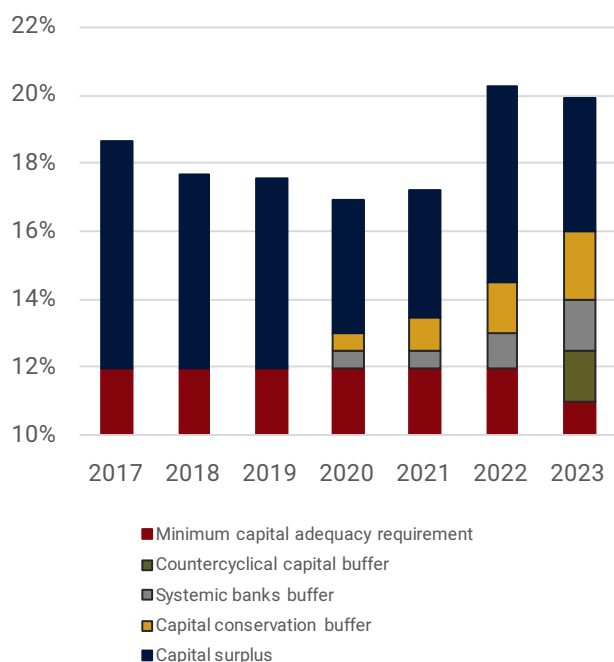


Source: CBA

In 2022, with the aim of enhancing the efficiency and competitiveness of the Armenian banking system, the regulatory capital adequacy prudential was reduced by 1 percentage point by the CBA, bringing it to 11% from June 2023. Meanwhile, the rates of other capital buffer instruments, specifically the capital conservation buffer (CCoB) and the systemic buffer (SIB), were each increased by 0.5 percentage points in 2023. Consequently, by the end of the year, these buffers were 2% and 1.5%, respectively. As a result, the consolidated capital buffer of the banking system was 5%, and the total capital requirement, including all buffers, was 16% by the end of 2023 (see Chart 5.2). It should also be noted that from January 1, 2024, the rate of the capital conservation buffer was increased by another 0.5 percentage points, raising the consolidated buffer to 5.5%.

²⁷ For details please see "CBA's approach to the application of the countercyclical capital buffer" <https://www.cba.am/Storage/EN/finstability/CCyB%20methodology.pdf>

Chart 5.2. Structure of capital reserves of the banking sector



Source: CBA

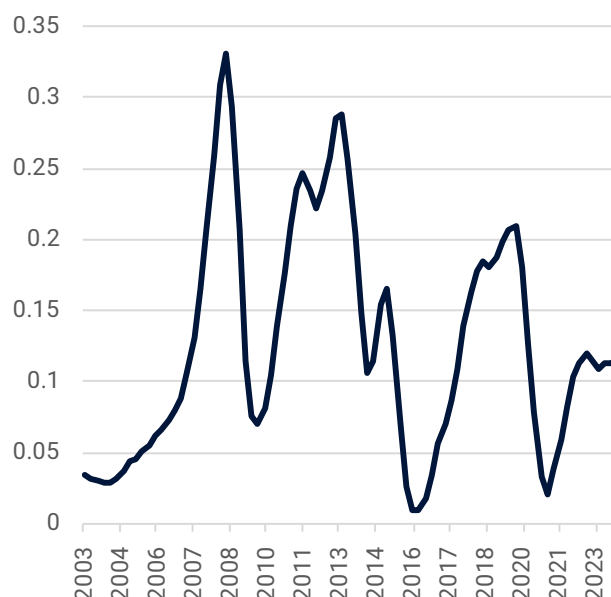
In terms of overall lending, there are currently no evident trends of excess lending or risk accumulation.

A thorough analysis of early warning indicators characterizing cyclical developments in the credit market suggests that cyclical risks are generally balanced. The financial cycle index remained relatively stable throughout 2023. Meanwhile, despite the moderate growth of the credit portfolio observed in previous years, the credit-to-GDP ratio continues to stay below its long-term trend (see Charts 5.3 and 5.4). Given the balanced nature of credit cycle risks and the fact that the actual countercyclical capital buffer (CCyB) rate already aligns with the positive neutral rate, it has been maintained at 1.5% by subsequent decisions of the CBA Board. Future adjustments to the CCB tool will depend on macro-financial developments, emerging geopolitical uncertainties, and the pace of systemic risk accumulation and/or materialization.

The high economic growth in 2023 was accompanied by increased activity in the credit market across

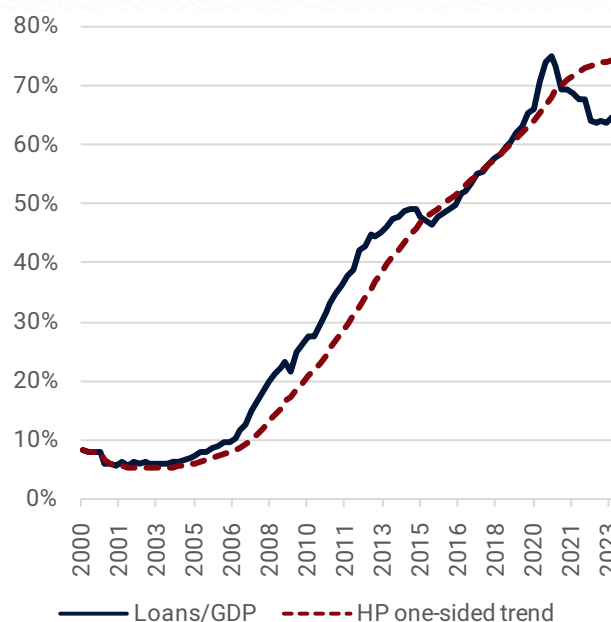
all lending directions. Regarding the overall loan portfolio, there are no apparent signs of cyclical risk accumulation, except in the mortgage loans, where there are risks of overheating.

