National Bank of the Republic of North Macedonia
Financial Stability and Macroprudential Policy Department

REPORT ON THE RISKS IN THE BANKING SYSTEM OF THE REPUBLIC OF NORTH MACEDONIA IN 2024

April 2025

Contents

I. Summary 3
II. Structure of the banking system 6
1. Structure of the banking system 7
III. Bank risks 14
1. Credit risk 17
2. Liquidity risk 31
3. Currency risk 38
4. Interest rate risk 43
5. Insolvency risk 47
IV. Major balance sheet changes and profitability of the banking system 56
1. Bank activities 57
2. Profitability 72

I. Summary

In 2024, the banks were operating in an environment characterized with acceleration of the domestic economic growth and further gradual deceleration of the annual inflation rate, while the geopolitical context was still unstable creating uncertainty and increased risks. In 2024, the high inflation rates worldwide, which were challenging in the past few years, continued to move downwards, enabling the central banks of the leading economies to begin with the monetary policy normalization. The geopolitical tensions in Ukraine and the Middle East remained a significant source of uncertainty and increased risks, and thus a challenge for the policy-makers. The conditions in the domestic economy set the ground for the National Bank to begin with the gradual monetary normalization by interest rate cuts as of September 2024. Thus, from September to December 2024, the interest rate on the main monetary policy instrument, CB bills, was cut on three occasions by a total of 0.75 percentage points, to the level of 5.55% (in February 2025 the policy rate was additionally reduced to the level of 5.35%). There were also changes in the reserve requirement in the beginning of 2024, in order to accumulate a portion of the liquidity excess, and to further stimulate long-term denar saving. As for the macroprudential policy, higher countercyclical capital buffer rates, which were announced twelve months earlier, were applied in 2024, amounting to 0.75% (for the first six months of 2024), 1% (for the period July-October 2024) and 1.25% (for the last two months of 2024). Higher countercyclical capital buffer rate of 1.5% will apply in the first seven months of 2025, while as of August 2025, it will go up by additional 0.25 percentage points to the level of 1.75%.

In line with the efficient and coordinated application of the set of instruments of the monetary and macro-prudential policy, the National Bank continued with the activities for further improvement of the regulatory framework for banks. For this purpose, the activities for completion of the regulatory framework for solving banks in accordance with the international standards and best practices were of particular importance. The set of twelve bylaws derived from the Law on Bank Resolution was adopted by the National Bank in early 2025, which is a significant step towards further strengthening of the financial system stability and protecting public interest. Besides having a supervisory and macroprudential function, the National Bank will also be the competent authority for bank resolution.

In such conditions, i.e. amid favorable domestic macro environment, with existing geopolitical risks, banks' activities registered a solid growth. The balance sheet of the banking system grew rapidly, at a rate of 10.5% annually (9.1% in 2023). The risk exposure indicators of the banking sector were stable and further improved, while the stress tests indicated a solid capacity to mitigate possible shocks. However, the environment remained vague, mainly under the influence of adverse external factors, in conditions of unstable geopolitical environment and introduction of protectionist measures. Hence, there is a need for further caution in risk monitoring and prudence in policy conduct in order to preserve the banking sector stability in the following period.

The growth of deposits of non-financial entities accelerated, enabling significant credit growth acceleration, as well as increase in the banks' liquid assets. Thus, deposits of non-financial entities recorded a significant annual growth of 11.4% (9.2% in 2023), due to household deposits, although corporate deposits registered a solid annual growth as well. The annual growth was dominated by long-term savings and denar deposits, also driven by the National Bank measures to support denarization and long-term saving, as well as by higher interest rates on deposits in

2024. Loans to non-financial entities also registered an accelerated annual growth of 11.2% (4.3% in 2023), due to both, corporate and household sector. The accelerated credit growth is due to the factors on both sides of the credit market-credit supply and credit demand, where according to the results of the banks' Lending survey, as of the second quarter of 2024, there is a net relaxation of the standards and net increase in demand. A solid annual growth of 13.2% (15.3% in 2023) was also registered in the banking system's liquid assets, the structure of which was mostly dominated by placements in government securities (domestic and foreign) and banks' assets on denar account with the National Bank.

The solvency of the banking system improved this year as well. In 2024, the capital adequacy ratio reached the highest levels since 2006, and at the end of the year it equaled 18.9% (18.1% as of 31.12.2023). The improved indicator results from the growth in banks' own funds of 13.3% (10% in 2023), mostly due to reinvested profits from 2023 and partly from 2024. Given that the National Bank increased the capital requirements in terms of countercyclical capital buffer on several occasions, that will start applying in the following period, the banking system solvency is expected to further improve. Moreover, 8% of own funds remained free, over the required minimum and together with the capital buffers account for 37% of total own funds of the banking system which may be used to deal with challenges of different nature and intensity. The conducted stress testing shows that the banking system is resilient to the simulated shocks.

The liquidity of the banking system improved and is at satisfactory level. Amid double-digit annual growth of liquid assets, most of the liquidity indicators improved in 2024. Thus, the share of the liquid in total assets went up by 0.8 percentage points to the level of 32.6%, while the coverage of the short-term household liabilities with liquid assets improved by 3.4 percentage points and as of 31.12.2024 equals 55.7%. The liquidity coverage ratio of the banking system also increased significantly by 25.9 percentage points to the level of 289.4%, which is almost three times higher than the regulatory minimum (100%), thus confirming the satisfactory volume of liquidity available to the Macedonian banking system. Amid stronger growth in household deposits, compared to liquid assets, the coverage of these deposits with the banking system's liquid assets slightly decreased, by 0.2 percentage points, yet it remains solid at 65.1%. The liquidity-related stress test results indicate satisfactory resilience of the banking system to the assumed extreme, individual and combined liquidity outflows.

The quality of banks' loan portfolio is solid. In 2024, non-performing loans to non-financial entities increased by 7.9% (0.2% in 2023). Such increase is due to the regulatory amendments[1] which introduced a different methodological approach in determining the non-performing status of credit exposures, which in turn contributed to the growth of non-performing loans, especially in the household portfolio. However, amid intensive credit growth, the share of non-performing loans in total loans decreased by 0.1 percentage points and at the end of the year reduced to the new record minimum of 2.7%. Analyzed by sector, the non-performing corporate loans dropped by 12.4%, so at the end of the year their share in the total loans reduced to the historical minimum, of 2.8%. The annual decline in non-performing corporate loans was mostly due to the net write-offs during the year, with a solid collection of these loans in certain quarters of the year. In the

[1]Since the beginning of 2024, new Decision on the methodology for credit risk management has entered into force, which, among other things, introduces different approach in determining the non-performing status of credit exposures (in particular, counting the days of delay). This decision enables further harmonization with the regulatory requirements effective in the European Union, which further improve the stability of the banking system. Besides the introduction of the new method of determining the non-performing credit exposures, this decision also strengthened the criteria for monitoring and control of the quality of the banks' credit portfolio and improved the rules for credit exposure restructuring.

household credit portfolio, non-performing loans grew sharply by 48.2%, thus increasing their share in total loans by 0.6 percentage points to 2.5%.

The exposure of the banking system to currency risk decreased and is below the prescribed limit. The open currency position of the banking system, as a measure of exposure to currency risk, narrowed in 2024 and accounted for 8.1% of own funds, which is far below the regulatory limit of 30%. The presence of the currency component (foreign currency and FX clause) in banks' balance sheets further decreased and reduced to 39.4% in assets and 38.6% in liabilities.

The exposure of banks to the interest rate risk in the banking book, measured through the share of the weighted value of the banking book in own funds, increased by 2.2 percentage points and as of 31.12.2024 amounted to 11.2%, which is within the prescribed limit (20%). Such movements mostly arise from the changes in the interest-sensitive positions with fixed interest rates, in the maturity segment between two and fifteen years, which recorded a high annual growth in placements in loans and securities, amid decline in liabilities based on time deposits with residual maturity between two and three years. The exposure to indirect interest risk, measured by the share of loans with adjustable or variable interest rate in total loans is still high (65.8%), albeit with a relatively high annual decrease (of 4.4 percentage points).

In 2024, the profitability of the banking system improved, but at a slower pace compared with the previous year. Thus, the profit increased by 21.6%, compared to 2023, with the largest contribution from the growth in net interest income, in almost all sectors. A solid contribution to the profit was made by increased income from collected previously written-off claims and sales of foreclosed property, as well as reduced impairment for non-performing loans. Certain contribution to the profit growth was made by higher net commission income. Only the higher operating costs (by 9.2%) made a negative contribution to the profit growth, yet their cost-to-income ratio further decreased, to 42% (compared to 43.4% for 2023). The rates of return on average assets and average equity and reserves equal 2.2% and 17.6%, respectively, which is a better performance compared to last year (2% and 16.1%, respectively).

The banking system remained stable in 2024, increased the solvency level and improved the liquidity and the quality of the total loan portfolio. However, in conditions of unstable geopolitical environment and introduction of protectionist measures, environmental risks remain pronounced. Therefore, there is a need for further monitoring and caution in banks' risk management and policy conduct, while the National Bank, as before, will take all the necessary measures and use all instruments available, to maintain the stability of the exchange rate, the prices and the banking sector.

II. Structure of the banking system

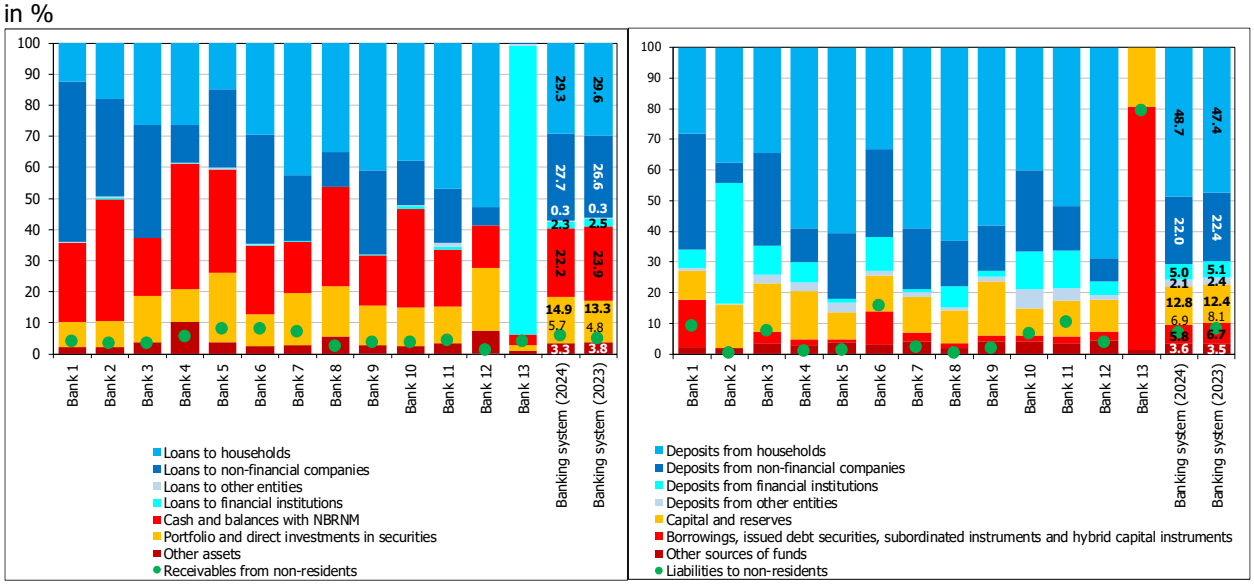
1. Structure of the banking system

1.1. Main features of the business models of banks

The main business model of the Macedonian Banking System, collecting deposits and approving loans, registered no changes in 2024. Total deposits accounted for 77.8% in total liabilities, while total loans accounted for 59.6% in total assets. Household deposits, the most important funding source of banks, account for 48.7% in the total liabilities of the banking system, which is an increase of 1.3 percentage point compared to 31.12.2023. The bank-by-bank analysis showed that household deposits have the highest share in total funding sources in nine banks, in two banks the share of household and corporate deposits is almost equal, in one bank corporate deposits prevail, while one bank does not accept deposits at all and uses credit lines from international financial institutions as financing sources.

On the assets side, loans to non-financial sector had the largest share of 57.3%, which is an increase of 0.7 percentage points compared to 31.12.2023. Household loans have a slightly higher share (29.3%) compared to loans to non-financial corporations (27.7%)[2]. The bank-by-bank analysis shows that household loans significantly prevail in six banks, while this is the case with corporate loans in two banks, four banks have similar share of loans to both sectors, while in one bank loans to domestic banks prevail. The following important assets segment are the liquid assets.

Chart 1
Structure of assets (left) and liabilities (right) of banks and the banking system as of 31.12.2024*
in %



Source: National Bank, based on the data submitted by banks.
* The order of banks is random.

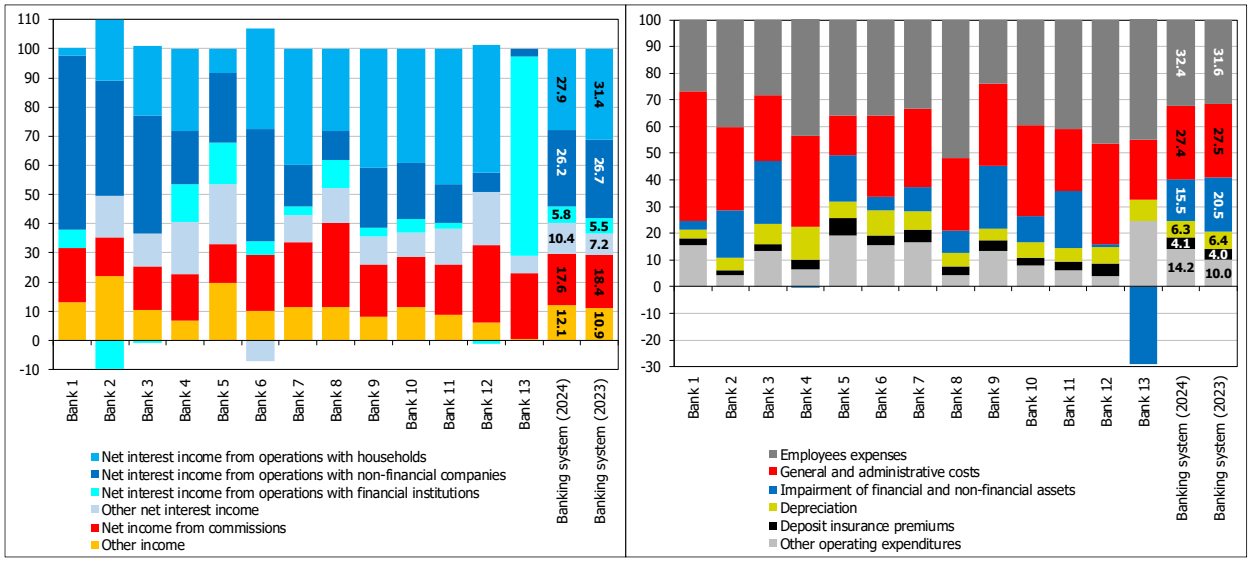
Net interest income dominate the structure of total banks income, which is in line with the use of the traditional business model of the banking system. Their share equals 70.3%, which is by 0.4 percentage points less than in 2023. The share of net commission income also decreased by 0.8 percentage points to 17.6%, while other income increased their share

[2] For the purposes of this analysis, loans are calculated on a net accounting basis (after impairment and accumulated depreciation).

by 1.2 percentage points and accounted for 12.1% of total income. Analyzed by clients sector, the largest portion of total income (27.9%) accounts for net interest income generated from households and net interest income generated from enterprises (26.2%). Structurally observed, the net interest income based on working with households is significantly higher in six banks, net interest income from working with enterprises prevail in four banks, two banks have similar percentage share of net interest income from both sectors in total income, while in one bank the net interest income from working with financial institutions dominates the total income.

As for the expenditures, three items of the banking system prevail. The share of employee expenses was the highest (32.4%), followed by general and administrative expenses (27.4%), and impairment of financial and non-financial assets (15.5%). It is worth mentioning that other expenditures in 2024 increased (by 4.2 percentage points compared to the previous year) and reached 14.2%.

Chart 2
Structure of total income (left) and total expenditures (right) of banks and the banking system of 31.12.2024*
in %



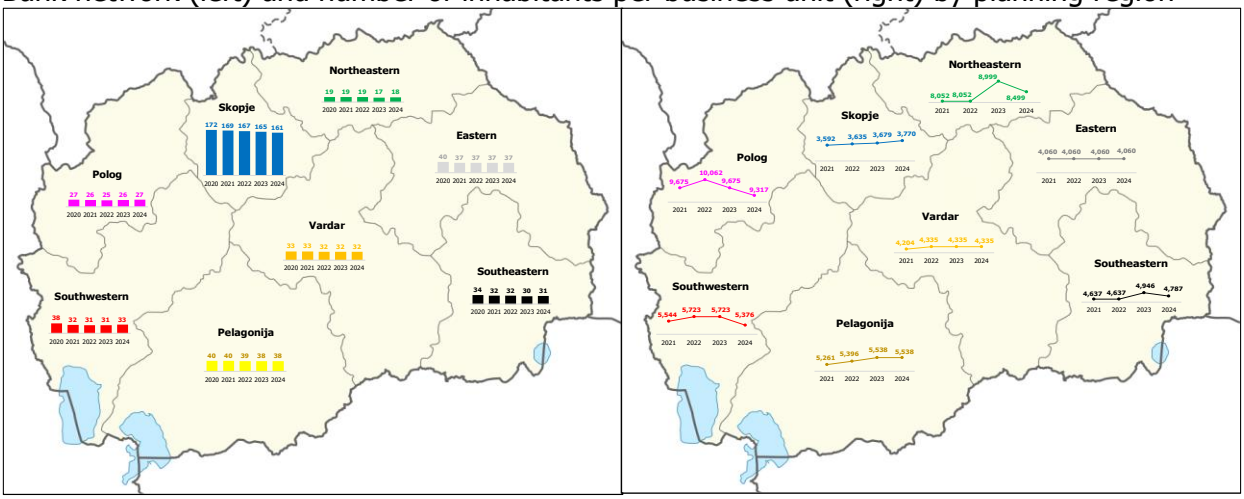
Source: National Bank, based on the data submitted by banks.
* The order of banks is random.

1.2. Number of banks and access to banking services

As of 31.12.2024 the Macedonian banking system consists of fifteen depository institutions, i.e. thirteen banks and two savings houses[3], without changes compared to the previous year.

The banking network is spread across almost all cities in the country and consists of 377 business units[4]. The total number of business units compared to the previous year was reduced by only one unit, while analyzed by planning region in the country, only the Skopje region recorded a slightly larger change, with a decrease of 4 units annually. Most of the business units (42.7%) are in the Skopje region, with the easiest physical access to banking services[5], with a more restricted access to banking services in the Southeastern and the Polog Region. Significant improvement in the access to banking services in the rest of the country was registered in the Southwestern region, followed by the Southeastern, Northeastern and the Polog region. However, it should be taken into consideration that the physical access is only one measure of the total access to banking services since banks offer some of their services on-line as well.

Chart 3
Bank network (left) and number of inhabitants per business unit (right) by planning region



Source: National Bank, based on data submitted by banks and the State Statistical Office according to official data of the 2021 census.

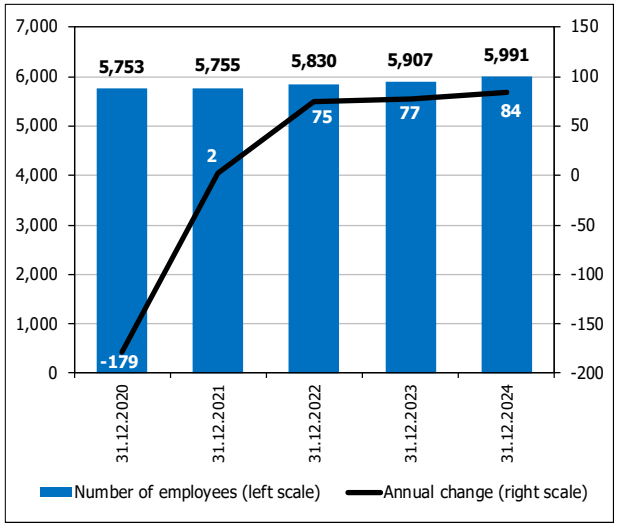
[3] The share of savings houses in total assets of depository financial institutions (banks and savings banks) is 0.2%, in total loans of non-financial entities 0.4%, and of total household deposits 0.15%. Given the minor share of savings houses in the total banking system, they are subject to analysis only in the Reports on the Financial Stability of the Republic of North Macedonia, while the analysis in this report covering only the bank.
[4] The number of business units includes the banks' windows and branches of the banks, including the banks' main office.
[5]The physical access to banking services is measured by the number of persons per business unit, whereby the higher number indicates more restricted access, while the lower number indicates easier access.

1.3. Employment in the banking system

As of 31.12.2024, the number of bank employees equals 5,991 and increased by 84 compared to the previous year. According to the level of education, the qualification structure of employees remained the same, thus the share of employees with at least university degree equaled 86.4%, which is less by 0.2 percentage points annually.

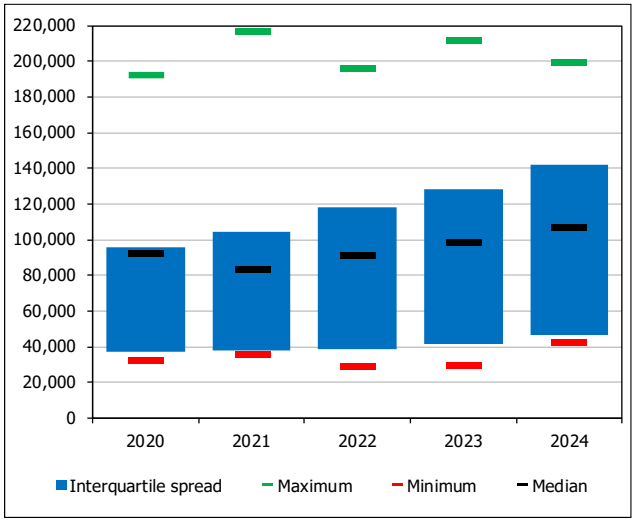
Banking system productivity[6] has increased, due to the higher growth of the assets than the increase in the number of employees. All analyzed banks registered increased productivity, except one, while five of them registered double-digit growth rates. The differences in the productivity among banks remain significant and vary from Denar 42 million in the bank with the lowest productivity to Denar 199.2 million per employee in the bank with the highest productivity.

Chart 4
Number of banking system employees



Source: National Bank, based on the data submitted by banks.

Chart 5
Assets per employee*
in thousands of denars



Source: National Bank, based on the data submitted by banks.
*The DBNM is not included in the analysis due to the type of its operations.

1.4. Ownership structure and concentration of the banking system

In 2024, the structure of the banking systems major balance sheet positions was dominated by predominantly foreign-owned banks. Nine out of thirteen banks are in predominant foreign ownership, five of which are subsidiaries of foreign banks. Analyzed by category, significant decline was registered in the share of predominantly foreign-owned banks in the financial result (5.6 percentage points) and in total revenues (1.9 percentage points), while the increase of 1.2 percentage points was recorded in the share of these banks in deposits from non-financial entities and capital and reserves by 1 percentage point. Foreign-owned banks still have the most pronounced share in loans to non-financial entities (82.4%), with a decrease of 0.7 percentage points compared to the previous year.

[6]The productivity of the banking system is measured by the total assets per employee, with the higher amount indicating higher productivity, while the lower amount indicating lower productivity.

Table 1
Structure of the number of banks and major balance sheet items by banks' majority ownership as of 31.12.2024
in millions of denars and in %

Type of ownership	Number of banks	Capital and reserves		Assets		Loans to non-financial sector		Deposits from non-financial sector		Total revenues		Financial result	
		Amount	In %	Amount	In %	Amount	In %	Amount	In %	Amount	In %	Amount	In %
Banks in dominant ownership of foreign shareholders	**9**	**82,701**	**78.6%**	**605,467**	**73.4%**	**403,892**	**82.4%**	**432,345**	**71.9%**	**29,863**	**74.3%**	**12,044**	**69.3%**
- subsidiaries of foreign banks	*5*	*72,853*	*69.2%*	*510,155*	*61.9%*	*342,993*	*70.0%*	*368,003*	*61.2%*	*25,379*	*63.2%*	*10,476*	*60.2%*
- Austria	1	12,417	11.8%	107,564	13.0%	73,083	14.9%	68,199	11.3%	3,911	9.7%	1,736	10.0%
- Bulgaria	1	1,362	1.3%	13,059	1.6%	7,709	1.6%	10,167	1.7%	487	1.2%	44	0.3%
- Greece	1	25,689	24.4%	144,011	17.5%	100,563	20.5%	106,903	17.8%	8,343	20.8%	3,547	20.4%
- Slovenia	1	15,232	14.5%	131,433	15.9%	87,765	17.9%	105,786	17.6%	6,992	17.4%	3,295	18.9%
- Turkey	1	18,154	17.3%	114,089	13.8%	73,873	15.1%	76,948	12.8%	5,644	14.0%	1,853	10.7%
- other banks in dominant foreign ownership	*4*	*9,848*	*9.4%*	*95,312*	*11.6%*	*60,899*	*12.4%*	*64,342*	*10.7%*	*4,484*	*11.2%*	*1,568*	*9.0%*
- Bulgaria	2	3,880	3.7%	32,438	3.9%	21,124	4.3%	21,693	3.6%	1,841	4.6%	501	2.9%
- Germany	1	5,015	4.8%	51,999	6.3%	34,013	6.9%	34,722	5.8%	2,096	5.2%	860	4.9%
- Switzerland	1	952	0.9%	10,874	1.3%	5,763	1.2%	7,927	1.3%	547	1.4%	207	1.2%
Banks in dominant ownership of domestic shareholders	**4**	**22,505**	**21.4%**	**219,345**	**26.6%**	**86,033**	**17.6%**	**168,622**	**28.1%**	**10,320**	**25.7%**	**5,346**	**30.7%**
- private ownership	*3*	*18,873*	*17.9%*	*200,697*	*24.3%*	*85,840*	*17.5%*	*168,622*	*28.1%*	*10,071*	*25.1%*	*5,196*	*29.9%*
- state ownership	*1*	*3,632*	*3.5%*	*18,648*	*2.3%*	*193*	*0.0%*	*0*	*0.0%*	*249*	*0.6%*	*150*	*0.9%*
Total:	**13**	**105,206**	**100.0%**	**824,812**	**100.0%**	**489,924**	**100.0%**	**600,967**	**100.0%**	**40,183**	**100.0%**	**17,390**	**100.0%**

Source: National Bank, based on the data submitted by banks.

Financial institutions dominate the ownership structure of banks, making two-thirds of the total capital and reserves (66.6%). Their share in the banking system as of 31.12.2024 increased by 0.9 percentage points. This increase is due to the reduced share of the natural persons by 0.5 and the government sector by 0.4 percentage points.

At the end of 2024, the cumulative share of the foreign shareholders in the capital and reserves of the banking system equaled 74.6%, which is by 1.1 pp higher compared to the end of 2023. Most of the shareholders come from the EU (55.8%). By country, the largest share in the total capital and reserves accounts for Greece (22.5%), Türkiye (17.2%), Slovenia (12.7%) and Austria (11.4%).

Chart 6
Ownership structure of capital and reserves of the banking system
in %

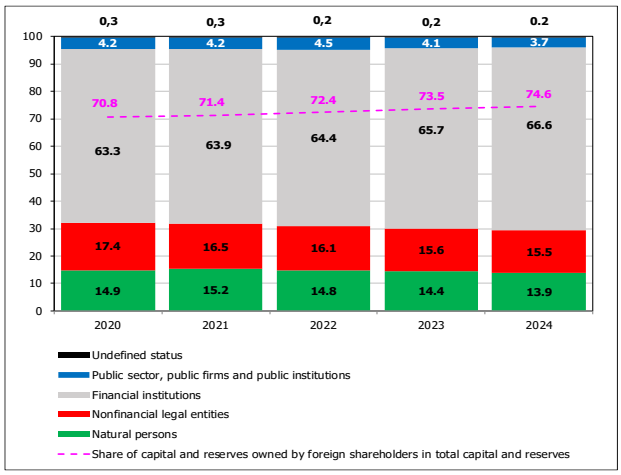
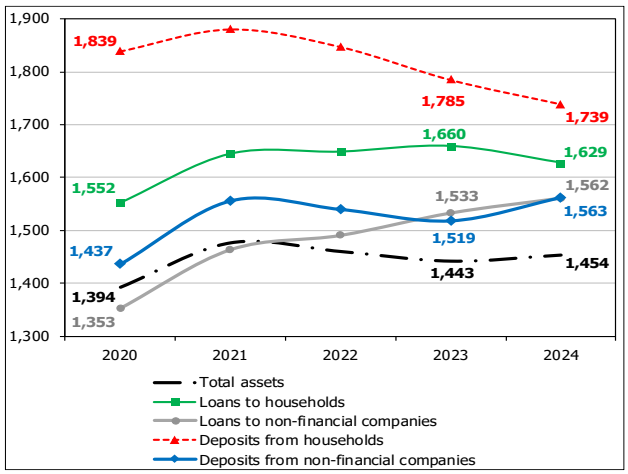


Chart 7
Herfindahl index
in index points



Source: National Bank, based on the data submitted by banks.

The banking activities in 2024 were more concentrated in deposits and loans to non-financial corporations and total assets, while less in household deposits and loans. In all categories of activities, **the Herfindahl index[7] is within the acceptable values[8]**.

The concentration indicators in the banking system point to slight annual changes in the three and the five largest banks. The decrease in the share of the three and the five largest banks in the financial result is more pronounced, as well as in household loans with the three largest banks, as opposed to the increase in deposits and loans to non-financial entities with the three and the five largest banks.

Table 2
Indicators of concentration of major balance sheet positions in the three and the five largest banks
in %

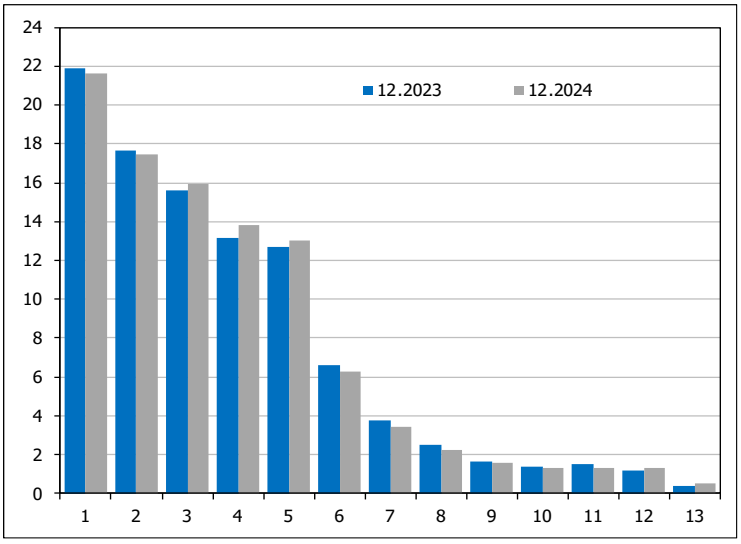
Position	31.12.2024		31.12.2023	
	CR3	CR5	CR3	CR5
Total assets	55.1	81.9	55.2	81.0
Loans to households	60.6	84.2	62.0	84.1
Loans to non-financial companies	54.2	83.8	52.8	82.3
Deposits from households	66.9	85.6	68.0	85.5
Deposits from non-financial companies	56.9	83.2	54.6	81.5
Financial result	67.7	88.3	71.8	90.8
Total revenues	60.3	84.1	59.2	83.2

Source: National Bank, based on the data submitted by banks.

[7] The Herfindahl index is calculated according to the formula $HI = \sum_{j=1}^{n} (S_j)^2$ $HI = \sum_{j=1}^{n} (S_j)^2$, where S is the share of each bank in the total amount of the analyzed category (e.g. total assets, etc.), where n denotes the total number of banks in the system.
[8] The level of concentration is considered acceptable when the index ranges from 1,000 to 1,800 points.

The difference between individual banks by the asset volume will remain substantial. The spread between the bank with the highest (21.7%) and the bank with the lowest share (0.5%) in the total assets of the banking system remained almost unchanged compared to 2023. The five largest banks with cumulative share of 81.9% are the only ones with double digit share in total assets, while the five smallest banks have individual market share below 2%, while their cumulative share equals 6.1%.

Chart 8
Share of individual banks in the total assets of the banking system
in %



Source: National Bank, based on the data submitted by banks.

