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

REPORT ON RISKS IN THE BANKING SYSTEM OF THE REPUBLIC OF NORTH MACEDONIA IN THE THIRD QUARTER OF 2023

December 2023

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I. Summary

During the third quarter of 2023, the environment in which the banks operate features gradual stabilization of the price growth and favorable foreign exchange market, with existing risks and uncertainty, mainly related to external factors. In such circumstances, the National Bank continued with the monetary tightening and increased the policy rate on two occasions to the level of 6.3%. The monetary setup was additionally supported by the changes in reserve requirement, to further support the process of denarization of banks' balance sheets, with macro-prudential measures that are consistent with the monetary changes, which further strengthens the banking system resilience. **During the quarter, the risk exposure indicators of the banking sector are stable and further improved,** while the stress tests indicate a solid capacity to absorb possible shocks. **However, the environment remains uncertain and influenced by external factors,** which are still unfavorable and further pronounced amid geopolitical turmoil mainly related to the war in Ukraine and most recent in the Middle East. **Hence, there is a need for further prudent risk monitoring and policy conduct in order to maintain the banking sector stability in the following period.**

In the third quarter of 2023 the quarterly growth of the banks' balance sheet decelerated to 0.7%, with a slowdown in the annual growth rate of 7.1%. Drivers of the quarterly growth are the higher deposits of non-financial entities, as well as higher capital positions and banks' profit. However, the quarterly growth of non-financial entities' deposits significantly decelerated (to 1.3%), while deposits of non-financial institutions and borrowings decreased, which led to moderate quarterly growth of balance sheet. The annual deposit growth is still solid (9.9%), although slightly slower compared to the previous quarter. Corporate deposits made the largest contribution to the quarterly growth of total deposits, while household deposits slightly declined. Analyzing the currency structure of deposits, the quarterly growth of foreign currency deposits is significantly higher, amid modest growth of denar deposits. However, denar deposits continued to grow annually, at a faster pace compared to foreign currency deposits. Favorable structural changes in savings are evident, in terms of both currency and deposit maturity. In conditions of growing returns and stable expectations, long-term deposits grew as well, after a longer period of their decrease, thus their annual rate reached the record high of 24.4% in the last decade. The National Bank took several measures aimed at such structural changes, mainly through the reserve requirement, which stimulate savings in domestic currency.

On the assets side, banks increased their liquid assets, with the credit market also registering increased lending activity. Loans to non-financial entities increased in the third quarter by 0.5%, with a higher growth of household loans (1.5%). Corporate loans slightly declined in the third quarter, which reflected lower amount of newly granted loans, also affected by the collection of loans in this sector. Amid such movements, the annual credit growth of total loans decelerated, but remained moderate and amounted to 5%.

The solvency of the banking system improved. The capital adequacy ratio grew quarterly by 0.2 percentage points, to 18.4%, which is the record high for the last seventeen years. Analyzing the use, more than 35% of own funds of the banking system account for capital buffers or are "free" above the required minimum level, which banks may use to deal with different challenges amid downward movements during economic cycles and in crisis conditions. The conducted stress testing shows that the banking system is resilient to the simulated shocks.

For the purpose of further strengthening of the banking system resilience, in the absence of materialization of risks to the balance sheets of banks and solid profitability, during 2023 the National Bank increased the level of countercyclical capital buffer that banks are supposed to maintain, on several occasions. As of 1 August this year, the countercyclical capital buffer of banks amounted to 0.5%, starting from January 2024 this rate will amount to 0.75%, 1% as of July 2024 and 1.25% as of November 2024. **The increase in capital requirements of banks would maintain the trend of improvement of the banking system solvency in the following period.**

Liquidity indicators improved in the third quarter of 2023 and remained satisfactory. Liquid assets of the banking system increased in the third quarter of 2023 (2.9%), albeit slower compared to the previous quarter. Thus, the indicators for liquidity monitoring and assessment recorded certain upward shifts and remained within their stable, satisfactory levels. Therefore, liquid assets account for 30.6% of total banks' assets (29.9% as of 30.6.2023), while the coverage of short-term liabilities and household deposits with liquid assets amounts to 50.5% and 61.9%, respectively (as of 30.6.2023, these indicators equaled 48.7% and 60.1%, respectively). The liquidity coverage ratio of the banking system amounts to 268.4%, which is significantly higher than the regulatory minimum (100%) and confirms the satisfactory volume of liquidity available to the Macedonian banking system. The results of the stress tests 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 the third quarter of 2023, non-performing loans to non-financial entities decreased, reducing their share in total loans to 2.8%, which is the historical lowest (since March 2023). Sector-by-sector analysis shows that non-performing loans registered a quarterly decline in both corporate sector and households, thus their shares in total loans to these clients dropped to the historical lowest levels (3.8% and 1.8%, respectively). The decrease in non-performing loans in both sectors was mostly due to the result of the conducted mandatory write-offs, while the corporate credit portfolio noted a solid amount of collected written-off claims, which in the third quarter of 2023 exceeded the amount of the written-off claims. The implementation of the macro-prudential measures to limit the DSTI ratios[1] (to 55% and 50%, depending on whether they are denar or foreign currency loans) and LTV ratios[2] (85%, when approving new or increasing the existing exposure secured with real estate). The undertaken borrower-based macro-prudential measures aimed at preventing excessive debt of individual natural entities. This prevented the accumulation of systemic risks in the household segment and real estate market, which could be materialized in the form of banks' loan losses.

In the third quarter of 2023 the presence of currency component (foreign currency and FX clause) in banks' balance sheets registered further decrease amounting to 42.5% in assets and 41.4% in liabilities. These changes are also supported by the amendments to reserve requirement, which were aimed at increasing denarization which registered positive trends[3]. **The exposure of the banking system to currency risk is at a**

[1]DSTI indicates the ratio between loans repayments and natural persons' income on a monthly basis.
[2]LTV indicates the ratio between the credit exposure to borrower and the real estate pledged as collateral for that credit exposure.
[3]To support the process of denarization of banks' balance sheets, in August and September the National Bank decided to further increase the reserve requirement rate from foreign currency liabilities, first from 19% to 20% and then to 21%, while the part of the reserve requirement from foreign currency liabilities that is met in euros also increased from 77% to 80%, and then additionally to 81%,

level which is significantly lower than the regulatory limit of 30% of own funds and as of 30.9.2023 amounts to 11.8%.

The banks' exposure to interest rate risk in the banking book is within the prescribed limit (20%) and as of 30.9.2023 equals 9.6% of own funds, which is a quarterly increase of 0.6 percentage points. The growth in interest rates raises the importance of banks' exposure to indirect credit risk arising from the high share of loans with variable and adjustable interest rate in credit portfolio. The high interest-bearing debt of borrowers, due to increased interest rates, can reduce their creditworthiness and create credit losses with banks.

In the first nine months of 2023, the profit of the domestic banking system increased compared to the same period last year. The increased profit is entirely due to the growth in net interest income, which results from higher interest return rates of banks' placements, and partly due to increased interest-bearing assets. The rates of return on average assets and average equity and reserves equal 2.3% and 18.3%, respectively, which is a better performance compared to the same period last year (1.7% and 13.7%, respectively). Negative contribution to the increased profit was made by impairment costs, which grew by 10.4% and operating costs, which increased by 13%.

In general, the banking sector maintained its stability and soundness in operations in the third quarter as well, with improved solvency and liquidity and good credit portfolio quality. Stress-tests confirm the system's resilience to shocks, which is further strengthened with the macro-prudential measures adopted. However, the environment remains uncertain and influenced by global factors, which was further complicated by the geopolitical turmoil in the Middle East. The uncertain environment, coupled with the tightening of financial conditions further increases the importance of the credit risk and requires further careful risk monitoring. The National Bank closely monitors all events and is ready to take all necessary measures within its competence, when needed.

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applicable as of 20.12.2023. The reserve requirement rate on liabilities in denars with FX clause was also increased from 50% to 100%, thus in accordance with the change, banks will fulfill this reserve requirement liability, calculated from these liabilities, in euros.

II. Structure of the banking system

1. Number of banks and ownership structure of the banking system

As of 30.9.2023, the number of banks in the Republic of North Macedonia remained unchanged compared to the previous quarter and equaled thirteen banks. Nine banks are in predominant foreign ownership, five of which are subsidiaries of foreign banks.

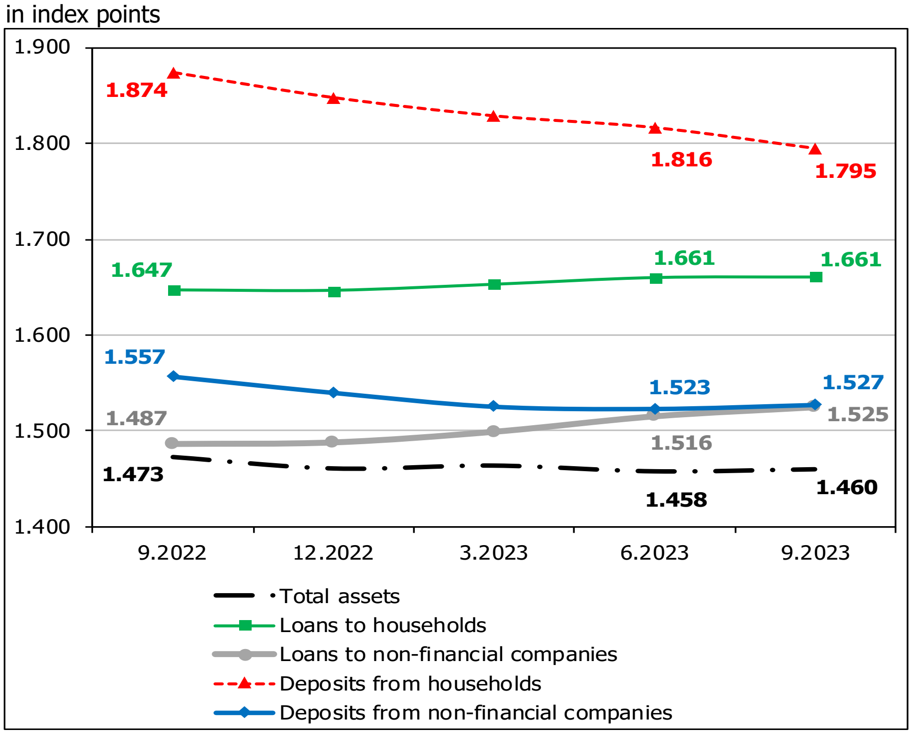
Table 1
Structure of major balance sheet positions by banks' majority ownership (as of 30.9.2023)
in millions of denars and in %

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**	**71.721**	**77,5%**	**508.603**	**72,3%**	**354.896**	**82,1%**	**362.786**	**70,3%**	**25.741**	**76,1%**	**10.264**	**74,7%**
- subsidiaries of foreign banks	*5*	*63.044*	*68,1%*	*423.291*	*60,1%*	*299.925*	*69,4%*	*304.407*	*59,0%*	*21.818*	*64,5%*	*9.169*	*66,7%*
- Austria	1	10.691	11,6%	88.023	12,5%	63.699	14,7%	56.488	10,9%	3.597	10,6%	1.706	12,4%
- Bulgaria	1	1.317	1,4%	11.741	1,7%	7.473	1,7%	8.709	1,7%	443	1,3%	42	0,3%
- Greece	1	22.307	24,1%	125.919	17,9%	91.419	21,1%	94.670	18,3%	7.355	21,7%	2.906	21,1%
- Slovenia	1	13.457	14,5%	110.883	15,8%	76.259	17,6%	86.875	16,8%	5.914	17,5%	2.869	20,9%
- Turkey	1	15.271	16,5%	86.725	12,3%	61.076	14,1%	57.666	11,2%	4.508	13,3%	1.647	12,0%
- other banks in dominant foreign ownership	*4*	*8.678*	*9,4%*	*85.312*	*12,1%*	*54.971*	*12,7%*	*58.379*	*11,3%*	*3.924*	*11,6%*	*1.095*	*8,0%*
- Bulgaria	2	3.858	4,2%	29.724	4,2%	19.152	4,4%	20.781	4,0%	1.786	5,3%	463	3,4%
- Germany	1	3.992	4,3%	46.170	6,6%	30.521	7,1%	30.677	5,9%	1.680	5,0%	465	3,4%
- Switzerland	1	827	0,9%	9.419	1,3%	5.298	1,2%	6.921	1,3%	458	1,4%	167	1,2%
Banks in dominant ownership of domestic shareholders	**4**	**20.840**	**22,5%**	**195.186**	**27,7%**	**77.416**	**17,9%**	**153.531**	**29,7%**	**8.077**	**23,9%**	**3.479**	**25,3%**
- private ownership	*3*	*17.300*	*18,7%*	*180.278*	*25,6%*	*77.221*	*17,9%*	*153.531*	*29,7%*	*7.884*	*23,3%*	*3.375*	*24,6%*
- state ownership	*1*	*3.540*	*3,8%*	*14.908*	*2,1%*	*195*	*0,0%*	*0*	*0,0%*	*193*	*0,6%*	*104*	*0,8%*
Total:	**13**	**92.561**	**100,0%**	**703.789**	**100,0%**	**432.312**	**100,0%**	**516.317**	**100,0%**	**33.819**	**100,0%**	**13.743**	**100,0%**

Source: National Bank, based on the data submitted by banks.
*Total income and financial result are calculated for the last twelve months (30.9.2022-30.9.2023).