Chart 5.3. Financial cycle index



Source: CBA

Chart 5.4. Loans-to-GDP indicator and its trend



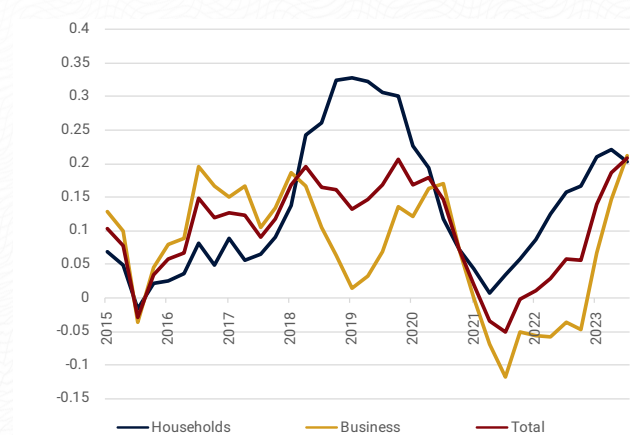
Source: CBA

During 2023, there was an increase across all main lending directions. The growth of the loan portfolio was equally driven by the expansion of both household and business loans (see Chart 5.5). Notably, a significant uptick in activity was observed in the consumer lending sector throughout the year, resulting in a relatively high growth rate of consumer loans compared to previous years (see Chart 5.6). However, considering the average annual growth rates of consumer loans over the past three years and the decrease in the consumer loans-to-GDP ratio amid relatively high GDP growth, significant cyclical credit risk developments in this sector are not yet evident.

The trends of risk accumulation and potential overheating in the mortgage lending and real estate market persisted.

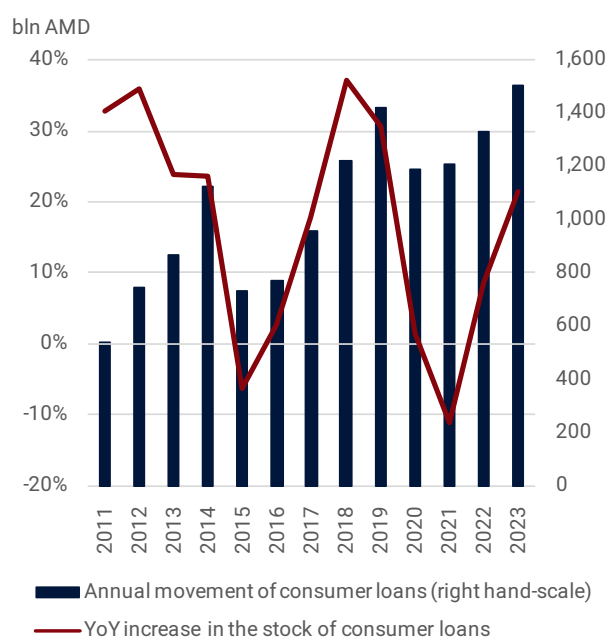
Despite some downward trends, the annual growth rate of the mortgage loan stock remains elevated. Although there was no substantial increase in the annual flows of these loans, they are comparable to the large-scale flows of previous years. This, combined with the ongoing rise in real estate prices over the previous and current years, maintains a high level of risk in this sector (see Charts 5.7 and 5.8). Our estimates indicate that the possible positive deviation of real estate prices from fundamental levels continues to remain high²⁸ (see Chart 5.9).

Chart 5.5. Growth rates of loan portfolio, YoY



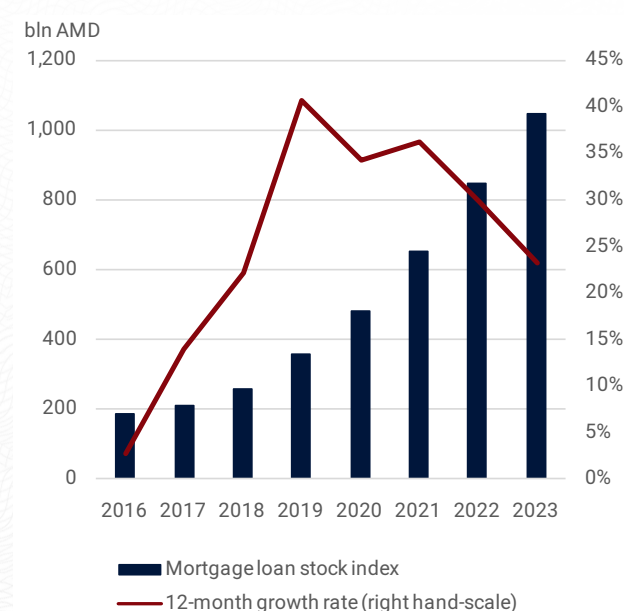
Source: CBA

Chart 5.6. The dynamics of consumer loans and the YoY growth rate of the stock



Source: CBA

Chart 5.7. Mortgage loans and their 12-month growth rate



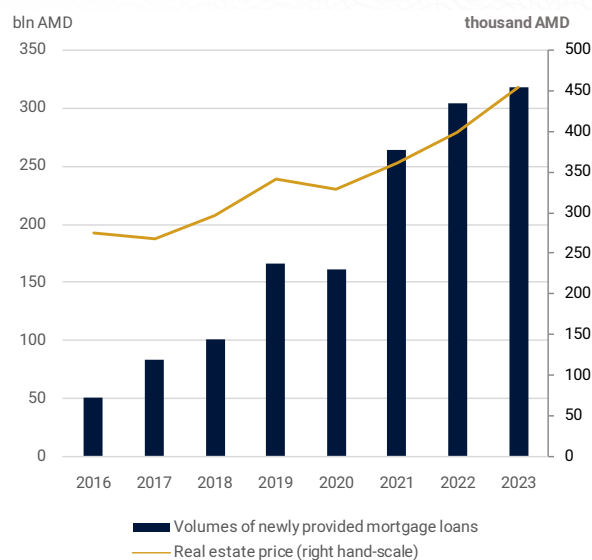
Source: CBA

28 As of the 4th quarter of 2023, the estimate of real estate price overvaluation is 20%-35%. It should be noted, however, that this assessment is only an indication of possible overheating phenomena in the real estate market and should not be interpreted as a real estate price forecast.

The continued high growth of mortgage loans and real estate prices, along with developments in other indicators characterizing the real estate market, suggest that the real estate market may be approaching the peak of its cycle. Under these conditions, there is a significant risk of decreased activity in the real estate market, potentially leading to a price adjustment. Microdata analysis of the Credit registry indicates that approximately 14% of mortgage borrowers have two mortgage loans, and another 4% have three or more loans, suggesting saturation in mortgage loan demand and limited opportunities for further growth (see Chart 5.10). Additionally, the increase in the share of individuals with multiple mortgages may point to high demand for real estate as an investment asset (e.g., for rental or resale purposes), which could be more sensitive to adverse market developments compared to real estate purchased for residential purposes.