III. Bank risks

"Heat" map outlining the stability of the Macedonian banking system

Indicators on banking system risk exposures	Last 10 years (1.1.2015 - 31.12.2024)*		Last 5 years (1.1.2020 - 31.12.2024)**	
	31.12.2023	31.12.2024	31.12.2023	31.12.2024
Insolvency risk				
Capital and reserves / assets				
Capital adequacy ratio				
Tier 1 ratio				
Net-NPLs (non-financial sector) / regulatory capita				
Credit risk				
Default rate of credit exposure to non-financial sector				
Restructured and prolonged loans to non-financial companies and households / loans to households and non-financial companies				
Non-performing loans / total / total loans (non-financial sector)				
NPL coverage ratio				
Impairment losses (balance-sheet) / total credit exposure				
Impairment losses (income statement) / total loans to non-financial sector				
Liquidity risk				
Liquid assets / total assets				
Liquid assets / short-term liabilities				
Loans / deposits				
Liaquid assets / household deposits				
Market risks and indirect credit risk				
Open FX position / regulatory capital				
Net weighted position / regulatory capital				
Loans with currency component / total loans				
Loans with variable and adjustable interest rates / total loans				
Profitability				
ROAA				
Net-interest income / average assets				
Operating expenses / total income				
Impairment losses (income statement) / net-interest income				

Legend (percentile ranks):

0-10 percentiles	Historically high level of risk - the realized level of risk is among the 10% worst realized levels in the last 5/10 years
10-20 percentiles	Realized level of risk is between 10% and 20% worst realized levels in the last 5/10 years
20-40 percentiles	Realized level of risk is between 20% and 40% worst realized levels in the last 5/10 years
40-60 percentiles	Realized level of risk is between 40% and 60% worst (best) realized levels in the last 5/10 years
60-80 percentiles	Realized level of risk is between 20% and 40% best realized levels in the last 5/10 years
80-90 percentiles	Realized level of risk is between 10% and 20% best realized levels in the last 5/10 years
90-100 percentiles	Historically low level of risk - the realized level of risk is among the 10% best realized levels in the last 5/10 years

* The affiliation to the percentile range is determined on the basis of quarterly data set for the indicators in the last 10 years (from 1.1.2015 to 31.12.2024).

**The affiliation to the percentile range is determined on the basis of quarterly data set for the indicators in the last 5 years (from 1.1.2020 to 31.12.2024).

The banking system stability heat map includes five components: insolvency risk, credit risk, liquidity risk, market risks and profitability. For each component, a sum of the normalized values of selected indicators is calculated, by using the method of a so-called empirical normalization on quarterly data set covering the last ten (1.1.2015 - 31.12.2024) and the last five years (1.1.2020 - 31.12.2024). Afterwards, taking into account the calculated aggregate values for each component, its affiliation to appropriate percentile range has been determined (seven percentile ranges are introduced), for each date. Each percentile rank has its own color, and the spectrum of colors varies from green (that, in historical sense, corresponds to lower levels of risk) to red (that, in historical sense, corresponds to higher levels of risk). The preparation of the presented "heat" maps takes into account 22 indicators, arranged by component:

The "heat" map indicators are analyzed in a historical context, i.e. the colors for each indicator on a given date are determined comparatively, taking into account the movement of the indicator in the past 5 or 10 years. The red shades of certain indicators should not be interpreted relative to the present significant vulnerability of the system which can cause systemic instability, but only that these indicators of certain quarterly dates from 2024 reached levels that are weaker compared to the movements in the last 5 or 10 years.

The banking system solvency improved at the end of 2024 as well and reached its historic high. Almost all indicators are in the "green zone".

The liquidity risk indicators have varied during the year, but as of 31.12.2024 all indicators entered the "green zone".

Most of the indicators for exposure to credit risk have improved and were in the "green zone" at the end of the year.

The interest rate risk indicator increased and as of 31.12.2024 is in the "red zone", together with the currency risk indicator, which remained there despite its improvement registered in 2024. Both indicators are below the prescribed limits. The indirect credit risk indicators have improved and at the end of 2024 were in the "green zone".

Profitability indicators are at a historically high level, analyzed for the last five and ten years. Thus, all indicators of this component are in the "green zone".

Further in the Report, the movements of the indicators for the exposure of the individual risks are explained in detail.

2. Credit risk

In 2024, the share of non-performing loans in total loans to non-financial entities reduced to a new historical minimum of 2.7%. By sector, the non-performing corporate loans dropped by 12.4%, so at the end of the year their share in the total loans reached the lowest level of 2.8%. The annual decline in non-performing corporate loans was mostly due to the net write-offs during the year, with a solid collection of these loans in certain quarters of the year. The decrease in non-performing loans and companies was more pronounced in clients from wholesale and retail trade, catering and transport and storage. In the household credit portfolio, non-performing loans grew sharply by 48.2%, thus increasing their share in total loans by 0.6 percentage points and reached 2.5%. The increase in non-performing loans in this segment of the banks' loan portfolio was mostly due to the regulatory changes in the definition of non-performing loans. Since the beginning of 2024, new Decision on the methodology for credit risk management has entered into force, which, among other things, introduces different approach in determining the non-performing status of credit exposures (in particular, counting the days of delay), which in turn contributed to the growth in non-performing loans, particularly in the household portfolio. This decision enables further harmonization with the regulatory requirements effective in the European Union, which further improve the stability of the banking system. Besides the introduction of the new method of determining the non-performing credit exposures, the decision also strengthens the quality monitoring criteria of the banks' credit portfolio and improves the rules for credit exposure restructuring.

The non-provisioned part of the non-performing loans occupies only 4.5% of own funds and 28% of the realized profit for 2024, which limits the potential risks to the banking system solvency in the event of the assumed total default of non-performing loans.

Within the regular credit portfolio, the migration rates of exposures from risk category A to categories B and C-regular went down in 2024, with an annual decline in the share of exposures in risk categories B and C-regular in total regular exposure to non-financial sector. Decrease was also registered in prolonged and restructured loans, which are mainly part of the corporate credit portfolio with a relatively low share in total loans (3.8% and 1.5%, respectively as of 31.12.2024). The results of the credit risk stress-test simulations confirm the banking sector resilience to relatively extreme deteriorations of the credit portfolio risk. However, in conditions of unstable geopolitical environment and introduction of protectionist measures, environmental risks remain pronounced, which requires further caution of banks in determining the expected credit losses and in general, in credit risk management.

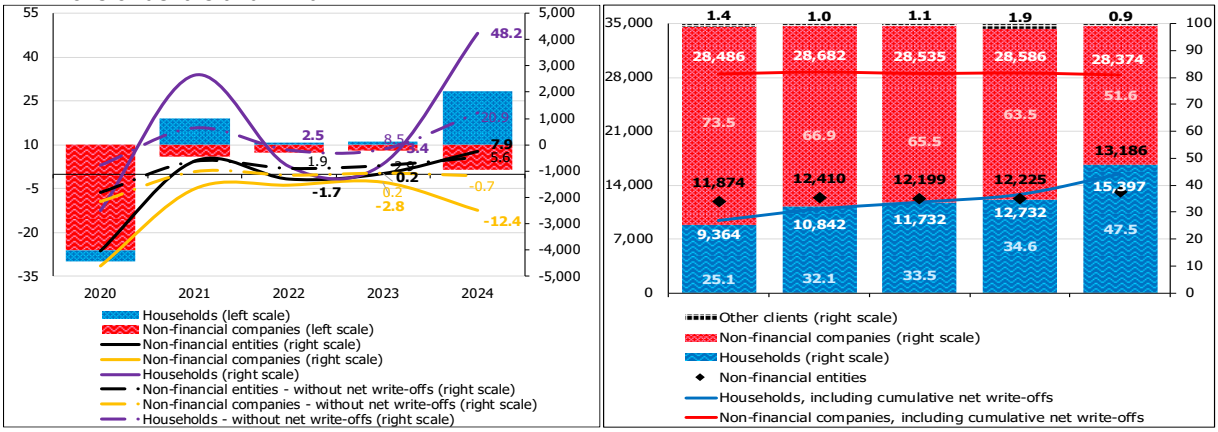
1.1. Materialization of credit risk in banks' balance sheets

In 2024, total non-performing loans to non-financial sector grew by 7.9% (or by Denar 960 million)[9], as opposed to the slight increase in the previous year. Such changes are entirely due to the household portfolio, which, in turn, mostly arises from the methodological changes introduced in the beginning of the year. Despite the fact that, in the beginning of 2025, the effects of these regulatory amendments on non-performing loans were probably mostly exhausted, **constant and vigilant monitoring of clients' creditworthiness, especially those that currently have higher level of indebtedness and are more sensitive to the environmental changes** is still required, for the purpose of proper credit risk management and financial stability maintenance. In conditions of stricter requirements prescribed by the new credit risk management regulation, the maintenance of clients' good financial discipline is crucial.

Chart 9

Annual growth of non-performing loans of non-financial entities (left) amount and sector structure of non-performing loans (right)

in millions of denars and in %



Source: The National Bank and the Credit Registry based on data submitted by banks.

Note: Dashed lines present the non-performing loans by excluding the effect of all mandatory write-offs. Starting from December 2019, the data also contains the collected compulsorily written-off loans.

In 2024, the growth of non-performing loans to households equaled Denar 2,035[10] million (i.e. 48.2%)[11]. Around 55% of the total annual growth of non-performing household loans was registered in the first month of 2024, entirely due to the aforementioned regulatory amendments. In the first two months of 2025, non-performing household loans decreased by 2.4%, which indicates that the effects of the regulatory amendments on non-performing loans are probably exhausted. Analyzed by purpose, the annual increase is driven by

[9]Isolating the effect of net write-offs, non-performing loans to non-financial sector registered a growth of 5.6% (or by Denar 2,339 million).

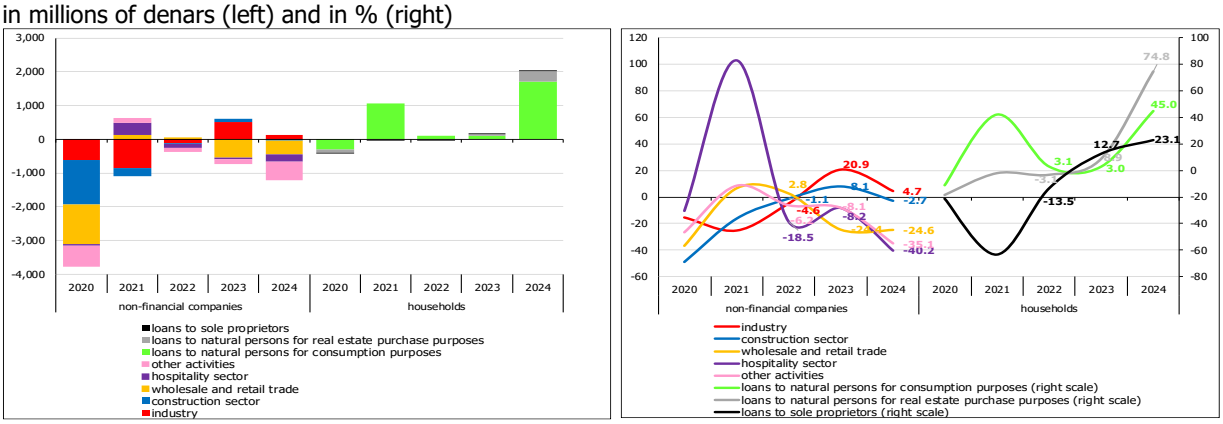
The term *mandatory write-offs* refers to the amount of write-offs reduced by the collection of previous write-offs. In accordance with the regulation as of mid-2019, each bank has been required to write-off credit exposures where twelve months have passed from the date when the bank was obliged to make full impairment, or allocate special reserve. In the period from 2016 to 1 July 2019, banks were required to write-off credit exposures where twenty four months have passed from the date when there was an obligation for full impairment, or allocation of special reserve.

[10]If we exclude the initial effect in the first month of the new regulation, non-performing household loans increase at a twice as lower annual rate.

[11] If we exclude the effect of mandatory net write-offs, the non-performing household loans record an annual growth of 20.9%, which is far higher compared to the previous year (8.5%).

the non-performing loans to natural persons for consumption financing[12]. Increase was also recorded in non-performing loans to natural person for financing the purchase of residential and commercial properties, which increased by Denar 312 million in 2024, with an increase similar to the previous year in non-performing loans to retailers (by around Denar 5 million).

Chart 10
Annual growth, in amounts (left) and in percentages (right) of non-performing loans to non-financial corporations by selected activities and to households by credit products
in millions of denars (left) and in % (right)



Source: National Bank's Credit Registry, based on data submitted by banks. Note: The term "construction sector" includes construction and real estate activities, the term "catering" refers to accommodation facilities and food services activities, while the term "loans to natural persons for financing consumption" refers to consumer loans, overdrafts, credit cards, car loans and other loans to natural persons. The term "consumer financing loans" includes consumer loans, car loans, overdrafts on payment accounts and loans based on credit cards and other loans.

Unlike the upward movements in household sector, the non-performing loans to corporate sector[13] in 2024 significantly declined by 12.4%, or Denar 960 million.[14]. Most of the analyzed economic activities registered a decrease in the non-performing loans, with the exception of the activity "industry" and "agriculture", with the largest contribution to the annual decline made by the "wholesale and retail trade" activity (Denar 417 million, or 24.6%), "catering" (Denar 202 million or 40.2%) and "transport and storage" (Denar 181 million, or 42.6%). Regulatory amendments in relation to the definition of non-performing loans slightly affected the non-performing corporate loans in 2024. Thus, if we exclude the effect of the regulatory changes regarding the definition of non-performing loans, which is known only for the first month of 2024, then non-performing corporate loans would register a sharper decline.

The mandatory write-offs of the non-performing loans also affected the movements of these loans in 2024. In 2024, mandatory write-offs in the amount of Denar 2,230 million (or 18.2% of non-performing loans at the end of 2023) were made, which is slightly more compared to the previous year (Denar 1,906 million). Analyzing the sector, unlike the previous year, this year banks have written off more non-performing loans to non-financial companies, compared to households (share of 56.7% in total mandatory write-offs).

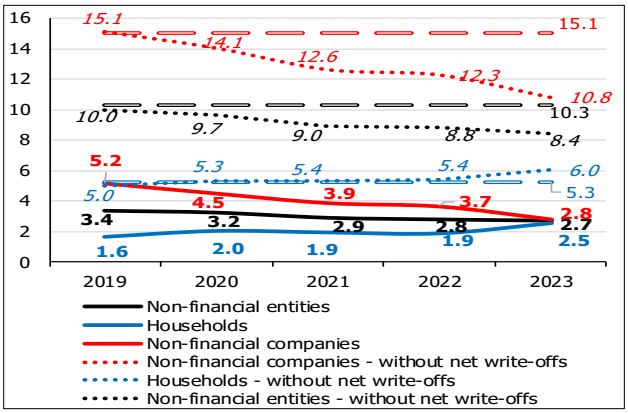
[12]Non-performing loans for consumption financing increased by 45%, or by Denar 1,710 million. This was mainly a result of the increase in non-performing consumer loans which grew by Denar 1,641 million, with a small growth in non-performing loans in terms of allowed overdrafts on payment accounts and loans based on credit cards (Denar 77 million) and non-performing car loans (Denar 2 million).

[13] Due to the reduction, the non-performing corporate loans have almost the same share in total non-performing portfolio as the households, with a share of 51.6% at the end of 2024 (63.5% in 2023).

[14] If exclude the effect of the mandatory net write-offs, non-performing corporate loans will register minimal annual decrease of 0.7%.

In 2024, the collection of non-performing loans by the means of foreclosure had a modest role in the prevention of substantial growth of the non-performing loans. The amount of foreclosed assets during 2024 (Denar 579 million) accounted for 4.4% of the non-performing exposure at the end of 2023, which is far less compared to last year (when it equaled 28.4% of non-performing exposure at the end of 2022). During 2024, the total sale of foreclosed assets amounted to Denar 2,935 million.

Chart 11
Rate of non-performing loans to non-financial entities and by sector
in %

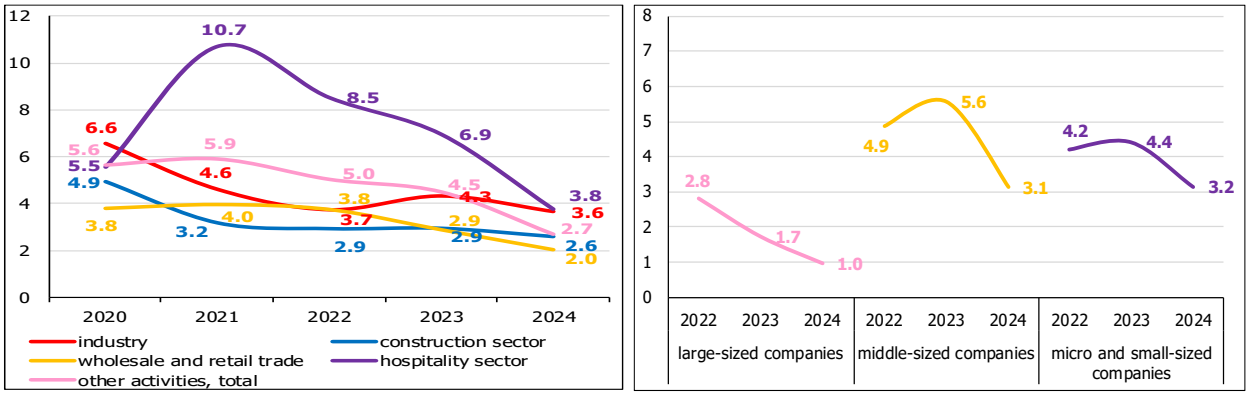


Source: National Bank's Credit Registry, based on data submitted by banks. Note: The dashed lines show the ten-year averages of the non-performing loans rate, calculated by excluding the cumulative effect of all mandatory write-offs and the cumulative collection of previous write-offs (starting from December 2019). Ten-year averages are calculated using quarterly data set.

Due to the slower growth of non-performing loans in 2024, compared to the increase in the bank lending activity[15], the rate of non-performing loans slightly decreased, by 0.1 percentage points, to the record low of 2.7%. The rate of non-performing loans also decreased annually if we exclude the effect of the mandatory net write-offs (8.4% at the end of 2024 and 8.8% in 2023), which is below its ten-year average of 10.3% and at the same time it is the record low compared to the rates registered in the last ten years.

[15]Total loans of the non-financial entities increased by 11.2% annually (4.3% in 2023).

Chart 12
Rate of non-performing loans to non-financial corporations, by activity (left) and by size of borrowers (right)
in %



Source: National Bank's Credit Registry and the National Bank data submitted by banks, upon special request of the National Bank.

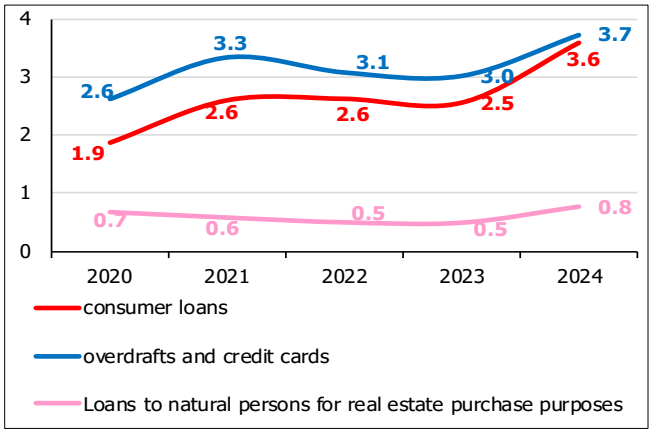
Observed by sector, decline in the rate of non-performing loans in 2024 was recorded in loans to non-financial corporations, of 0.9 percentage points (from 3.7% to 2.8%)[16]. The decrease in the rate of non-performing loans was noted in most of the important prevailing activities of non-financial corporations, with the most pronounced annual decline in "catering" (from 6.9% to 3.8%). According to the size of non-financial corporations[17], at the end of 2024, the rate of non-performing loans decreased in all groups of companies, with the most pronounced decrease in medium-sized companies, dropping below the rate of non-performing loans in micro and small companies. Large enterprises, which account for 38% in total loans to non-financial corporations, have the smallest rate of non-performing loans at the end of 2024, of 1%.

Unlike the corporate sector, the rate of the non-performing household loans increased annually by 0.6 percentage points and equaled 2.5% at the end of 2024[18]. This indicator increased in most credit products, whereby as usual, the lowest rate of non-performing loans was registered in loans for purchase of real estate (0.8%).

[16] If we exclude the effect of the mandatory net write-offs, the rate of non-performing loans in this sector will also decrease and it will equal 10.8%, which is below its ten-year average (15.1%).
[17] The criteria for classification of entities into large, medium, small and micro traders are defined in Article 470 of the Law on Trade Companies.
[18] By excluding the effect of the mandatory write-offs, the rate of the non-performing household loans also increased and equaled 6%, which is above its ten-year average.

Chart 13
Rate of non-performing loans by credit product to natural persons

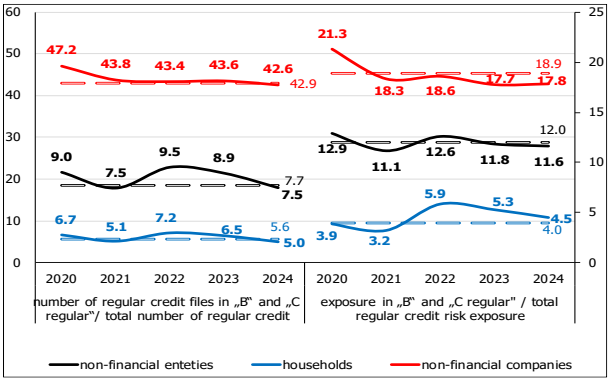
in %



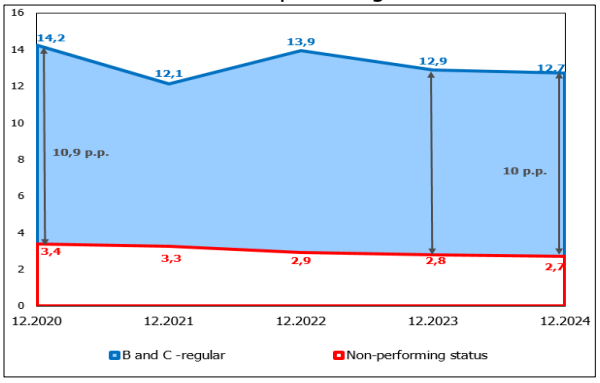
Source: National Bank's Credit Registry, based on data submitted by banks.

Chart 14
Early warning indicators for the level of risk within the regular credit exposure of banks to non-financial entities (left) and the gap between regular loans in risk categories "B" and "C" and non-performing loans*, shown by their share in total loans (right)

in percentages



in percentages of the total loans

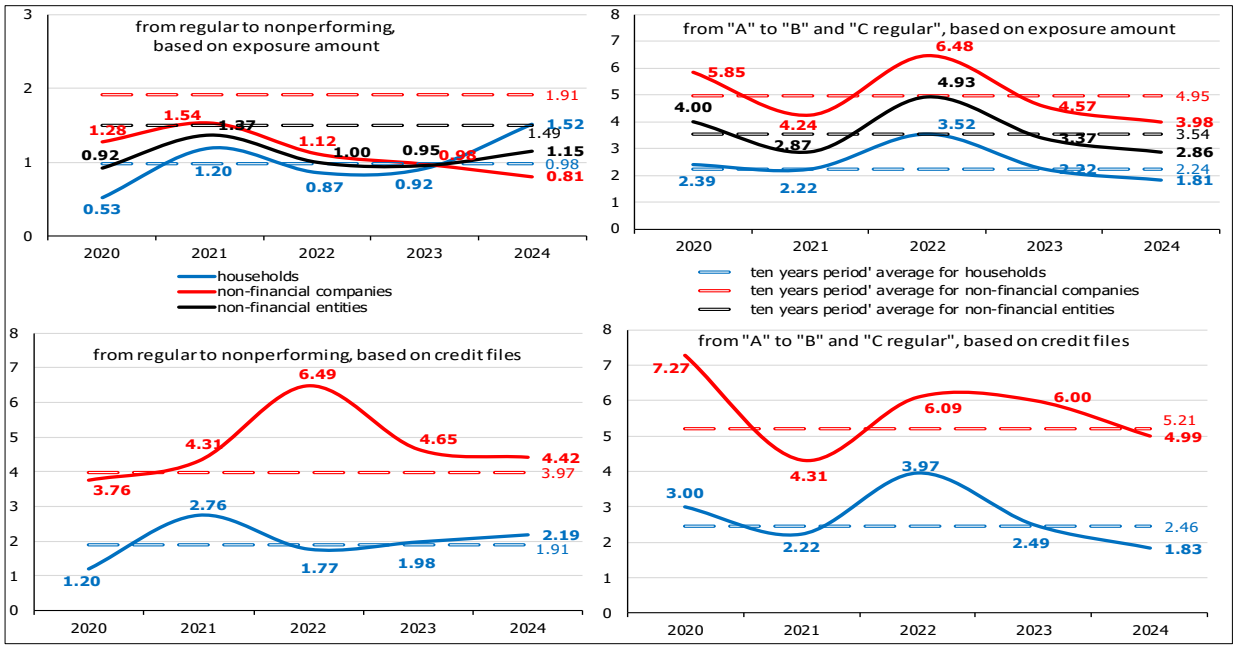


Source: National Bank's Credit Registry, based on data submitted by banks.
Note: The dashed line represents the ten-year average of the indicators calculated using quarterly data.
*Regular loans classified in B and C risk categories and non-performing loans, are approximation of the so-called group 2 and 3 loans according to IFRS 9, respectively.

Generally, the early warning indicators in 2024 do not provide basis for a significant deterioration in the quality of the credit portfolio in the future. In 2024, the share of regular status exposure that has a lower credit quality[19] (classified in risk categories "B" and "C regular") in the total regular credit exposure to non-financial entities decreased from 11.8% to 11.6%, which arises from the household sector (the share in exposure to the household sector decreased by 0.8 percentage points, and in non-financial companies slightly increased by 0.1 percentage points). However, this indicator in the household portfolio is still slightly above its average for the past ten years.

[19]Credit risk exposures which according to the regulations are classified in the risk categories *B and C regular,* can be considered as approximation of exposures which in compliance with IFRS 9-financial instruments are included in the so-called group 2 of financial assets which are considered to have deteriorated credit quality, after initially recognizing the accounting records, but have no objective signs of impairment and inclusion in the so-called group 3 of financial assets yet.

Chart 15 Annual migration rates
in %



Source: National Bank's Credit Registry, based on data submitted by banks.
Note: The dashed lines represent the ten-year average of the migration rate which is calculated on the basis of the quarterly frequency of the relevant annual migration rates. The calculation of the migration rates by number of agreements does not show the rates of total non-financial entities, since they are almost identical to the migration rates of households, which is due to the predominant share of this sector in the total number of credit agreements in the banking system (93.2% at the end of 2024, i.e. 93.7% at the end of 2023).

The annual migration rates within the regular credit exposure also registered a decrease in 2024.[20]. The migration rates within the regular credit exposure (transition from risk category A to categories B and C-regular) in 2024 went down and were below their ten-year average. **On the other hand, the change in the methodology for determining the non-performing loans increased the annual migration rate of the total non-financial sector from regular credit exposure to non-performing, influenced by the household sector, as the most affected by the aforementioned methodological changes.** Therefore, in 2024, the migration rate from regular to non-performing exposure among households increased and exceeded its ten-year average, while in non-financial companies this rate is below the ten-year average.

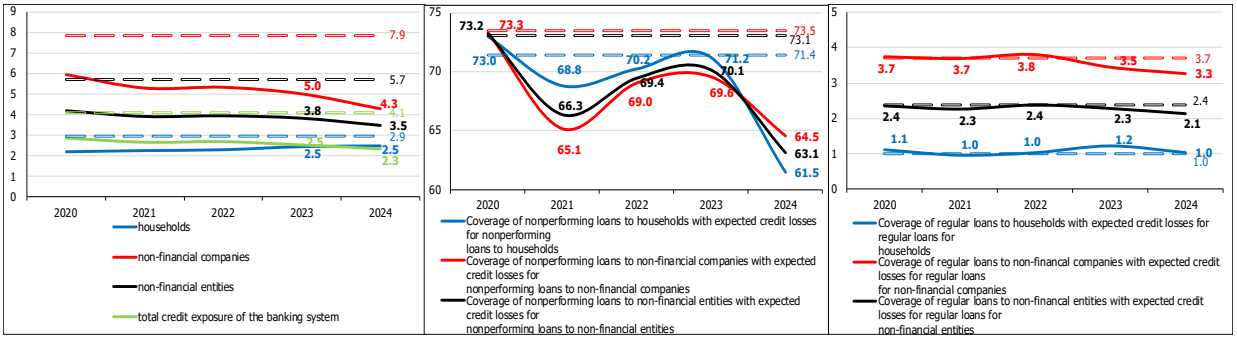
The banks maintain high coverage of non-performing loans with allocated impairment, reducing the possible negative effects on the bank solvency in the event of their possible complete default. Namely, 63.1% of the gross amount of non-performing loans are covered by impairment, despite the evident moderate decrease[21] of 7 percentage points

[20]The annual migration rates are calculated by the amount of exposure and number of credit agreement at the end of each year for the following calendar year, as follows: from regular to non-performing status and from risk category "A" to risk categories "B" and "C with regular status". Migration rates can be considered as a type of approximation for default rates.
[21]The decrease in the indicator of the coverage of non-performing loans arises from the reduced amount of default for these loans as a result of the (mandatory) write-offs and potentially, of the collected non-performing loans, and partly due to the lower amount of allocated impairment for the (new) non-performing loans formed during 2024. The latter potentially arises from the regulatory amendments regarding the definition of non-performing loans, where in accordance with the new method of counting the days of delay, certain credit exposures fulfill the regulatory conditions for their re-classification in exposures with non-performing status, but

compared to the previous year. The non-provisioned amount of non-performing loans is still low and makes up only 4.5% of own funds and 4.7% of the Common Equity Tier 1 capital of the banking system (these shares deteriorated by 0.7 percentage points compared to the previous year). Also, the possible additional cost of fully covering non-performing loans with impairment would only take 28% of the realized profit for 2024. This means that even in the case of such an extreme assumption of complete default of the current level of non-performing loans, the solvency and profitability of the banking system would not be jeopardized, i.e. the stability of the banking system would not be threatened.

Banks have maintained the coverage of total regular loans with impairment relatively similar to the previous year. At the end of 2024, there was a slight decrease in the average provisioning of total regular loans to non-financial entities, as well as to households and enterprises, by 0.2 percentage points each. Banks continue to identify higher risks from the corporate sector as the expected credit losses for regular loans to non-financial corporations are three times higher compared to households both for the end of 2024 and for the average of the past ten years. The analysis by activity shows that expected credit losses (as a percentage of regular loans) at the end of 2024 were the highest for the regular loans in catering (4.2%) and construction (4.1%), while the lowest in wholesale and retail trade (2.7%). In household credit products, expected credit losses have decreased within regular consumer loans and overdrafts and credit cards, while coverage with housing loan write-offs is the lowest (these loans tend to be of the best quality) and has not changed.

Chart 16 Expected credit loses:
by sector for the total (left), non-performing (middle) and regular loans (right)
in %

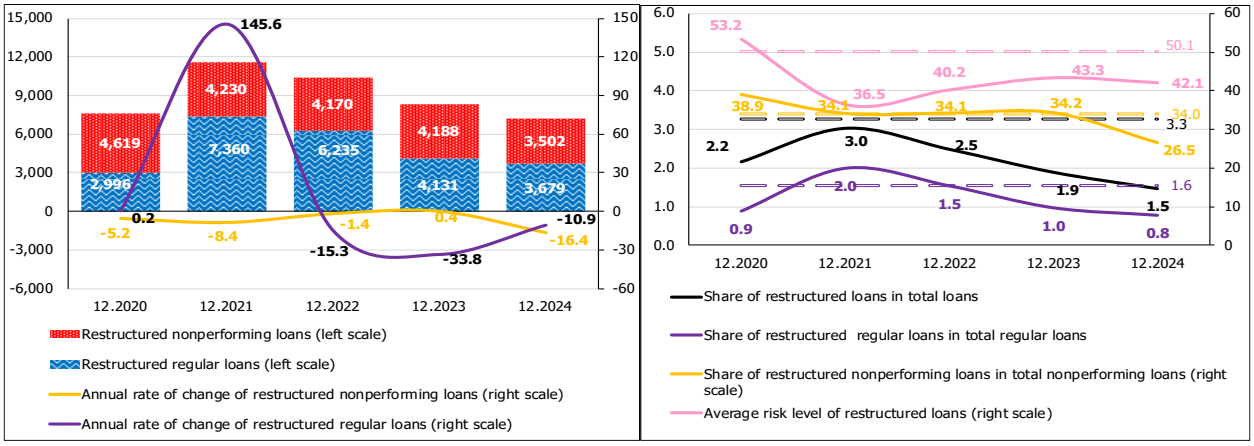


Source: National Bank's Credit Registry, based on data submitted by banks. Note: The dashed lines show the ten-year average of the coverage of total non-performing and regular impaired loans, calculated based on the annual frequency of the data.

banks allocate a lower amount of impairments than the usual average, since they have not registered a significant deterioration in the creditworthiness of these clients. The minimal obligation for provisioning non-performing loans equals 30% (which is probably applied on new non-performing loans, and is twice as lower than the average provisioning of non-performing loans), which decreases the coverage of these loans with impairment.