The prevailing share of banks with dominant foreign ownership in the structure of banking system's major balance sheets positions was maintained in the third quarter of 2023, with an additional slight increase in certain positions. The financial result dominates, with an increased share of these banks by 2.2 percentage points compared to the previous quarter. It is followed by a more significant change in capital and reserves, where the share of foreign banks increased by 0.8 percentage points. Banks with foreign ownership still have the largest portion in the total loans to non-financial sector, with a share of 82.1% which slightly grew by 0.1 percentage points.

Chart 1
Herfindahl index



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

The concentration in the banking system according to the Herfindahl index[4] is moderate. In the third quarter of 2023, after a longer period (since the third quarter of 2020), the value of the household deposits index reduced within the acceptable values[5].

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

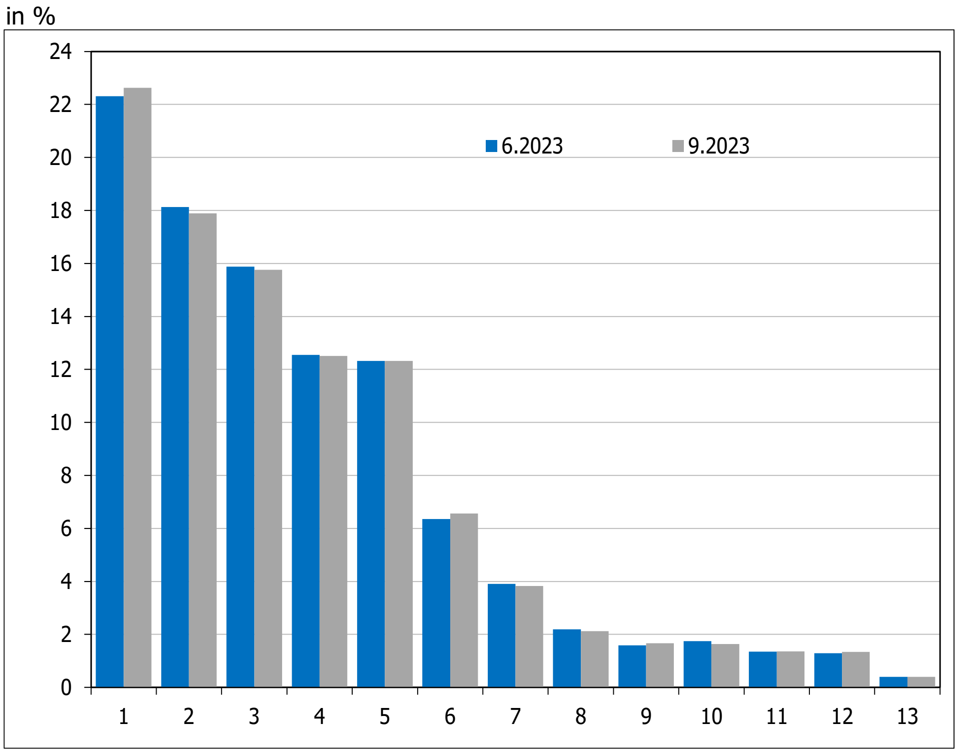
Position	30.09.2023		30.06.2023	
	CR3	**CR5**	**CR3**	**CR5**
Total assets	56,3	81,1	56,3	81,2
Loans to households	62,0	83,9	61,9	83,8
Loans to non-financial companies	53,0	81,7	52,6	81,7
Deposits from households	68,3	85,6	69,1	85,8
Deposits from non-financial companies	55,1	81,5	54,5	81,6
Financial result*	66,4	90,8	68,9	89,5
Total revenues*	59,1	83,1	59,4	82,7

Source: National Bank, based on the data submitted by banks.
*Total income and financial result are calculated for the last twelve months (30.9.2022-30.9.2023).

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

The concentration indicators determined for the three and five banks with the largest share in individual banks' balance sheets positions slightly changed on a quarterly basis. The change of financial result concentration is more pronounced, where the share of three banks with the highest financial result decreased by 2.5 percentage points, as opposed to five banks with the highest financial result which increased by 1.3 percentage points.

Chart 2
Share of individual banks in the total assets of the banking system



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

The difference in the bank size according to the amount of their assets is maintained at a high level, while the spread between the bank with the highest market share (22.6%) and the bank with the lowest market share (0.4%) widened by 0.3 percentage points, compared to the previous quarter.

III. Bank risks

1. Credit risk

At the end of the third quarter of 2023, amid further uncertainties in the surrounding, the rate of non-performing loans to non-financial entities reached the historical lowest of 2.8%. Sector-by-sector analysis shows slight improvement of this rate by 0.1 percentage point in both corporate sector and households, where the share of non-performing in total loans reduced to the levels of 3.8% and 1.8%, respectively. The corporate credit portfolio registered an improved rate of non-performing loans in most of the important predominant activities, while the main driver in households is the improved rate of non-performing consumer loans. In both sectors, non-performing loans decreased as a result of the conducted mandatory write-offs, while the corporate credit portfolio noted a solid amount of collected written-off claims, which in the third quarter of 2023 exceeded their amount. The potential solvency and stability risks of the banking system, amid assumption for complete default to non-performing loans, are low due to maintaining a relatively high coverage of non-performing loans with impairment for the expected credit losses, which enables the non-provisioned portion of non-performing loans to absorb only 4% of banking system own funds. The results of the credit risk stress-test simulations confirm the banking sector resilience to relatively extreme deteriorations of the credit portfolio risk.

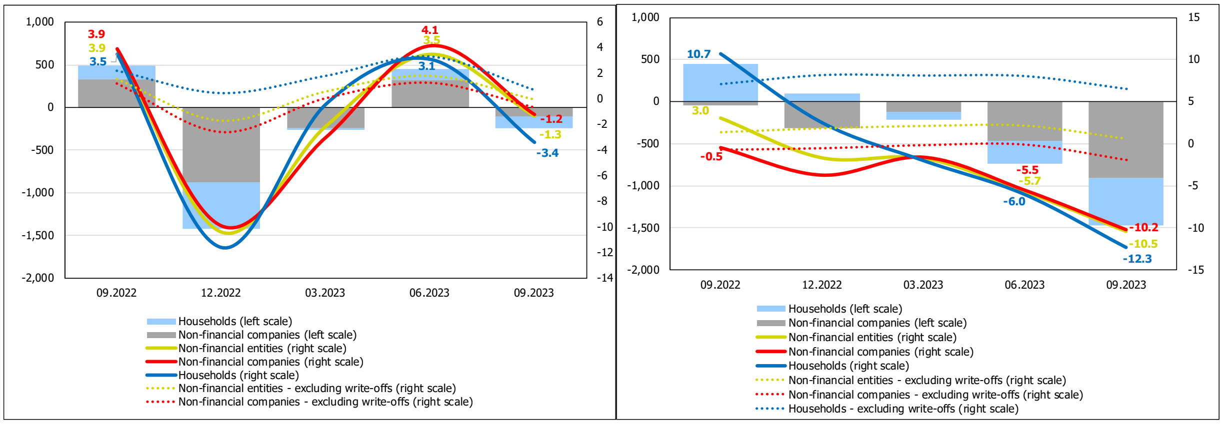
Within regular credit portfolio, banks registered a slightly increased risk of the household sector, which adequately reflected the minimal increase in average provision of regular loans to this sector, given the higher loan losses to this part of credit portfolio. In the third quarter of 2023, prolonged loans, which are mainly part of the corporate credit portfolio, registered a slight increase of 0.9%, same as in the previous quarter, and currently do not represent a significant source of risk to the domestic banking system, due to their relatively low share in total loans. The restructured loans also continued their downward trend on a quarterly basis, and currently do not represent a significant risk factor for pronounced deterioration in the credit portfolio quality. However, due to the increasing risks of an uncertain and volatile environment due to the war in Ukraine and most recently in the Middle East, as well as the retained monetary tightening and deteriorating global financial conditions, banks need to remain cautious in managing credit risk, especially in future restructuring, as well as in creating expectations for credit losses from the total loan portfolio.

1.1 Materialization of credit risk in banks' balance sheets

In the third quarter of 2023, total non-performing loans to non-financial sector dropped by Denar 165 million (or by 1.3%)[6], as opposed to the growth in the previous quarter, which resulted from both non-financial sectors.

[6]Isolating the effect of net write-offs, non-performing loans to non-financial sector are almost unchanged on a quarterly basis.

Chart 3
Quarterly (left) and annual (right) growth of non-performing loans by sector
in millions of denars in %



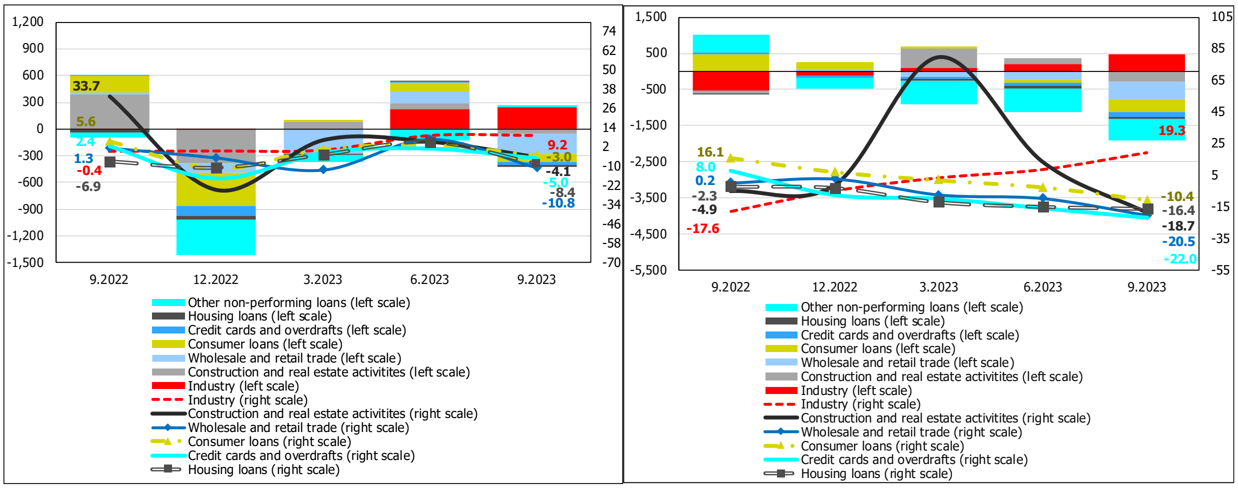
Source: National Bank, based on the data submitted by banks.
Note: The lines with dots show the growth of non-performing loans by excluding the effect of all mandatory write-offs made in the period 1.1.2016 - 30.9.2023. Starting from December 2019, the data also contains the collected compulsorily written-off loans.

Non-performing corporate loan portfolio[7] decreased by Denar 100 million, or by 1.2%[8]. Such movements mostly result from the mandatory, regulatory write-offs of non-performing corporate loans in the third quarter of the year (Denar 149 million). At the same time, the collection of already written-off claims from corporations intensified (reached an amount of Denar 235 million), exceeding the amount of written-off claims from this sector in the third quarter. The decrease in non-performing loans was noted in most economic activities, while the main drivers of the quarterly decline were wholesale and retail trade (by Denar 226 million or 10.8%), transport and storage (by Denar 81 million or 14.4%), chemical industry (by Denar 71 million, or 25.9%), accommodation facilities and catering services (by Denar 53 million, or 9.8%) and construction (by Denar 50 million, or 4%). On the other hand, increase in non-performing loans was recorded in food industry (Denar 192 million, or 15.1%), other manufacturing industry (Denar 126 million, or 61.8%) and professional, scientific and technical activities (Denar 64 million, or 34.8%).

[7]Non-performing corporate loans maintained their dominant share in total non-performing portfolio to a level of 65.3% at the end of the third quarter of 2023.
[8] By isolating the effect of mandatory net write-offs, the decline of non-performing corporate loans is twice as low and amounts to 0.6%.