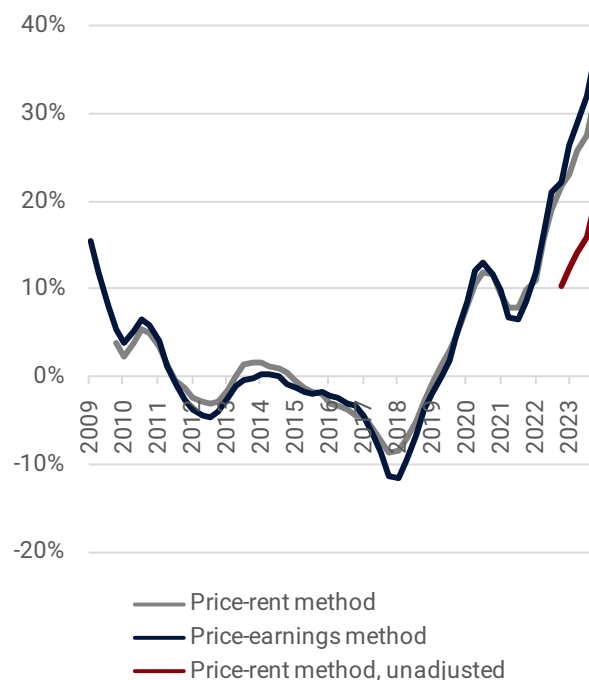
On the other hand, there has been a significant increase in real estate supply in recent years. This, coupled with demand saturation, could exert additional pressure on prices. Notably, the number of multi-apartment buildings constructed in recent years has risen significantly, accompanied by a substantial increase in construction permits (see Charts 5.11 and 5.12).

Chart 5.8 Mortgage lending and real estate prices



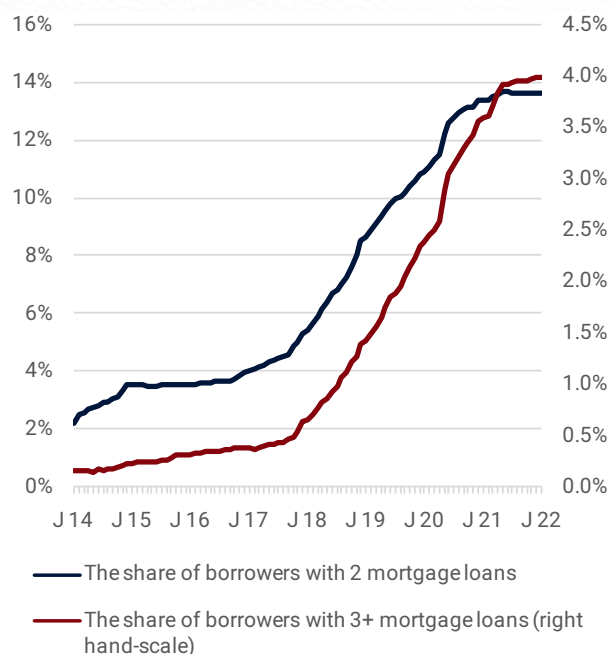
Source: CBA

Chart 5.9. Deviation of real estate prices from the level determined by the fundamentals



Source: CBA

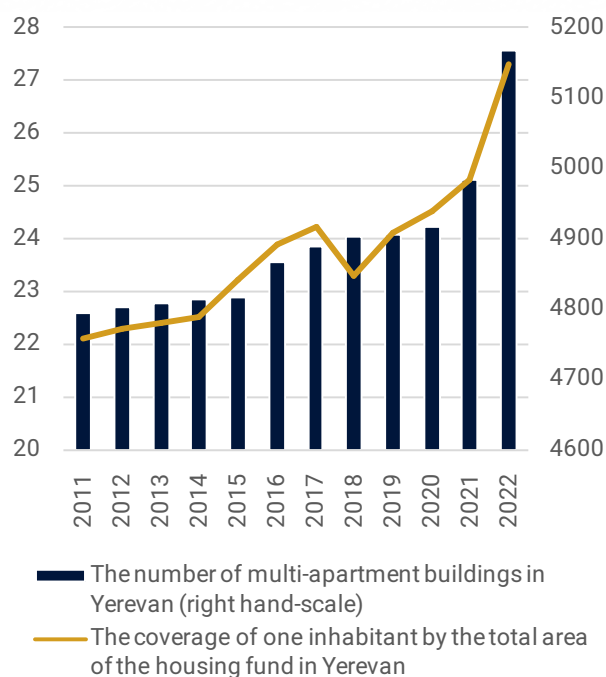
Chart 5.10. The share of borrowers with more than one mortgage



Source: CBA

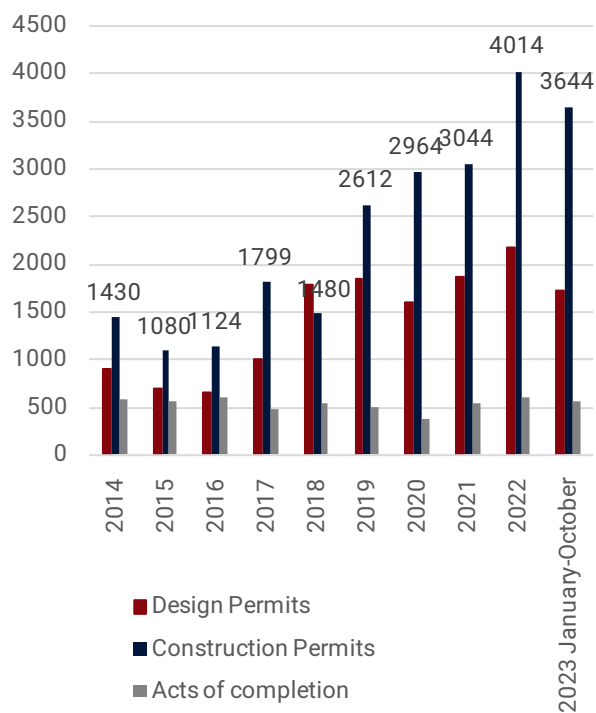
In order to address the accumulated risks in the field of real estate and mortgage lending, as early as 2022, the Central Bank introduced the norm of the loan-to-value limit for loans secured by real estate, according to which the maximum limit of the latter is 70-90%, depending on the currency of the loan. According to the amendments made to the Law of the Republic of Armenia “On Currency Regulation and Currency Control”, from May 2023, foreign currency mortgage loans can be granted to residents only in the national currency.