Chart 17 Absolute amount and annual growth (left) and restructured loans of the non-financial entities (right)

in millions of denars and in %



Source: National Bank's Credit Registry, based on data submitted by banks. Note: The dashed line represents the ten-year average of the indicators of relative significance of the restructured loans calculated by using quarterly frequency of data.

The restructured loans are part of the credit portfolio which imposes a need for closer monitoring, since they can become a potential source for new non-performing loans, if the restructuring does not achieve the expected goals of adjusting the client's credit burden. After the initial high growth of restructuring in the pandemic 2021, for the third consecutive year, the restructured regular loans decreased and in 2024 dropped by 10.9%, with a more pronounced decrease in restructured non-performing loans (decline of 16.4%). The largest share in the structure of the restructured credit portfolio accounts for the non-financial corporations with 93.1%[22].

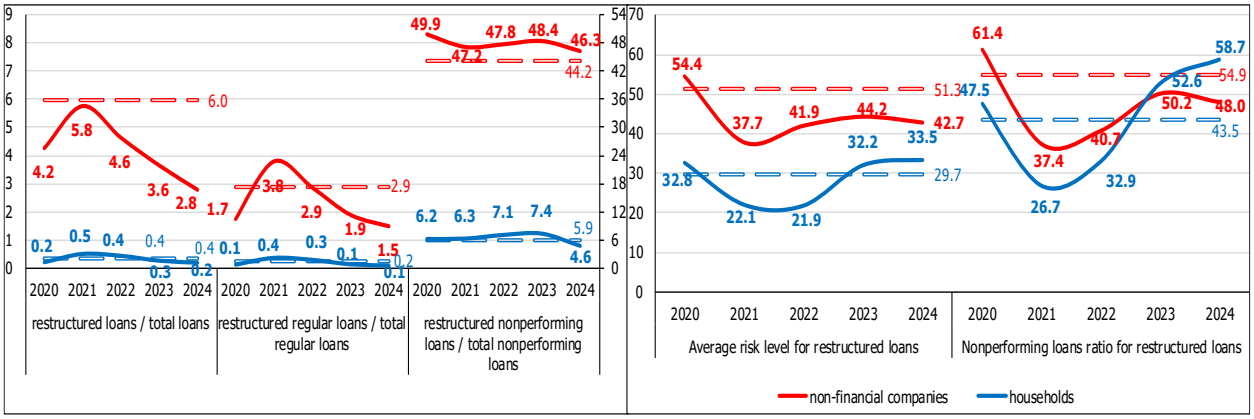
The share of restructured loans in total and regular loans is very low and it further decreased in 2024, equaling 1.5% and 0.8%, respectively. Banks find these loans as loans at higher risk, so allocate higher expected credit losses for them. Thus, the coverage of regular restructured loans with impairment in 2024 is 20.4% and is significantly higher than the coverage of total regular loans, which is 2.1%[23]. On the other hand, the coverage of non-performing restructured loans with separate provisions (of 64.8%) is similar to the coverage of total non-performing loans (of 63.1%).

[22]As of 31.12.2024, the shares of restructured loans in credit portfolios of non-financial legal entities and households decreased and amounted to 2.8% and 0.2%, respectively.

[23] 21.6% and 2.3% respectively at the end of 2023.

Chart 18 Indicators of relative significance (left) and riskiness of the restructured loans by sector (right)

in %

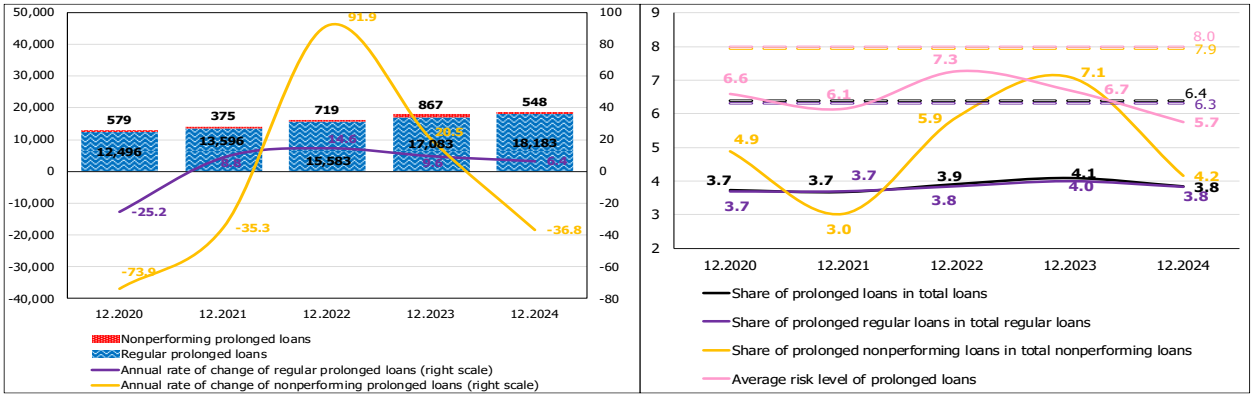


Source: National Bank's Credit Registry, based on data submitted by banks.

Slowdown in the growth of prolonged loans was registered in 2024 (the maturity can be prolonged for clients with no financial difficulties and it is usually carried out for the purpose of credit renewal, or harmonization of the maturity with the framework for a certain business venture). Thus, in 2024 total prolonged loans increased by 4.3%, that is Denar 781 annually, which is two times less in both absolute and relative amount compared to the end of 2023 (increase of 10.1% and Denar 1,647 million). Regular prolonged loans still dominate the structure of total prolonged loans (97.1% share), while by sector, the loans extended to non-financial corporations are more often prolonged (a share of 90.6%)[24]. **Possible risks that would arise from these loans are limited due to the low share of prolonged loans in banks' total credit portfolio (3.8% at the end of 2024).** Moreover, this share is higher in the portfolio of loans to non-financial corporations, where the share of prolonged loans is 7%, compared to the household sector, where the share of these loans is insignificant and stable (0.7%).

Chart 19 Absolute amount and annual growth (left) and indicators of the relative importance of extended loans to non-financial entities (right)

in millions of denars and in %

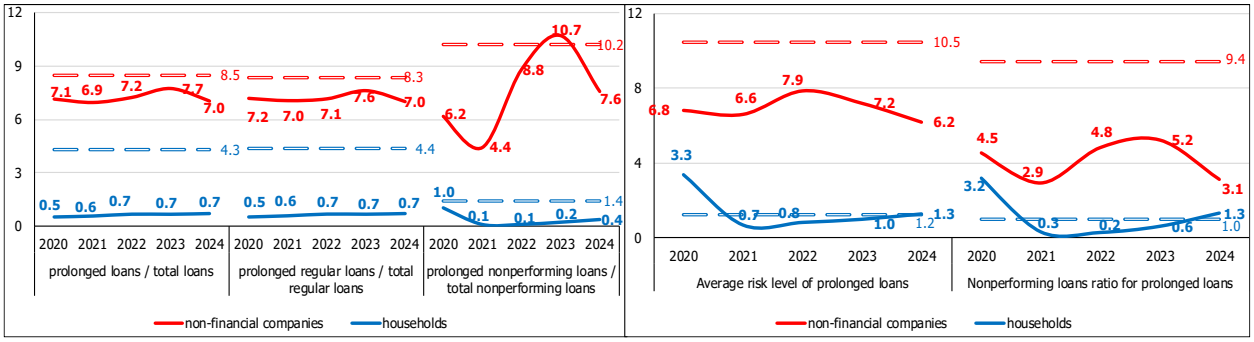


Source: National Bank's Credit Registry, based on data submitted by banks. Note: The dashed line represents the ten-year average of the indicators of relative significance of the prolonged loans calculated by using quarterly frequency of data.

[24]The prolonged maturity is usually noted in industry, wholesale and retail trade, usually with framework renewable loans.

Chart 20 Indicators of relative significance (left) and riskiness (right) of the prolonged loans, by sector

in %



Source: National Bank's Credit Registry, based on data submitted by banks. Note: The dashed line represents the ten-year average of the indicators of relative significance and riskiness of the prolonged loans calculated by using quarterly frequency of data.

In 2024, banks assessed a lower credit risk from extended loans compared to the previous year, which in turn is higher compared to the total regular credit portfolio. Thus, the average riskiness of the extended loans of the entire non-financial sector is 5.7%, recording an annual decrease of 0.9 percentage points and is lower than its ten-year average (8%).

Loans approved by banks have a relatively high degree of coverage with a certain form of collateral, as a guarantee for the loan repayment in future. At the end of 2024, 83.9% of the non-performing loans and 88.6% of performing loans are collateralized. This is particularly pronounced in non-financial companies, where the level of coverage with collateral exceeds 98%, while in households, the percentage of collateralized loans is lower (78.9% for performing and 68.9% for non-performing loans) mainly due to consumer loans[25].

Banks are relatively cautious in approving new credit exposures to natural persons. Thus, the monthly debt service to income ratio of natural persons (DSTI ratio) for the new credit exposures established in 2024, averaged 34.4% (the regulatory limit for this ratio amounted to 55% for denar exposures and 50% for exposures with currency component). At the same time, the borrower-to value of real estate ratio, on average, amounted to 64.1%, 66.1% of which for housing loans and 57.8% for consumer mortgage loans (the regulatory limit for this ratio equaled 85%).

1.1 Stress-testing of the resilience of the banking system to increased credit risk

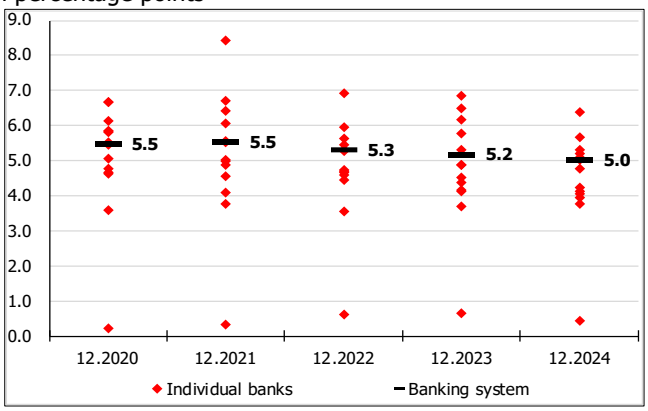
At the end of 2024, the results of the banking system resilience simulation amid increased credit risk show solid ability of the domestic banking system to deal with hypothetical shocks of increased credit risk.

[25]At the end of 2024, two-thirds of consumer loans were secured, while in loans for purchase of real estate, the total amount of loans were covered with collateral.

In case of extreme simulation for a migration of 30% of the credit exposure to non-financial corporations, from the existing to the next two higher risk categories, the capital adequacy ratio of the banking system is reduced by 5 percentage points compared to the initial level, i.e. from 18.9% to 13.9%, which is slightly better result compared to the previous year, when the decrease in the capital adequacy ratio equaled 5.2 percentage points.

Chart 21 Decrease in the capital adequacy ratio at simulation of gradual deterioration of the quality of the bank exposure to credit risk to non-financial entities from the current, to the following two risk categories

in percentage points

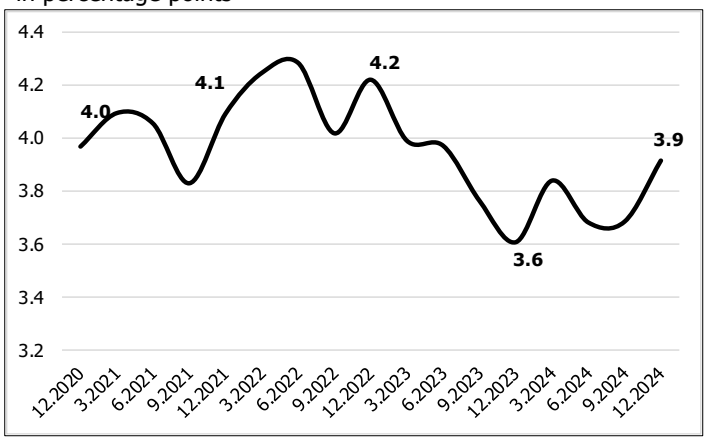


Source: National Bank calculations, based on data submitted by banks

Simulated materialization of concentration risk in the credit portfolio, amid assumed migration of the ten largest clients from non-financial sector of each bank, from the risk category (mostly A), to risk category B- non-functional, reduces the capital adequacy ratio of the banking system reduced by 3.9 percentage points from the initial 18.9% to 15%, which is slightly worse compared to the last year. The reduced capital adequacy ratio amid such scenario would range from 1.1 percentage point to 6.4 percentage points, whereby it would not drop below 8% in any of the banks.

Chart 22 Decrease in the capital adequacy ratio at the level of the banking system in case of materialization of exposure concentration risk to non-financial entities

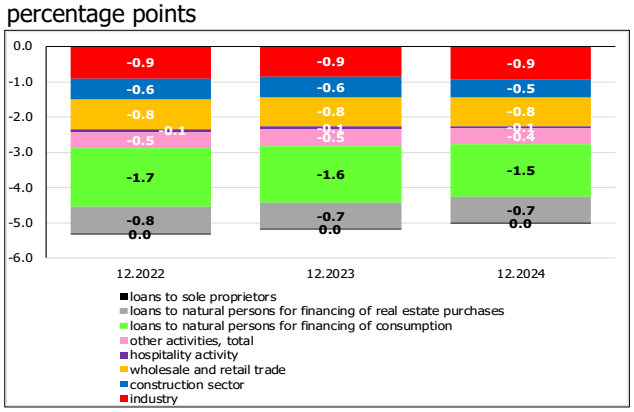
in percentage points



Source: National Bank calculations, based on data submitted by banks

Chart 23 Contribution of individual predominant activities of the non-financial corporations and household credit products in the decrease in the capital adequacy ratio in the simulation of gradual deterioration of the quality of credit risk exposure

in percentage points



Source: National Bank calculations, based on data submitted by banks

The banking system resilience is also examined by extreme simulation based on a combination of eight[26] hypothetical shocks of quality deterioration of the credit portfolio to the non-financial sector. The shocks refer to various exposure segments, which are determined by certain risk-degree features (non-performance, delay in settling liabilities, restructuring, prolongation, approved grace period and contractual single payment). In some of the shocks for the credit portfolio quality, the intensity of the simulated shock is associated with the historical pace of the respective exposure migration rates, i.e. with their ten-year average.

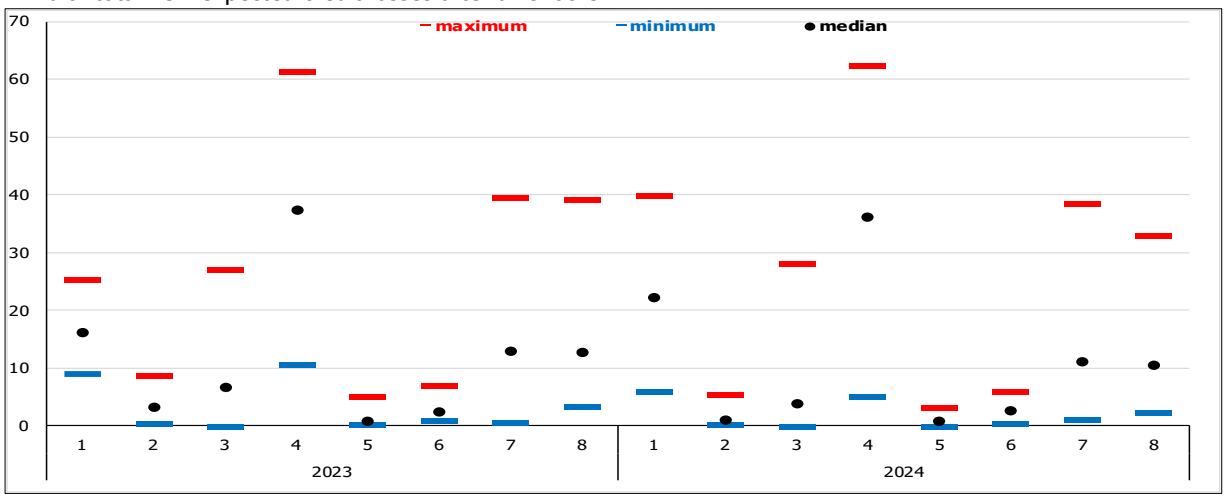
In case of this extreme simulation, the capital adequacy of the banking system does not come below the prescribed minimum. Upon this simulation, the capital adequacy ratio reduces by

[26]The eight hypothetical shocks of risk exposure to non-financial entities for each bank are as follows: 1.Complete default of the current non-performing credit exposure; 2 part of the regular loans with a delay in repayment that exceeds 31 days receive non-performing status. The part that receives non-performing status is determined in the amount of the ten-year average of the exposure transition rate from risk category B and C regular to risk category B non-performing, D and E with each bank; 3. total regular restructured exposure without current delay in the repayment of liabilities receives a non-performing status; 4. new restructuring of regular credit exposure without a current delay in repayment of liabilities, reduced credit exposure with residual maturity which is due in the next year. The scope of new restructuring shall be based on 2* the ten-year average of the exposure transition rate from A risk category to B and C regular, with each bank individually; 5 Part of the loans with granted grace period which expires after a period of one quarter to one year after the reporting date receive a non-performing status. The part that receives a non-performing status is determined in the amount of 2* the ten-year average of the exposure transition rate from A, B and C risk categories regular, to C risk category non-performing, D and E risk categories with each bank individually; 6 Part of the prolonged exposure without a current delay in the repayment of liabilities receives a non-performing status which is determined in the amount of the ten-year average of the exposure transition rate from the risk category A, B and C regular to risk categories C non-performing, D and E with each bank individually; 7. Part of the regular, non-restructured and non-prolonged credit exposure without a delay in the repayment of liabilities and with a residual maturity which is due in the next year, receives a non-performing status. The part that receives non-performing status is determined in the amount of the sum of the 2*ten-year average of the amount exposure transition from risk category A into risk categories B non-performing, C and D in each bank individually and the 2*ten-year average of the amount exposure transition from risk category A into risk categories B and C regular, in each bank individually; and 8. Part of the regular loans with a delay in the repayment of liabilities up to 31 days increase the period of delay longer than 31 days. The part that increases the delay period is determined in the amount of the ten-year average of the transition rate of the exposure from risk category A to B and C regular with each bank.
The coverage with impairment after each of the eight shocks is the same as before the shock.

4.8 percentage points, to 13.9%[27] (by 4.9 percentage points i.e. from 17.9% to 13%, respectively at the end of 2023). The shocks would cause absorption of 25.6% of the initial capital adequacy ratio, which is less compared to the end of the previous year (27.3% of the initial capital adequacy ratio). The largest effect on the capital adequacy ratio was made by the assumed new restructuring of the credit risk exposure which the bank would carry out on regular exposures without current delay in repayment of liabilities (contribution of 41.6% in the capital adequacy reduction), followed by the worsened quality of the credit exposure with an agreed bullet payment falling due next year (contribution of 18.8%) and total default of the current non-performing exposure (contribution of 18.4%)[28].

Chart 24 Distribution of the new expected credit losses, by shock

in % of total new expected credit losses after all shocks



Source: NBRM calculations, based on data submitted by banks.

[27]The initial capital adequacy ratio of the banking system is without DBNM AD Skopje, which is excluded from this simulation

[28]The quality of the credit exposure with new restructuring within the regular exposure and no current delay in complete default of the existing non-performing exposure slightly deteriorated after the simulation, while the quality of the credit exposure with contractual bullet payment which is due the next year slightly improved, increasing their contribution to the decrease in the capital adequacy ratio compared to 2023 by 0.1 and 3.5 percentage points, i.e. decreasing it by 0.4 percentage points, respectively.

3. Liquidity risk

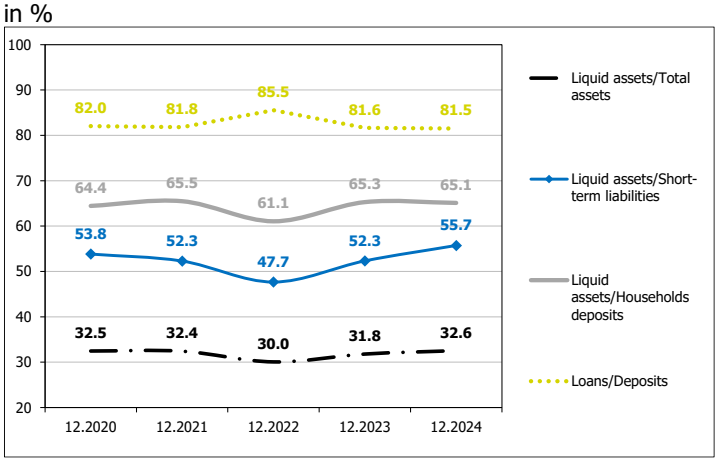
In 2024, the liquidity position of the banking system remained stable and additionally enhanced, ensuring satisfactory capacity of banks to timely and regularly service liabilities. Supported by further deposit growth, liquid assets of the banking system increased, recording an annual growth of 13.2%. Within their structure, the largest increase was noted in assets (cash and assets on accounts with the National Bank) and banks' placements in domestic government bonds in denars. Smaller growth was registered in banks' placements in foreign government securities, placements in government bills, as well as assets in banks on accounts with foreign banks. Thus, the indicators for liquidity monitoring and assessment recorded an upward shift and mainly remained within their usual, satisfactory levels and above their ten-year average. The Liquidity Coverage Ratio of the banking system is significantly higher than the regulatory minimum, which confirms the sufficient amount of liquid assets available to banks. The gap between the agreed cash inflows and outflows of up to one year is traditionally negative, but banks expect a relatively high level of deposit stability, as the main source of financing of their activities. The stress test results indicate satisfactory resilience of the banking system to the assumed extreme, individual and combined liquidity outflows.

2.1. Liquidity indicators

In 2024, the increase in liquid assets of the banking system improved the liquidity indicators, the amount of which is within the usual satisfactory levels and is above their ten-year average.

Chart 25 Liquidity indicators of the banking system

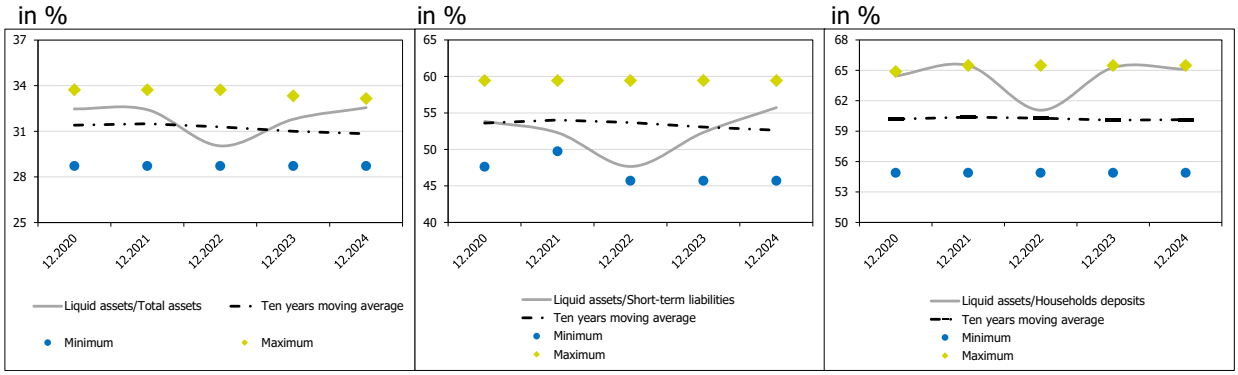
in %



Source: National Bank, based on the data submitted by banks.
Note: The calculation of liquidity ratios of the banking system does not include resident interbank assets and liabilities.

Therefore, liquid assets make up 32.6% of total bank's assets, providing coverage of more than half of the short-term liabilities and household deposits with liquid assets (of 55.7% and 65.1%, respectively[29]).

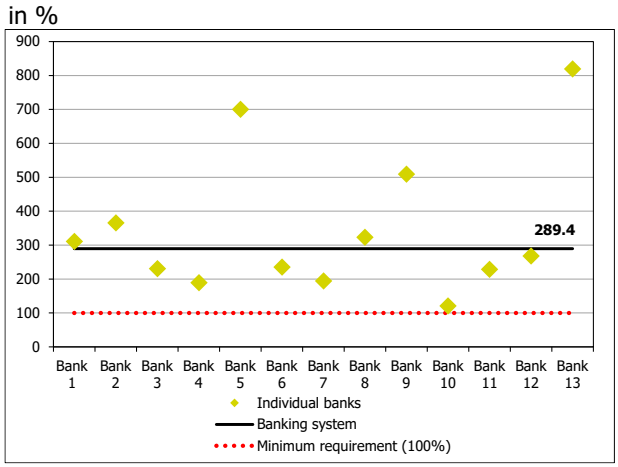
Chart 26 Liquid assets / total assets (left), liquid assets / current liabilities (middle) and liquid assets / household deposits (right)



Source: National Bank, based on the data submitted by banks.

The Liquidity Coverage Ratio of the banking system equals 289.4%, which is significantly higher than the regulatory minimum (100%[30]), thus confirming that there is sufficient liquidity available to the Macedonian banking system. Bank-by-bank analysis shows that the liquidity coverage ratios reached 819% (with a median of 267.7%), which also indicates acceptable liquidity risk frames to which banks are exposed and their stable liquidity management.

Chart 27 Liquidity coverage ratio, as of 31.12.2024



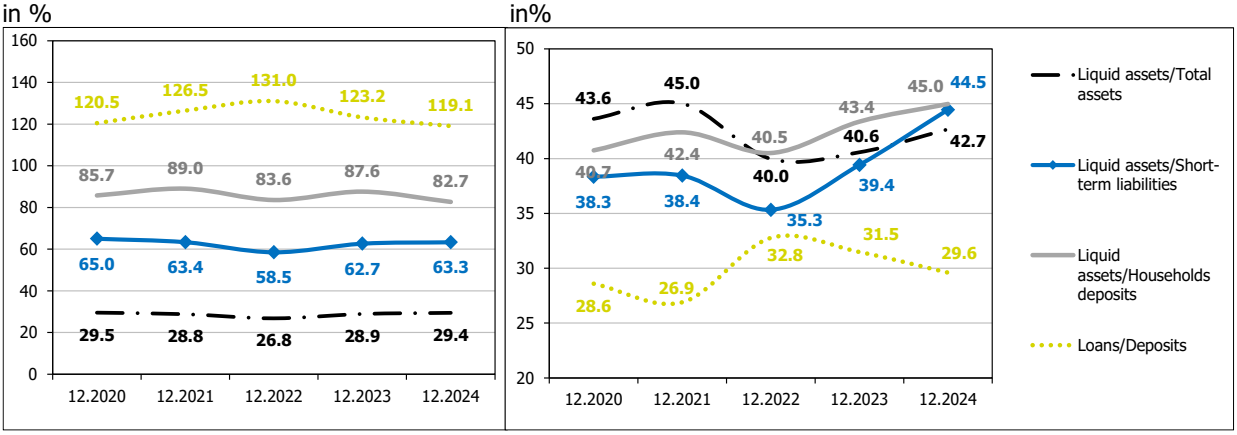
Source: National Bank, based on the data submitted by banks.

[29] Analyzed by bank, as of 31.12.2024, the share of liquid in total assets ranges between 24.5% and 48.6%, with a median of 29.3% (December 2023: between 22.5% and 50.1%). The coverage of short-term liabilities with liquid assets ranges between 43% and 87.6%, with a median of 59.3% (December 2023 between 37.3% and 80.4%), and the coverage of household deposits with liquid assets ranges between 41.9% and 120.2%, with a median of 79.0% (December 2023: between 39.8% and 126.0%). The Development Bank of North Macedonia AD Skopje is excluded from this analysis.

[30] In addition to cumulative basis, banks are required to determine and monitor a liquidity coverage ratio for each currency that is significant to the bank (each currency whose share of the bank's total balance sheet liabilities is at least 5%). Thus, the minimum level of liquidity coverage ratios by currency is not prescribed. As of 31.12.2024, the liquidity coverage ratios for the two significant currencies, euros and denars, were 116.7% and 326.2%, respectively.

According to the currency features of liquid assets and liabilities, in 2024, the denar[31] and foreign currency indicators improved, which is in line with the annual increase in denar (of 15.4%) and foreign currency liquidity (of 8.7%). The denar liquidity indicators remain at a higher level compared to the foreign currency liquidity indicators, due to the higher structural share of liquid assets in denars in total liquid assets of banks. The lower foreign currency liquidity indicator, compared to denar liquidity, emphasizes the importance of the adequate volume of the foreign reserves and the presence of the National Bank in the foreign exchange market (in order to maintain a stable exchange rate) for covering the demand for foreign currency cash[32].

Chart 28 Banking system liquidity ratios by currency-denar (left) and foreign currency (right)



Source: National Bank, based on the data submitted by banks.

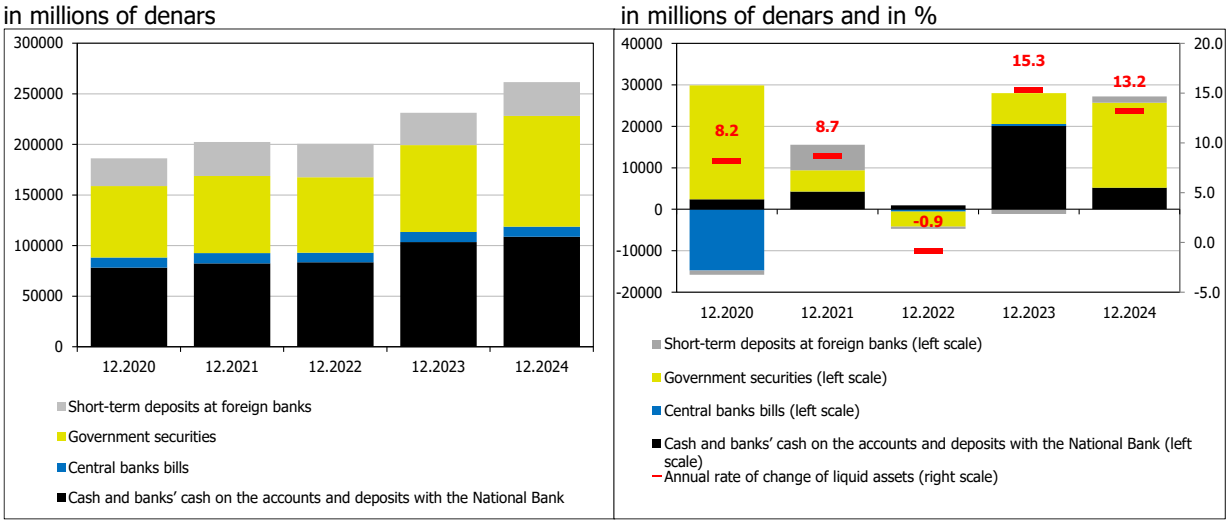
2.2. Dynamics and composition of liquid assets

At the end of 2024, the liquid assets[33] of the banking system amounted to Denar 261,603 million. Amid further, and accelerated annual deposit growth (11.4% in 2024, against 9.2% in 2023), liquidity assets in the banking system registered significant increase of 13.2%, i.e. Denar 30,406 million. Analyzed by individual financial instruments that make up liquid assets, the increase was most pronounced in assets (cash and assets on the accounts with the National Bank), which increased by Denar 18,627 million, or by 44.3% (mostly assets on Denar account with the National Bank)[34], as well as banks' placements in domestic government bonds in denars (by Denar 17,914 million, 58.4%). They are followed by the increase in banks' placements in

[31] Claims and liabilities with FX clause are considered as denar claims and liabilities, since their cash flow is in denars.
[32] The European Central Bank (ECB) granted the National Bank access to foreign currency liquidity in euros, with appropriate collateral. This access has been granted in the form of repo line, since August 2020, totaling Denar 400 million, and the deadline for application of the repo line was extended several times (the latest, as of 31 January 2027). The repo line assets were not used in the past period, despite several subsequent crisis. For more details please visit: https://www.ecb.europa.eu/mopo/implement/liquidity_lines/html/index.en.html.
[33] The liquid assets encompass: 1) assets and claims on the National Bank, which include cash, assets on the accounts of banks with the National Bank (up to the daily amount the banks may use), deposit facility with the National Bank and CB bills; 2) short-term deposits with foreign banks, including the assets of the banks on their correspondent accounts abroad and 3) the carrying amount of the investments in securities issued by central governments, i.e. government securities issued by the Republic of North Macedonia and issued by foreign countries. For the purposes of analyzing the liquidity, assets and liabilities in denars with foreign exchange clause are considered denar assets and liabilities.
[34] Denar cash increased by Denar 19,832 million, mostly assets on denar account with the National Bank, by Denar 16,599 million, while foreign currency cash declined by Denar 1,205 million (mostly assets on foreign currency account in MIPS, by Denar 746 million).

foreign government securities of Denar 3,229 million (or 46.1%), and slightly lower increase in banks' placements in treasury bills (of Denar 1,769 million, or 8.8%), as well as assets on corresponding accounts and short-term deposits in foreign banks (of Denar 1,485 million, or 4.7%)[35]. On the other hand, banks' placements in overnight deposits facilities with the National Bank decreased by Denar 14,910 million (or 61.9%), while seven-days deposit facilities grew by Denar 1,465 million (or 3.9%)[36]. Banks' placements in CB bills remained almost unchanged (a minor growth of Denar 4 million, or 0.04%[37]).