Chart 4
Quarterly (left) and annual (right) growth rate of non-performing loans, by activity (non-financial companies) and by credit product (households)

in millions of denars in %



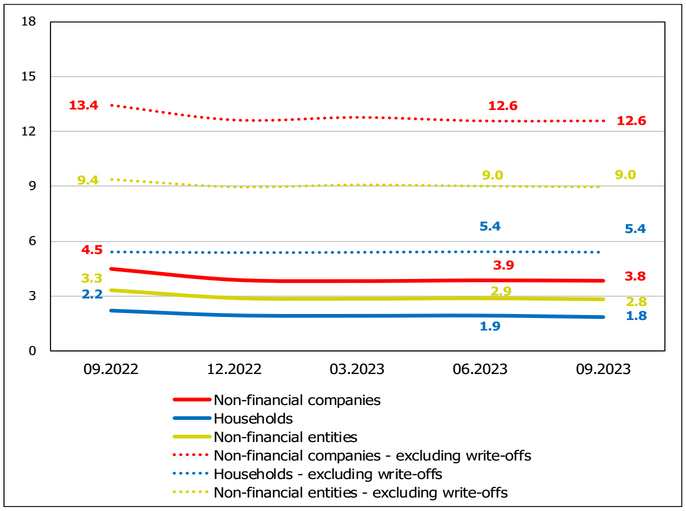
Source: National Bank's Credit Registry based on data submitted by banks.

Following the growth in the previous quarter (3.1%), non-performing household loans decreased by 3.4% or Denar 142 million[9]. The mandatory written-off claims (in the amount of Denar 291 million and collection of written-off claims of Denar 57 million) influenced the reduction of non-performing loans in the third quarter in this sector as well. Analyzing the purpose of loans, in this quarter the decline in non-performing household loans is driven by the consumer loans, which decreased by 3% or by Denar 93 million, compared to the growth in the previous quarter (increase of 3.3% or Denar 98 million). In addition, non-performing claims based on overdrafts and credit cards registered a decline (of 4% or Denar 9 million and 5.8% or Denar 16 million, respectively). Moderate decline of Denar 32 million, or 8.4% was registered in non-performing claims of natural entities for the purchase and renovation of residential property, while increase in this category was evident only in commercial real estate loan and car loans, which account for a minor part of total household loans.

Such changes in non-performing loans, amid growth in banks' lending[10] (0.5% on a quarterly basis), reduced the rate of non-performing loans to the level of 2.8%, which is the historically lowest level of this indicator[11].

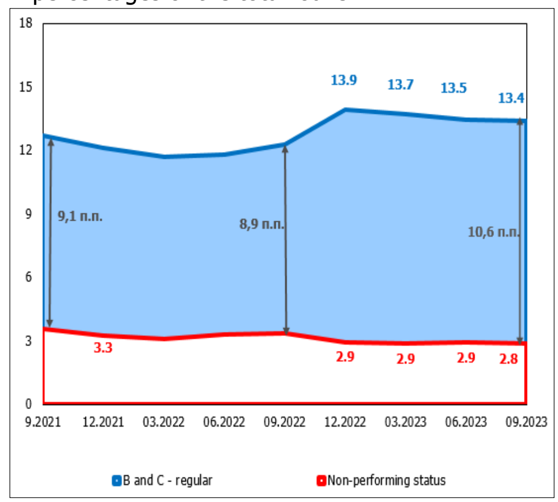
[9]If we exclude the effect of mandatory net write-offs, the non-performing household loans slightly increase by 0.7%.
[10]Total loans to non-financial entities grew by 0.5% on a quarterly basis (compared to 2.6% in the previous quarter), while the annual growth rate decelerated and amounted to 5%. The slowdown of lending activity which started in early 2023, is expected to continue by the end of the year, after which, the gradual acceleration of economic growth is expected to intensify the loan growth in the following three-year period.
[11]If we exclude the effect of the mandatory write-offs, the share of non-performing to total loans remains at 9%, which is a record low within the rates in the past decade, i.e. remains below its ten-year average of 10.8%.

Chart 5
Rate of non-performing loans of non-financial corporations, by sector
in %



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

Chart 6
Gap between regular loans in B and C risk categories, and non-performing loans*, by their share in total loans
in percentages of the total loans

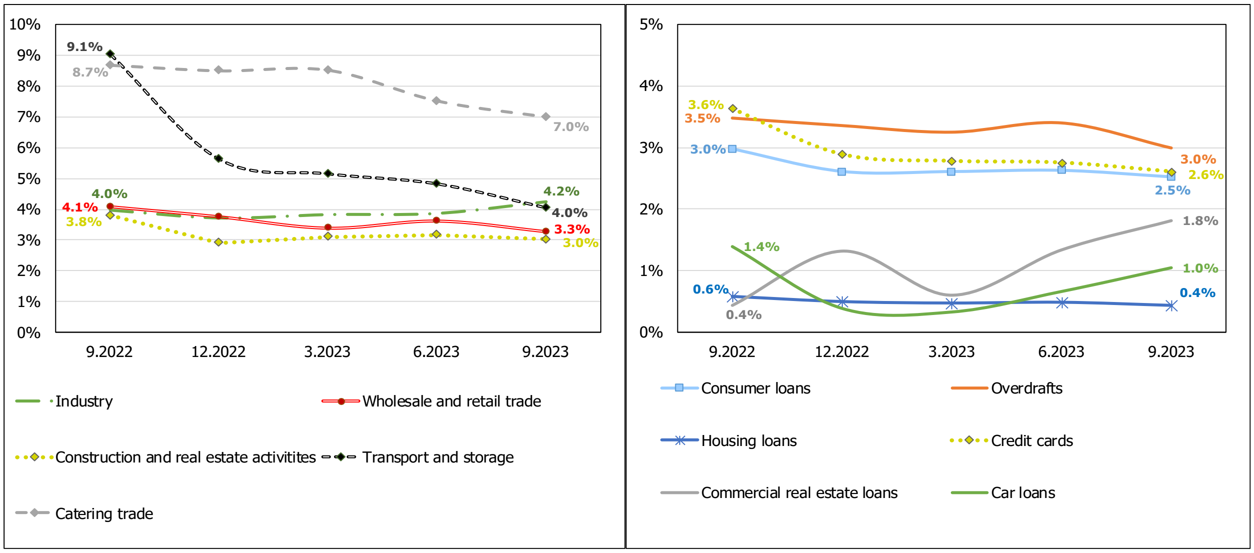


Source: National Bank's Credit Registry based on data submitted by banks.
*Regular loans classified in B and C risk categories and non-performing loans, are approximation of the so called group 2 and 3 according to IFRS 9, respectively. The slight differences in the rates of NPL relative to the Chart on the left, are due to the two different data sources.

In the corporate loan portfolio, the rate of non-performing loans minimally decreased by 0.1 percentage points, to the level of 3.8%[12]. Analyzed by economic activity, the rate of non-performing loans registered a decrease in most activities, which are the main focus of the banks' corporate lending. On a quarterly basis, this indicator was decreased in transport and storage (0.8 percentage points), accommodation facilities and catering services, (0.5 percentage points), wholesale and retail trade (0.3 percentage points) and construction and real estate services (0.2 percentage points). On the other hand, the rate of non-performing loans increased with industrial sector clients (by 0.4 percentage points), mostly in food, textile and other food processing industry[13].

[12]If we exclude the effect of the mandatory net write-offs, the share of non-performing to total corporate loans remained unchanged at 12.6%, as in the previous quarter, which is the lowest rate in the past decade.
[13]Other manufacturing industry includes all branches of manufacturing industry except food industry, textile industry and production of clothes and shoes, chemical industry, production of building materials, production and processing of fuel, production of pharmaceutical products, and production of metals, machinery, tools and equipment.

Chart 7
Rate of non-performing loans, by activity and credit product
in %



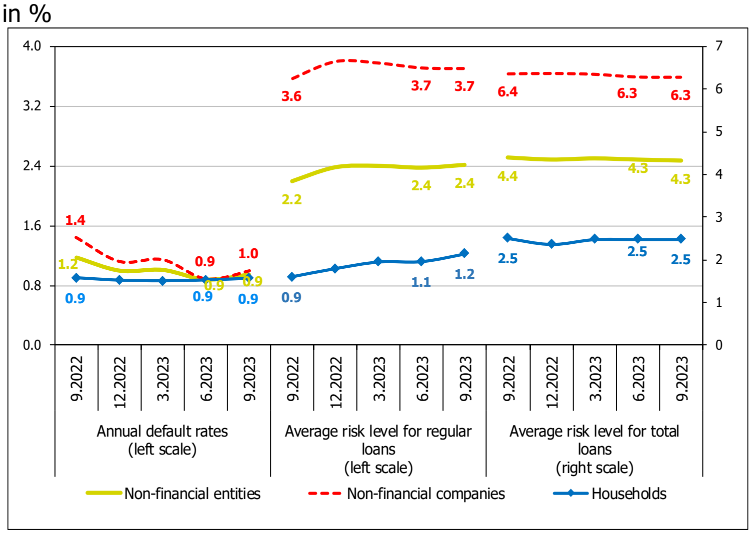
Source: National Bank's Credit Registry based on data submitted by banks.

After the stagnation in the past three quarters, the rate of non-performing loans with household loan portfolio slightly decreased to 1.8%[14]. The rates of non-performing loans in the two largest categories of household loans, i.e. consumer and housing loans, slightly decreased during the third quarter and equaled 2.5% and 0.4%, respectively. Moreover, this rate is lower in overdrafts and credit card loans, while higher in commercial real estate loans and car loans.

As of 30.9.2023, the annual default rate of regular loans to non-financial entities stood at the same level as of 30.6.2023. Analyzed by sector, this rate slightly increased in corporations (by 0.1 percentage points to the level of 1%), while in households it remained unchanged at 0.9%. Banks have mainly kept average provisioning at the same level as at the end of the second quarter. Only within the regular credit portfolio, banks have assessed increased risk from the household sector, which resulted in a slight increase of the average risk level of regular loans to households of 0.1 percentage point. However, as usual, banks' assessments of the corporate loan portfolio risks are still significantly high compared to placements to the household sector. Thus, at the end of the third quarter of 2023, the expected loan losses for regular loans to non-financial corporations equaled 3.7%, which is significantly higher compared to households (1.2%), although the annual default rates in both sector are almost equal (1% in the corporate sector, while 0.9% in household). Given the still unfavorable and uncertain environment in which the banks operate, there is a necessity for vigilant monitoring of the quality of the loan portfolio and appropriate and timely allocation of provisions to cover expected loan losses.

[14]If we exclude the effect of the mandatory net write-offs, the rate of non-performing household loans remained unchanged compared to the previous quarter at 5.4%, which is slightly above its 10-year moving average.

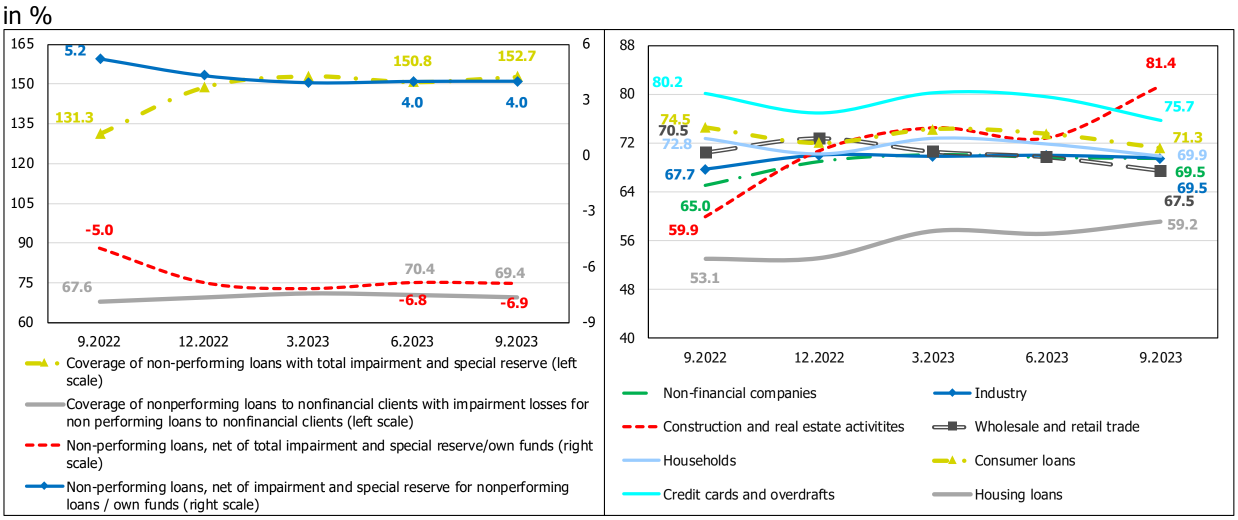
Chart 8
Annual rates of default and average risk level of performing and total loans, by sector



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

The possible complete default on non-performing loans, i.e. the volume of unexpected credit losses on this basis would have a limited impact on the solvency of the domestic banking system. This is a result of the high coverage of non-performing loans with impairment for these loans (69.4%), although in the third quarter of 2023 it registered a slight decrease of 1 percentage point compared to the previous quarter. The non-provisioned amount of non-performing loans remained low and amounted to only 4% of the banking system own funds, which is unchanged on a quarterly basis. Thus, even amid assumption of complete default of non-performing loans, the banking system solvency will not be jeopardized.