Chart 5.11. Indicators of the dynamics of housing stock



Source: Credit Registry

Chart 5.12. Number of construction and design permits



Source: Yerevan Municipality



6.

FINANCIAL INFRASTRUCTURE STABILITY

- 6.1. Interbank payments via electronic payment system of the Central bank
- 6.2. Securities settlement system

6.1. Interbank payments via electronic payment system of the Central bank

Emphasizing the significance and impact of payment and settlement systems on monetary policy and the financial stability of the country, the Central Bank continues to pay special attention to systemically important payment and securities settlement systems, as well as the telecommunication networks supporting their operation.

During the reporting period, 7.0 million payments (payment messages) totaling AMD 30,065.4 billion were processed through the Central Bank's Electronic Payment System (EPS), reflecting increases of 29.0% and 16.5%, respectively, compared to 2022. The value of interbank payments rose by 11.4% compared to the same period last year (following a 14.8% increase in 2022 compared to 2021), and budget payments increased by 18.0% (compared to an 18.6% increase in the previous period).

Risks in the system are observed in the below-mentioned directions.

Credit Risk

In the system, the credit risk associated with the settlement bank (Central Bank) is eliminated because the Central Bank provides intraday loans to system participants using an intraday repo instrument, which is backed by highly liquid

assets, with a haircut of the asset's market value. Additionally, the credit risk for the receiving (beneficiary) bank is also absent, as the bank becomes aware of the incoming payments only after the final settlement is completed at the Central Bank, so it cannot make a payment in favor of the beneficiary until that point.

Liquidity Risk

The average daily rate²⁹ of own liquidity indicator used for liquidity risk assessment was 2.3 during the reporting period (compared to 2.5 in 2022 and 3.2 in 2021), with a maximum of 2.8 in January (compared to 3.2 in May, 2022³⁰).

Despite a slight decrease in the monthly values of the rate, the average daily opening balances were more than twice the average daily payments, which is a very high indicator. It is important to note that the indicator calculation excludes incoming payments of banks (account credits) and/or funds aimed at supplementing liquidity from other sources, which further mitigates liquidity risk. Moreover, the share of payment rejections due to lack of liquidity was insignificant, both in terms of value (0.002%) and number (0.007%) of total EPS payments.

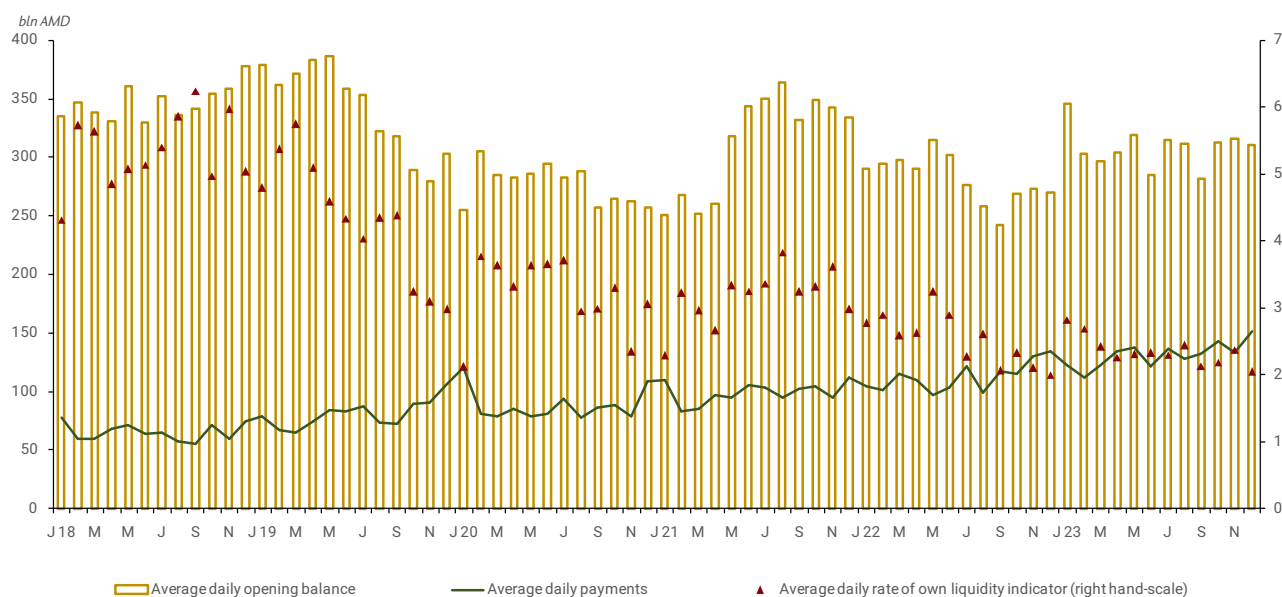
Monitoring the same indicator on an individual bank basis showed that the probability of liquidity risk is estimated to be minimal.

29 The daily 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 excluded from the indicator to simulate a stress scenario, assessing the likelihood of banks meeting their payment obligations if no additional liquidity becomes available during the day. Namely, this measures the extent to which banks can execute payments using only the opening balances of their funds. The calculation does not include cash enhancements through the accounts of commercial banks. The indicator is calculated at a system-level (aggregating data from all banks).

30 Since June 2019, banks have had the option to hold reserves in foreign currency, which has led to a decrease in balances on AMD accounts. Consequently, the above-mentioned indicators have also decreased accordingly, while still maintaining a generally high level.