Chart 29 Liquid assets, structure (left) and growth (right)



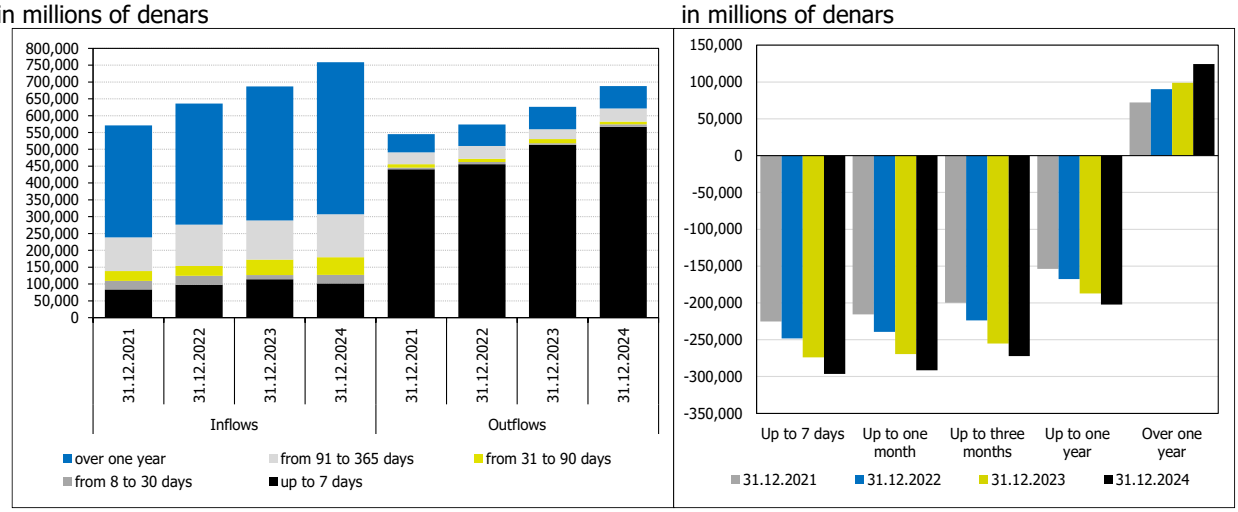
Source: National Bank, based on the data submitted by banks.

2.3. Maturity structure of the contracted inflows and outflows of bank's assets and liabilities

As of 31.12.2024, the agreed inflows in the period over one year and the agreed outflows in the period up to seven days prevail in the maturity structure of banks' inflows and outflows. The largest gap between the banks' inflows and outflows is registered in the time periods up to seven days (negative gap) and over one year (positive gap), which results from the inclusion of liabilities on demand and without a maturity in the maturity segment up to seven days (demand deposits account for 63.6% of total deposits) and due to claims based on loans and advances included in maturity segments over one year (long-term loans at the level of the banking system cover more than 80% of total loans to non-financial entities). In terms of the banking system assets, the cumulative gap up to seven days and the cumulative gap up to one year amounted to 35.9% and 24.5%, respectively).

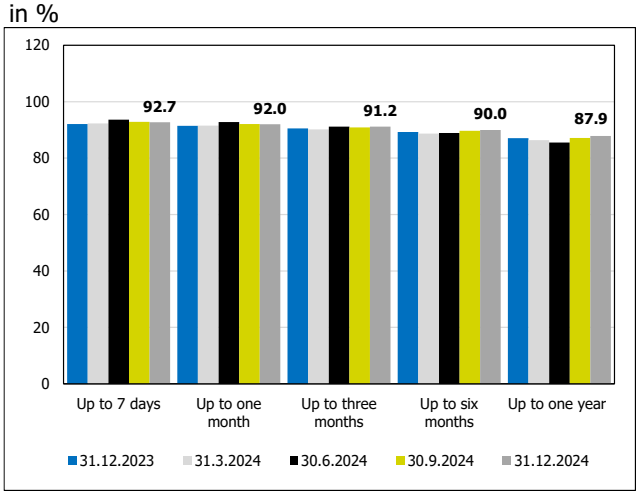
[35] Increase in banks' assets on accounts with foreign banks of Denar 1,231, million or 12.9%, and increase in short-term time deposits placed in foreign banks by Denar 254 million, or 1.1%.
[36] The interest rates on overnight and seven-day deposit facilities decreased by 0.25 percentage points in December and equaled 3.95% and 4%, respectively.
[37] In the second half of 2024, the National Bank started a cautious and gradual normalization of the monetary policy, thus reducing the interest rate on CB bills by 0.25 percentage points on three occasions, (i.e. in September, October and December) to the level of 5.55%. In accordance with the conditions in economy, in February 2025 the policy rate was cut by additional 0.20 percentage points, to a level of 5.35%. The offered amount of CB bills remained unchanged at Denar 10,000 million.

Chart 30 Maturity structure of inflows and outflows of balance sheets assets and liabilities (left) and cumulative gap between agreed inflows and outflows, including the cumulative amount of unencumbered assets (right)



Source: National Bank, based on the data submitted by banks.

Chart 31
Expected deposit stability to the remaining period to maturity



Source: National Bank, based on the data submitted by banks.

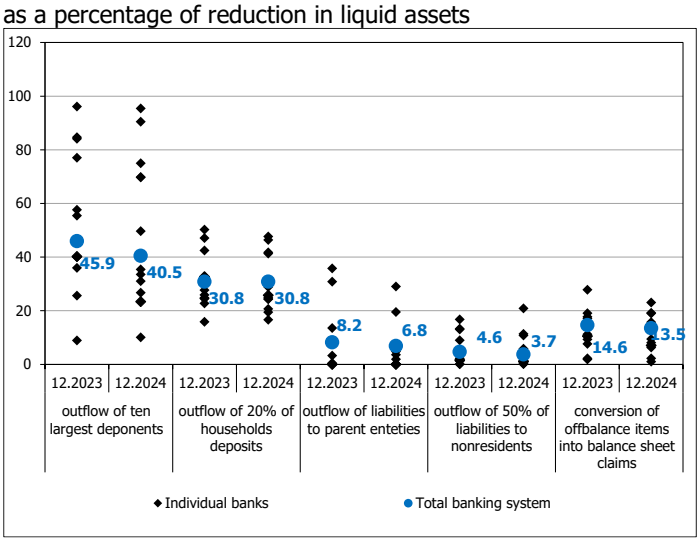
The banks expect maintenance of the deposit stability as the main source of funding for their activities. In accordance with the depositors' behavior, banks assessed that the largest part of the agreed cash inflows and outflows (or 87.9%) based on deposits will not be realized by depositors in the next twelve months, which mitigates risks from the pronounced negative short-term gap.

2.4. Stress-simulations for liquidity shocks

On 31.12.2024, the results of the conducted stress simulations for liquidity shocks show solid capacity of the banking system, with sufficient liquid assets to deal appropriately with the simulated cash outflows. The resilience of the Macedonian banking system to liquidity shocks is confirmed by the results of all individual simulations of liquidity shocks, with the liquid assets being almost fully used (or 95.3%) only in case of significantly extreme simulation of liquidity shock, which covers combined outflows[38] of funds from banks on several bases. Given the extremity of assumptions, for the needs of this simulation, the usual volume of liquid assets was extended with other financial instruments[39] owned by banks, for which it is estimated that banks will quickly and easily collect or turn into cash amid lack of liquid assets.

Chart 32 Contribution of individual combined shocks to the decline in the liquid assets in the simulation of a combined liquidity shock

as a percentage of reduction in liquid assets



Source: National Bank, based on the data submitted by banks.

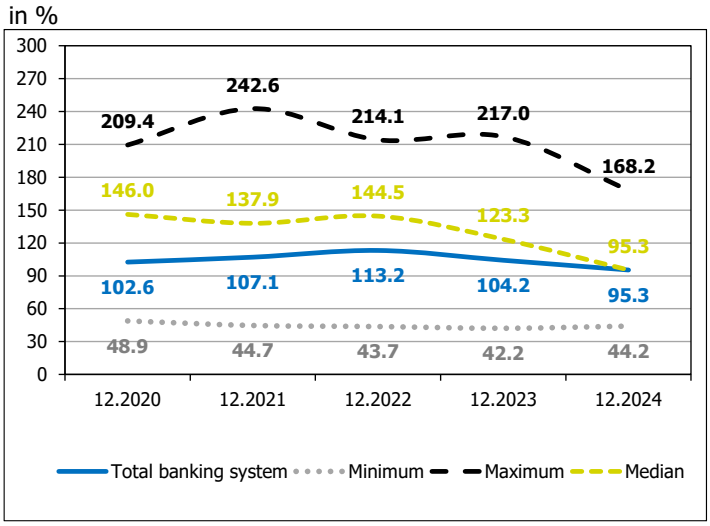
At individual simulations of liquidity shocks, the high level of liquidity which Macedonian banks have at their disposal provides settlement also of all assumed, individual, extreme liquidity outflows. The sharpest decline in liquid assets occurs amid outflow simulation of deposits of the ten largest depositors, and the importance of this simulation to individual banks is different, given the differences in the degree of concentration of deposits. On the contrary, simulated assumed materialization of reputation risk, loss of confidence of the

[38] The simulation assumes outflow of: deposits of the ten largest depositors, 20% of household deposits, liabilities to parent entities (liabilities on subordinated instruments and hybrid capital instruments are excluded from the simulation as, according to the regulations for calculating capital adequacy, their repayment is regulated), 50% of the liabilities to non-residents (excluding liabilities to non-resident parent entities of banks which are already covered by one of the previous simulations) and conversion of certain off-balance sheet liabilities of the banks (uncovered letters of credit, irrevocable credit lines and unused limits based on credit cards and approved overdrafts on transaction accounts) into balance sheet claims. The simulations of liquidity shocks exclude the Development Bank of North Macedonia AD Skopje.

[39] Financial instruments that comprise liquid assets, also include the following financial instruments: assets in the guarantee fund in KIBS, long-term deposits in foreign banks, money market instruments issued by foreign non-government issuers, loans with contractual residual maturity of up to 30 days and the effect of reducing the reserve requirement for foreign currency liabilities of banks, which is allocated in foreign currency due to the simulated outflow of households' foreign currency deposits.

population in the banks represented by an outflow of 20%[40] of household deposits shows a greater similarity in the results for individual banks, thereby confirming the importance of public confidence in the banking system. Amid assumed migration of certain off-balance sheet liabilities of banks into on-balance sheet liabilities[41], the banks would spend around 14% of their liquid assets. The small share of liabilities to non-residents, as well as to parent entities in the structure of the total sources of funding for banks, causes moderate impact of the shocks associated with them on the overall result of this simulation.

Chart 33 Reduction in liquid assets after the simulation of combined liquidity shocks (after all shocks)



Source: National Bank, based on the data submitted by banks.

[40] The intensity of the shock is determined theoretically.

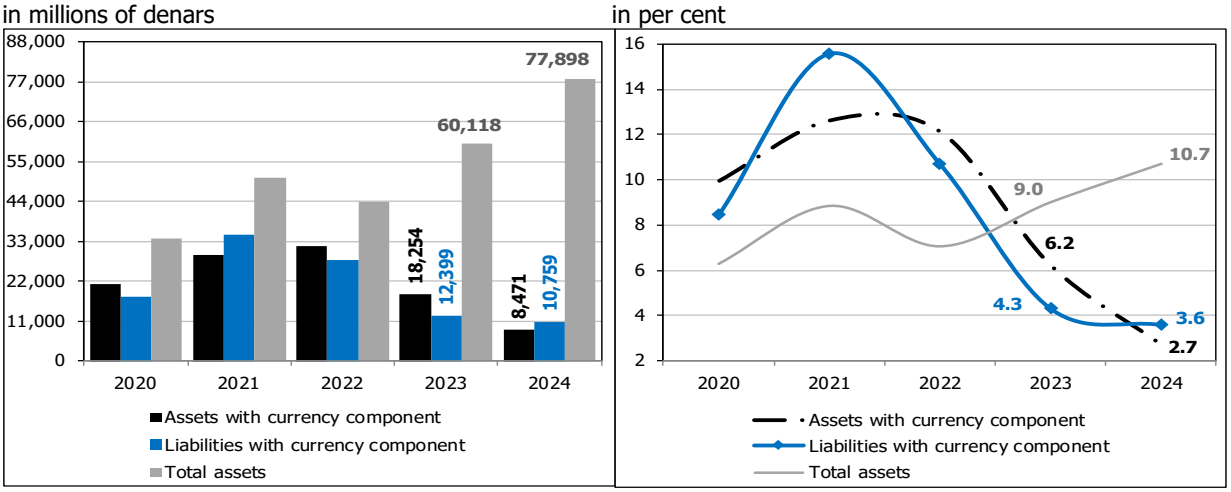
[41] Outflow is assumed as a result of the migration of some off-balance sheet liabilities of the banks (uncovered letters of credit, irrevocable credit lines and unused limits based on credit cards and approved overdrafts on transaction accounts) into on-balance sheet claims.

3. Currency risk

At the end of 2024, the banking system noted a reduced direct exposure to currency risk, reflecting the narrowed positive gap between assets and liabilities with currency component. The share of the open currency position in own funds decreased and is slightly above the ten-year average. All banks have a long aggregate foreign currency position, which is below the regulatory limit of 30% to own funds.

The indirect exposure of the banking system to currency risk, measured through the share of loans with currency component in total bank loans, significantly decreased, mostly due to the more pronounced growth of denar loans and slight growth of loans with currency component. In conditions when euro loans dominate the structure of loans with currency component, the strategy of de facto fixed exchange rate of the denar against the euro is an important factor in mitigating the indirect currency risk materialization.

Chart 34
Annual growth of total assets, assets with currency component and liabilities with currency component, in amounts (left) and in percentage (right)*



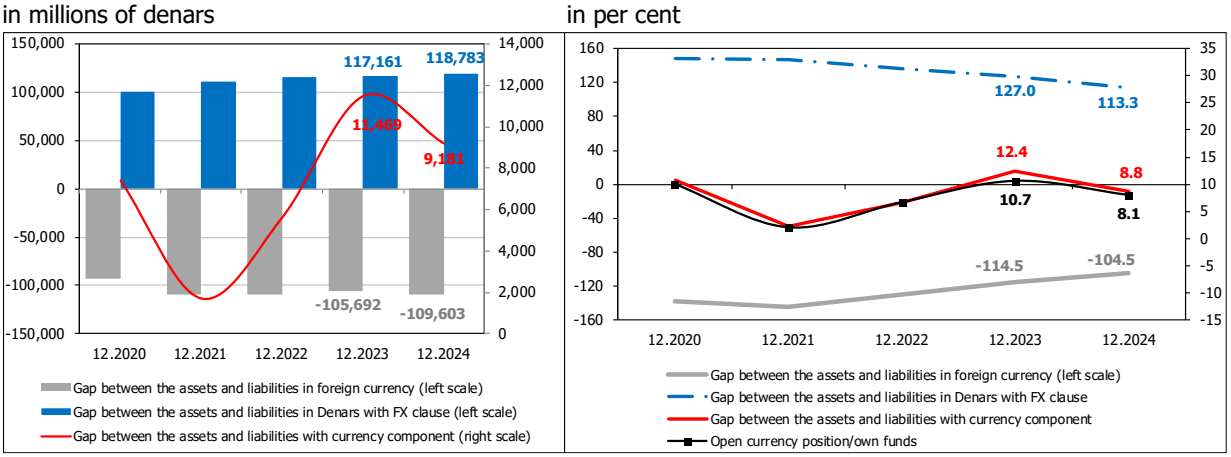
Source: National Bank, i.e. the report on open currency position based on data submitted by banks.
* The assets are on a net basis, reduced by the impairment of claims that are classified in risk categories "C", "D" and "E", in accordance with the regulations on currency risk management. DBNM is not included in the analysis, because pursuant to the legislation, the regulations for the open foreign exchange position do not apply to the DBNM.

The gap between assets and liabilities with currency component at the end of 2024 was positive, amounting to Denar 9,181 million, but it narrowed compared to 31.12.2023, when it equaled Denar 11,469 million. The narrowing arises from the higher growth in the liabilities with currency component (by Denar 10,759 million or 3.6%)[42] than the increase

[42] The increase in assets with currency component was mainly due to the increase in denar loans with FX clause of Denar 4,358 million, foreign currency financial assets held to maturity of Denar 3,259 million and financial assets in foreign currency available for sale by Denar 2.982 million, while the growth was mitigated by the decrease in denar financial assets with FX clause held to maturity of Denar 2.331 million.

in the assets with currency component (by Denar 8,471 million or 2.7%)[43]. The negative gap between assets and liabilities in foreign currency and the positive gap between assets and liabilities in denars with FX clause widened, yet the share of the open currency position[44] in own funds dropped to 8.1%, which is slightly above the ten-year average, but still significantly below the prescribed limit of 30%.

Chart 35
Structure of the gap between assets and liabilities with currency component (left) and share of the assets and liabilities with currency component in own funds (right)



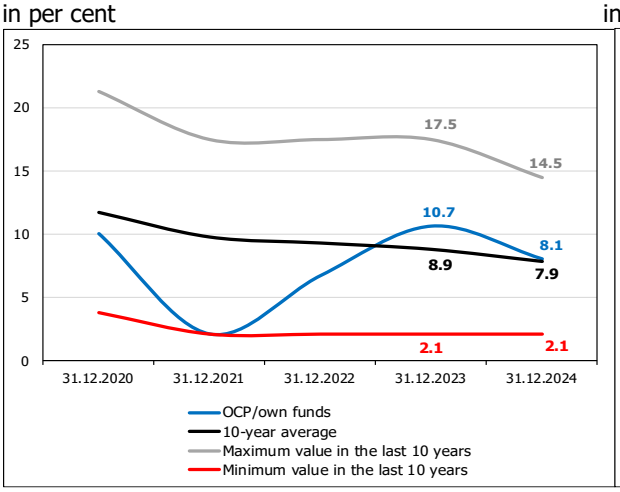
Source: National Bank, based on the data submitted by banks.

The increase in assets and liabilities with currency component further decelerated compared to the previous three years and is significantly below the growth of total assets which is accelerating. Hence, the period of reduced euroization of the banks' balance sheets continued, which is reflected through the reduced share of assets with currency component in total assets by 3.1 percentage points and total liabilities with currency component in total liabilities by 2.6 percentage points.

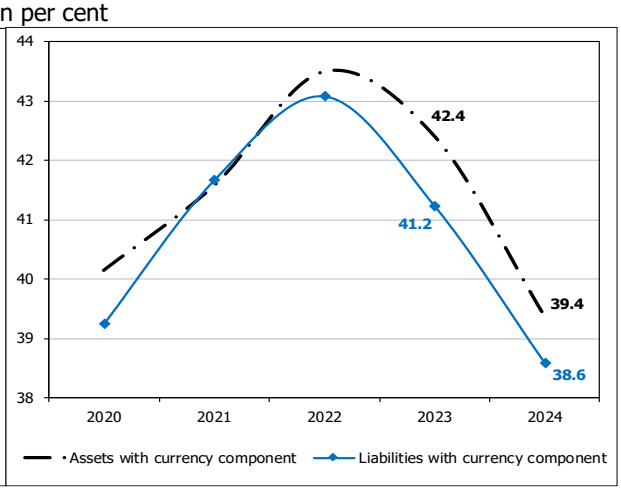
[43] The growth in liabilities with currency component was mostly driven by the increase in foreign currency deposits of natural persons by Denar 7,273 million, with a significant increase in assets on current accounts and other short-term liabilities of Denar 2,893 million, as well as in foreign currency corporate deposits of Denar 1,444 million.
[44] The calculation of the open currency position, in addition to the gap between the on-balance sheet assets and liabilities with currency component, also includes the gap between the off-balance sheet assets and liabilities with currency component.

Chart 36
Ten year average, minimum and maximum of the OCP/own funds ratio (left) and share of the assets and liabilities with currency component* in the total banks' assets (right)

in per cent



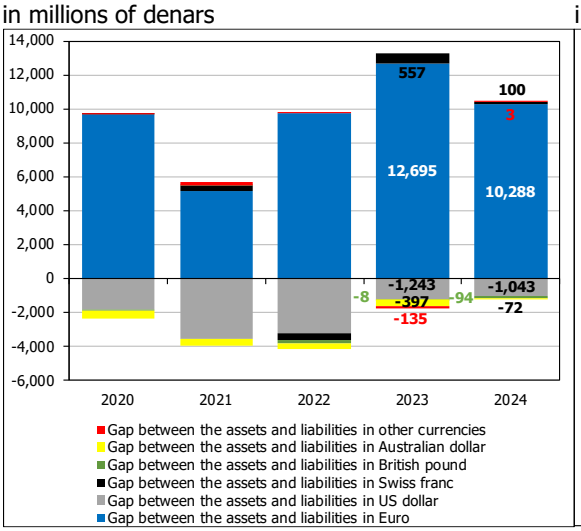
in per cent



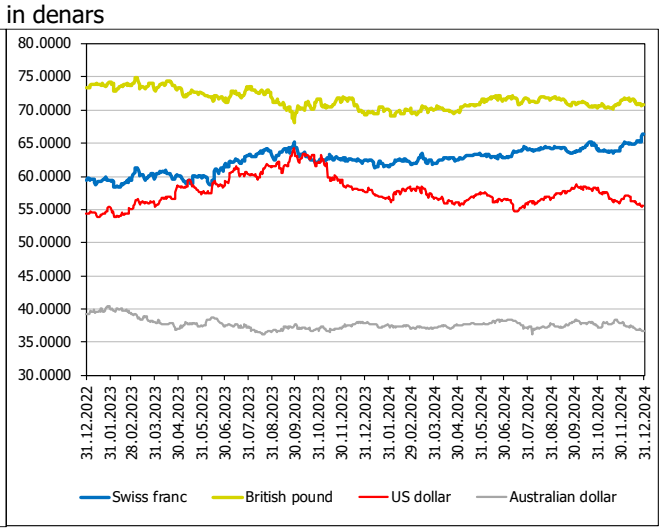
Source: National Bank, based on the data submitted by banks.
*Within the assets, claims are shown on a net basis i.e. adjusted for the impairment. The analysis does not include DBNM.

Chart 37
Structure of the gap between assets and liabilities with currency component, by currency (left) and movement of the denar against the US dollar, Swiss franc, British pound and Australian dollar (right)

in millions of denars



in denars



Source: National Bank, based on the data submitted by banks.

Analyzed by currency, the decrease in the positive gap mostly arises from the narrowing of the long position with euro component. At the end of 2024, the gap between assets and liabilities with euro component amounted to Denar 10,288 million, which is less by Denar 2,407 million or 19.0% compared to the end of the previous year. The narrowing occurred

due to the sharper growth of liabilities than assets in this currency[45]. The short currency position with US dollar component narrowed (by Denar 200 million or 16.1%) due to the higher growth of assets than liabilities[46]. The value of the US dollar during 2024 was stable with minor oscillations and a growing tendency at the end of the year due to the geopolitical developments. The currency position between assets and liabilities with Swiss franc component is long, it is short in British pounds and Australian dollars, while the aggregate position in all other currencies is long.[47]

Table 3
Currency structure of assets and liabilities with currency component
in per cent

Currency	31.12.2023		31.12.2024	
	Assets	Liabilities	Assets	Liabilities
Euro	91.2	89.6	90.3	89.7
US dollar	5.9	7.1	6.8	7.3
Swiss franc	1.2	1.3	1.4	1.4
Australian dollar	0.5	0.6	0.4	0.5
British pound	0.5	0.6	0.4	0.5
Other	0.7	0.8	0.7	0.7
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: National Bank, based on the data submitted by banks.

The euro dominates the currency structure of assets and liabilities as of 31.12.2024, especially in loans since almost all loans with currency component (99.8% of them) are with euro component. The share of euro is also high in liabilities with currency component, whereby 88.0% of deposits with currency component are in euros. These shares are still relatively stable. Therefore, the implementation of the policy of a stable exchange rate of the denar against the euro is a significant factor for mitigating the banks' currency risk, primarily the indirect.

The indirect exposure of the banking system to currency risk at the end of 2024 decreased in conditions of decline in the share of loans with currency component amid more pronounced growth of loans in domestic currency. As of 31.12.2024, the share with currency component in total loans amounted to 38.6%, which is less by 3.6 percentage points compared to 31.12.2023. The decline was due to the reduced share of loans with currency component, mainly corporate loans (by 7.1 percentage point), while the share of household loans with currency component was almost unchanged (increase by 0.1 percentage point). Within corporate loans, the reduced share of loans with currency component was due to the decline in loans with currency component amid more pronounced increase in denar corporate loans.

[45] Assets with euro component grew by Denar 6,948 million or 2.5%, mostly due to higher denar loans with euro clause by Denar 4,366 million, financial assets in euro held to maturity by Denar 2,278 million and financial assets in euro available for sale by Denar 2,058 million and cash, cash equivalents, gold and precious metals by Denar 1,192 million. The liabilities with euro component increased by Denar 9,355 million, or by 3.5%, mainly due to increase in euro deposits by Denar 8,200 million and to a lesser extent assets on current accounts and other short-term liabilities by Denar 1,730 million.

[46] Assets with US dollar component grew by Denar 1,571 million or 7.8%, due to higher financial assets in US dollars held to maturity by Denar 981 million and financial assets in US dollars available for sale by Denar 924 million. Liabilities with dollar component increased by Denar 1.371 million or 6.4%, mainly due to increased funds on current accounts and other short-term liabilities by million Denar 1,099 million.

[47] The positive gap between assets and liabilities in Swiss francs has narrowed by more than fivefold and equals Denar 100 million. The negative gap in British pounds significantly widened and amounted to Denar 94 million, while the Australian dollar registered a multiple narrowing and equaled Denar 72 million. The aggregate foreign currency in all other currencies changed from short to long and amounted to Denar 3 million.

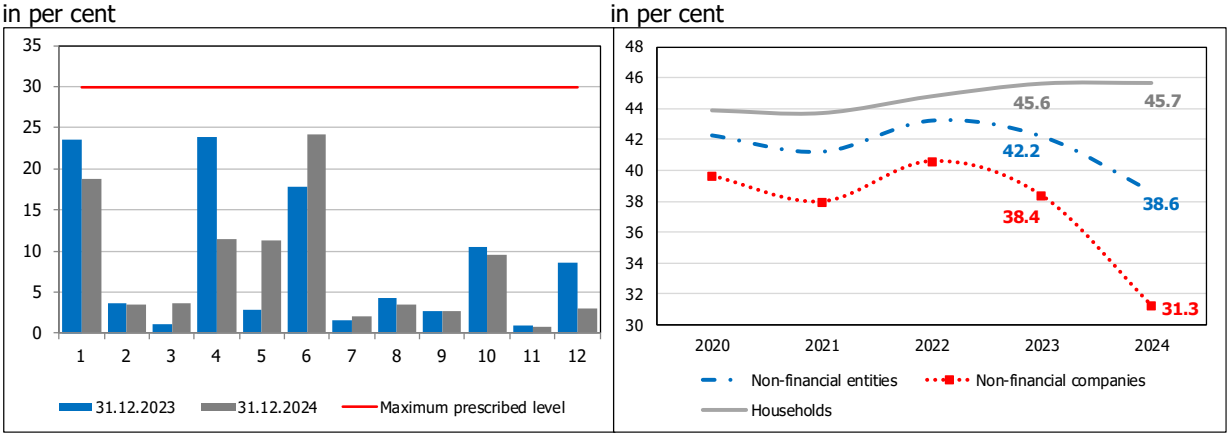
Table 4
Distribution of banks by share of open currency position, by currency and the aggregate currency position in own funds*

Items	Number of banks												
	Open currency position by currency/own funds												Aggregate currency position/own funds
	Euro		US dollar		Swiss franc		British pound		Australian dollar		Other		
	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	
under 5%	7		10	2	9	2	9	2	7	1	11	1	7
from 5% to 10%	1												1
from 10% to 20%	3												3
from 10% to 20%	1												1
over 30%													

Source: National Bank, based on the data submitted by banks.
* Banks that have no assets and liabilities in individual currencies are not taken into account, so the sums do not correspond everywhere to the total number of analyzed banks.

The aggregate currency position relative to own funds at the end of 2024 in all banks is below the prescribed limit of 30%. All banks registered a long foreign currency position, while the ratio ranges from 0.8% to 24.2% with a slight widening compared to the previous year when it ranged from 0.9% to 23.9%.

Chart 38
Aggregate currency position to own funds ratio, by bank* (left) and loans with currency component to total loans ratio (right)

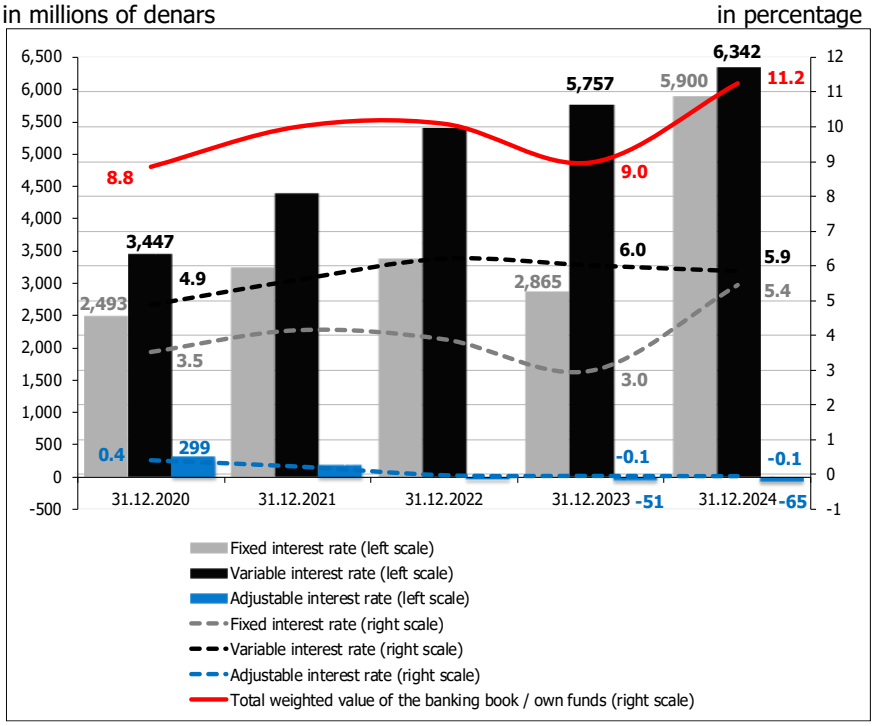


Source: National Bank, based on the data submitted by banks.
* Columns with lighter shades refer to the banks that have a short foreign currency position, but are shown in absolute value. The analysis does not include DBNM.

4. Interest rate risk

The exposure of the banking system to interest rate risk in the banking book[48], measured through the share of the weighted value of the banking book in own funds, increased (to 11.2%). Such movements mostly arise from the changes in the interest-sensitive positions with fixed interest rates, in the maturity segment between two and fifteen years, which recorded a high annual growth in placements in loans and securities, amid decline in liabilities based on time deposits with residual maturity between two and three years. The exposure to indirect interest risk, measured by the share of loans with adjustable[49] or variable interest rate in total loans decreased, but still remained relatively high (65.8%).

Chart 39 Total weighted value of the banking book*, by interest rate type

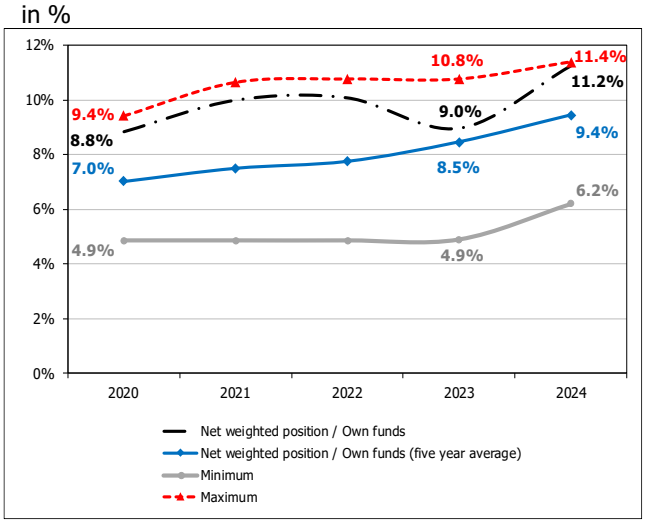


Source: National Bank, based on the data submitted by banks.
*The total weighted value of the banking book denotes the potential loss of the economic value of this portfolio, amid assumed unfavorable interest shock of ±2 percentage points.