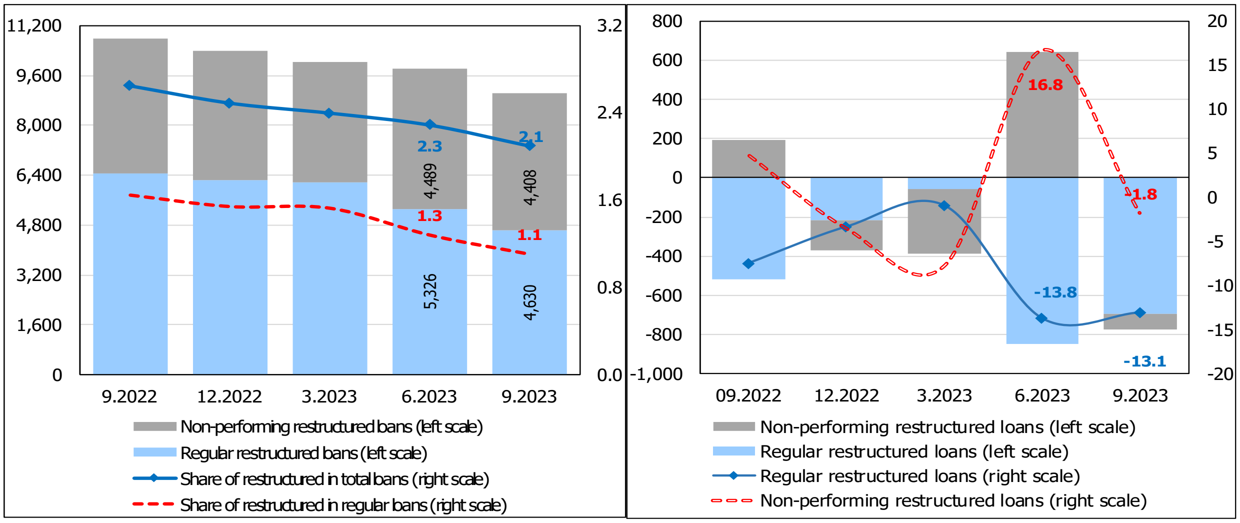
Chart 9
Coverage of non-performing loans with impairment (left) and by activity and credit product (right)



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

Chart 10 Restructured loans of non-financial entities (left) and their quarterly growth (right)

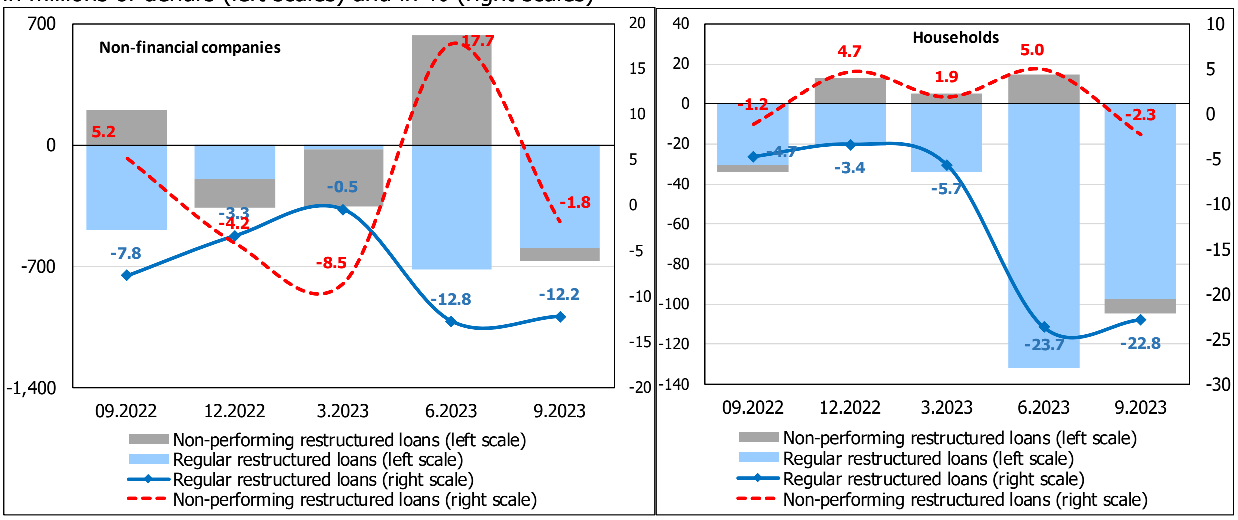
in millions of denars in %



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

Restructured loans by their nature, are loans that need to be followed more closely, because the restructuring is performed on customer claims who have deteriorated financial condition. In fact, these loans are a possible growth factor of non-performing loans if the restructuring does not achieve the expected goals of adjusting the credit burden to the financial condition of the client. The downward trend of restructured loans which started in 2022 continued in the third quarter of 2023, thus the share of these loans in total and regular loans further decreased to the levels of 2.1% and 1.1%, respectively. The decline in regular restructured loans slightly decelerated in this quarter (decrease of Denar 696 million, or 13.1%), compared to the end of the second quarter of 2023, when they decreased by Denar 849 million, or 13.8%. Despite the low share, these loans seek close attention and monitoring, since the unsuccessful restructuring would result in new non-performing loans. At the same time, non-performing restructured loans dropped by Denar 81 million, or 1.8% on a quarterly basis. The higher expected losses allocated for these loans are confirmation for the higher risk from regular restructured loans, which is perceived by banks. Thus, their coverage with impairment as of 30.9.2023 amounted to 23.2% (minor quarterly growth of 0.1 percentage point) and was significantly higher compared to the coverage with impairment of total regular loans of 2.4% (2.4% as of 30.6.2023). In contrast, the coverage of non-performing restructured loans with separate provisions (of 67.8%) is similar to the coverage of total non-performing loans (of 69.4%).

Chart 11 Quarterly change of restructured loans, by individual sectors
in millions of denars (left scales) and in % (right scales)

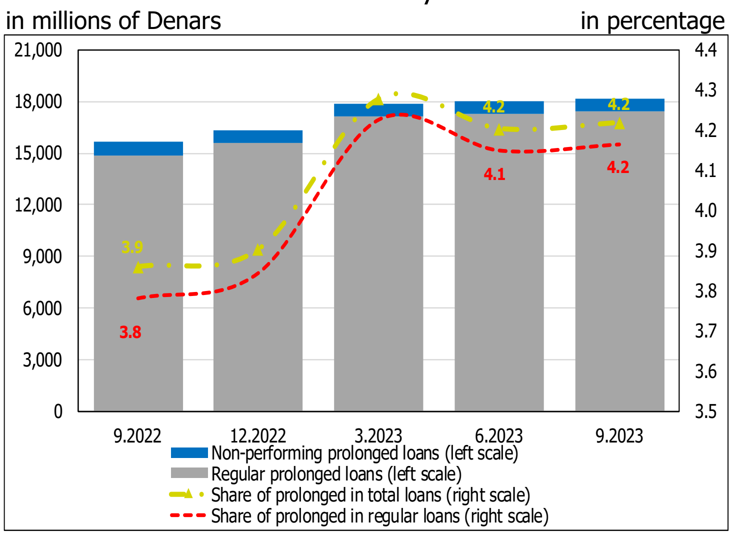


Source: National Bank's Credit Registry based on data submitted by banks.

Analyzing sectors, downward trend as in the previous quarter, was registered in restructured corporate loans (decrease of 12.2% or Denar 599 million) and household loans (decrease of 22.8% or Denar 97 million). Regular restructured loans of non-financial corporations decreased in almost all economic activities, with the largest contribution of 80.4% in the quarterly decline of the amount of regular restructured loans of food industry and wholesale and retail trade. Within households, restructured consumer loans, with a decrease of 23%, are main drivers of the quarterly decline in restructured household loans, with a relatively lower contribution of restructured housing loans which dropped by significant 21.8%. Restructured loans to non-financial corporations have a higher average risk level (46.1%) compared to restructured loans to households, where the average risk level amounted to 31.7%, yet both sectors have almost equal rate of non-performing loans, 48.8% in corporate and 48% in household loans. The restructuring is mainly present in non-financial corporations, which account for 92.9% of the total restructured loan portfolio[15].

[15]As of 30.9.2023, the share of restructured loans in credit portfolios of non-financial legal entities and households was 4% and 0.3%, respectively.

Chart 12 Prolonged loans to non-financial entities by status



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

In the third quarter of 2023, regular prolonged loans (where the prolonged maturity, in accordance with the regulation, is not performed due to clients' financial difficulties) recorded stable movements, similar to the previous quarter. Thus, total prolonged loans grew by 0.9%, or by Denar 154 million quarterly, which is almost equal to the growth in the second quarter of 2023. Their structure remained unchanged, dominated by the regular prolonged loans (share of 95.9%), which entirely conditioned the quarterly growth of total prolonged loans. Observing the sector, the prolonged maturity is mostly registered in non-financial corporations (unchanged share of 91.3%), which prevailed in industry and wholesale and retail trade which are usually lines of revolving loans approved on the basis of the analysis of legal entities. The prolongation may be a possible risk source, especially if it is used as a way to facilitate the financial burden of non-financial corporations to overcome current shocks. However, the materialization of this risk would have a limited effect, due to the currently low share of prolonged loans in the total loan portfolio of banks (4.2% at the end of the third quarter of 2023). Moreover, this share is higher in the portfolio of loans to non-financial corporations, where the share of prolonged loans is 8%[16], compared to the household sector, where the share of these loans is insignificant and stable (0.7%)[17].

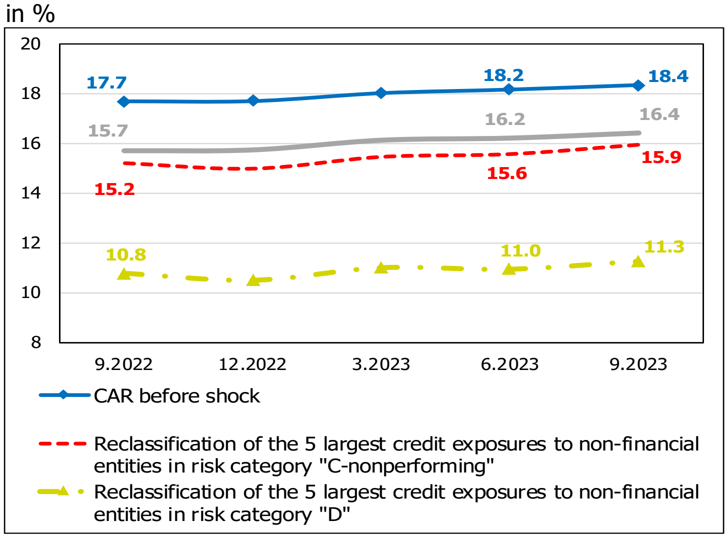
1.2 Stress-testing of the resilience of the banking system to increased credit risk

The simulation results of the banking system resilience to shocks which increase the credit risk confirm the resilience of the domestic banking system. The capital adequacy ratio of the banking system does not go below 8% in individual hypothetical simulations. In case of extreme simulation for a migration of 30% of the credit exposure to non-

[16]In non-financial corporations, the average risk of prolonged loans increased quarterly and amounted to 8.5% (7.7% at the end of the second quarter of 2023), while the rate of non-performing loans slightly decreased to 4.4% (4.5% in the previous quarter).
[17]In households, the average risk of prolonged loans amounted to 1% (0.9% at the end of the second quarter of 2023), while the rate of non-performing loans slightly increased to 0.7% (0.5% in the previous quarter).

financial corporations, from the existing to the next two higher risk categories, the capital adequacy ratio of the banking system is reduced by 5.1 percentage points compared to the initial level, i.e. from 18.4% to 13.3%, which is a slight improvement compared to the previous quarter.