Chart 6.1. Comparative analysis of average daily payments, average daily liquidity opening balance and average daily rate of own liquidity indicator (system-based)



Source: CBA

Intraday distribution of payments

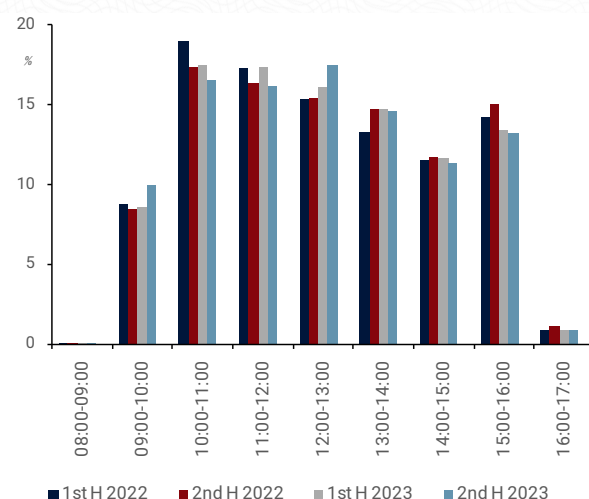
During the reporting period, the distribution of the number of payments throughout the day became more uniform, with no distinct peak hour. Between 10:00 and 13:00, on average 17% of the number of payments were settled during each time interval. By 15:00, 85.8% of the total number of payments was completed, an increase of 1.4 percentage points from 2022, leaving minimal number of payments for the end of the day.

Two peaks in the value of payment were observed: 17.6% between 10:00 and 11:00 (a decrease of 2 percentage points from the same timespan in 2022) and 17.3% between 15:00 and 16:00 (unchanged from last year). This concentration of the value of payments near the end of the operating day could theoretically pose risks in the event of liquidity or operational issues affecting liquidity replenishment or same day payment execution.

Despite the abovementioned, the sufficient level of system's capacity, the positive outcomes of liquidity

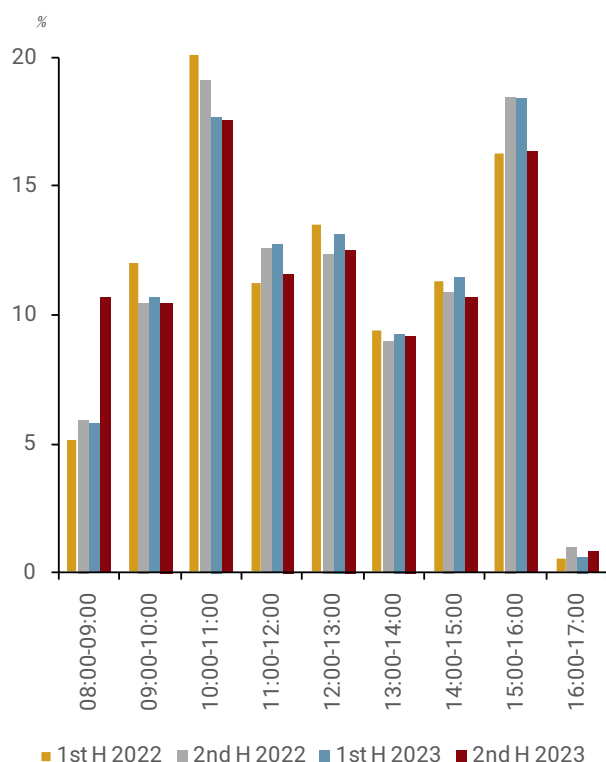
and operational availability indicators, along with the negligible share of rejections in total payments, ensured that the accumulation of payments during the certain hours did not create significant issues. The overall risk level is assessed as low.

Chart 6.2. Intraday distribution of the number of payments per hour on an average semi-annual basis



Source: CBA

Chart 6.3. Intraday distribution of the value of payments per hour on an average semi-annual basis

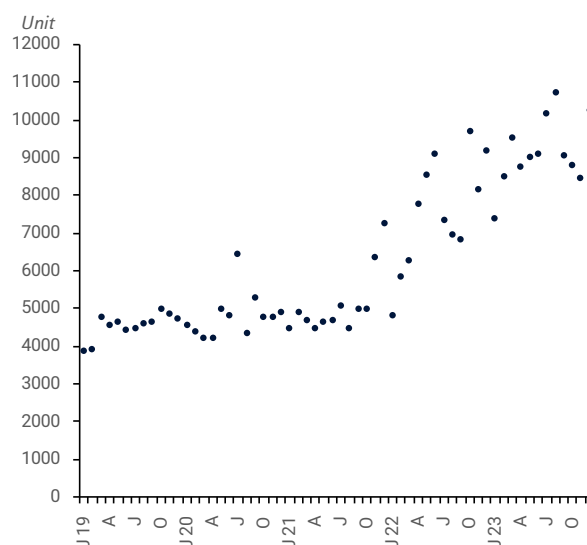


Source: CBA

System capacity

The maximum hourly number of payments processed in the system (per hour for each month) has increased compared to 2022. In 2023, the maximum hourly indicator reached 10,722 payments/hour (up from 9,694 in 2022), which accounted for 31.8% of daily number of payments (33,727 payments/day) and 16.6% of the total daily value of payments.