[48]In Accordance with the regulation, the banks' exposures to interest rate risk which arises from the banking activities, is monitored through the gap of the interest sensitive assets and liabilities (mainly loans and deposits), to which the interest rate shock for simultaneous change of interest rates by ± 2 percentage points is being applied. The interest sensitive assets and liabilities are distributed in time zones according to the period in which the interest rate change will occur. At the same time, the positions with fixed interest rates are distributed in time zones according to the maturity period, with variable interest rates according to the interest rate reassessment period and with adjustable interest rates according to the probability and frequency of the interest rate change. The further each of these time zones, the higher the effect of the simulated interest rate shock, i.e. the higher the percentage which weights the amount of interest sensitive assets and liabilities. Specificity has been observed in loans with combined interest rates (fixed interest rate for a certain period, followed by variable interest rate), which are distributed in time zones according to the actual maturity of annuities in the period of the fixed interest rate (for the amount which is actually due in that period), while the rest of the amount to which the variable interest rate will be applied, is presented in the appropriate time zones according to the period of interest rate reassessment. In the end a net amount of the weighted interest sensitive assets and liabilities is determined, which according to the regulations is called the weighted value of the banking book and determines the change in the economic value of this portfolio, amid assumed interest rate shock of ±2 percentage points.

[49]Adjustable interest rate is the interest rate which changes unilaterally, upon bank's decision.

Chart 40
Total weighted value of the banking book / own funds



Source: National Bank, based on the data submitted by banks.

The total weighted value of the banking book registered an annual growth of 42.1%, or Denar 3,605 million, reaching a level of 11.2% of the banking system own funds (9% at the end of 2023). This level is very close to the maximum level registered in the last five years. Analyzing by bank, this ratio ranges from 2.5% to 17.4%, which is below the level of the prescribed 20%[50]. Analyzing the type of interest rate, the increase was due to the growth in the weighted value of the portfolio with fixed interest rate (of Denar 3,035 million, or 105.9%), primarily in the maturity bucket between two and fifteen years, which recorded a high annual growth of placements in loans and securities, amid decline in liabilities based on time deposits (almost fully in the maturity bucket between two and three years). Annual growth, yet far lower, was also registered in the weighted value of the portfolio with variable interest rate (by Denar 585 million, or 10.2%)[51], while the weighted value of the portfolio with adjustable interest rate, which is already low, further dropped in 2024 (by Denar 14 million).

In 2024, the total gap, i.e. the net non-weighted position between interest-sensitive assets and liabilities registered an annual growth of 11%, or Denar 28,743 million. The growth is mainly due to the annual changes in the gap between the positions with fixed interest rate. The positive gap between assets and liabilities with fixed interest rate widened on an annual basis (by Denar 11,997 million, or by 13.5%), due to the higher growth of assets compared to liabilities with this type of interest rates. Placements in loans (of Denar 35,742 million) and securities (of Denar 27,063 million) dominate the structure of assets with fixed interest rate, as for liabilities with this type of interest rate, time deposits increased the most (by Denar 38,453 million). Also, the positive gap between assets and liabilities with variable interest rate widened annually (by Denar 15,822 million, or by 7.6%), mostly due to the annual growth of placements in loans (of Denar 16,597 million). The negative gap between assets and

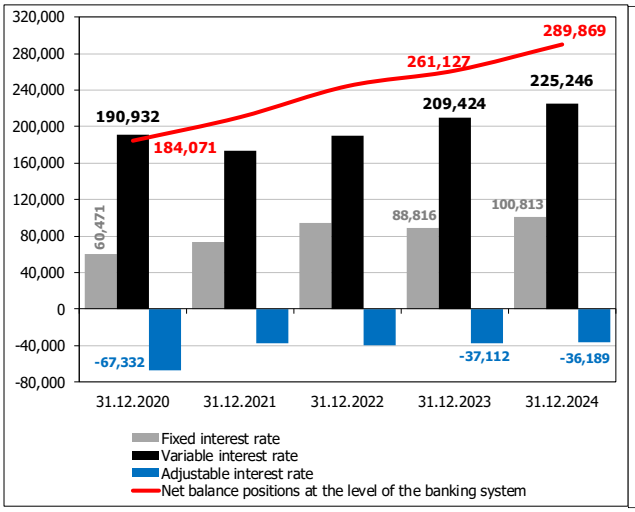
[50] According to the regulation, when total weighted value of the banking book to own funds ratio exceeds 20%, the bank is required to propose measures to reduce this ratio, and the National Bank may also require allocation of appropriate amount of capital for covering the interest rate risk in the banking book.
[51] The increase in the weighted value of the portfolio with adjustable interest rate results from the changes in the interest-sensitive positions in the time zones between five and fifteen years, where there is an increase in placements in loans with this type of interest rates.

liabilities with adjustable interest rate narrowed annually (by Denar 922 million, or 2.5%), due to the sharper decline in assets compared to liabilities with this type of interest rates. The structure of assets with adjustable interest rate registered the sharpest decline in placement in loans (by Denar 4,421 million), while the decrease in liabilities was mostly due to the decline in time deposits (by Denar 2,842 million).

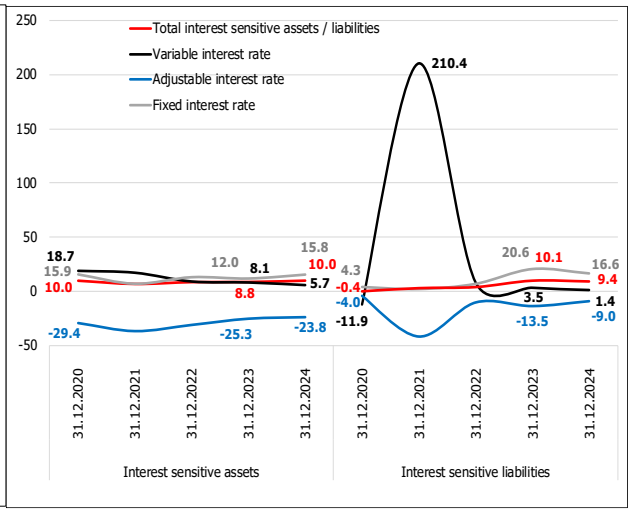
Chart 41

Interest-sensitive assets and liabilities by type of interest rate, gap (left) and annual growth (right)

in millions of denars



in %

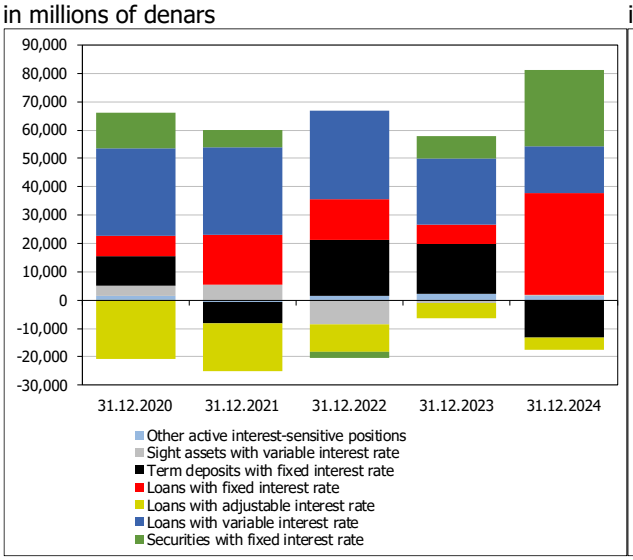


Source: National Bank, based on the data submitted by banks.

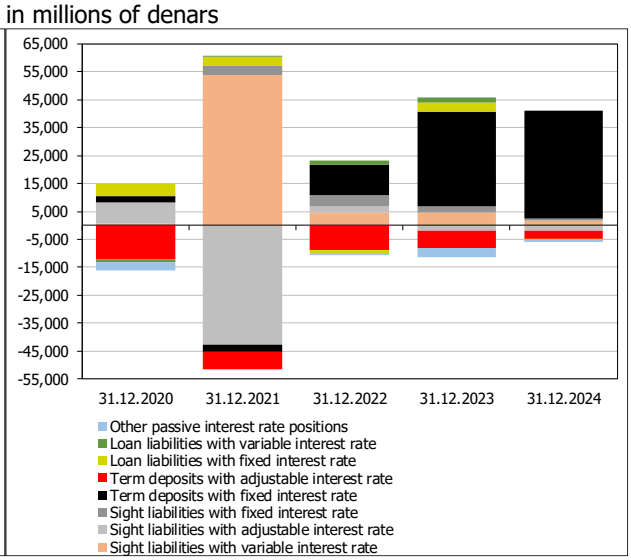
Chart 42

Annual growth of interest sensitive assets (left) and liabilities (right), by type of instrument and type of interest rate

in millions of denars



in millions of denars



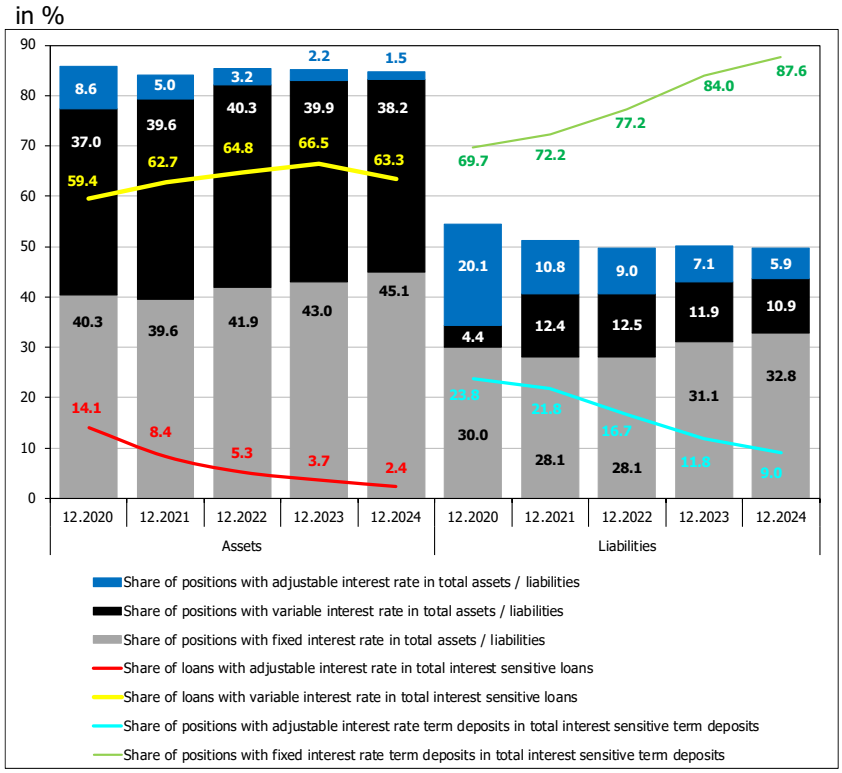
Source: National Bank, based on the data submitted by banks.

The exposure of the indirect interest rate risk, which arises from the presence of loans with variable and adjustable interest rate decreased, but remained

significant. As of 31.12.2024, the cumulative share of these loans in the total loans is 65.8% (70.2% as of 31.12.2023), which is a decrease of 4.4 percentage points, whereby 63.3% of the total loans have variable interest rate, while 2.4% are with adjustable interest rate. In accordance with regulations, it should be borne in mind that in the interest rate risk reports, the amount of all positions (including loans) that are envisaged to be regulated by a different type of interest rate in different time periods to maturity, is distributed depending on the type of interest rate that will apply in the corresponding time period. Thus, as of 31.12.2024, 16.9% of total loans for the purposes of these reports, are shown as loans with variable interest rate, in the respective future time bucket which is envisaged to be regulated by variable interest rate, although they are currently regulated by fixed interest rate[52].

There is a downward trend in the share of positions with adjustable interest rate in 2024 as well. Thus, the share of the adjustable interest rate in interest-sensitive assets decreased from 2.2% at the end of 2023, to 1.5% as of 31.12.2024, while in interest-sensitive liabilities, from 7.1% at the end of 2023, to 5.9% as of 31.12.2024.

Chart 43
Assets and liabilities structure, by type of interest rate



Source: National Bank, based on the data submitted by banks.

For more details about the structure of interest-sensitive items of the banks see Annexes to this Report.

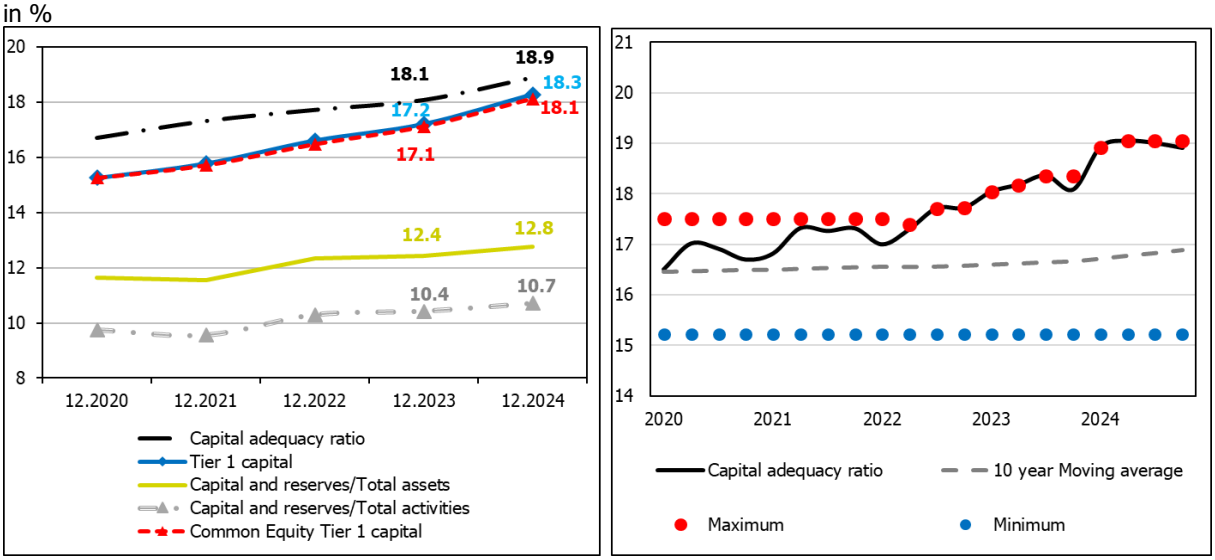
[52]As of 31.12.2024, for 46.4% of the amount of loans, a variable interest rate is applied, while for the remaining about 16.9% (up to the presented 63.3% as of 31.12.2024), a fixed interest rate is currently applied, which during the life expectancy of the loans (usually after several years) will be replaced by a variable adjustable interest rate.

5. Insolvency risk

The banking system ended 2024 with significantly improved solvency and capitalization indicators compared to the previous year. In 2024, the capital adequacy ratio reached levels which are the highest since 2006, and at the end of the year, it equaled 18.9% (18.1% as of 31.12.2023). The improvement of the indicator results from the growth of banks' own funds, due to reinvested profits from 2023 and partly from 2024, as well as new issue of common shares. Banks' activities registered solid growth, yet slower compared to the growth of capital instruments of bank, which further strengthened the capitalization, and thus their resilience. The results of the conducted stress testing of the banking system resilience to the simulated shocks with extremely conservative assumptions are similar, showing increased resilience of the banking system compared to the previous quarter. This is particularly important given the domestic and external environment, which still remains uncertain. The banking system solvency is satisfactory and significantly mitigates the potential negative effects of any possible risk materialization.

5.1. Solvency and capitalization ratios of the banking system

Chart 44
Indicators of solvency and capitalization of the Macedonian banking system (left) and capital adequacy ratio (right)
in %



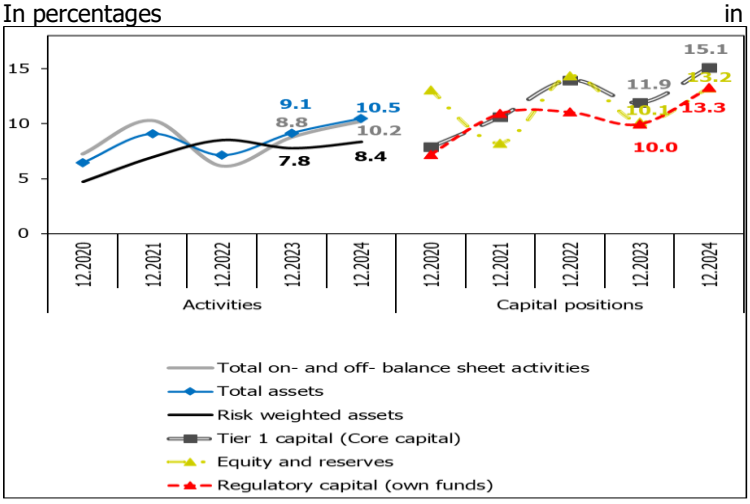
Source: National Bank, based on the data submitted by banks.

In 2024, the banking system maintained its high capitalization and stable solvency position. The capital adequacy ratio in 2024 equaled 18.9%, which is higher by 0.8 percentage points, on annual basis. Thus, the rate approached the maximum in the past ten years (19.0%), remaining above the calculated ten-year average (16.9%). **Favorable movements were also registered in the Tier 1 capital rate and the rate of the Common Equity Tier 1 capital, which as of 31.12.2024 amounted to 18.3% and 18.1%**, respectively and are higher by 1.1 percentage point, i.e. 1.0 percentage point, on annual basis. Both rates are significantly higher than the prescribed minimum of 6% and 4.5%, respectively.

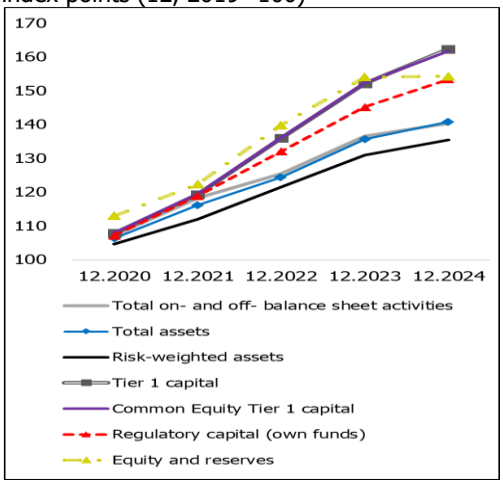
Improvement was also noted in capitalization ratios (share of capital and reserves in total assets and capital and reserves to total banking system activities ratio), which at the end of the year amounted to 12.8% and 10.7%, respectively and are higher by 0.4 and 0.3 percentage points on annual basis, respectively. Such movements reflect the higher annual growth rate of capital and reserves compared to the annual growth rate of bank's activities, which is mostly a result of the recapitalizations and retained earnings during the year. **In addition, own funds, the Tier I capital and the capital and reserves registered a solid annual growth of 13.3%, 15.1% and 13.2%, respectively, while the risk weighted assets, the on-balance sheet assets and the total (balance sheet and off-balance sheet) activities of banks recorded an annual growth of 8.4%, 10.5% and 10.2%, respectively. The average leverage ratio also improved** (calculated as a ratio between the Tier 1 capital to total on-balance and off-balance sheet exposure) amounting to 12.1% in 2024 (annual growth of 0.4 percentage points).

Chart 45
The annual growth of solvency ratio components (left) and trend in nominator and denominator of the solvency ratios (right)

In percentages



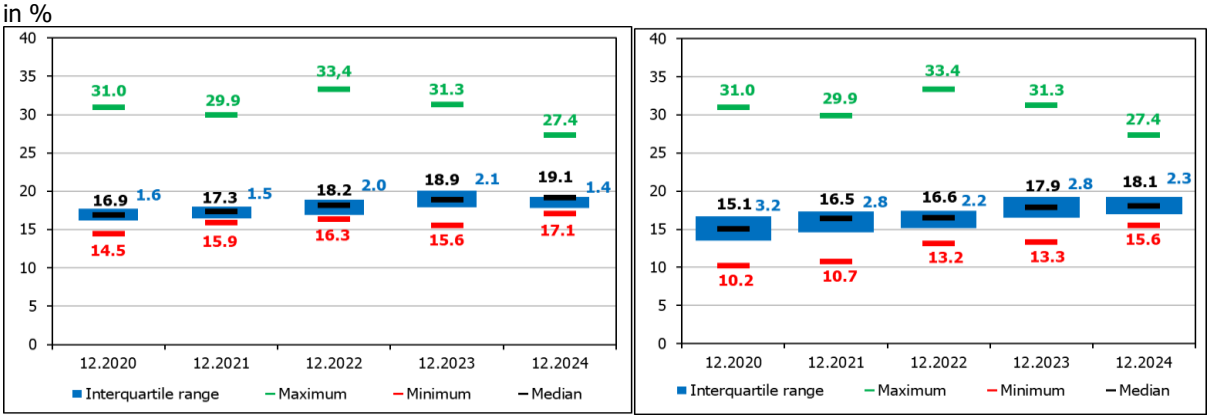
in index points (12, 2019=100)



Source: National Bank, based on the data submitted by banks.

Bank-by-bank analysis showed that capital adequacy ratios in most of the banks increased annually. In 2024, the median value of the capital adequacy ratio and the median value of Tier 1 capital ratio of the banking system continued to grow, reaching the highest level in the past five years. Analyzed by bank, capital adequacy ratios and Tier 1 capital ratios are far below the prescribed legal minimum, but also above the total minimum capital requirements (including the supervisory capital requirements and capital buffers) thus indicating a stable solvency position of the entire banking system.

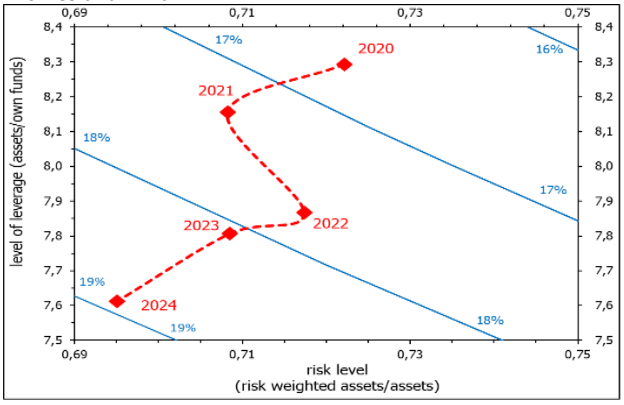
Chart 46
Measures for capital adequacy ratio distribution (left) and Tier 1 capital rate (right) in the banking system
in %



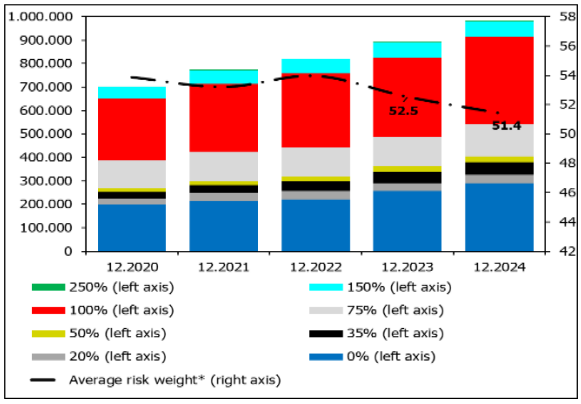
Source: National Bank, based on the data submitted by banks.

The breakdown of the capital adequacy ratio into its components indicates a simultaneous reduction of the ratio between assets and own funds (reduced leverage indicator) and the share of the risk weighted assets in total assets (risk indicator of the banking system activities). Amid such favorable shifts, the capital adequacy ratio increased from 18.1% in 2023 to 18.9% in 2024.

Chart 47
Leverage, risk and solvency of the banking system (left) and amount of total on-balance sheet and off-balance sheet exposure, by risk weights (right)
in times and in %



in millions of denars in %

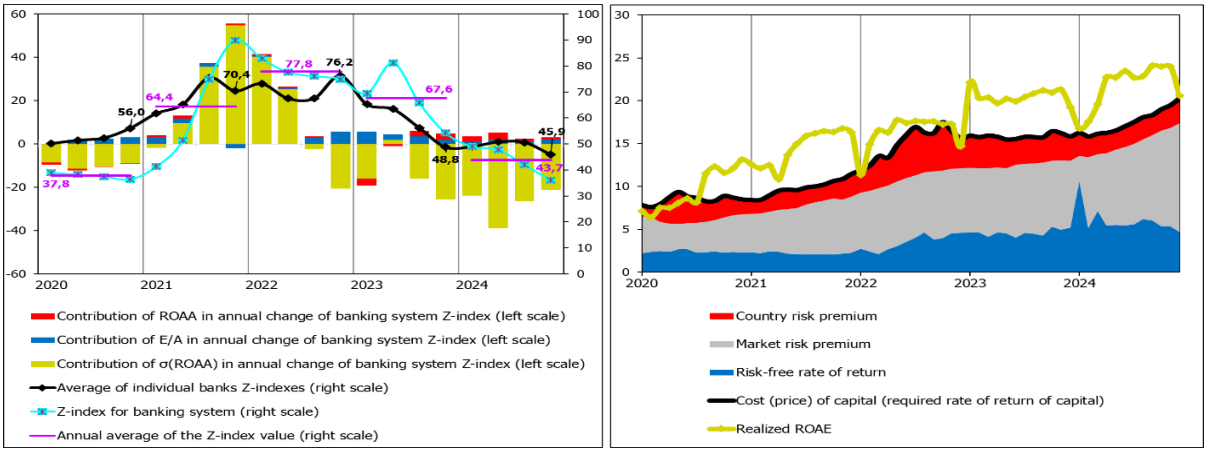


Source: National Bank, based on the data submitted by banks.
Note: The average risk weight is calculated as a ratio between risk weighted assets and total banking system balance and off-balance sheet exposure.

The total risk weighted assets recorded an annual growth of 8.4% (7.8% in 2023) or Denar 44.223 million, which is mostly due to the growth of the credit risk weighted assets which increased by Denar 36.658 million, or 7.8%. The fastest growth in the total on-balance and off-balance sheet exposure of the banking system was registered in banks' claims on central governments and central banks (risk weight of 0%), as well as claims on other trade companies (risk weight of 100%) and the retail loan portfolio (risk weight of 75%). **In conditions of faster growth in activities with 0% risk weight, compared to those with 100% and**

75%, the average risk level of banking activities decreased (calculated as a ratio between credit risk weighted assets and total balance sheet and off-balance sheet exposure) by 1.1 percentage point to the level of 51.4%.

Chart 48
Z-index (left) and level and structure of the cost (price) of the capital of the banks whose shares are listed on the official market of the Macedonian Stock Exchange (right)
in levels in %



Source: National Bank, based on the data submitted by banks.
*The upward movement of the Z-index points to slight volatility, and thus lower risk level.

By using the Z-index, the CAPM and the Altman Z-score, the comprehensive analysis of the Macedonian banking system indicates a stable solvency position.

Banking system stability measured by the so-called Z-index[53] is relatively high. In 2024, the value of this index was lower annually due to the larger contribution of the volatility of banks' profits, i.e. higher growth of the nominator (standard deviation of the return rate of average assets) compared to the growth of the denominator (return on average assets and the share of the capital and reserves in assets). The decline in the value of the Z-index registered in the last three years indicates greater volatility, and thus higher risks, yet the index remains extremely high which means higher level of banks' stability.

The expected rate of return to investors in the shares of banks, calculated by applying the so-called CAPM[54], on a sample of seven banks whose shares are listed

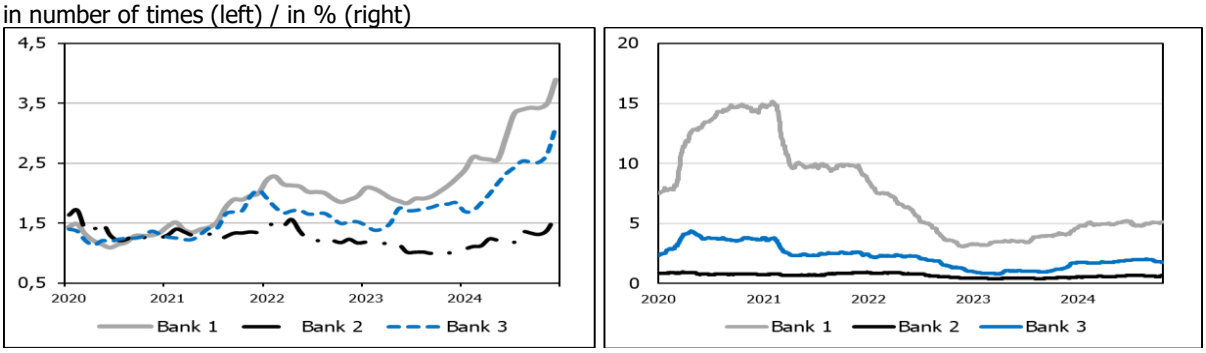
[53] **The Z Index** is calculated as follows: Z=(ROAA+E/A)/(σ(ROAA)), where ROAA is the rate of return on assets, E is equity and reserves, A is assets and σ(ROAA) is the standard deviation of the rate of return on assets, calculated for the last three years. The formula shows that this measure as such, combines several indicators: banks' performance and profitability indicator (ROAA), bank risk indicator (σ(ROAA)) and banks' soundness and solvency measure (E/A). Calculated as such, the Z-index measures the bank's "distance" from full depletion of its capital potential, expressed in number of standard deviations from the rate of return on assets and as such, it is a measure of the banks' capacity to absorb losses. Higher levels of this index indicate lower risk levels and higher overall stability of the banks. The Z Index is usually presented in a logarithmic form (natural logarithm of the previously given formula), but it is easier to interpret and more indicative when presented in levels.

[54] Calculated using the **so-called (CAMP)** Capital-Asset Pricing Model, where the price of equity is the sum of: 1) risk free yield rate (determined as the average of the yields to maturity of bonds listed on the Macedonian Stock Exchange), 2) the product of beta coefficient per share and the difference between the market rate of return and risk free rate on return (or premium market risk) and 3) the premium for country risk (defined as the difference between the yields of the Macedonian Eurobonds and comparable German bonds). Market risk premium is calculated as the average premium for market risk for each bank separately, weighted by the size of their assets.

on the official market, registered an annual increase. The cost of capital, calculated using this model increased by 4.4 percentage points and reached 20% at the end of 2024. The rate of return on equity, registered by banks covered by the analysis conducted during and at the end of 2024 was above the level of the required rate of return on shares, mostly due to the increased market risk premium, which, same as the expected rate of return, increased by 4.9 percentage points annually. The increased market risk premium resulted from the larger increase in market yield compared to the risk-free yield rate, especially in the second half of 2024 which is in line with the published semiannual statements of banks with solid performances in profitability and possibility for dividend payment. Regarding the other components of the required rate, the weighted country risk premium remained stable, while the risk-free yield rate was lower by 0.5 percentage points annually.

The price-to-book ratio for the three largest banks in 2024 registered a pronounced upward trend. Such movements were influenced by the performances in domestic economy, favorable shifts in inflation and solid performances in banks, as more significant factors that affected the local sentiment of investors to spark their interest to purchase shares, including shares issued by banks. Consequently, amid limited scope of trading shares, the price-to-book ratio registered an upward trend.

Chart 49
Price-to-book ratio for the shares (left) and percentage of turnover ratio for the previous one-year period (right), for the three largest banks in the system
in number of times (left) / in % (right)



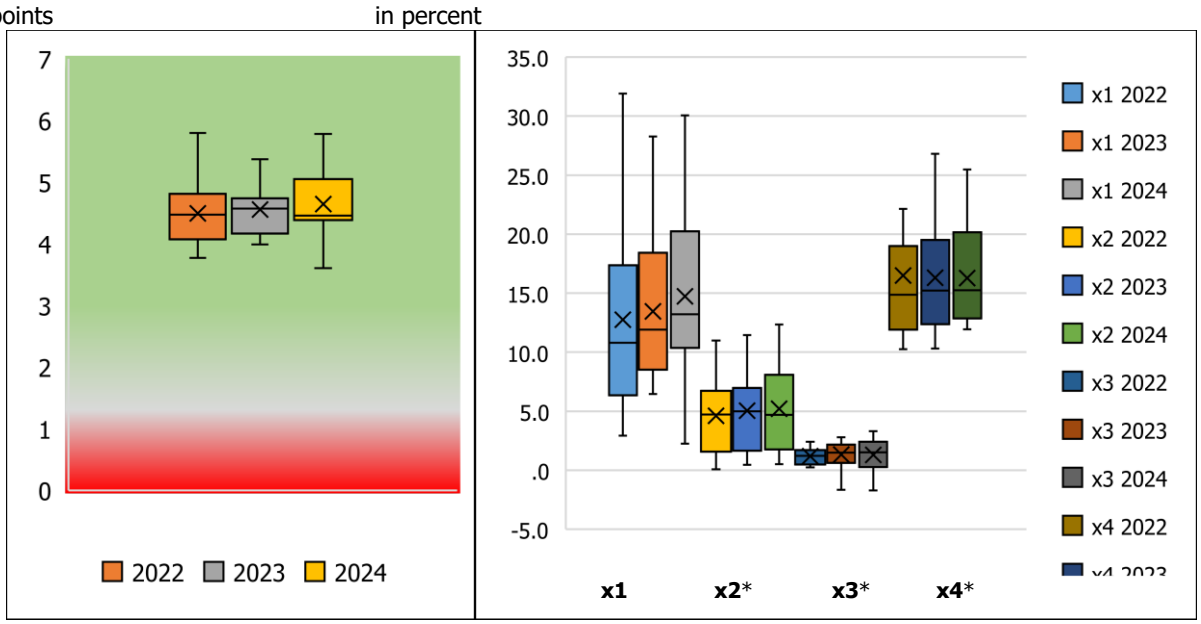
Source: National Bank, based on the data submitted by banks and the Macedonian Stock Exchange...