Chart 13
Effects on the capital adequacy ratio from reclassification of the largest credit exposures to non-financial entities (including the connected parties) in a higher risk category



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

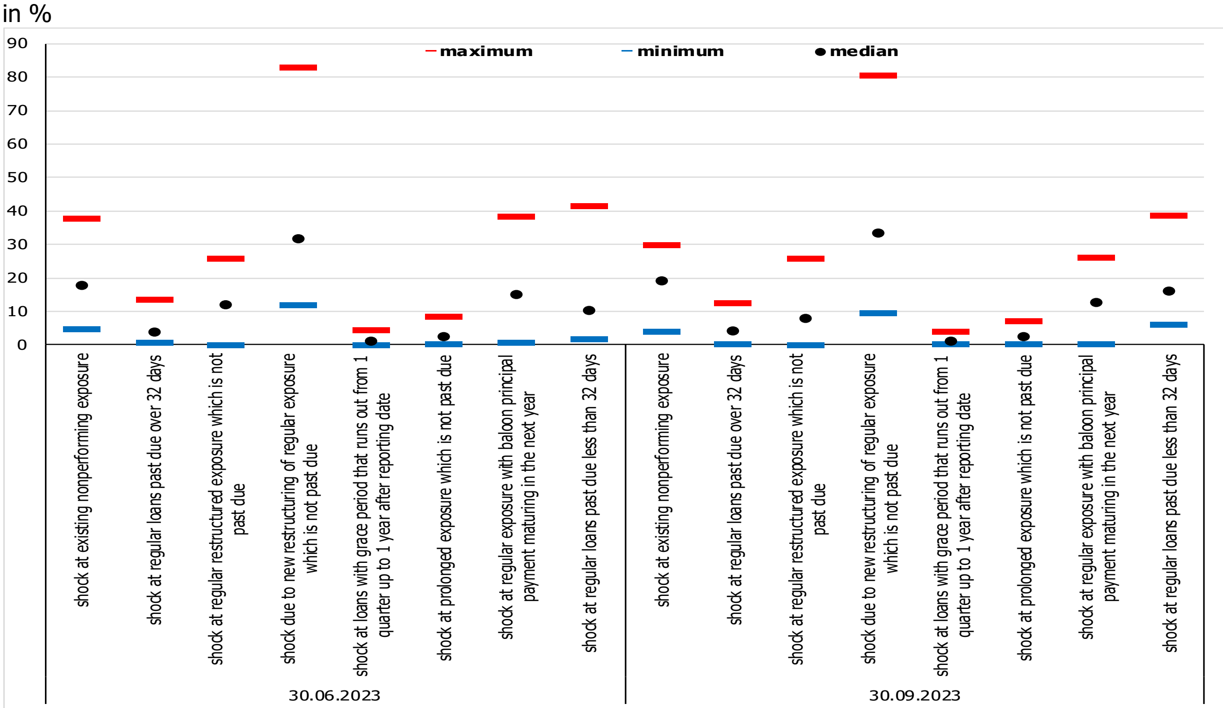
Simulated materialization of concentration risk in the credit portfolio, amid assumed migration of the five largest clients from non-financial sector of each bank, from the current risk category (mostly A), to risk category B - non-performing, reduces the capital adequacy ratio of the banking system from the initial 18.4% to 15.9%, which is a slight improvement compared to the last quarter (decrease of 2.6 percentage points). As of 30.9.2023, the reduced capital adequacy ratio amid such simulation would range from 0.9 percentage points to 4.4 percentage points, whereby it would not drop below 8% in any of the banks.

The banking system resilience is also examined by extreme simulation based on a combination of eight[18] hypothetical shocks of worsening of the quality of the credit portfolio to the non-financial sector.

[18]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 32 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-

Even 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 5.6 percentage points, to 12.5%[19] (5.6 percentage points and 12.3%, respectively at the end of the second quarter of 2023). The shocks would absorb 30.8% of the initial capital adequacy ratio, which is slightly below the level of the previous quarter (31% of the initial level of capital adequacy ratio). The largest effect on the capital adequacy ratio was made by the assumed new restructuring of the credit risk exposure which would be carried out by banks on regular exposures without current delay in repayment of liabilities (contribution of 40.9% in the capital adequacy reduction), followed by the worsened quality of the credit exposure with a residual maturity which is due next year (contribution of 15.5%) and assumed delay period longer than 32 days, in part of the regular loans with a delay in payment up to 32 days (contribution of 15,1%)[20].

Chart 14
Distribution of the new expected credit losses, by shock
in %



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

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 32 days increase the period of delay longer than 32 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.

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

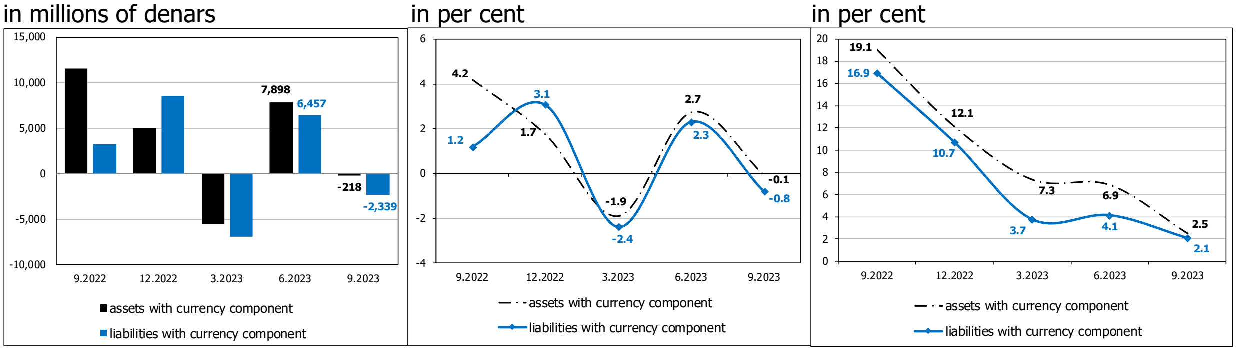
[20]The quality of new restructuring of the regular credit exposure which is currently without a delay in repayment of liabilities, reduced exposure with a residual maturity which is due in the next year and assumed delay period longer than 32 days slightly deteriorated, while the quality of loan exposure with residual maturity which is due in the next year improved, thus their contribution in the reduction of the capital adequacy ratio compared to the second quarter of 2023 increased by 1.5 percentage points and 3.3 percentage points, i.e. decreased by 3.6 percentage points, respectively.

2. Currency risk

In the third quarter of 2023, the banking system's exposure to currency risk remained moderate, despite the widening of the gap between assets and liabilities with currency component and the open currency position. The widening is mainly due to significantly reduced euro deposits of non-resident financial institutions. Moreover, the assets with currency component registered structural shifts through reduced investments in securities with euro component at the expense of increased euro deposits with foreign banks. Despite the increased open currency position, its share in own funds (11.8%) remains far below the regulatory limit of 30%.

The indirect exposure of the banking system to currency risk recorded a decrease compared to the second quarter of 2023, which was due to the reduced share of loans with currency component in total loans, both in corporate sector and households. However, the indirect currency risk materialization is limited due to the exchange rate targeting strategy.

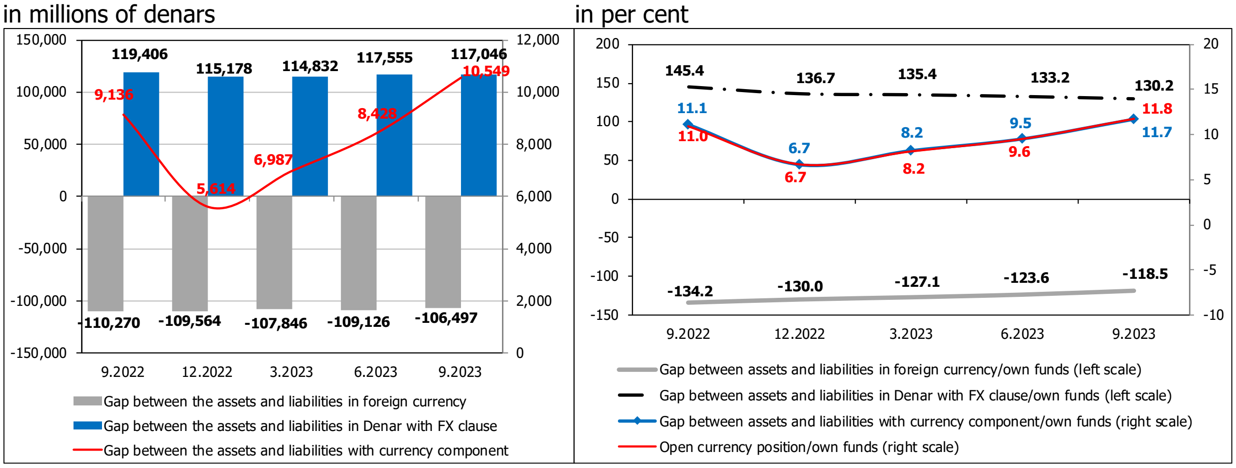
Chart 15
Quarterly (left and middle) and annual (right) growth of assets and liabilities with currency component*
in millions of denars | in per cent | in per cent



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 further widened and as of 30.9.2023 amounted to Denar 10,549 million and compared to the previous quarter increased by Denar 2,121 million or 25.2%. The widening occurred in conditions of decrease in both assets and liabilities with currency component amid significantly sharper decline in liabilities (by Denar 2,339 million or 0.8%)[21] compared to the decline in assets with currency component (by Denar 218 million, or 0.1%)[22]. The gap in own funds accounts for 11.7%, which is by 2.2 percentage points larger compared to the previous quarter, but only by 0.6 percentage points larger compared to the same quarter in the previous year when it registered a double-digit ratio. The share of open currency position[23] in own funds is 11.8% which is above the ten-year average of 7.7%, yet far below the regulatory limit of 30%.

Chart 16
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)
in millions of denars in per cent



Source: National Bank based on data submitted by banks.

The change pace of assets and liabilities with currency component on a quarterly basis was variable, while annually it registered a pronounced downward trend in growth rates for the past few quarters, which points to reduced euroization of banks' balance sheets. The decline in assets with currency component amid growth in total assets reduced its share in total assets by 0.4 percentage points compared to the previous quarter. One could draw the same conclusion about liabilities with currency component, the share of which in total assets dropped by 0.6 percentage points. Share of the assets and liabilities with currency component in total assets and liabilities went down for third consecutive quarter.

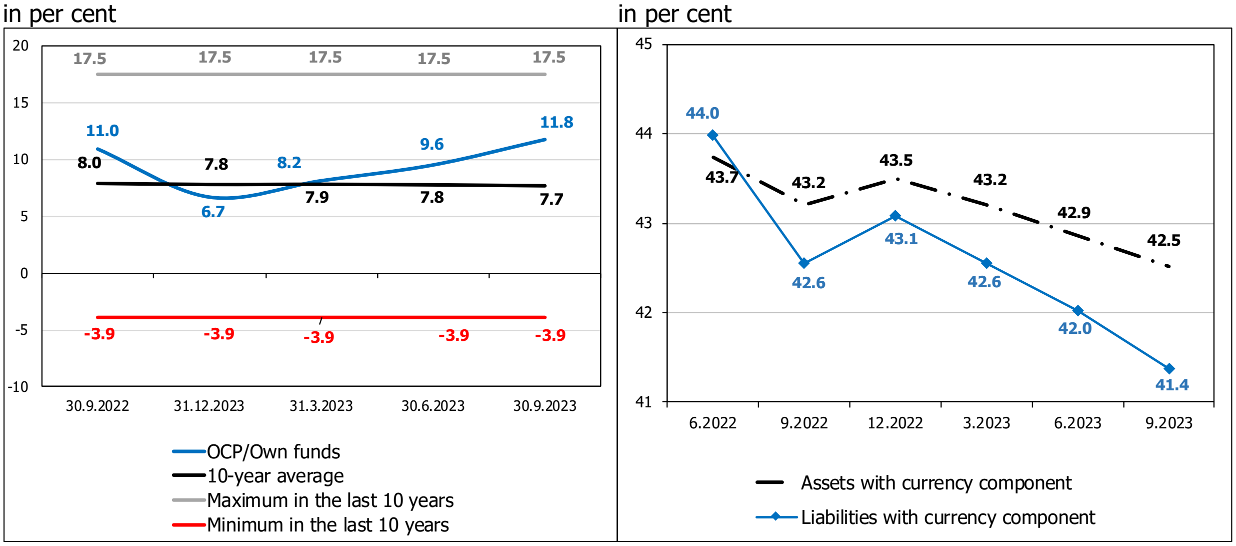
[21] The decline in assets with currency component on a quarterly basis was mainly due to significantly reduced foreign currency deposits of non-residents by Denar 6,263 million. On the other hand, the decline was mitigated by the increased assets on current accounts and short-term liabilities by Denar 3,094 million, as well as the growth of foreign currency deposits of natural entities by Denar 2,101 million.

[22] The decline in assets with currency component on a quarterly basis was mostly due to reduced foreign currency financial assets held to maturity by Denar 2,578 million and those available for sale by Denar 1,039 million, as well as reduced loans with currency component by Denar 1,077 million amid increased foreign currency deposits by Denar 4,370 million.

[23] 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 17
Ten year average, minimum and maximum of the OCP/own funds ratio (left) and share of assets and liabilities with currency component* in the total banks' assets (right)

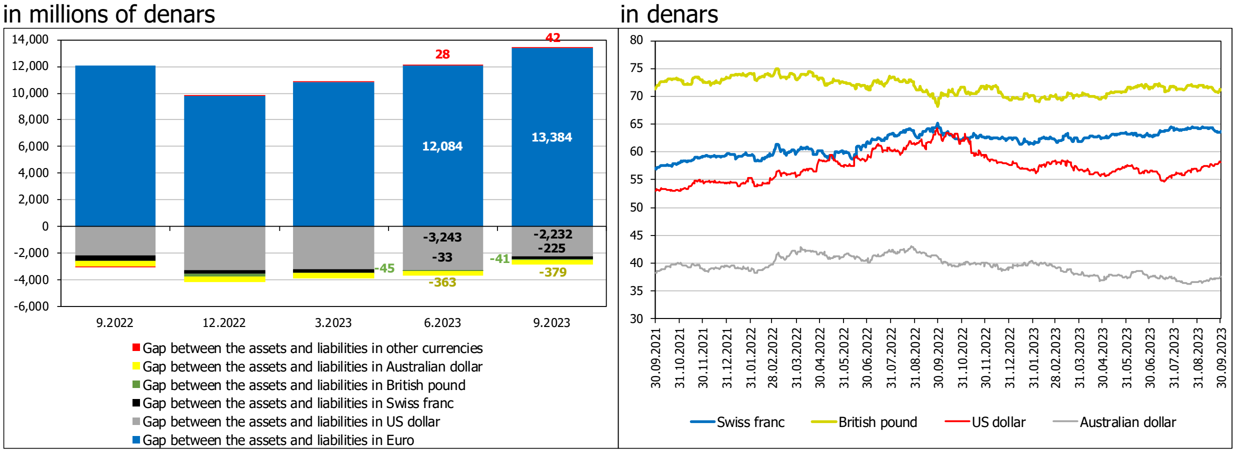
in per cent / in per cent



Source: National Bank based on 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 18
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 data submitted by banks.