Chart 6.4. Maximum number of payments per hour by months



Source: CBA

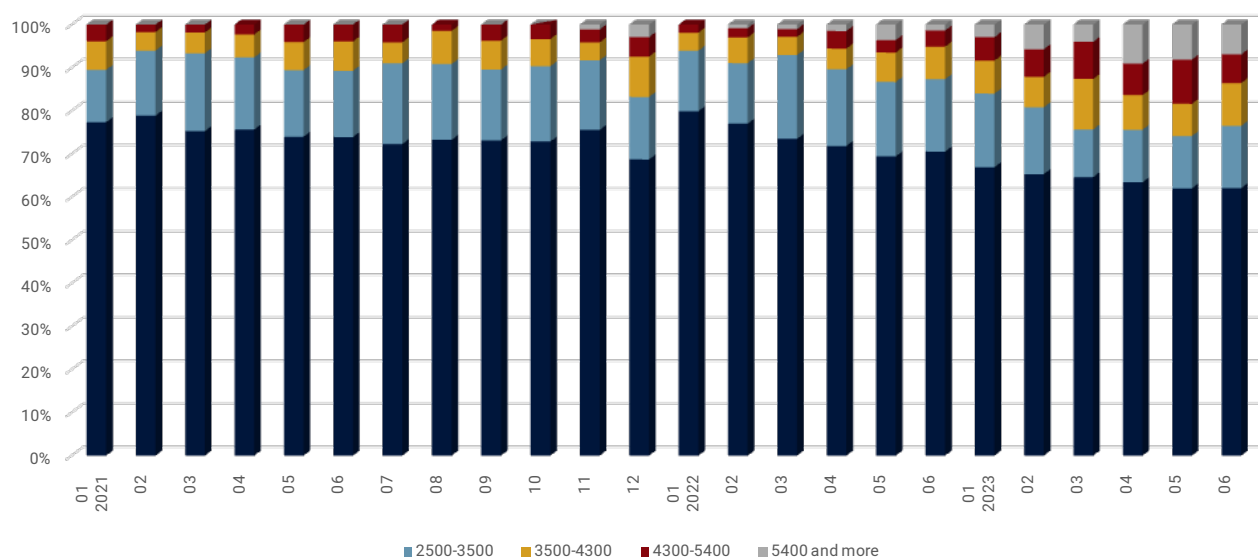
Due to improvements in the relevant software module, the system quickly absorbed payments, closing the operational day on time without issues for participants.

In 2023, especially in the second half, the indicator of payments exceeding 4,300 per hour rose significantly to 26.1% (up from 10.5% in 2022), and payments exceeding 5,400 per hour rose to 11.9% (up from 3.7% in 2022) during total operational hours.

The maximum daily indicator (the number of payments per day) reached 55,161 payments/day, a 34.0% increase from the 2022 peak (41,135). For reference, the peak in 2021 was 32,400.

Accordingly, the number of overloaded hours and days and the share of marginal indicators remain low. Given the substantial increase in system capacity due to abovementioned changes and the results of the 2023 capacity assessment, it is concluded that there is no predicted increase in capacity risk.

Chart 6.4.1. Share of marginal indicators in total operating hours



Source: CBA

Operational availability of the system

During the reporting period, there was no significant incident (lasting 1 hour or more) affecting the availability of the Electronic Payment System. In total, 7

cases of unavailability were recorded during the year, mainly related to network failure, lasting maximum 20 minutes. As a result, the operational availability of EPS during the year was 99.91%³¹.

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

6.2. Securities settlement system

In Armenia, the settlement of securities is implemented through two systems; the Unified System of Securities Accounting and Settlement of the Central Depository of Armenia (hereinafter, CDA SSS) and the Government Securities Accounting and Settlement System of the Central Bank of Armenia (hereinafter, GSASS).

In 2023, secondary market transactions totaling AMD 21,850.8 billion were carried out through GSASS (AMD 20,166.7 billion in 2022). The transactions grew by 8.35% compared to the previous year (see Table 6). Such growth is mainly due to over 77% increase in OTC DVP transactions.

Secondary market operations totaling AMD 8,129.4 billion were carried out through CDA SSS

in 2023 (AMD 6,676.2 billion in 2022), growing by 21.76% over the previous year. This increase is conditioned by over 24% growth of over the counter (OTC) transactions, mainly the OTC transactions of foreign bonds. Meanwhile, stock exchange operations of the Central Depository of Armenia decreased by more than 2.7 times due to a significant decrease in transactions of corporate bonds (see Table 7).

In 2023, the share of operations executed through the GSASS in the secondary market transactions was 72.88% (75.1% in the previous year). In terms of financial stability, both settlement systems are key and are considered to be systemically important.

Table 6: Transfer of Securities through the Government Securities Accounting and Settlement System of the Central Bank of Armenia pertaining to transactions with securities in the secondary market³²

Transfers	2021	2022	2023
Value of OTC transactions (trades, repo, reverse repo) (AMD bln nominal value)	17,416	20,074.1	21,757.4
Number of OTC transactions (trades, repo, reverse repo)	33,893	28,745	25,382
Value of stock exchange transactions (AMD bln nominal value)	69.7	92.6	93.4
Number of stock exchange transactions	616	589	518
Total value of transfers of securities (AMD bln nominal value)	17,486.2	20,166.7	21,850.8
Total number of transfers of securities	34,509	29,334	25,900

Source: CBA

In both the GSASS and the CDA SSS, the OTC transactions could be settled on DVP principle (Delivery versus Payment). Stock exchange transactions are executed through a procedure of pre-

depositing of securities and cash, thereby excluding counterparty risk. No credit risk may emerge for the OTC transactions due to the usage of gross settlement and irrevocability principles in the systems.

³² The statistical information provided includes the settlements executed by GSASS and excludes transfers via CDA nominee account and internal transfers made by subcustodians for their clients.

Table 7: Transfer of Securities through the Unified System of Securities Accounting and Settlement of the Central Depository of Armenia pertaining to operations with securities in the secondary market³³

Transfers	2021	2022	2023
Value of OTC transactions (trades and repo) (AMD bln nominal value)	1,139.8	6,461.0	8,050.1
Number of OTC transactions (trades and repo)	4,020	9,341	18,676
Value of stock exchange transactions (trades and repo) (AMD bln nominal value)	153.0	215.1	79.3
Number of stock exchange transactions(trades and repo)	4,382	6,547	5,779
Total transfers of securities (AMD bln nominal value)	1,292.8	6,676.2	8,129.4
Total number of transfers of securities	8,402	15,888	24,455

Source: CBA

33 The statistical information provided includes the settlements executed by CDA SSS, both with corporate securities (including foreign securitized) and Eurobonds issues by the RA and government bonds held as sub-custodian.

Box 2

The peculiarities of payment card transactions

In the Republic of Armenia, payment cards are the most widely used payment instrument in the retail sector. Consequently, the transaction indicators made via payment cards provide a clear reflection of changes in the volume and number of non-cash transactions. The number of contactless payment cards has grown rapidly in Armenia since 2020, which was also due to the coronavirus pandemic, reaching approximately 2.6 million cards by the end of 2023, accounting for 70% of payment cards issued by Armenian banks. Overall, the total number of payment cards issued by Armenian banks increased by 16.8%, surpassing 3.7 million.

The Law of the Republic of Armenia “On Non-cash Transactions” which came into effect on July 1, 2022, also aims to promote non-cash transactions.