The Altman Z-score[55] suggests that the system is within a safe zone, i.e. the insolvency risk of the Macedonian banking system is very low. The median and average value of the score in 2024 are still at a high level of 4.5 and 4.6 respectively (4.6 and 4.6 in 2023,

[55] **The Altman Z-score** is a tool often used in corporate finance to predict the probability that a company will go into bankruptcy within two years. The Z-score uses values from the income statement and the balance sheet to measure the financial status of the company. The initial formula underwent a series of changes in order to respond to different types of business models. The analysis of the individual banks uses the following formula that is applicable to a general business model company and to developing markets (Altman Z-score): $Z'' = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$. More information on the model is given in the paper from the original author on the following link (p. 19). The coefficients for each indicator are derived by analyzing the movements of these indicators for relevant samples of solvent and insolvent companies, taking into account the sector and size (assets) of companies. Indicators in the analysis are adjusted to the banks' features. Given the business model, DBNM AD Skopje is excluded from the analysis. The Z-score is calculated for each bank and a median and average value of the score at a level of the system is obtained. The interpretation of the obtained results has also changed over the years, and the analysis uses the interpretation according to (Altman E. I. 2006) according to which: $Z > 2.6$ (safe zone, small probability of insolvency), $1.1 < Z < 2.6$ (gray zone, it requires an additional analysis to determine the accuracy), $Z < 1.1$ (distress zone, there is strong probability of insolvency). A similar analysis has also been made in a recent study on the assessment of some of the banks in the Indian banking system. For more details, please visit the following link.

respectively) and well over the minimum threshold of the green zone (2.6). Analyzed by component of rating calculation formula, the median value grew in almost all indicators and in most of the banks, while the average value increased in liquidity and stability indicators, while profitability and capitalization indicators slightly decreased.

Chart 50
Altman Z-score of the banking system (left) and analysis of the measures of dispersion of the components of the Altman Z-score for the 2022-2024 period (right)



Source: National Bank, based on the data submitted by banks.
* The average value is marked with X, while the median value is marked with the middle horizontal line within the column. The column indicates the interquartile difference, i.e. the dispersion of half of the indicator values for the banks in the system. The left chart is colored in accordance with the zones of the score (the green color indicates a safe zone). Individual indicators are calculated as follows: $\mathbf{x}_1$ = (high-quality liquid assets - net cash outflow in the next 30 days) / total assets, $\mathbf{x}_2$ = retained earnings / average assets, $\mathbf{x}_3$ = income from regular activities / average assets and $\mathbf{x}_4$ = capital and reserves / total liabilities.

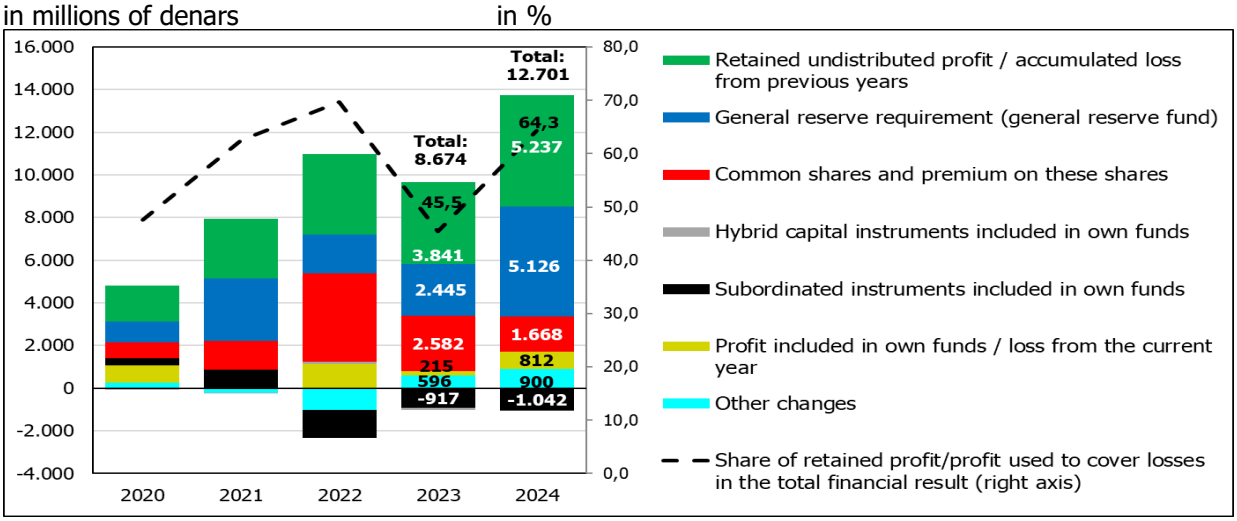
5.2. Quality of own funds of the banking system

In 2024, banking system own funds recorded an annual growth of Denar 12,701 million or 13.3%, which was higher compared to the growth in the previous year (Denar 8,674 million or 10%). The largest contribution to own funds in 2024 was made by retained and reinvested profits from the previous year, and partly from 2024. Moderate contribution to the growth of own funds was made by the issuance of new common shares (by one large[56], one medium-size[57] and one small bank[58]. The issuance of a new capital instrument in the form of Additional Tier 1 capital by one large bank had a similar impact. A certain decrease was registered in subordinated instruments (in part due to reduction of the accounting value because of the entering the last five years to maturity), with the other changes registering a slightly positive movement (as a result of the changes in the fair value of the instruments held for sale and are

[56]For more information visit: MI October 2024 p.8.
[57]For more information visit: MI February 2024 p.9
[58]For more information visit: MI April 2024 p.7.

appropriately reflected in revaluation reserves). For more details about the level of own funds by group of banks see annexes to this report.

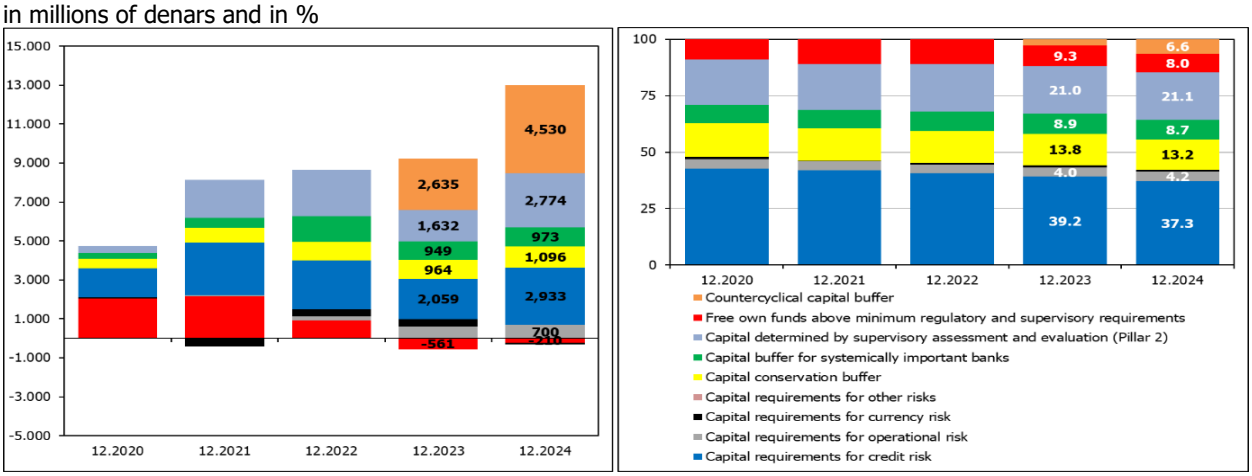
Chart 51
Structure of annual changes in own funds
in millions of denars in %



Source: National Bank, based on the data submitted by banks.

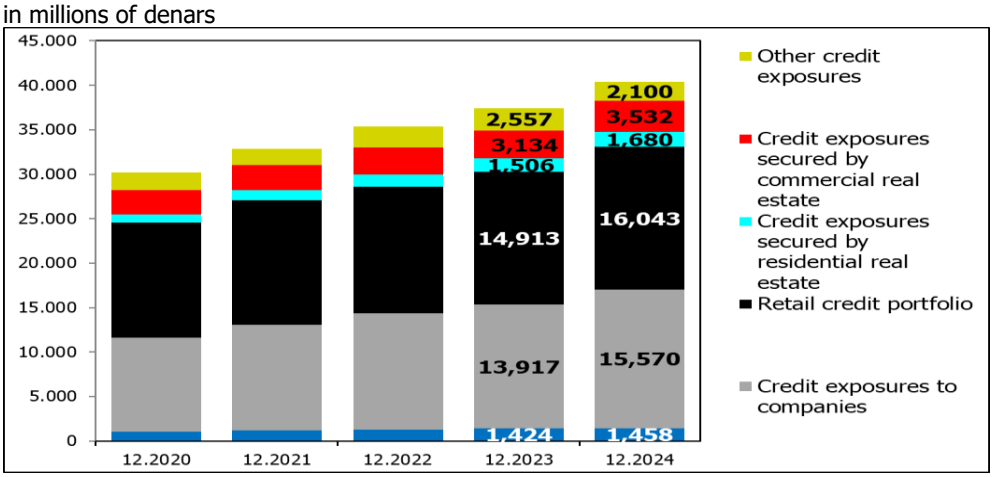
The structure of the own funds at a level of the banking system shows that the sector has high-quality capital positions, which provide it with satisfactory resilience to potential stressful scenarios. At the end of 2024, the highest-quality buffer of own funds of the banking system (the Common Equity Tier I capital) accounted for 95.9% of the total own funds, the Additional Tier I capital accounted for only 0.8% of the banking system's own funds, with Additional Tier 1 capital instruments issued by only two banks, while the Tier II capital made up 3.3%.

Chart 52
Structure of annual growth (left) and balance (right) of own funds, by the requirement for covering risks and for maintaining the required capital buffers
in millions of denars and in %



Source: National Bank, based on data submitted by banks

Chart 53
Stock and structure requirements for credit risk, by category of exposure
in millions of denars



Source: National Bank, based on the data submitted by banks.

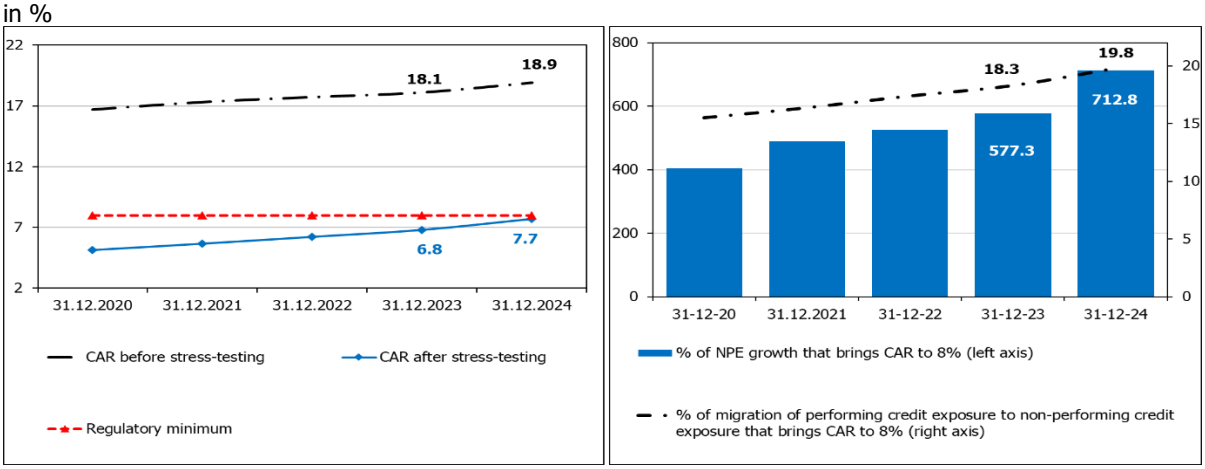
Analyzed by purpose, almost all components of capital requirements registered an annual growth. Capital requirements for covering risks (from pillar 1) increased by Denar 3,538 million, or 8.4%, and at the end of the year they accounted for 42.3% of the total own funds of the banking system (44.2% as of 31.12.2023)[59]. The annual growth of capital requirements for covering risks mostly results from the increase in capital requirements for credit risk, mostly from banks' activities with companies (claims on other trade companies) and households (claims based on retail loan portfolio). Capital buffers increased by Denar 6.599 million, or by 27% annually, thus at the end of 2024 accounted for 28.6% of the total banking system's own funds (25.5% at the end of 2023). Analyzed by structure, the increase in capital buffers mostly results from the countercyclical capital buffer, whose obligation fulfillment started as of 1 August 2023[60], while the capital buffer for capital preservation and systemically important banks registered a smaller and almost equal growth (Denar 1,096 million and Denar 973 million, respectively). The amount of the capital supplement determined by the supervisory assessment (pillar 2) registered an annual increase of Denar 2,774 million, or 13.8% which accounts for 21.1% of the total own funds of the banking system. Higher capital requirements in 2024 were met by using part of the banks' free own funds, above the regulatory and supervisory requirements, which registered an annual decline of Denar 210 million, or 2.3%, reducing their share in total own funds of banks to 8.0% (9.3% at the end of 2023). For more details on the capital requirements for covering risks and on the capital adequacy ratio, by group of banks, see annexes to this Report.

[59]From the four capital buffers specified by the Banking Law, in 2024, all banks were required to meet the capital conservation buffer and countercyclical capital buffer, while systemically important banks the capital buffer for systemically important banks.. Also, in April 2024, the regular annual assessments to identify systemically important banks determined seven banks which should comply with the capital buffer rate for systemic importance by 31 March 2025. For more details, please visit the following link.
[60]During 2024, The National Bank Council adopted five decisions about the countercyclical capital buffer rate for the banks' exposures in the Republic of North Macedonia, with capital buffer rates amounting to 1.50% applicable from 1 April to 30 June 2025, 1.50% applicable from 1 July to 31 July 2025, 1.75% applicable from 1 August to 30 September, 1.75% from 1 October to 31 December and 1.75% applicable from 1 January to March 2026. For more details please visit the following link.

5.3. Stress-testing of the banking system resilience to hypothetical shocks

The banking system shows a satisfactory level of resilience to the conducted regular simulated shocks which assume extreme materialization of the credit risk in combination with materialization of the currency and/or the interest rate risk. The results of the simulation for simultaneous materialization of credit, currency and interest risks indicate an increased resilience of the banking system compared to 31.12.2023, which is primarily due to the higher initial capital adequacy rate, before the shocks. The simulation shows that, after the shocks, the capital adequacy ratio of the banking system decreases from 18.9% to 7.7%.

Chart 54
Results of the stress test simulation [61](left) and deterioration of credit exposure quality to reduce the banking system capital adequacy to 8% (right)
in %



Source: National Bank, based on the data submitted by banks.

The simulation of transition rates that banks' capital can withstand shows that the capital adequacy reduced to 8% in case of migration of 19.8% from regular to non-performing credit exposure, which is the highest percentage in the last five years. This migration corresponds to the growth in non-performing loan exposure to non-financial entities by 712.8%. However, it should be born in mind that it is a rather extreme simulation with a very small probability for materialization, especially in the short term. In 2024, non-performing credit exposure to non-financial entities increased by 5.6%[62], whereby only 1.2% of the regular credit exposure to non-financial sector received a non-performing status. The stress-test results show increased resilience of the banking system compared to the previous year, which confirms the satisfactory level of the banking system's solvency and significantly mitigates the potential negative effects of any possible risk materialization.

[61] Stress-testing includes simulation of simultaneous materialization of credit, currency and interest rate shocks, through:
- deterioration of the quality of credit exposure to non-financial entities, assuming a migration of 20%, 25% and 30% of the credit exposure to the non-financial sector of A, B and C-performing risk categories, respectively, to C-non-performing, D and E, where the migrated exposure is distributed equally (33.3% each) to the weaker risk categories, while maintaining the same percentage of coverage with impairment;
- growth of exposure to financial entities which is non-performing by 100%, at the expense of reducing the exposure in A risk category;
- depreciation of the denar against the euro by 30%; and
- growth of lending and deposit interest rates from 1 to 5 percentage points.

[62] The increase in non-performing credit exposure to non-financial entities in 2024 was driven by the change in the methodological approach for determining the non-performing status (namely, counting the days of delay) which started to apply with the new Decision on the methodology for credit risk management, as of 1.1.2024. For more details see the credit risk section of this Report.

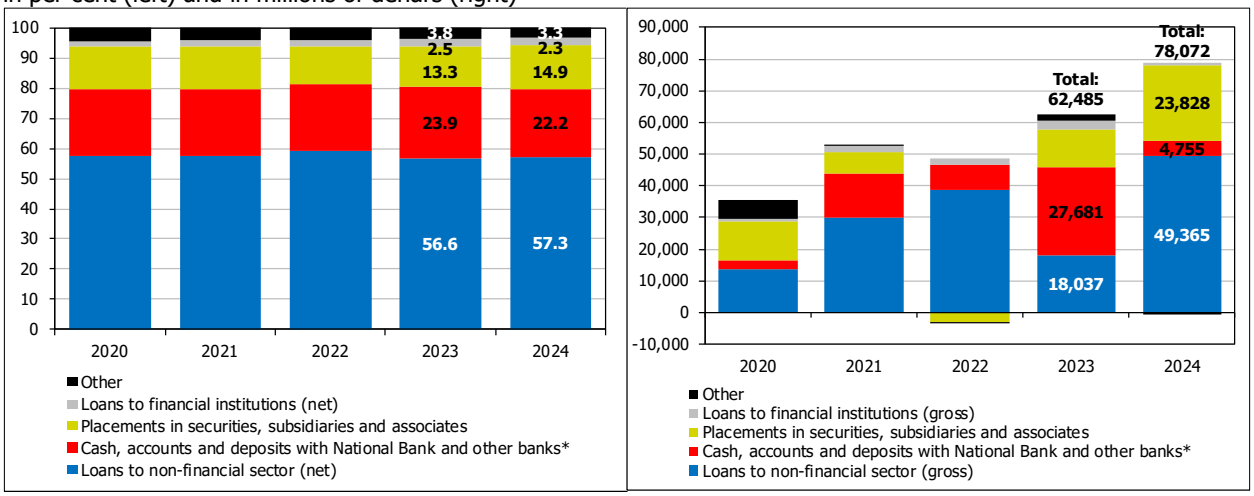
IV. Major balance sheet changes and profitability of the banking system

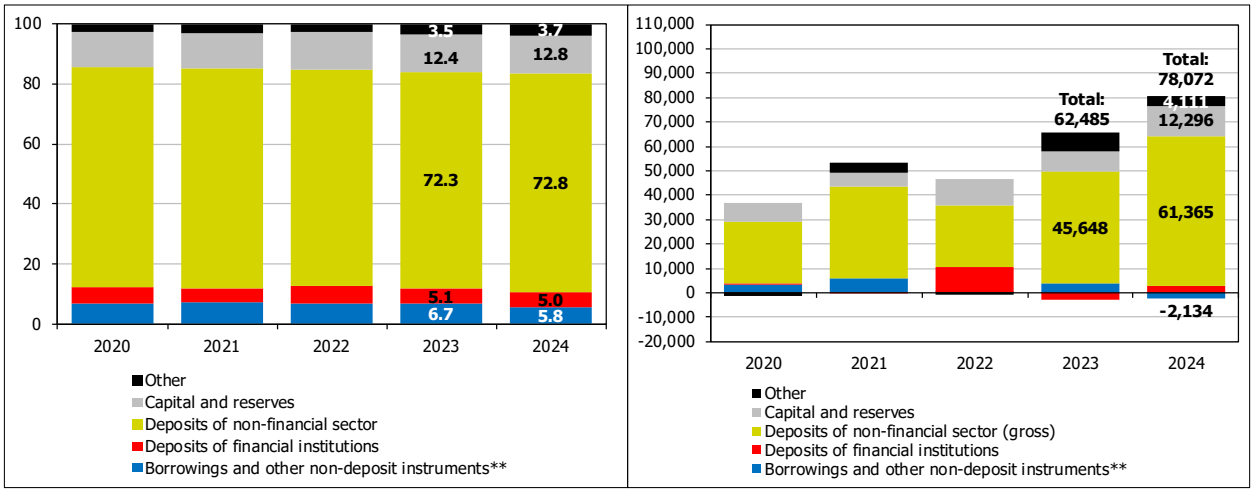
1. Bank activities

In 2024, the balance sheet of the banking system grew rapidly on an annual basis. Analyzing liabilities, the growth is driven by higher deposits of non-financial entities, as well as by capital and reserves due to retained earnings. Household deposits have a larger contribution to the annual growth of total deposits, while corporate deposits grew too, albeit at a slower pace. According to the currency features, denar deposits made the largest contribution to the growth, with an accelerated growth in foreign currency deposits as well. In terms of maturity, the growth of long-term deposits accelerated and made the largest contribution, with increased demand deposits, while short-term deposits further declined. The favorable trends in deposits in terms of the currency and maturity structure are driven by the National Bank's measures to support denarization and long-term savings.

On the side of the banking system assets, the growth was mainly due to higher loans to non-financial entities as well as due to liquid assets. Growth acceleration was noted in corporate loans in particular, with a significant increase in household loans as well. In terms of currency features, the increase is more pronounced in denar loans than in loans with currency component. According to maturity, significant growth was registered in short-term and long-term loans, while due loans declined.

Chart 55
Structure of the assets (up left) and liabilities (down right) and structure of the annual changes of the assets (up left) and liabilities (down right) of the banking system
in per cent (left) and in millions of denars (right)

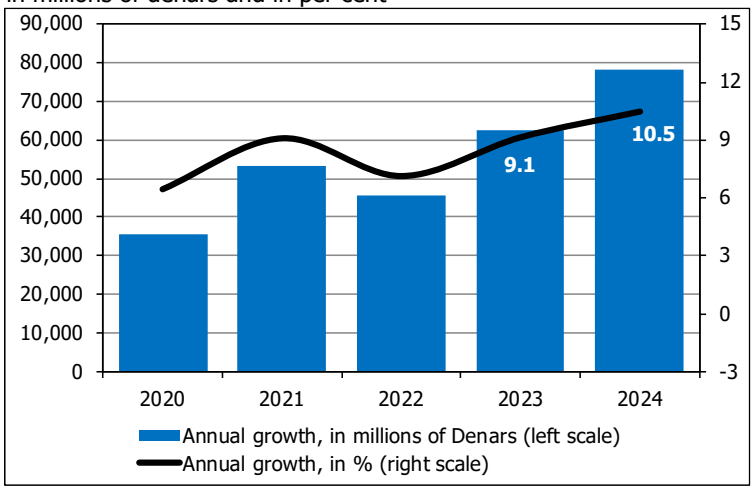




Source: National Bank, based on data submitted by banks. Note: * Cash, accounts and deposits with the NBRNM and other banks also include the assets in the guarantee fund of KIBS, as well as the reserve requirement in foreign currency; ** Other issued non-deposit instruments include issued subordinated and hybrid capital instruments.

The balance sheet of the banking system in 2024 increased by Denar 78,072 million or 10.5% annually, thus the growth continues to accelerate (9.1% as of 31.12.2023 and 7.1% as of 31.12.2022). The growth was mainly driven by increased deposits of non-financial entities, with a significant contribution of higher capital and reserves mainly due to retained profits. On the assets side, the growth results from higher placements in loans to non-financial entities as well as increased liquid assets, the structure of which was mostly dominated by placements in government securities (domestic and foreign) and banks' assets on denar account with the National Bank.

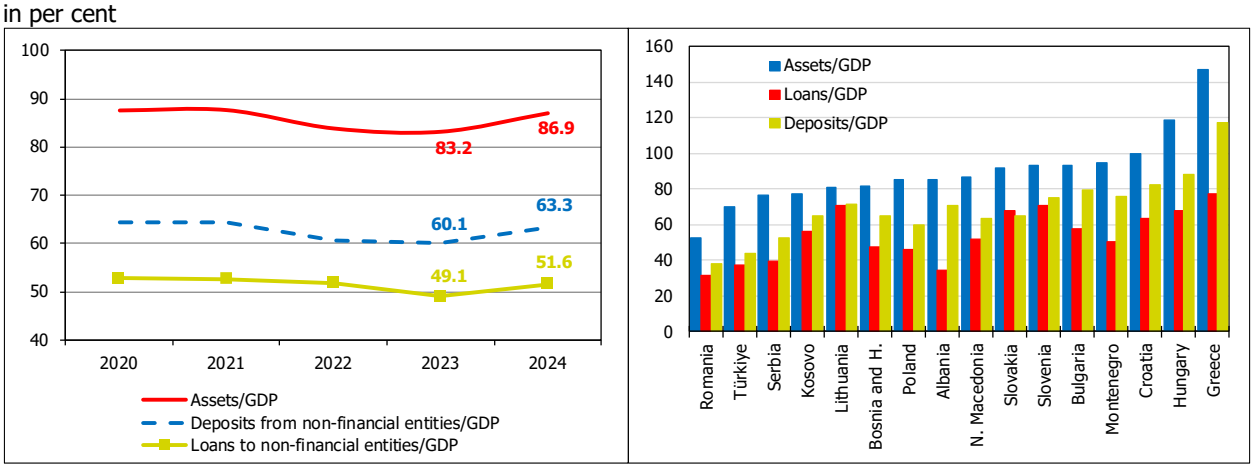
Chart 56
Assets of the banking system
in millions of denars and in per cent



Source: National Bank, based on the data submitted by banks.

Amid accelerated growth of bank assets, financial intermediation indicators recorded an increase in 2024. The financial intermediation in our country is similar to most of the countries in Central and Southeastern Europe, but it is still relatively moderate compared to the countries with more developed financial systems.

Chart 57
Financial intermediation in the Republic of North Macedonia (left) and by country (right)
in per cent



Source: The National Bank and the SSO, based on data submitted by banks, the IMF and the websites of the individual central banks.

1.1. Loans to non-financial entities[63]

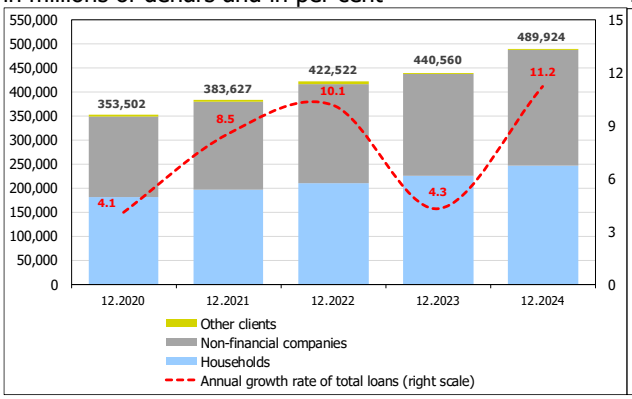
Lending to the non-financial sector accelerated in 2024, reaching the highest rate since the second half of 2009. At the end of 2024, total loans to non-financial sector grew by Denar 49,365 million or 11.2% compared to the end of 2023. Corporate and household lending increased, while 60% of the annual growth in lending activity accounts for increased corporate lending. The high credit growth occurs in conditions of net-relaxation of credit standards and increased demand for loans in the second and fourth quarters amid moderate decrease in the National Bank policy rate.[64] The bank-by-bank analysis shows an increased lending in eleven out of twelve banks,[65] while the growth was mostly due to higher lending by large banks.

In 2024, the volume of newly approved loans to the non-financial sector[66] was higher by 10.2% and in line with the growth in total loans. By sector, a significant increase was registered in newly approved corporate (by 11.7%) and household loans (by 8.0%).

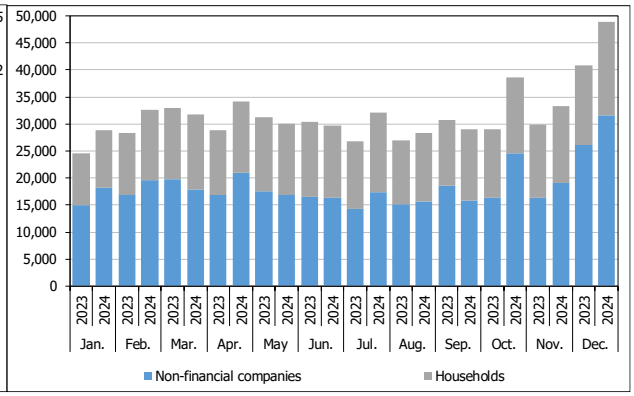
[63] Loans to non-financial entities include loans to resident and non-resident non-financial entities, that is, loans to private and public non-financial companies, central government, local government, non-profit institutions serving households (loans to other clients), sole proprietors and natural persons (loans to households).
[64] In accordance with the results of the Lending Survey from the second to the fourth quarter of 2024, a net easing in credit standards for corporate and household loans was recorded, while there was a net increase in credit demand in both sectors. The National Bank policy rate of 6.30% was cut on three occasions at the end of 2023 to 5.55% at the end of 2024. In February 2025, the policy rate was additionally cut to 5.35%.
[65] The DBNM AD Skopje is not taken into account.
[66] For the purpose of analysing the newly extended loans, the non-financial sector includes only legal entities and households and excludes other clients due to large fluctuations of newly approved loans.

Chart 58
Credit amount and annual growth rate of the non-financial entities (left) and newly approved loans, by sector (right)

in millions of denars and in per cent



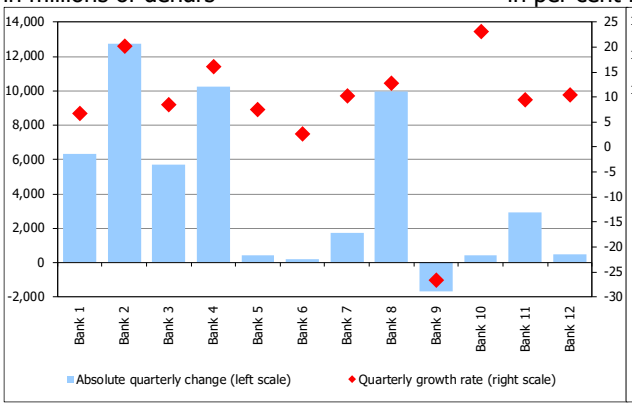
in millions of denars



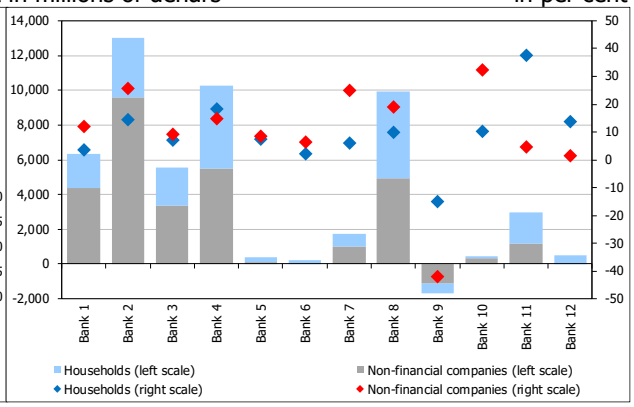
Source: National Bank, based on the data submitted by banks.

Chart 59
Annual growth of total loans to non-financial entities (left) and of loans to non-financial corporations and households (right), by bank

in millions of denars in per cent



in millions of denars in per cent



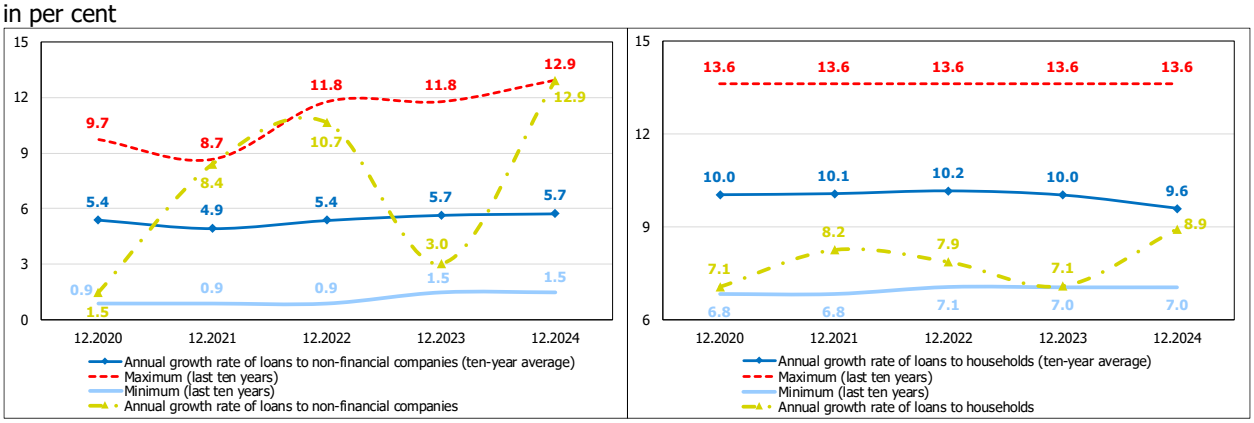
Source: National Bank based on data submitted by banks.