The analysis by currency shows that the long position almost entirely results from the positive gap in assets with euro component of Denar 13,384 million. The gap between assets and liabilities in euros and denars with euro clause widened quarterly by Denar 1,300 million, or by 10.8%, due to the higher decline in liabilities than assets in this currency[24].

[24] Assets with euro component decreased by Denar 439 million or 0.2%, which is mainly a result of the reduced financial assets with euro component held to maturity by Denar 2,620 million and those available for sale by Denar 1,046 million, as well as loans with

The gap between assets and liabilities with dollar component remains negative, but significantly narrowed compared to the previous quarter (by Denar 1,011 million, or 31.2%) due to increased assets and reduced liabilities[25]. Similar to the previous quarter, higher interest rates led to increased investments by several commercial banks in securities denominated in this currency. The value of the US dollar against the euro and consequently against the denar slightly changed, thus the exposure of the banking system to currency risk remained low. The currency position of banks with other currencies remained short[26], but its contribution to the total gap was very small due to the low share of these currencies in the currency structure of assets and liabilities.

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

Currency	30.6.2023		30.9.2023	
	Assets	Liabilities	Assets	Liabilities
Euro	90.7	89.2	90.6	89.3
US dollar	6.3	7.6	6.4	7.4
Swiss franc	1.3	1.4	1.3	1.4
Australian dollar	0.5	0.6	0.5	0.6
British pound	0.5	0.5	0.5	0.5
Other	0.8	0.8	0.7	0.8
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: National Bank based on data submitted by banks.

The indirect exposure of the banking system to currency risk recorded a decrease in the third quarter of 2023 due to the reduced share of loans with currency component to both corporate sector and households. The share of loans with currency component in total loans to non-financial sector as of 30.9.2023 amounted to 42.8%, which is a quarterly decrease of 0.5 percentage points after the consecutive increase in the past six quarters, and occurs amid significant decrease in the share of corporate loans and a slight decline in the share of households. However, given that around 99.5% of loans with currency component are in euros or in denars with euro clause, the effect of any materialization is mitigated due to the peg policy.

euro component by Denar 1,032 million (of which denar loans with euro clause by Denar 878 million and loans in euro by Denar 154 million, while the decline is mitigated by the increased euro deposits with foreign banks by Denar 2,927 million, as well as cash, cash equivalents, gold and precious metals by Denar 998 million. Liabilities with euro component declined by Denar 1,739 million or 0.7%, which was due to the lower deposits of non-residents by Denar 5,506 million and reduced remaining non-balance liabilities by Denar 1,628 million, while a more significant increase was registered in assets on current accounts and other short-term liabilities by Denar 3,302 million and euro deposits of natural entities by Denar 2,022 million.

[25] Assets with US dollar component grew by Denar 321 million or 1.7%, while the growth was driven by increased US dollar deposits with foreign banks by Denar 657 million and financial assets with US dollar component held to maturity by Denar 277 million, while the decrease occurred in cash, cash equivalents, gold and precious metals by Denar 549 million. Liabilities with US dollar component reduced by Denar 690 million, while the decline was mostly due to reduced US dollar deposits of non-residents by Denar 755 million, as well as assets on current accounts and other short-term liabilities by Denar 363 million, while the decline was mitigated by the increase in US dollar corporate deposits and deposits of natural entities by Denar 362 million (of which corporate deposits by Denar 230 million and natural entities by Denar 132 million).

[26] The negative gap between assets and liabilities in British pounds and denars with this currency clause narrowed and amounted to Denar 41 million, while it widened in Australian dollar by Denar 379 million, and widened multiple times in Swiss franc by Denar 225 million. The cumulative gap in other unspecified currencies is positive and widened, amounting to Denar 42 million.

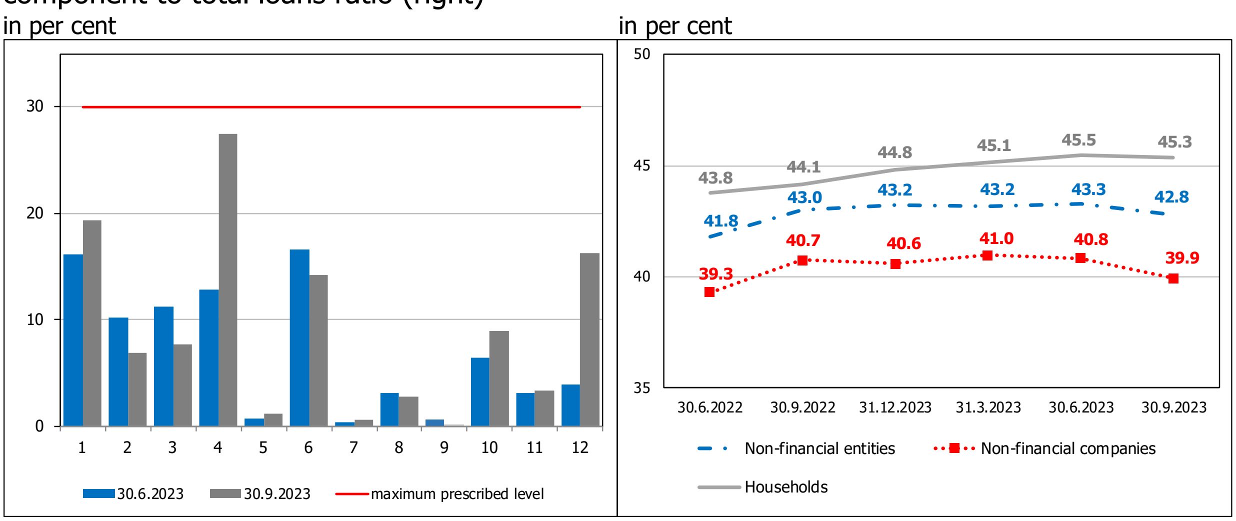
Table 4
Distribution of banks by share of open currency position, by currency and the aggregate currency position in own funds

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%	3	2	10	2	8	3	11	0	7	1	10	2	5
from 5% to 10%	3												3
from 10% to 20%	3												3
from 20% to 30%	1												1
over 30%													

Source: National Bank based on data submitted by banks.

The aggregate currency position relative to own funds at the end of the third quarter of 2023 is long in all banks, excluding one bank and is below the prescribed regulatory limit of 30%. Analyzed by bank, the ratio ranges from 0.2% to 27.4% and it widened compared to the previous quarter.

Chart 19
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 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.

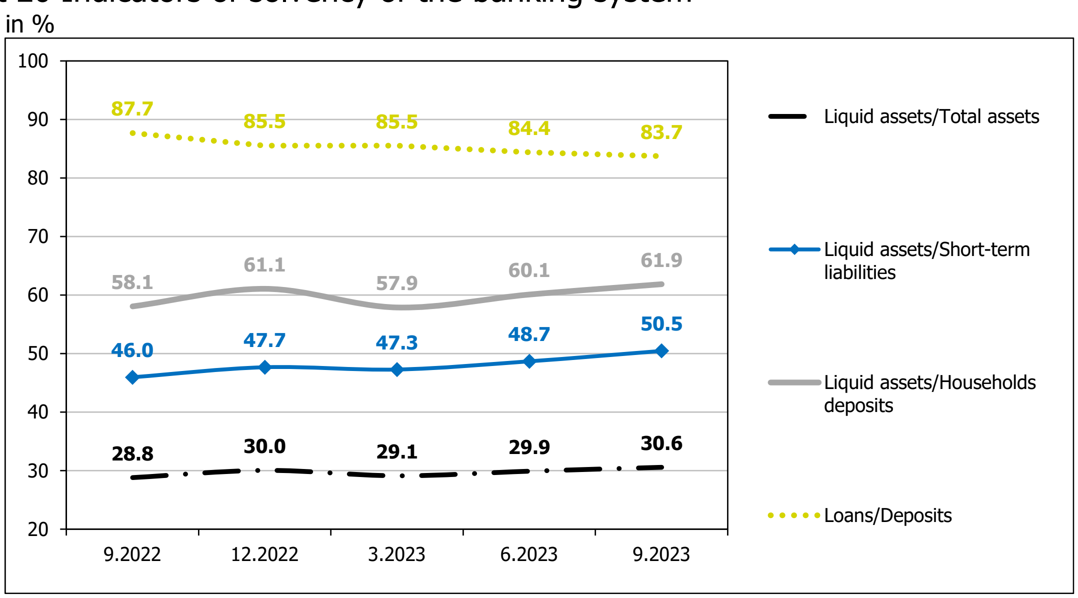
3. Liquidity risk

In the third quarter of 2023, 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 a quarterly growth of 2.9%. In their structure, the growth was driven by increased assets on denar account with the National Bank, as well as increased short-term banks' deposits placed in foreign banks (mostly deposits from one to three months, and slightly less overnight deposits). Thus, the indicators for liquidity monitoring and assessment recorded slight upward shifts and generally remained within their stable, satisfactory levels. The Liquidity Coverage Ratio of the banking system is by 2.7 times higher than the regulatory minimum (100%), thus confirming the solid volume of banks' liquid assets which provides liquidity risk within acceptable frames. The cumulative gaps between the agreed cash inflows and outflows of up to one year are negative, however banks expect a relatively high level of deposit stability, as the main source of their finance. The results of the stress tests indicate satisfactory resilience of the banking system to the assumed extreme, individual and combined liquidity outflows.

3.1. Liquidity indicators

In the third quarter of 2023, the increase in liquid assets of the banking system improved the liquidity indicators.

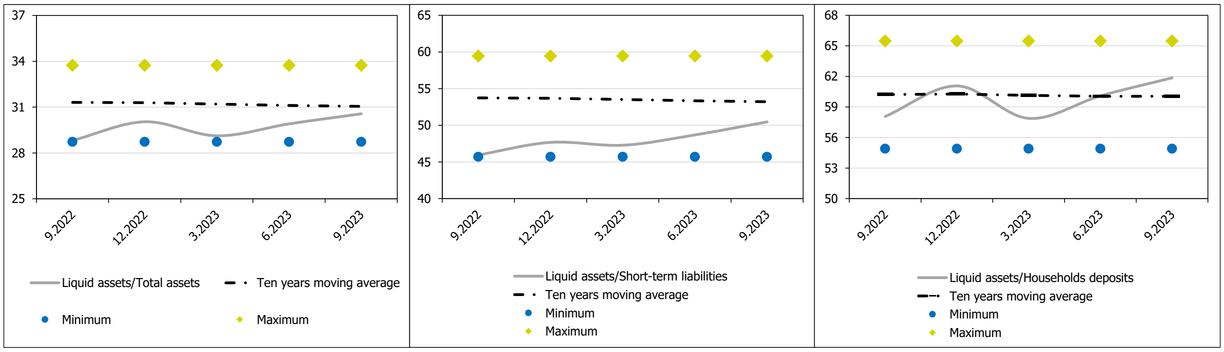
Chart 20 Indicators of solvency of the banking system



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.

Chart 21 Liquid assets / total assets (left), liquid assets / Short-term liabilities (middle) and liquid assets / household deposits (right)

in % in % in %



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

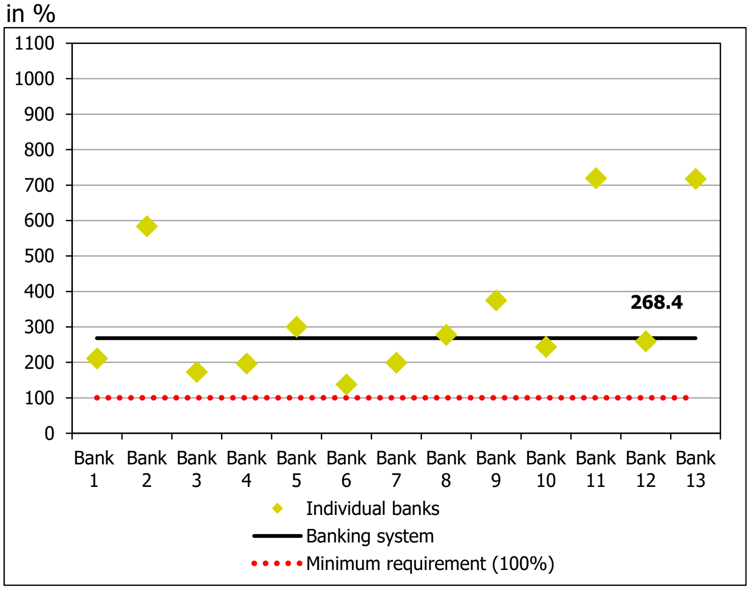
Although part of the indicators are below their ten-year average, they still point to adequate liquidity risk management by banks, which is confirmed by the solid share of liquid assets in total bank assets (30.6%), as well as the coverage of short term liabilities and household deposits with liquid assets (of 50,5% и 61,9%, respectively[27]).