As a result of the increasing demand for non-cash transactions, the number of physical and virtual POS terminals, essential for servicing these transactions, grew by 16.9% and 22.1%, respectively.

Transactions with Domestic Cards in Armenia

In 2023, the value of transactions with domestic cards in Armenia rose by 43.9% compared to the previous year, reaching AMD 5,695.1 billion. The growth in the value of non-cash payments (89.5% compared to 2022) significantly outpaced the growth of cash operations (20.6% compared to 2022). As a result, the share of the value of non-cash transaction increased by 10.8 percentage points over the previous year, reaching 44.6% (see Chart 6.5).

Chart 6.5. Volume of transactions with domestic cards in Armenia

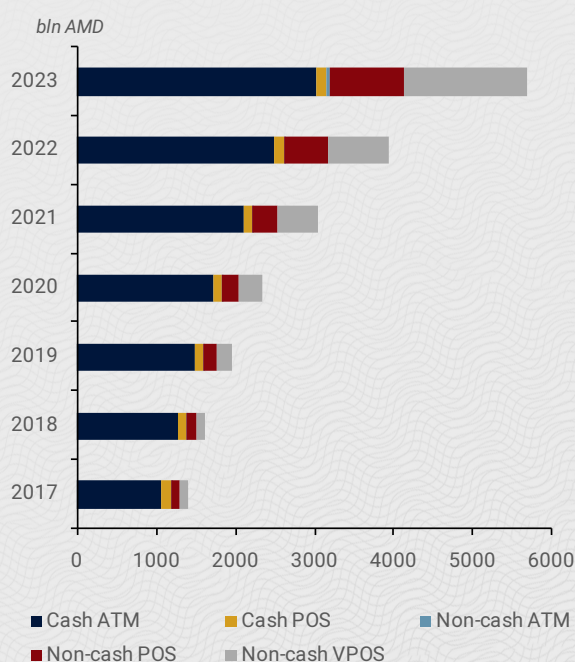
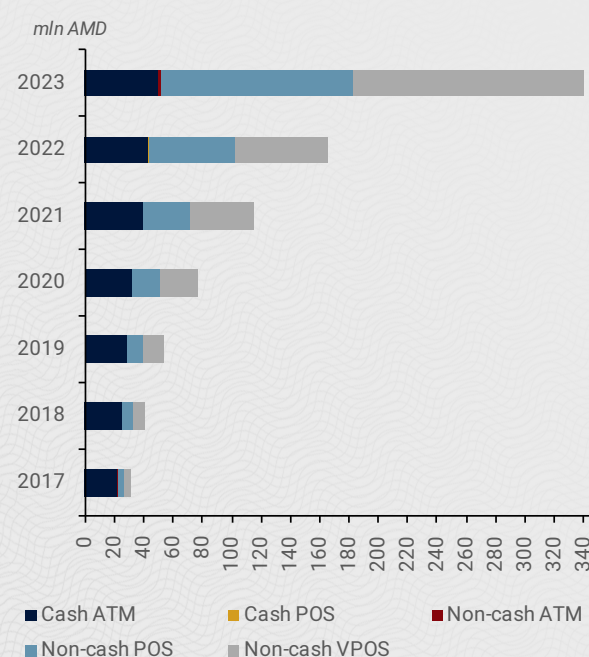


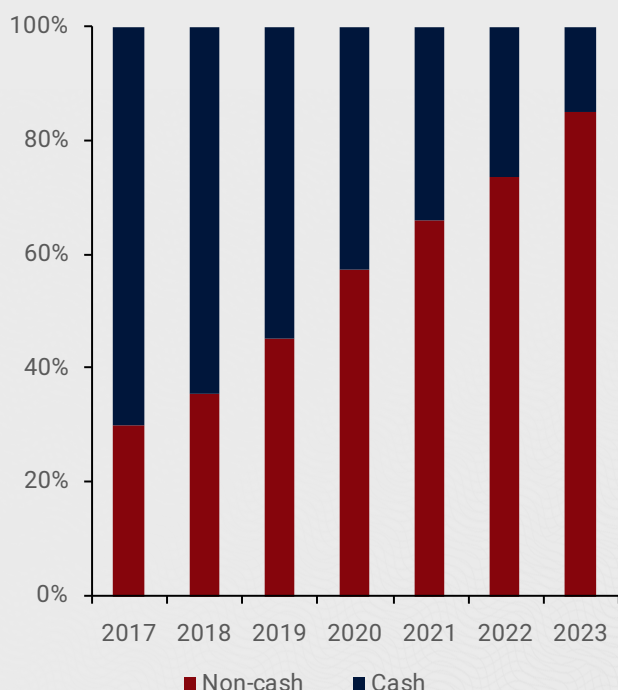
Chart 6.6. Number of transactions with domestic cards in Armenia



The number of transactions with domestic cards in Armenia is 340.6 million, registering a 105.2% increase compared to the previous year, due to a 137.1% increase in the number of non-cash transactions. Starting from 2020, the number of non-cash transactions exceeds the number of cash operations: in 2023, 85.1% of the total number of payments were made by non-cash transactions, totalling 290.0 million transactions (see Chart 6.6).

Combining the above with the value growth rate of non-cash payments, we can state the strengthening of the culture of making non-cash transactions (see Chart 6.7).

Chart 6.7. The share of cash and non-cash transactions with domestic cards in Armenia, by number



From year to year there is also an increase in value and number of transactions carried out in the Internet environment.

International transactions

As expected, compared to the previous year, both value and number of transactions (including online transactions) made with Armenian cards abroad (55.0% increase in value, 62.5% increase in number) and foreign cards in Armenia (10.6% increase in value, 67.6% increase in number) increased. 24.2 million transactions of AMD 703.0 billion were carried out with Armenian cards abroad, and 30.1 million transactions of AMD 375.1 billion were carried out with foreign cards in Armenia.

ArCa Card system

The “ArCa” card system is a key infrastructure serving the card sector in the Republic of Armenia, through which the predominant share of card transactions is processed.

Given its indicators, “ArCa” is classified as a retail payment system of public significance. Therefore, the Central Bank of the Republic of Armenia monitors its operational reliability and security. Any significant incidents in the system (with a duration of 1 hour or more), their causes, and the measures taken to resolve them are closely scrutinized by the Central Bank.