Corporate lending significantly accelerated during 2024 and exceeded the high annual growth rates from 2021 and 2022. As of 31.12.2024, total corporate loans went up by Denar 29,342 million or 13.9%[67] compared to the end of 2023. The increase was due to the high double-digit growth in many activities, such as: energy sector (by 53.2%), professional, scientific and technical activities (by 23.0%), manufacturing industry (by 13.4%), agriculture (by 11.8%), construction (by 10.7%), catering (by 10.7%) etc. Such movements occur in conditions of net relaxation of credit standards in the second and the fourth quarters of the year, which mainly reflects the decreased interest rates and increased demand for loans. The credit standards are expected to moderately ease in the first quarter of 2025, while the demand for loans will further increase[68].

[67] If we exclude the effect of net write-offs, the annual interest rate was lower and amounted to 12.9% (3.0% as of 31.12.2023) due to significantly lower growth in written-off corporate loans than the growth in total loans to this sector in 2024.
[68] Source: Lending Survey in the first, second, third and fourth quarters of 2024.

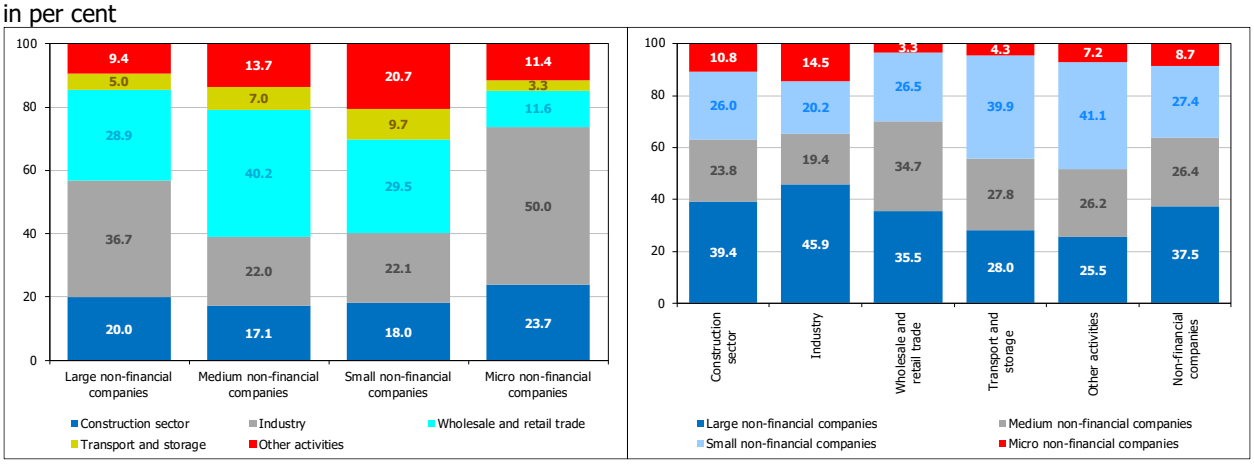
In the structure of loans by size of non-financial corporations,[69] the predominant share of loans to large enterprises strengthens (37.5%). On the other hand, besides the increased share, loans to micro enterprises still make the smallest part of the banks' loan portfolio (8.7%). The high share of loans to larger enterprises was due to larger amounts of extended loans, and partly due to banks' hesitation in terms of lending to smaller enterprises.[70] In terms of clients' activity, the largest share was registered in corporate loans in industry (35.3%) and wholesale and retail (26.2%), with a significant share of loans in construction (19.4%).

Chart 60
Ten-year moving average of annual growth rates of loans to non-financial corporations (left) and household loans (right)
in per cent



Source: National Bank, based on the data submitted by banks.
* Note: Excluding the effect of all mandatory write-offs made in the period 1.1.2016 - 31.12.2024. Starting from December 2019, the data also contains collected compulsorily written-off loans.

Chart 61
Structure of loans to non-financial companies by individual activities and by size of the company
in per cent

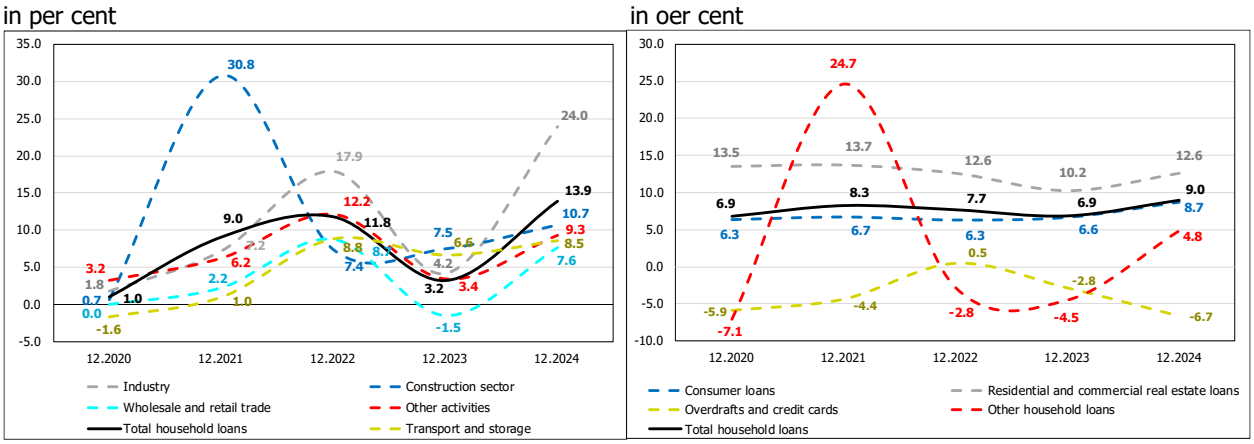


Source: National Bank's Credit Registry based on data submitted by banks.

[69] The criteria for Classification of entities by size (into large, medium, small and micro) are defined in Article 470 of the Law on Trade Companies.
[70] Some of the reasons that banks are not prone to financing small and medium-sized enterprises are poor financial literacy, poor corporate reporting and unwillingness of enterprises to disclose and share business information (for more information see p. 5 in Macedonia 2025 (2020). *Barriers for access to finance for MSMEs in North Macedonia: Stock of existing data and knowledge*.).

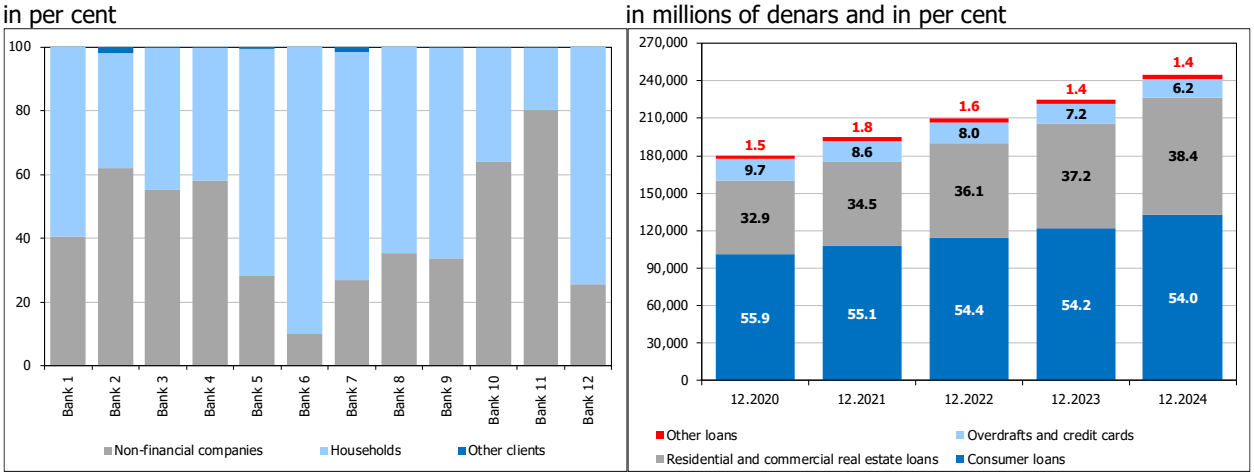
Accelerated growth in 2024 was registered in household lending too, but not as pronounced as in corporate lending. Total household loans in 2024 increased annually by Denar 20,288 million or 9.0%[71] (increase of Denar 14,649 million or 6.9% at the end of 2023). However, this growth rate is still below the average for the last decade. The accelerated credit growth was registered amid net relaxation of credit standards, especially in terms of interest rate on consumer loans and housing loan fees and increased credit demand from the second to the fourth quarter of the year. In the first quarter of 2025, significant relaxation of credit standards is expected, while the credit demand will moderately increase[72].

Chart 62
Annual growth rate of corporate loans (left) and household loans (right)



Source: The National Bank and the National Bank's Credit Registry based on data submitted by banks.

Chart 63
Sectoral structure of loans to non-financial entities, by bank (left) and structure of loans to natural entities, by product (right)

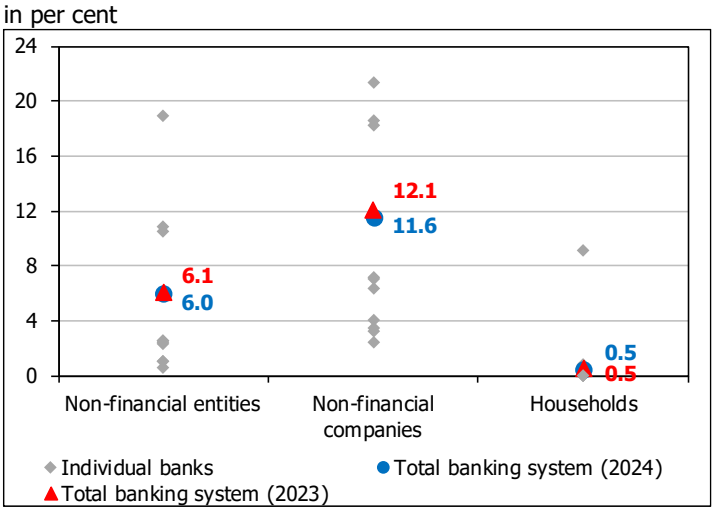


Source: National Bank's Credit Registry based on data submitted by banks.

[71] If the effect of net write-offs is excluded, the annual interest rate was lower and amounted to 8.9% (7.1% as of 31.12.2023) due to lower growth in written-off household loans than the growth in total loans to this sector in 2024.
[72] Source: Lending Survey in the first, second, third and fourth quarters of 2024.

The share of household loans in the total structure of loans to non-financial entities equaled 50.3%, which is less by 1.0 percentage points compared to the end of 2023, while the share of corporate loans was 49.2%, which is higher by 1.2 percentage points.[73] Analyzing credit products, loans to natural persons for consumption financing accounted for 61.6% (including the share of consumer loans of 54.0%), while housing loans accounted for 38.4% in the total structure of loans to natural persons. The gap between the share of consumer loans and loans for purchase and renovation of business property continued to narrow due to higher increase in housing loans (growth of 12.6% in housing loans as opposed to the growth of 8.7% in consumer loans at the end of 2024).

Chart 64
Share of "green" loans in the total loans to non-financial entities and by individual sectors, by individual bank

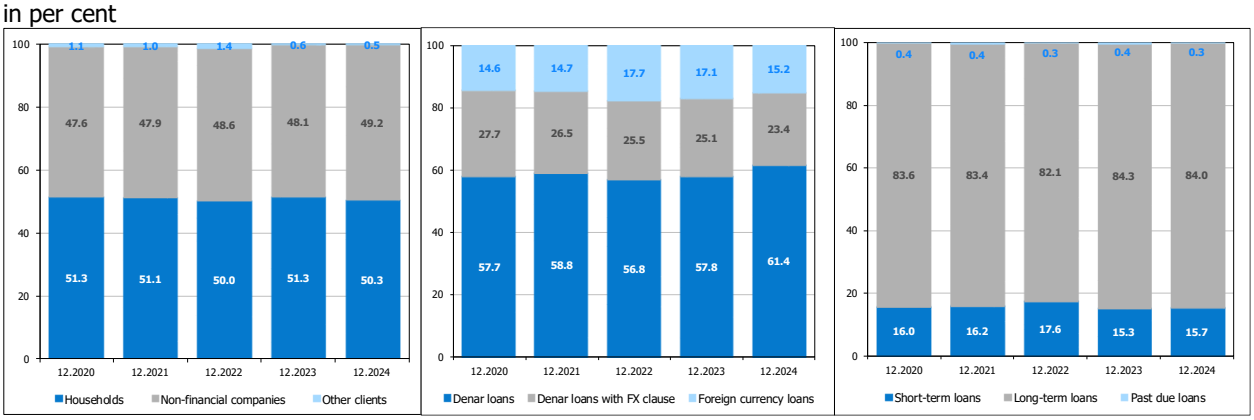


Source: National Bank, based on the data submitted by banks.

Green loans[74] grew during 2024, yet their share in banks' credit portfolios was almost unchanged (6.0%[75] as of 31.12.2024). At the end of 2024, total green loans grew by Denar 2,273 million or 8.4% compared to the end of the previous year, entirely as a result of the increase in green corporate loans by 9.2%, while green household loans decreased by 6.5%.

[73] The share of loans to other clients from non-financial sector as of 31.12.2024 amounted to 0.5% and was slightly lower than as of 31.12.2023 when it equaled 0.6%.
[74] The term *green loan* refers to the manner of financing which allows the borrower to invest exclusively in projects with significant positive environmental impact and in projects that reduce the negative effects from climate change. The "green" loans aim to (i) improve the energy efficiency of the households and the corporate sector; (ii) support the investments in green technologies, materials and solutions; (iii) support investments in renewable energy sources, control and prevention of pollution, protection of the environment, mitigation of the risks from climate change etc. For the purposes of this report, "green" loans denote loans that are intended to improve the energy efficiency of the households and the corporate sector; loans for support of the investments in green technologies, materials and solutions; loans for support of investments in renewable energy sources, control and prevention of pollution, protection of the environment, mitigation of the risks from climate change etc.
[75] One bank of the twelve analyzed banks as of 31.12.2024 has no green loans in the portfolio. In the banks that have approved such loans, three banks registered a double-digit share of green loans in total loans, while the share by bank ranges from 0.7% to 19.0%. Analyzed by sector, the share of green loans in total loans by individual banks is between 2.4% and 21.3% in corporate loans, i.e. between 0.0% and 9.2% in household loans.

Chart 65
Structure of total loans, by sector (left) and currency (middle), and structure of regular loans, by maturity (right)
in per cent



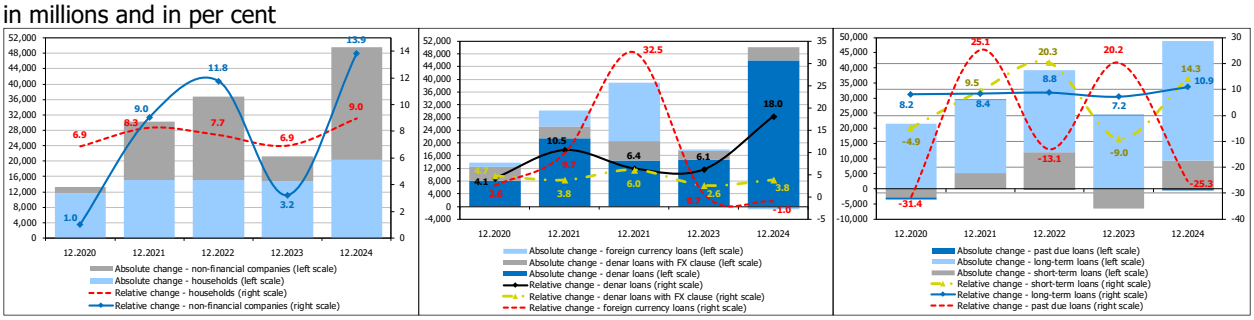
Source: National Bank, based on the data submitted by banks.

Analyzing the currency structure of loans, the growth is pronounced in denar loans, the increase of which made up 93% of the total growth of loans. As of 31.12.2024, denar loans increased by Denar 45,926 million or 18.0%[76], while loans with currency component grew by Denar 3,439 million or 1.8%[77]. **As a result of such movements, the share of denar loans in the currency structure increased by 3.6 percentage points and reached 61.4%,** followed by denar loans with FX clause (23.4%) and foreign currency loans (15.2%).

The analysis of maturity structure of loans[78] indicates that the growth of loans was mostly due to higher short-term and long-term loans. At the end of 2024, long-term loans increased by Denar 39,424 million or 10.9%, while short-term loans increased by Denar 9,422 million or 14.3%. Long-term loans dominate the maturity structure of loans with 84.0%, which is a slight decrease at the expense of the increasing share of short-term loans by 15.7%. Overdue loans are small with very volatile movements.[79]

[76] The annual increase in denar loans to non-financial sector is due to the increase in corporate loans by Denar 35,126 million or by 26.9% and household loans by Denar 10,923 million or by 8.9%, while loans to other clients decreased by Denar 124 million or by 9.5%.
[77] The higher lending with currency component to non-financial sector on annual basis fully results from the increase in denar loans with FX clause by Denar 4,200 million or 3.8%, while the foreign currency loans decreased by Denar 761 million or by 1.0%. The growth of denar loans with FX clause was fully due to the increased household loans (by Denar 7,147 million or by 8.2%), with a decrease in corporate loans (by Denar 2,185 million or by 12.3%), and loans to other clients (by Denar 132 million or by 18.4%). The decline in foreign currency loans is due to the reduced corporate loans (by Denar 2,968 million or by 5.1%) and loans to other clients (by Denar 10 million or by 1.4%), while foreign currency household loans increased (by Denar 2,218 million or by 13.6%).
[78] The analysis of maturity structure excludes non-performing loans.
[79] The due loans make up 0.3% of total regular loans.

Chart 66
Annual credit growth, by sector (left), currency (middle) and maturity (right)
in millions and in per cent



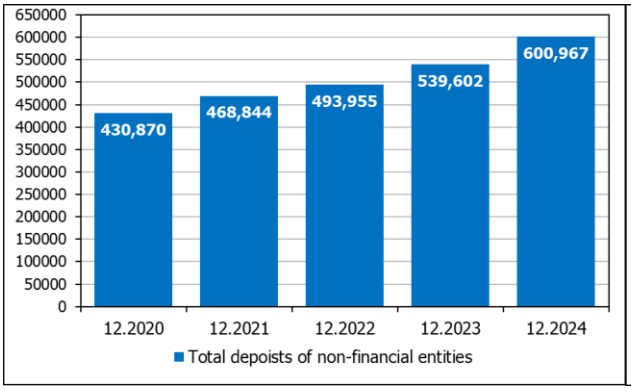
Source: National Bank, based on the data submitted by banks.

1.2. Deposits of non-financial companies

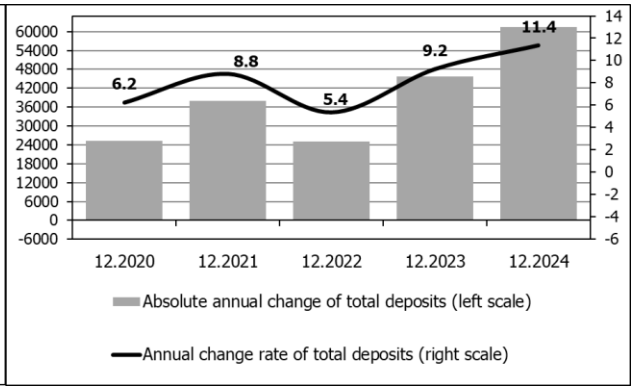
In 2024, deposits of non-financial entities recorded an accelerated annual growth reaching a level of 11.4% or Denar 61,365 million (in 2023, the growth equaled 9.2% or Denar 45,648). The largest contribution to the intensive annual deposit growth was made by household deposits, as well as long-term savings and denar deposits, also driven by the National Bank measures to support denarization and long-term saving, as well as by higher interest rates on deposits in 2024.

Household deposits made the largest contribution (77.7%) to the accelerated growth of total deposits. The annual increase in deposits from this sector amounted to Denar 47,659 million or 13.5%, as opposed to the increase in the previous year of Denar 25,730 million or 7.8%. At the same time, deposits of non-financial corporations significantly increased, by Denar 14,334 million or 8.6%, which is still slower compared to 2023, when deposits from this sector grew by Denar 19,553 or 13.2%. Such movements enabled further strengthening of the share of household deposits in total deposits, which reached the level of 66.9% (65.6% as of 31.12.2023).

Chart 67
Stock (left) and flow (right) of deposits of non-financial entities
in millions of denars



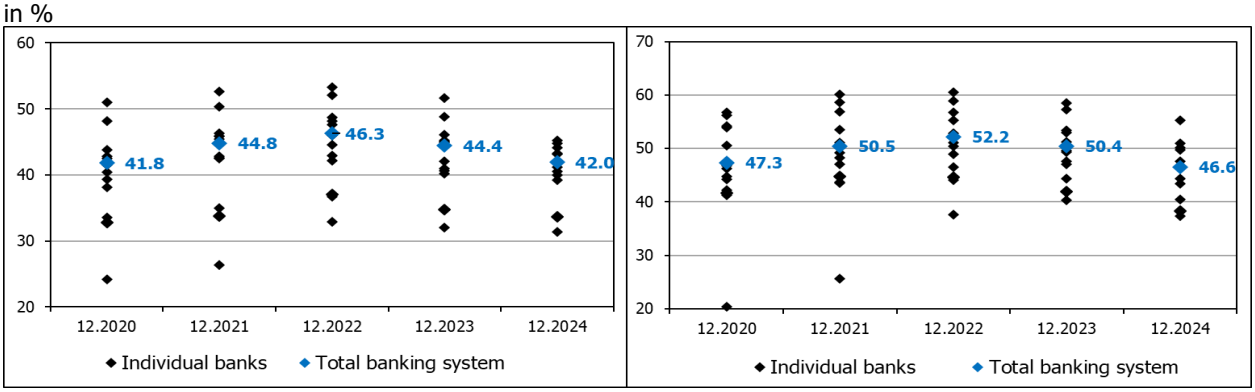
in millions of denars and in %



Source: National Bank, based on the data submitted by banks.

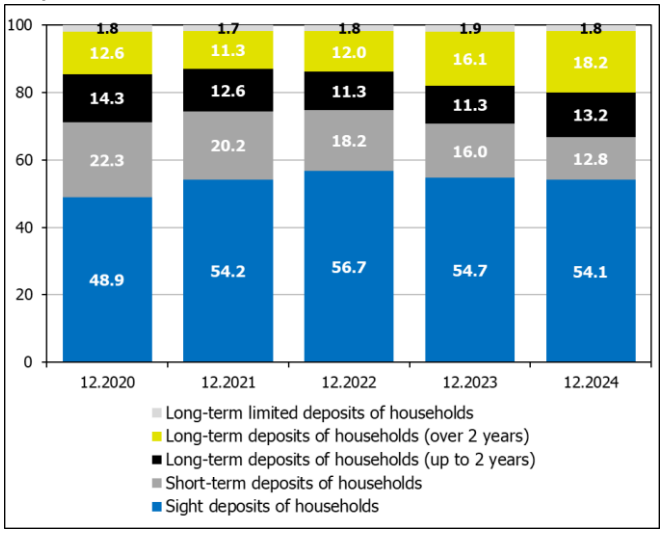
The growth of denar deposits had the largest contribution (79.5%) to the annual increase in total deposits of non-financial entities. Denar deposits increased by Denar 48,804 million or 16.3%, which is a growth acceleration compared to the previous year, when denar deposits increased by Denar 34,551 million or 13.0%. The largest contribution (80.2%) to the growth of total denar deposits was made by denar household deposits, which increased annually by Denar 39,133 million or 22.3%. The growth of denar corporate deposits amounted to Denar 9,571 million or 8.3%. Despite the significantly lower contribution (20.6%) of foreign deposits to the annual growth of total deposit, in 2024 they registered an accelerated growth reaching Denar 12,643 million, or 5.3% (in 2023, foreign currency deposits grew by Denar 11,064 million or 4.8%). **Such movements further increased the share of denar deposits in total deposits, from 55.5% as of 31.12.2023 to 57.9% as of 31.12.2024. Similarly, household deposits were dominated by denar deposits, the share of which increased by 53.4% (49.6% as of 31.12.2023).**

Chart 68
Share of total foreign currency deposits in total deposits of the banking system (left) and of the foreign currency household deposits in total household deposits (right)
in %



Source: National Bank, based on the data submitted by banks.

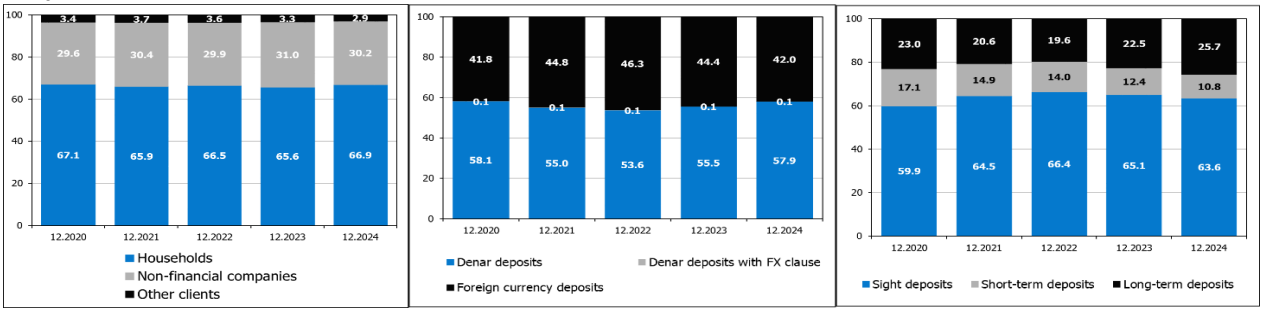
Chart 69
Maturity structure of household deposits
in %



Source: National Bank, based on the data submitted by banks.

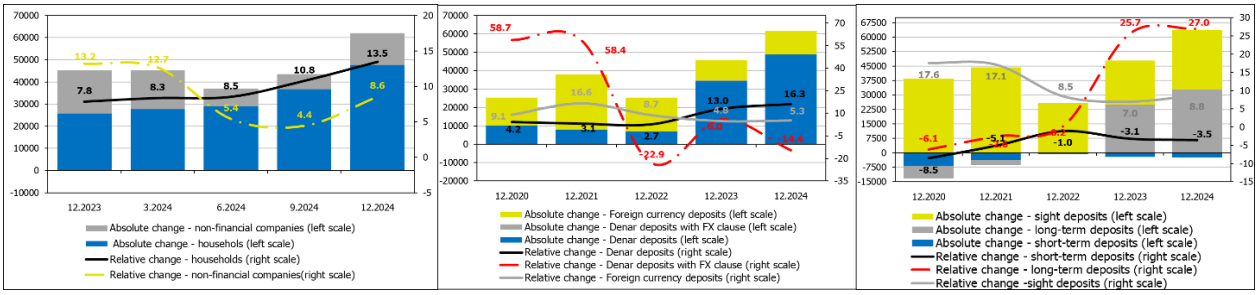
The growth of long-term deposits made a larger contribution (53.4%) to the annual increase in total deposits of non-financial entities, with a significant contribution (50.4%) from demand deposits, amid further annual decline in short-term deposits. During 2024, long-term deposits registered the fastest annual increase of 27.0% or Denar 32,779 million[80], which is faster compared to the growth in 2023 (25.7% or Denar 24,816 million). Demand deposits also registered an accelerated growth, reaching 8.8% or Denar 30,939 million[81] (in 2023, these deposits increased by Denar 23,001 million or 7%) This year, short-term deposits further declined by Denar 2,354 million or 3.5%. **Such movements in the maturity structure of deposits caused increase in the share of long-term in total deposits for third consecutive year, to the level of 25.7% (22.5% as of 31.12.2023).** Demand deposits still make up most of the total deposit base with 63.6%, but they have decreased in the last three years. **Demand deposits dominate the deposit portfolio of households with 54.1% (54.7% as of 31.12.2023), followed by long-term deposits with a share of 33.1% (29.3% as of 31.12.2023).**

Chart 70
Structure of total deposits, by sector (left), currency (middle) and maturity (right)
in %



Source: National Bank, based on the data submitted by banks.

Chart 71
Annual deposit growth, by sector (left), currency (middle) and maturity (right)
in millions of denars and in %



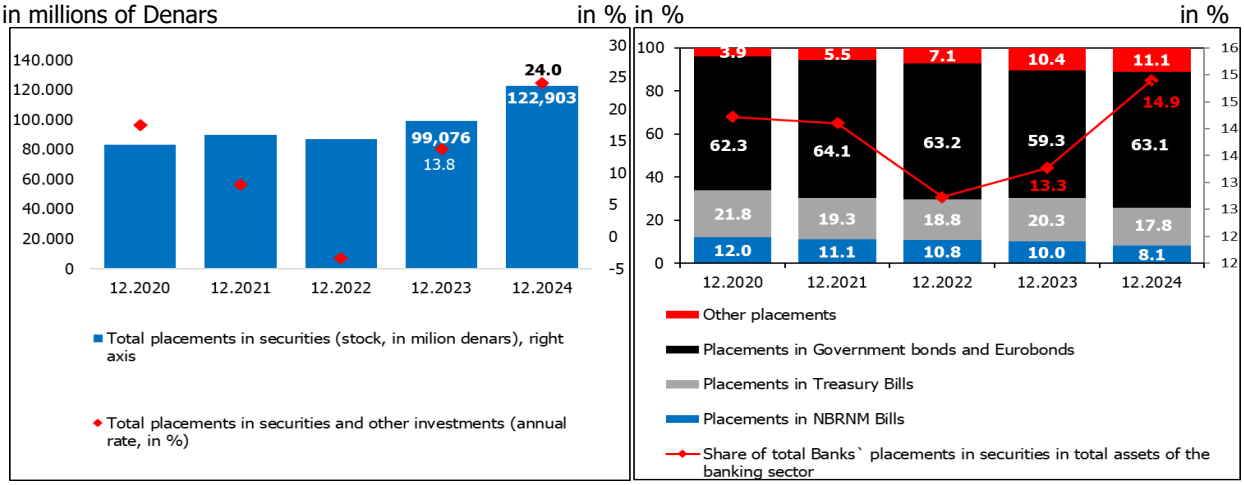
Source: National Bank, based on the data submitted by banks.

[80]The annual increase in long-term deposits arises more from the growth in both denar (by Denar 19,728 million, or 32.4%) and less from the increase in foreign currency deposits (by Denar 13,048 million, or 21.6%). Households have made more long-term deposits, increasing them by Denar 29.453 million, or 28.4%. The long-term corporate deposits increased by Denar 3,544 million or 23.9%.
[81]The largest contribution to the annual growth in demand deposits was made by denar demand deposits of households which grew by Denar 23,600 million, or 21.9%. According to the contribution to the growth in demand deposits, they are followed by enterprises, where denar demand deposits increased by Denar 5,006 million or 5.1%, while foreign currency demand deposits grew by Denar 3,260 million or 7.3%.

1.3. Other activities

In 2024, **banks' placements in securities, subsidiaries and associates**[82] grew by Denar 23,828 million or 24.0%, thus their share in banks' assets[83] reached 14.9%. The growth was mostly due to increased investments in domestic treasury bonds and Eurobonds, thus their share in the total portfolio of securities and investments in associates increased and at the end of the year equaled 63.1%.

Chart 72
Investments in securities, subsidiaries and associates (balance and annual growth rate, left) and their structure (right).