The Liquidity Coverage Ratio of the banking system equals 268.4%, which is by 2.7 times higher than the regulatory minimum (100%[28]) and confirms the satisfactory volume of liquidity available to the Macedonian banking system. Bank-by-bank analysis shows that the liquidity coverage ratios range from 137.6% to 719.4% (with a median of 259.0%), which also indicates acceptable liquidity risk frames to which banks are exposed and their stable liquidity management

According to the currency features of liquid assets and liabilities, in the third quarter of 2023, both denar[29] and foreign currency liquidity indicators improved. However, denar liquidity indicators registered greater improvement, amid faster quarterly increase of denar (by 3.5%) than currency liquid assets (by 1.7%). Also, 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 risks arising from the lower foreign currency liquidity indicators are mitigated by high denar liquidity and the possibility to smoothly provide foreign currency liquid assets, if necessary[30].

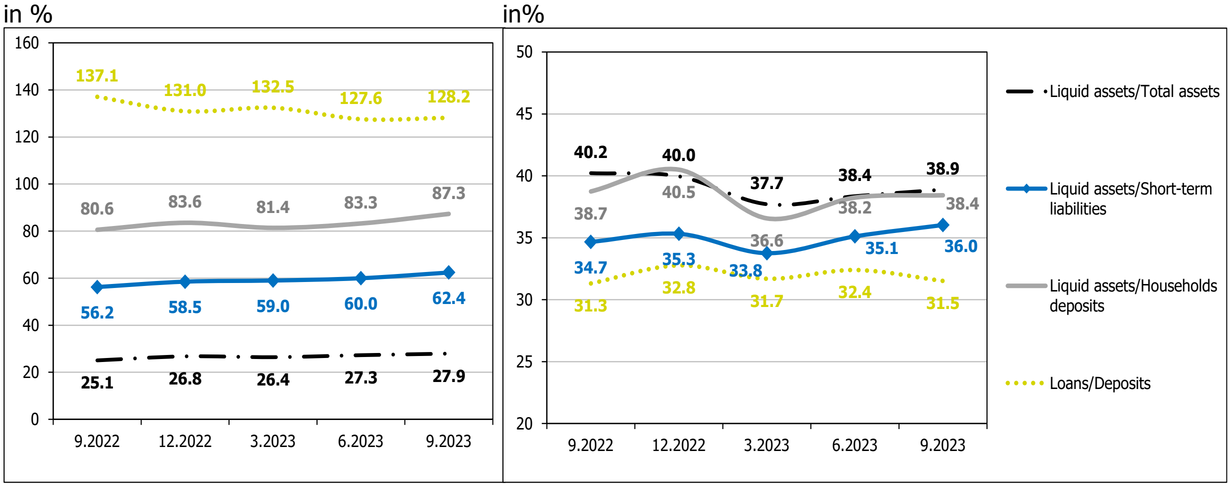
[27] Analyzed by bank, as of 30.9 2023, the share of liquid in total assets ranges between 20.7% and 50.1%, with a median of 28.0% (September 2022: between 19.7% and 49.1%). The coverage of short-term liabilities with liquid assets ranges between 35.2% and 76.0%, with a median of 53.2% (September 2022 between 32.9% and 64.1%), and the coverage of household deposits with liquid assets ranges between 37.3% and 114.5%, with a median of 66.9% (September 2022: between 35.3% and 79.1%). The Development Bank of North Macedonia AD Skopje is excluded from this analysis.
[28] In addition to cummulative basis, banks are required to determine and monitor a liquidity coverage ratio for each currency that is significant to the bank (each currency the share of which in 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 30 September 2023, the liquidity coverage ratios for the two significant currencies, euros and denars, were 91.4% and 184.4%, respectively.
[29] Claims and liabilities with FX clause are considered as denar claims and liabilities, since their cash flow is in denars.
[30] Bank can provide the necessary foreign currency liquid assets at any time, through the National Bank interventions on the foreign exchange market. In addition, 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. The deadline for application of the repo line was extended several times and is currently until January 2024. So far, the National Bank had no need for using the funds from this repo line. For more details please visit: https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr221215~6bc5ecf0ff.en.html.

Chart 22 Liquidity coverage ratio, as of 30.9.2023



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

Chart 23 Banking system liquidity ratios by currency-denar (left) and foreign currency (right)



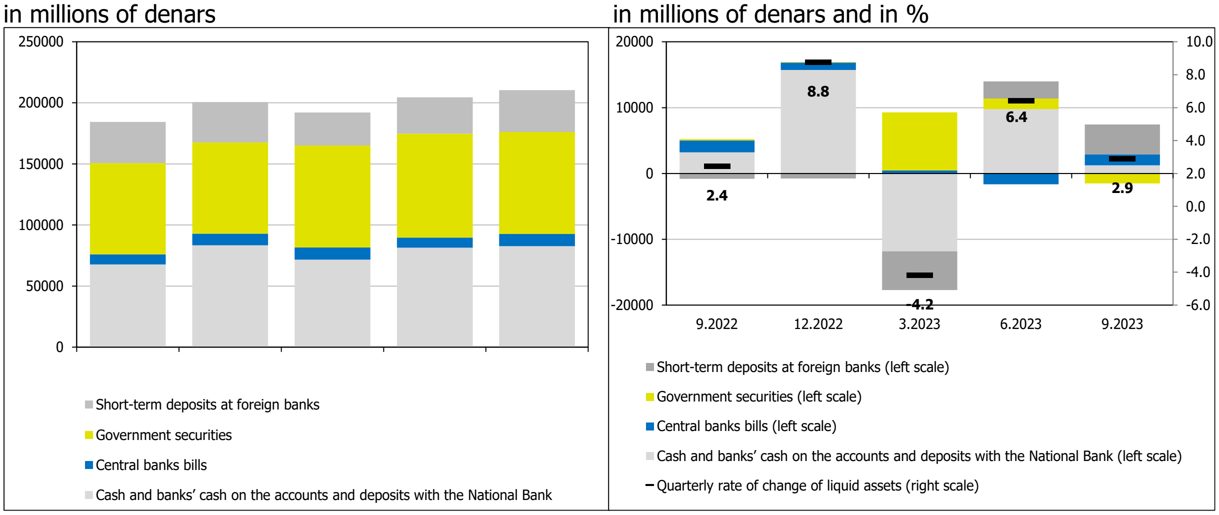
Source: National Bank, based on the data submitted by banks.

3.2. Dynamics and composition of liquid assets

At the end of the third quarter of 2023, liquid assets[31] of the banking system amounted to Denar 210,374 million. Amid further, albeit slower, quarterly increase of deposit base (by 1.3%), **liquid assets of the banking system increased by 2.9%, i.e. Denar 5,912 million.** Analyzed by individual financial instruments that make up liquid assets, the increase was most pronounced in assets on the denar account with the National Bank, (increase of Denar 6,717 million, or by 47.1%). Significant growth was also registered in assets in foreign banks[32]. On the other hand, placements in banks in overnight and seven-days deposit facilities with the National Bank decreased (by Denar 5,700 million or 36.9% and by Denar 1,340 million or 3.7%, respectively)[33]. Also, downward movements were registered in investments of banks in government bonds (decrease of Denar 5,883 million, or 9.2%), while banks' placements in treasury bills increased (by Denar 2,828 million, or 15.6%). Banks' placements in CB bills increased by Denar 1,652 million, or by 20.0% as well[34].

Chart 24 Liquid assets, structure (left) and growth (right)

in millions of denars / in millions of denars and in %



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

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[31] 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, 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.

[32] Growth of short-term time deposits of banks placed in foreign banks (from one to three months, by Denar 3,304 million, or 88.6% and overnight, by Denar 1,561 million, or 27.6%.

[33] In the third quarter of 2023, the National Bank continued the monetary tightening, which started since the end of 2021, by actively managing liquidity through the interventions on the foreign exchange market, and from April last year by increasing interest rates. The interest rates on the main monetary policy instrument, together with the interest rates on overnight and seven-days deposit facilities also increased on two occasions, cumulatively by 0.30 percentage points to 6.30%, 4.20% and 4.25%, respectively.

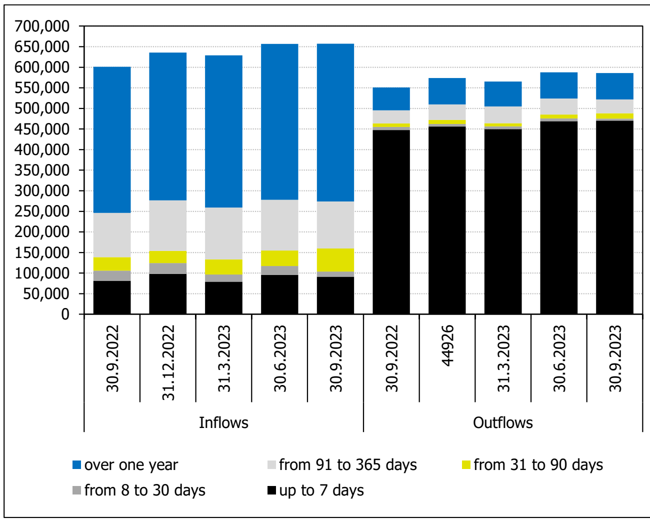
[34] During the third quarter of 2023, the interest rate on the CB bills was increased in two occasions by a total of 0.3 percentage points, and reached 6.3%. The offered amount of CB bills remained unchanged at Denar 10,000 million.

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

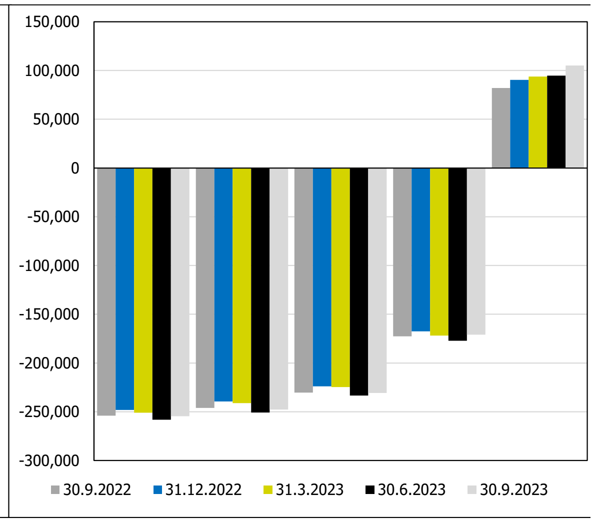
As of 30.9.2022, the agreed inflows of banks distributed in the period over one year and the agreed outflows of banks distributed in the period up to seven days prevail in the maturity structure of banks' inflows and outflows. The largest difference (gap) between the banks' inflows and outflows is registered 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, 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). These cumulative gaps in relation to the assets of the banking system are 36.2% (the cumulative gap up to 7 days) and 24.3% (the cumulative gap up to 1 year).

Chart 25 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)

in millions of denars

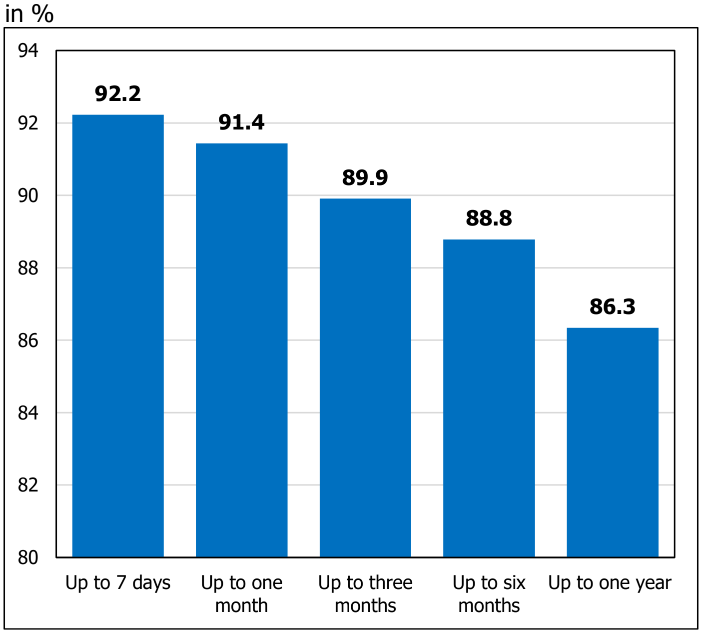


in millions of denars



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

Chart 26 Expected deposit stability, according to the remaining period to maturity as of 30.9.2023



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 86.3%) based on deposits will not be realized by depositors in the next twelve months.