Considering the critical importance of the uninterrupted operation of the “ArCa” card system, the Central Bank of Armenia pays special attention to significant incidents. It evaluates the adequacy of the steps taken by “Armenian Card” CJSC, the system operator, to identify the causes of these incidents and implement measures to prevent them in the future. If necessary, the Central Bank takes additional intervention actions to ensure the system’s stability and reliability.

GLOSSARY OF TERMS

Balance of payments	A system of recording of all economic transactions of residents and nonresidents over a reporting period (a quarter, a year).
Credit risk	Credit risk refers to the risk that the bank's borrower will violate the terms of the contract signed with the bank, which will negatively affect the bank's profit and (or) capital.
Consumer Price Index (CPI)	The Consumer Price Index is a measure of the change over time in the prices of a market basket of consumer goods and services.
Doubtful asset	Doubtful assets have all the characteristics of "substandard" assets, but are more problematic, making their collection extremely difficult or impossible at the given time. In the case of doubtful assets, the possibility of significant losses is high, but the extent of losses is not clear, which is mainly due to a number of key and specific factors that can improve the condition of this asset. Therefore, the classification of this asset as "bad" is deferred until the circumstances surrounding it are clarified.
Debt service to income (DSTI)	The amount of debt service payments relative to total disposable income of the borrower.
Economic growth	The growth of the volume of goods and services produced in the economy during a certain period.
Economic cost of capital	The difference between the present value of total assets and the present value of total liabilities.
Foreign exchange risk	Foreign exchange 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.
Foreign trade	Export: Export of goods from the economic territory of Armenia to other countries for free circulation; Import: import of goods from other countries into the economic territory of Armenia for free circulation.
Gross foreign currency position	This position measures the sum of absolute values of positions of various currencies.
Gross external debt	Obligations of residents to non-resident creditors.
Herfindahl-Hirschman index	This index characterizes the level of concentration and varies between 0 and 1. Values near to 0 denote lower concentration.
Inflation	A general rate of increase of prices of goods and services.
Interest rate risk	Interest rate risk is the risk that interest rate volatilities in the market will adversely affect profits and/or capital of the financial institution.
Large borrower	A borrower for which the bank's risk exceeds 5 percent of the total capital.
Leverage	A ratio of Tier 1 capital to total assets.
Liquidity coverage ratio (LCR)	The ratio of a bank's high quality liquid assets to total net liquidity outflows over the next 30-day stress period.
Liquidity risk	Liquidity risk is the risk that the bank will not have sufficient liquid assets to fulfill its obligations within the period specified by the contract.
Loan to Value (LTV)	A ratio of a loan to the value of an asset purchased.
Loss asset	An asset non-collectible and fully impaired uncollectible, so that its recording on the balance sheet is no longer reasonable.
Loss given default (LGD)	Loss given default is the estimated amount of money a bank or other financial institution loses when a borrower defaults on a loan.
Major borrower	An entity on which the risk exceeds 5% of the total capital of the bank.
Net foreign currency position	The difference between assets and liabilities in FX assets and local currency assets containing FX risk.
Net provision	The difference between provisions to loss reserve fund and recoveries from assets.
Net stable financial ratio (NSFR)	The marginal ratio of the bank's available stable funding to its required stable funding within 1 year.



Non-performing asset	An asset which has been classified by the bank as “substandard” or “doubtful” or “bad”.
Off-balance sheet contingent liabilities	Off-balance sheet contingent liabilities include outstanding credit lines, credit cards, and overdrafts, as well as letters of credit, guarantees, and warranties provided.
Price risk	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.
Probability of default (PD)	Probability of loans to be classified as ‘substandard’ during the year.
Regulatory total capital	The total capital of a bank is the sum of the items specified in Regulation 2 after making appropriate deductions.
Return on assets (RoA)	A ratio of net annual profit to average annual total assets.
Return on equity (RoE)	A ratio of net annual profit to average annual total capital.
Spread	The difference between loan and deposit interest rates.
Standard asset	1) The borrower's financial condition is stable, and 2) The borrower has sufficient capacity to repay (service) the debt, 3) the asset is sufficiently secured (with collateral, guarantee, financial flows, etc.) to settle the principal amount and interest debt specified in the contract.
Substandard asset	1) Settlement of the asset within the period specified by the contract is not possible due to the deteriorated financial condition of the borrower or his inability to repay the debt, 2) the primary sources of the asset settlement are insufficient, and the bank needs to apply to secondary repayment sources, such as sale of collateral or other 3) there are such risks that reduce the probability of complete settlement of the asset, 4) there is a greater than usual risk in terms of assets due to the lack of information on the borrower's current financial condition or the lack of relevant collateral documents, the presence of inadequate collateral, or the non-target use of the asset (or part of it).
Total capital adequacy	A ratio of total regulatory capital to risk weighted assets.
Total liquidity	A ratio of highly liquid assets to total assets.
Watched asset	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.

ABBREVIATIONS

AMD	Armenian Dram
AWI	Average Wage Index
CBA	Central Bank of the Republic of Armenia
CDA SSS	Securities Accounting and Settlement System of the Central Depository of Armenia
CCoB	Capital Conservation Buffer
CCyB	Countercyclical Capital Buffer
CCR	Counterparty Credit Risk
CET1	Common Equity Tier 1
CPP	Central Point Partners
CMTPL	Compulsory Motor Third Party Liability Insurance
CJSC	Closed Joint Stock Company
EBRD	European Bank for Reconstruction and Development
ESG	Environmental, Social and Governance
DVP	Delivery versus Payment
EPS	Electronic Payments System
GDP	Gross Domestic Product
GNDI	Gross national disposable income
GSASS	Government Securities Accounting and Settlement System
IMF	International Monetary Fund
IRB	Internal Ratings-Based
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
NAV	Net Asset Value
NPL	Non-performing Loans
NSFR	Net Stable Funding Ratio
OTC	Over the counter
PD	Probability of Default
RA	Republic of Armenia
ROA	Return on assets
ROE	Return on equity
SIB	Systemically Important Banks
USA	United States of America
USD	United States Dollar
YOY	Year on Year