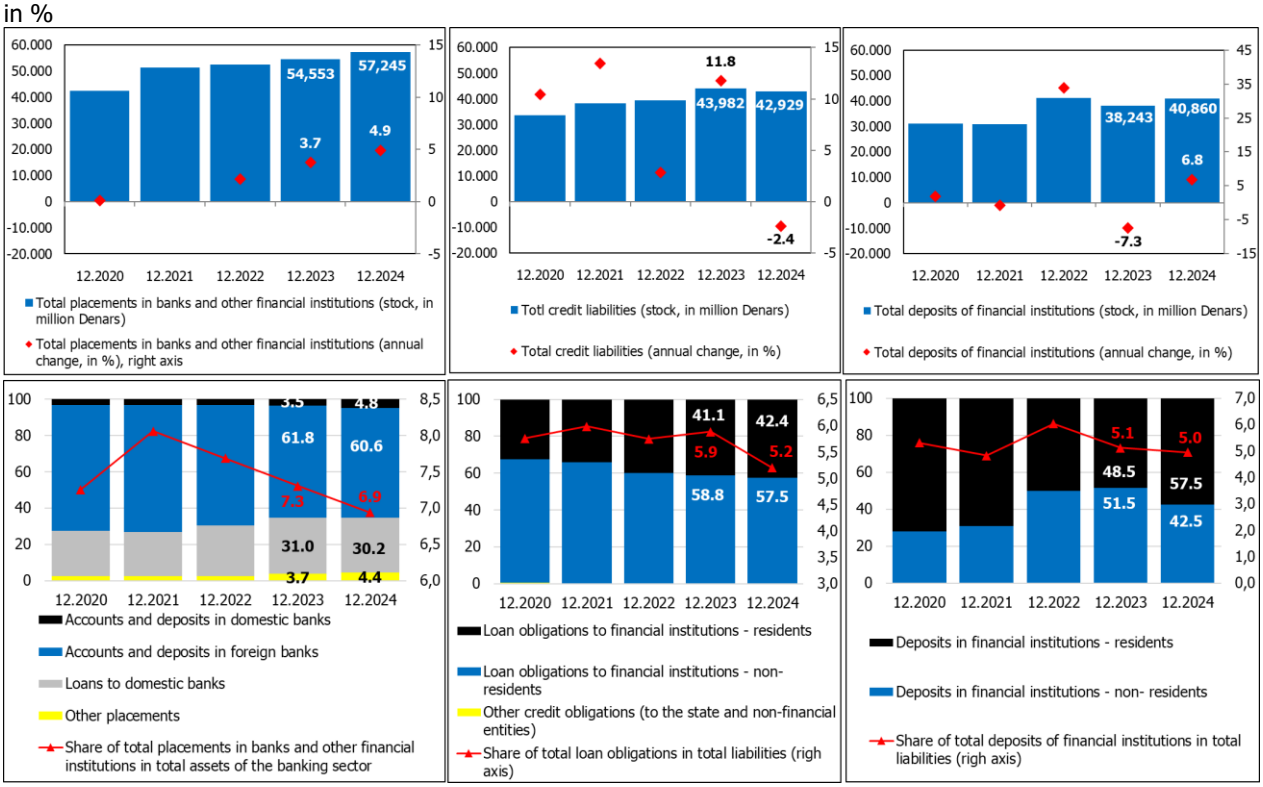
Source: National Bank, based on the data submitted by banks.

Banks' placements with other banks and financial institutions accounted for 6.9% of the total assets of the banking system at the end of 2024 and grew by Denar 2,692 or 4.9% during the year. This growth mostly results from the higher amount of funds in current accounts with foreign banks (Denar 1,098 million) and deposits in domestic banks (Denar 724 million). Observing structure, the placements in other banks and financial institutions were dominated by accounts and deposits with foreign banks with 60.6%, followed by loans of domestic banks (30.2%).

In 2024, **total banks' liabilities, based on loans and deposits to other banks and financial institutions** increased by Denar 82 million or 1.9%. These liabilities do not represent a significant source of financing to banking system's activities and make up 10.2% of total liabilities. Within their structure, loan-based liabilities decreased during 2024 (by Denar 1,052 million or 2.4%), which is entirely due to the decreased loan-based liabilities to financial institutions-non-residents over 5 years with several banks. On the other hand, banks' deposits and other financial institutions increased by Denar 2,616 million or 6.8%. The increase was due to the growth in deposits of resident financial institutions (of Denar 4,949 million) amid decrease in deposits of non-resident financial institutions of Denar 2,333 million.

[82] The analyses of these investments are based on their net book value.
[83] Total assets of the banking sector in 2024 increased by 10.5%.

Chart 73
Claims on financial institutions (left), loan-based liabilities (middle) and deposits of financial institutions (right), balance and annual growth (up), structure and share in total assets/liabilities (down)
in %

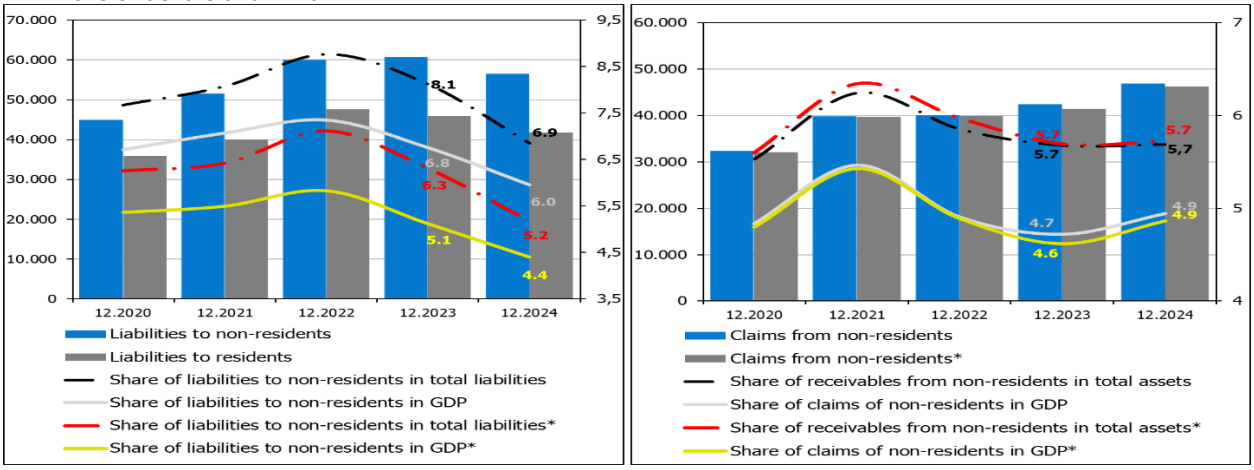


Source: National Bank, based on the data submitted by banks.

The scope of the banking system activities with non-residents is limited, and usually the banks within the system owe more than they claim on non-residents. During 2024, liabilities to non-residents decreased by Denar 4,142 million, or 6.8%, reducing their share in total liabilities of the banking system at the end of 2024 to 6.9%[84]. On the other hand, banks' claims on non-residents grew by Denar 4,525 million or 10.7%, but their share in total assets of the banking system remained unchanged and at the end of 2024 equaled 5.7%.

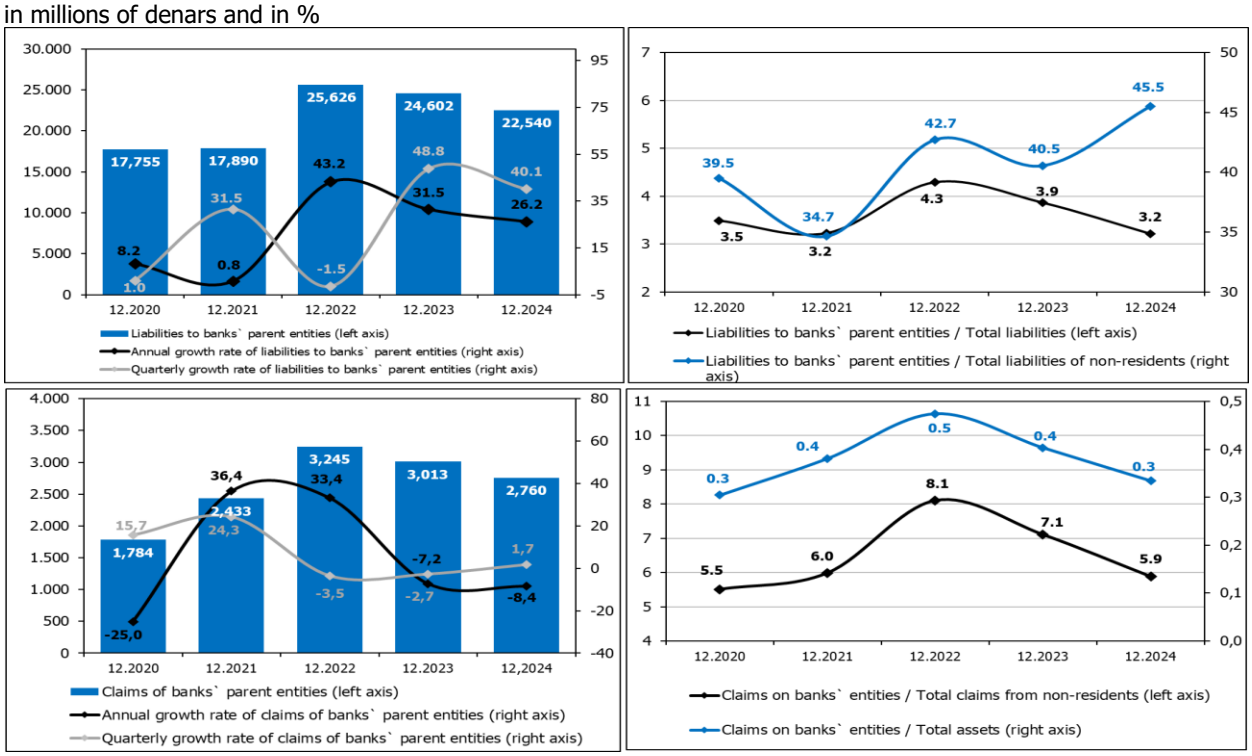
[84] If DBNM AD Skopje is excluded from the analysis, the share of liabilities to non-residents in total liabilities equals 5.2%.

Chart 74
Liabilities to (left) and claims on (right) non-residents
in millions of denars and in %



Source: National Bank, based on the data submitted by banks.
*Without DBNM AD Skopje

Chart 75
Liabilities to (top) and claims on (bottom) banks' parent entities
in millions of denars and in %



Source: National Bank, based on the data submitted by banks.

Liabilities to banks' parent entities declined, yet they still do not represent a significant source of financing to domestic banks' activities. The share of banks' liabilities to parent entities (including subordinated liabilities and hybrid capital instruments) in total liabilities of the domestic banking system, total liabilities and in liabilities to non-residents at the

end of the year equaled 3.2%. 2.7% and 45.5%[85], respectively. In 2024, these liabilities decreased by Denar 2,062 million (or 8.4%). Claims on parent entities also registered a minimal annual decline of Denar 253 million or 8.4%, thus reducing further its share in total asset to the level of 0.3% (0.4% as of 31.12.2023) and claims on non-residents to 5.5% (7.1% as of 31.12.2023).

[85]As of 31.12.2023, these shares equaled 3.9%, 3.3% and 40.5%, respectively.

2. Profitability

In 2024, the banking system's profit continues to grow, but at a slower pace compared with the previous year. The largest contribution to the profit growth was made by the increase in net interest income, in almost all sectors. Solid contribution to the profit growth was made by the enhanced management with outstanding and written-off claims by banks, which resulted in reduced impairments for non-performing loans and increased revenues based on collected previously written-off claims and sales of foreclosed assets. Certain contribution to the profit growth was made by higher net commission income. Negative contribution to the profit growth was made only by higher operational costs, mostly due to increase in staff costs and services costs. The profit growth positively affected the basic operational profitability and efficiency ratios of the banking system. Weighted interest rates on loans decreased, while those on deposits increased in 2024. Hence, the spread between weighted interest rates on loans and deposits has narrowed, compared to the end of the previous year.

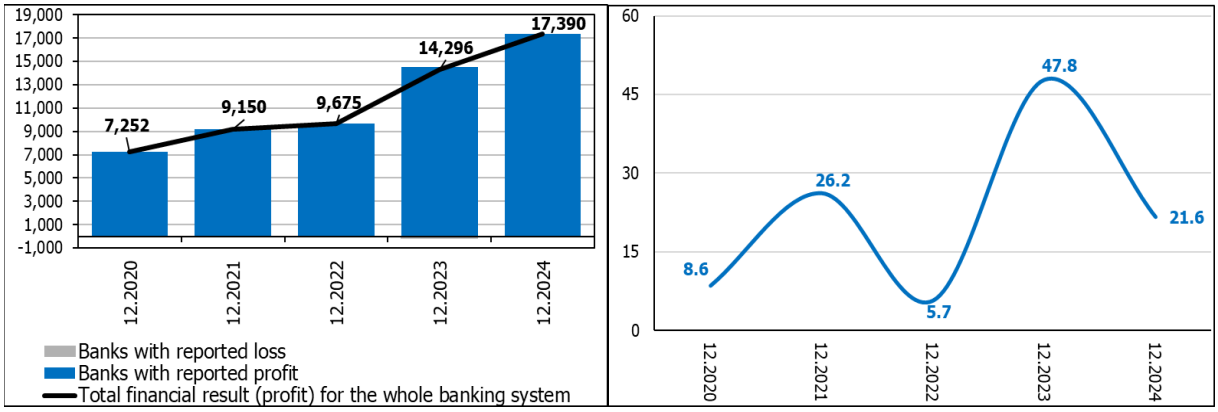
2.1. Banking system profitability and efficiency ratios

In 2024, the banking system generated profit of Denar 17,390 million, which is by Denar 3,095 million or 21.6% higher compared to the previous year (the profit in 2023 was higher by 47.8% or Denar 4,621 million compared to the profit in 2022). The largest contribution to the profit growth was made by the higher net interest income (increase of Denar 3,088 or 12.3%), the lower impairment costs which declined by Denar 817 million or 18.8%, as well as the increase in net fee and commission income (of Denar 525 million or 8.0%).[86] Slight contribution to the profit growth was made by capital gains from the sale of assets, as well as from collected previously written-off claims (in the category other income), which grew by Denar 398 million and Denar 341 million, respectively. Against such movements, operating costs increased by Denar 1,414 million or 9.2%[87], which made negative contribution to the profit growth. Analyzed by bank, all banks reported positive financial operating result.

[86]The largest contribution in net income based on fees and commissions in 2024 was made by net income from payment operations services (50.1%), lending (15.5%) and letters of credit and guarantees (9.8%), while net income based on fees and commissions related to lending made the largest contribution to the growth of total net commission income.

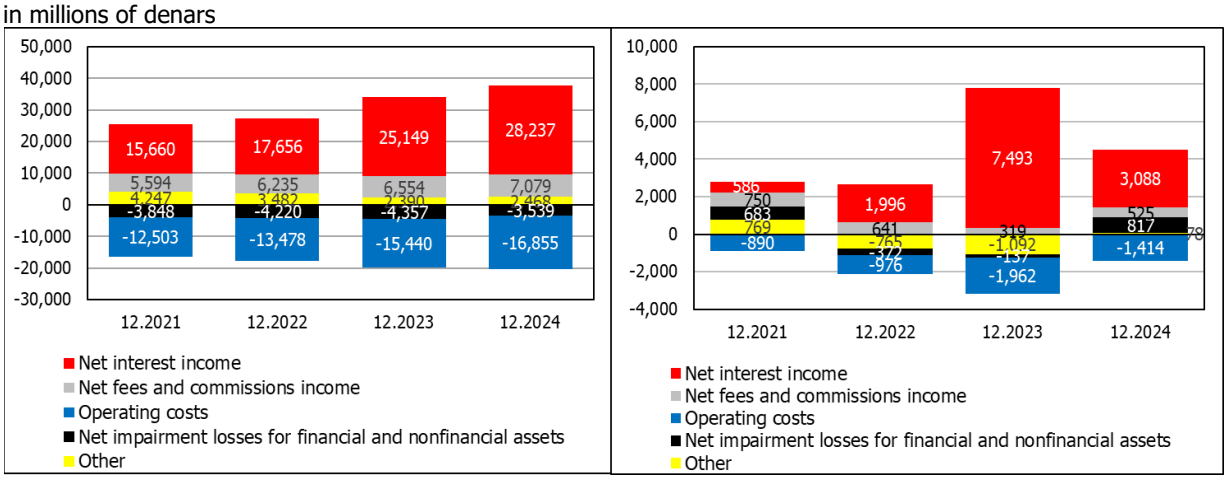
[87]The growth in operating costs mostly resulted from the growth in employee costs (of Denar 652 million or 9.7%) and services costs (of Denar 502 million or 12.2%).

Chart 76 Dynamics of the total profit (left) and annual growth (right)
in millions of denars



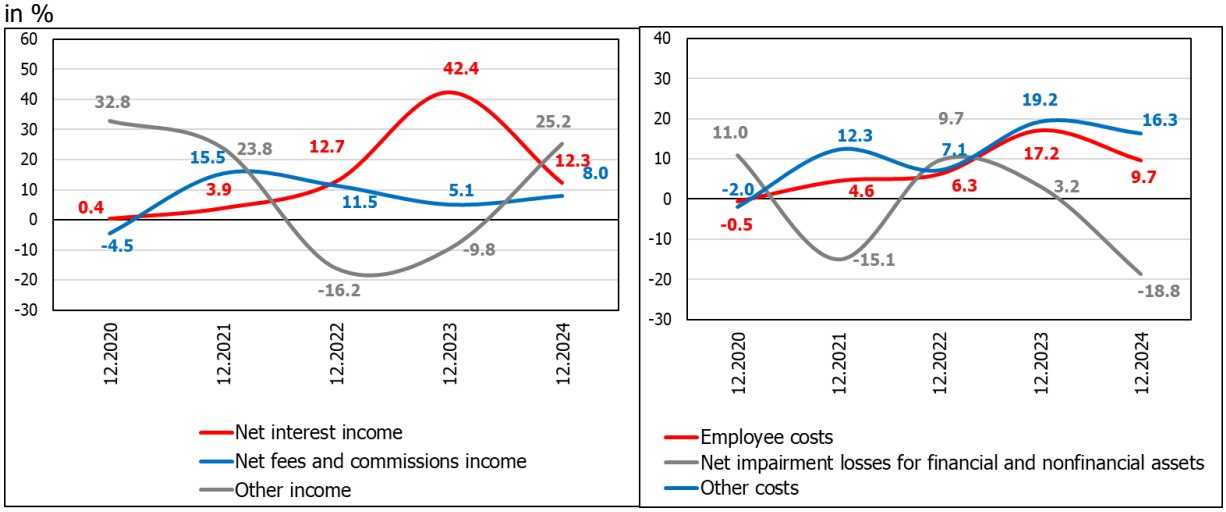
Source: National Bank, based on the data submitted by banks.

Chart 77 Contribution to the profit creation (left) and to the profit growth (right)
in millions of denars



Source: National Bank, based on the data submitted by banks.

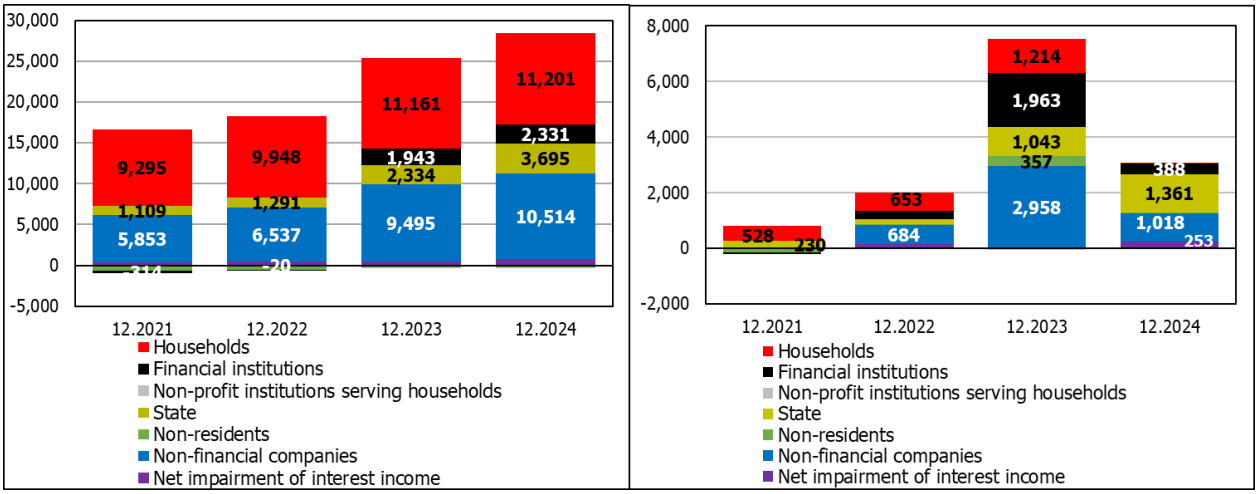
Chart 78 Annual growth rate of the main income (left) and expenditure items (right)
in %



Source: National Bank, based on the data submitted by banks.

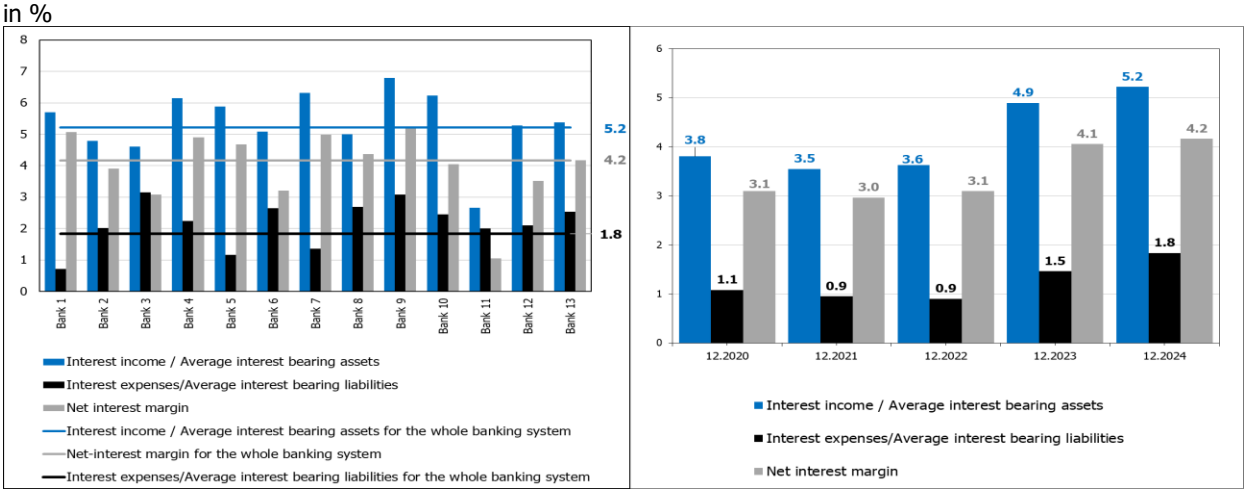
Higher net interest income of banks results from the higher interest income (by Denar 5,050 million or 16.6%), compared to the growth of interest expenses (of Denar 1,962 million or 37.6%). Thus, net interest income grew in all sectors. The largest contribution to the net interest income (39.7%) was made by the financial intermediation with households, followed by non-financial corporations (37.2%), while the largest contribution to the growth of net interest income was made by net interest income of the government sector (44.1%), followed by net interest income from non-financial corporations (33.0%).[88]

Chart 79
Net interest income by sector, structure (left) and contribution to the growth (right)
in millions of denars



Source: National Bank, based on the data submitted by banks.

Chart 80
Net interest margin as of 31.12.2024, by bank (left)* and of the banking system(right)
in %



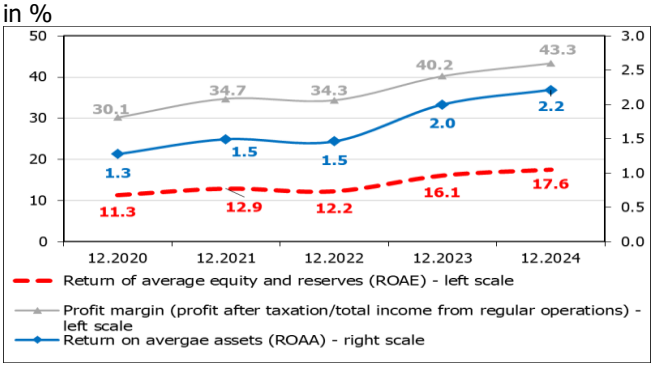
Source: National Bank, based on the data submitted by banks.
* Indicators of the banking system are shown in lines.

[88]Net interest income of the government sector increased annually by Denar 1,361 million, or 58.3% (almost fully due to higher interest income of this sector), while net interest income of non-financial corporations increased by Denar 1,018 million., or 10.7%. The increase in net interest income of other sectors was significantly lower compared to the increase in these two sectors.

Net interest margin continued to increase in 2024, yet slightly, reaching 4.2% at the end of the year. The growth of the net interest margin was due to the higher relative growth of net interest income (12.3%) compared to the growth of the average interest-bearing assets (growth of 9.3%).

In 2024, the main profitability ratios[89] of the banking system registered improved values. Compared to 31.12.2023, the profit margin grew by 3.1 percentage points, while the rate of return on average equity and the rate of return on average assets increased by 1.5 and 0.2 percentage points, respectively.

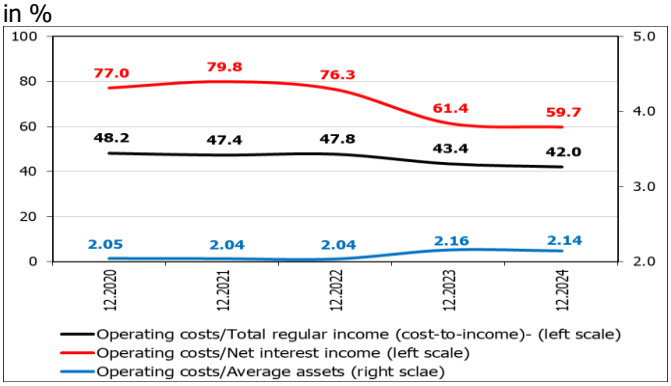
Chart 81
Rates of return on average assets (ROAA) and on average equity and reserves (ROAE) and profit margin
in %



Source: National Bank, based on the data submitted by banks.

The indicators of the banking system operating efficiency improved. The operating costs to interest income ratio and the operating costs to total regular income ratio improved, by 1.7 and 1.4 percentage points, respectively, due to the faster growth of net interest income (12.3%) and total regular income (12.9%) compared to the increase in operating costs (9.2%). The operating costs to average assets ratio is almost unchanged (i.e. slightly decreased by 0.02 percentage points).

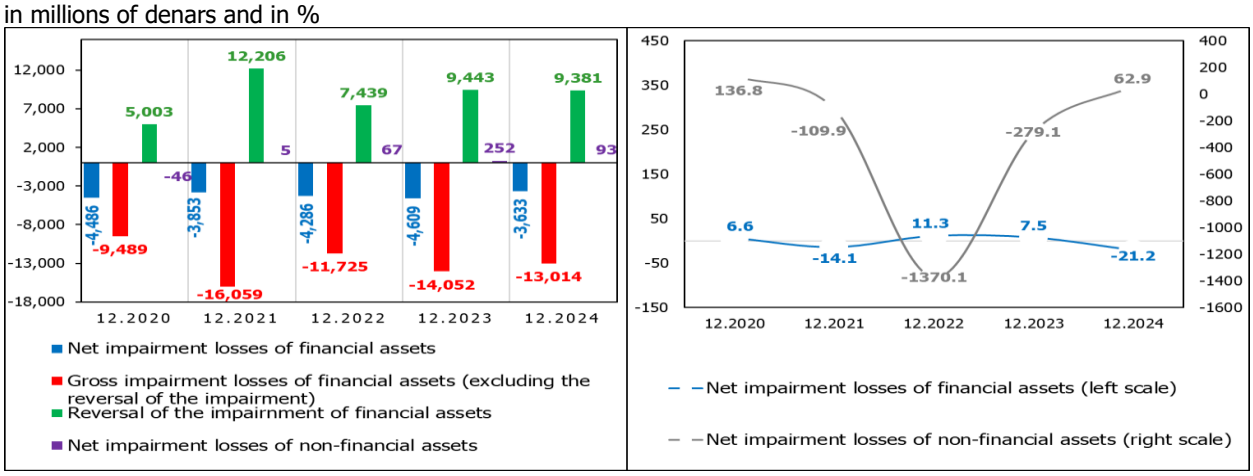
Chart 82
Operational efficiency ratios
in %



Source: National Bank, based on the data submitted by banks.

[89] Profitability and efficiency ratios of the banking system and bank groups are presented in the Annexes to this Report.

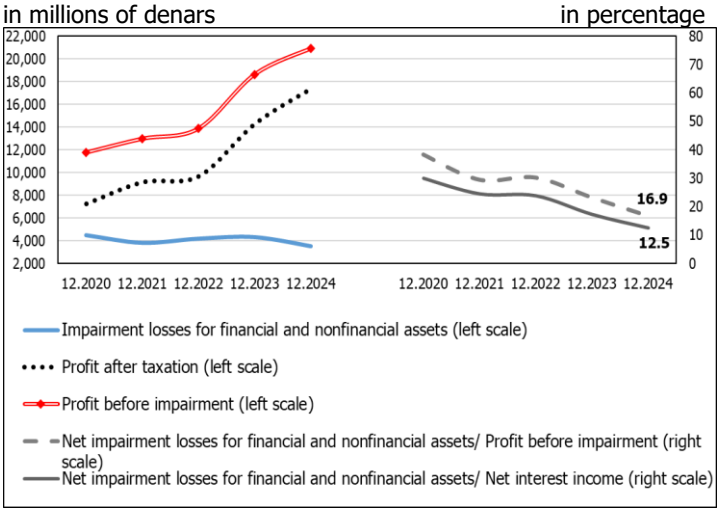
Chart 83
Impairment cost for financial and non-financial assets, stock (left) and annual flow (right)
in millions of denars and in %



Source: National Bank, based on the data submitted by banks.

As of 31.12.2024, financial assets' impairment costs (net) decreased by Denar 976 million or 21.2%. The decrease in impairment costs of financial assets was mostly due to the decline in gross impairment costs of loans and placements (of Denar 841 million or 6.8%). Analyzing the status of loans, in 2024 there was a decrease in the impairment of non-performing loans. The net impairment of non-financial assets is minor and in the last four years has been treated as an income[90].

Chart 84
Impairment costs to gain and to net interest income ratios
in millions of denars in percentage



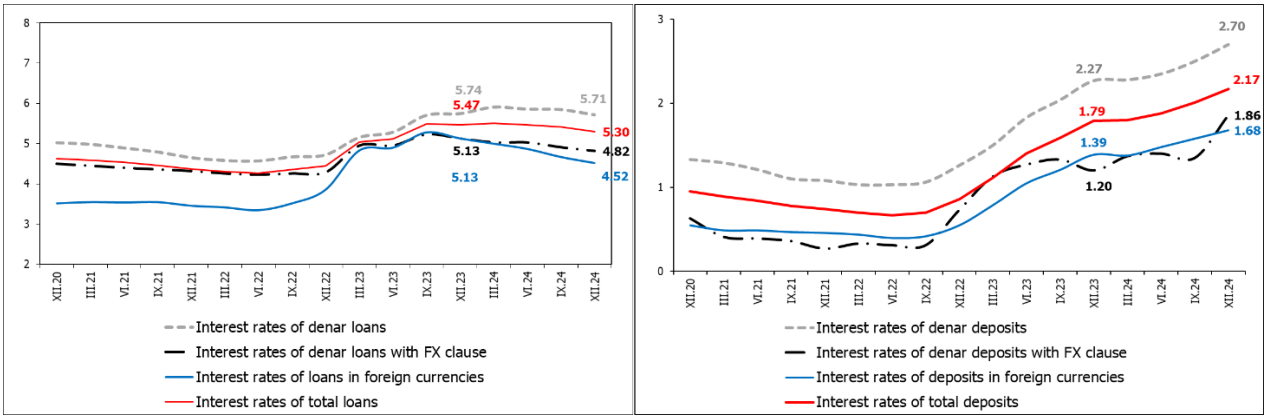
Source: National Bank, based on the data submitted by banks.

[90]In 2024, same as in 2023, banks released more impairment costs of non-financial assets than they created, hence the costs of non-financial assets have a status of income item at the end of the year.

2.2. Movements in weighted interest rates and interest rate spread

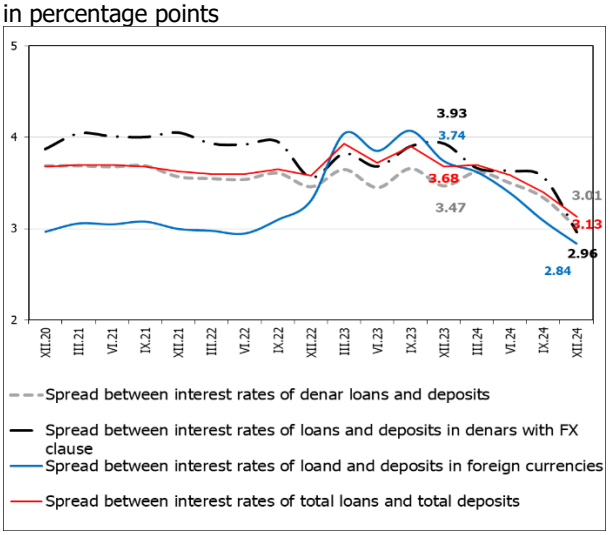
The total weighted interest rate on loans is lower compared to the previous year (by 0.17 percentage points) and equals 5.30%. Analyzed by currency, decrease was registered in weighted interest rates on all loans. On the other hand, the total weighted interest rate on deposits was higher by 0.38 percentage points and amounted to 2.17%, with a growth in weighted interest rates on all deposits, by currency. Such changes have narrowed the spread between total weighted interest rate on loans and the total weighted interest rate on deposits. Thus, as of 31.12.2024, this spread equaled 3.13 percentage points, as opposed to end of 2023 when it amounted to 3.68 percentage points.

Chart 85 Lending (left) and deposit weighted interest rates (right)
in %



Source: National Bank.

Chart 86 Interest spread
in percentage points



Source: National Bank.