3.4. Stress-simulations for liquidity shocks

On 30.9.2023, the results of the conducted stress simulations for liquidity shocks show solid capacity of the banking system, with sufficient liquid assets to respond appropriately to 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 99.3% on 30.09.2023) only in case of significantly extreme simulation of liquidity shock, which covers combined outflows[35] of funds from banks on several bases[36]. Considering the extremity of assumption, for the purpose

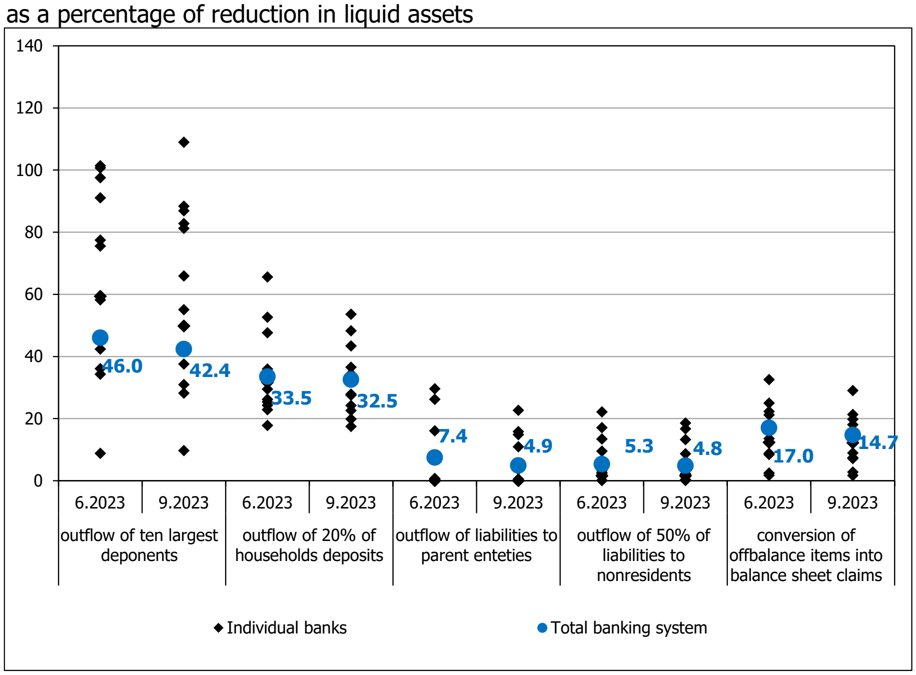
[35] The simulation assumes outflow of: deposits of the ten largest depositors, 20% of household deposits, liabilities to parent entities (liabilities on subordinated instruments and hybrid capital instruments are excluded from the simulation as, according to the regulations for calculating capital adequacy, 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.

[36] The decrease in liquid assets, which in the third quarter of 2023 is lower by 10 percentage points compared to the previous quarter (when it amounted to 109,3%), due to both higher level of liquid assets before the simulations, and the decrease in all categories of liabilities with assumed outflow during simulations, but it was most pronounced in the assumed outflow of deposits of the ten largest depositors, the assumed outflow of liabilities to parent entities and assumed outflow of conversion of certain off-balance liabilities of 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.

of this simulation, the usual coverage of liquid assets is extended with other financial instruments[37] owned by banks, for which it is estimated that banks will quickly and easily collect or turn into cash. In such case, the simulation of combined assumed shocks shows that the liquid assets of the banking system have the capacity to cover all assumed outflows.

Chart 27 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.

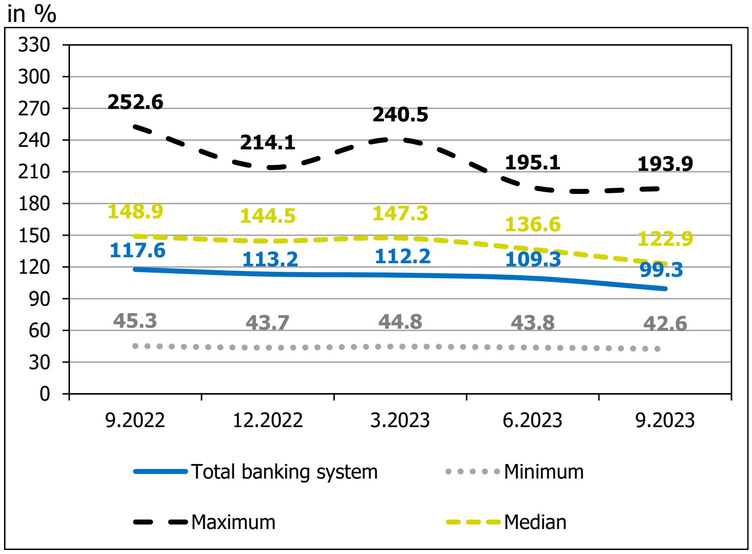
At individual simulations of liquidity shocks, the high level of liquidity which Macedonian banks have at their disposal provides settlement also of all assumed, individual, extreme liquidity outflows. The sharpest decline in liquid assets occurs amid outflow simulation of deposits of the ten largest 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 materialization of reputation risk and loss of confidence of the population in the banks represented by an outflow of 20% 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[38], the banks would spend around 15% of their liquid assets. The small share of liabilities to non-residents, as well as to parent entities in the structure

[37] 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.

[38] 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.

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



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

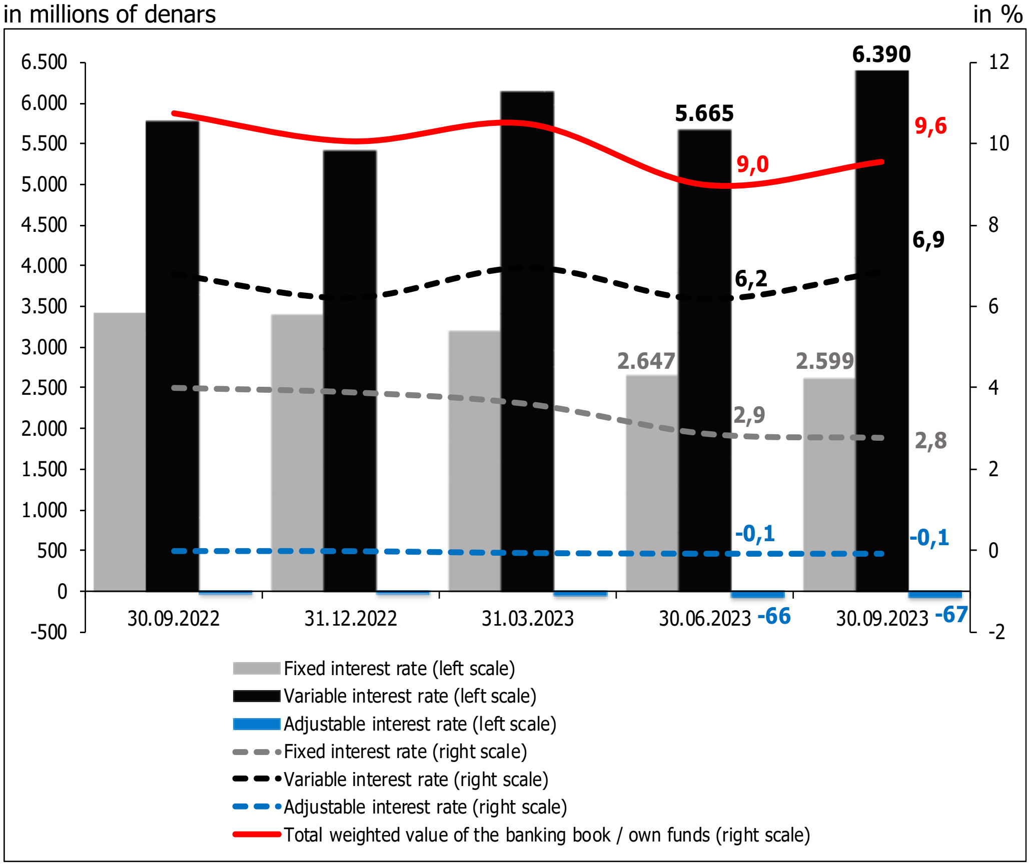
4. Interest rate risk

In the third quarter of 2023, banking system's exposure to interest rate risk from performing main banking activities increased, but remained moderate and within the prescribed limit for weighted value of banking book determined by applied standard interested rate shock[39]. This increase was mostly due to the decrease in liabilities on demand (the weight of which when determining the weighted value is the lowest due to short maturity) and redistribution of placements in loans from blocks with shorter to blocks with longer residual maturity period until the next interest rate assessment (longer deadlines increase weights when determining weighted value). Without using the standard interest rate shock and the corresponding weights, the gap between non-weighted interest-sensitive assets and liabilities is positive, due to which the net interest income of the banking system is exposed to risk of reducing interest rates. However, risk of materialization of such scenario are minimal at least in the short run, amid tightening of financial conditions, both globally and in our country. The rising trend of interest rates, which started last year and continued in 2023, coupled with the fact that the share of loans with variable and adjustable[40] interest rate is significant in the banking book, increases the importance of banks' exposure to indirect interest rate risk through borrowers, due to their possible reduced creditworthiness amid growth in interest debt.

[39] In Accordance with the regulation, the banks' exposures to interest rate risk which arises from the banking activities, is monitored through the amount 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 used. Also, 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 interest sensitive assets and liabilities 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 is each of these time zones, the higher is the effect of the simulated interest rate shock, i.e. the higher is 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.

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

Chart 29
Total weighted assets of the banking book*, by interest rate type, in absolute amount (left scale) and relative to own funds (right scale)

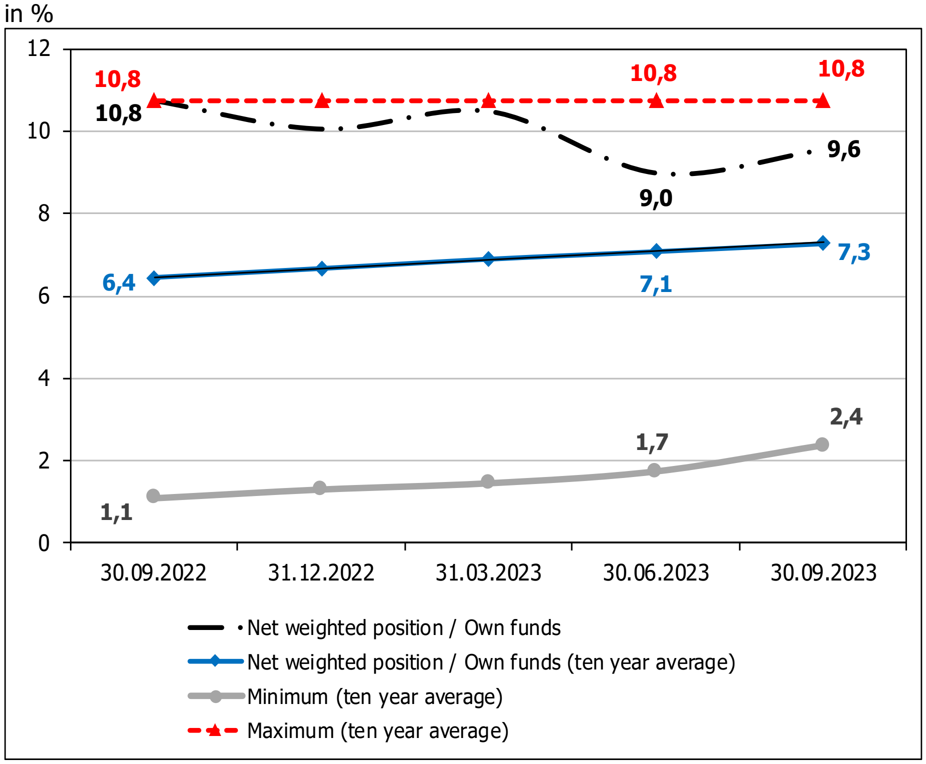


Source: National Bank, based on the data submitted by banks.
*For the term weighted value of banking book, see the first footnote in this section of the Report.

The total weighted value of banking book[41] registered a quarterly increase of Denar 675 million, or 8.2%, which is higher than the growth in own funds (of 1.8%), and caused an increase in regulatory measure for direct interest rate risk exposure of the basic banking activities (net weighted value of the banking book to own funds ratio) of 0.6 percentage points, to 9.6%. This ratio is two times lower than the regulatory maximum of 20%[42], and is below the maximum level for the past 10 years (10.8%), but exceeds the ten-year average of 7.3%. Analyzed by individual bank, this ratio ranges from 1.5% to 14.6%.

[41] For the explanation of the term weighted value of banking book, see the firs footnote in this part of the Report.
[42] 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.

Chart 30
Indicator of the interest rate risk exposure of the banking activities (net weighted position/own funds)

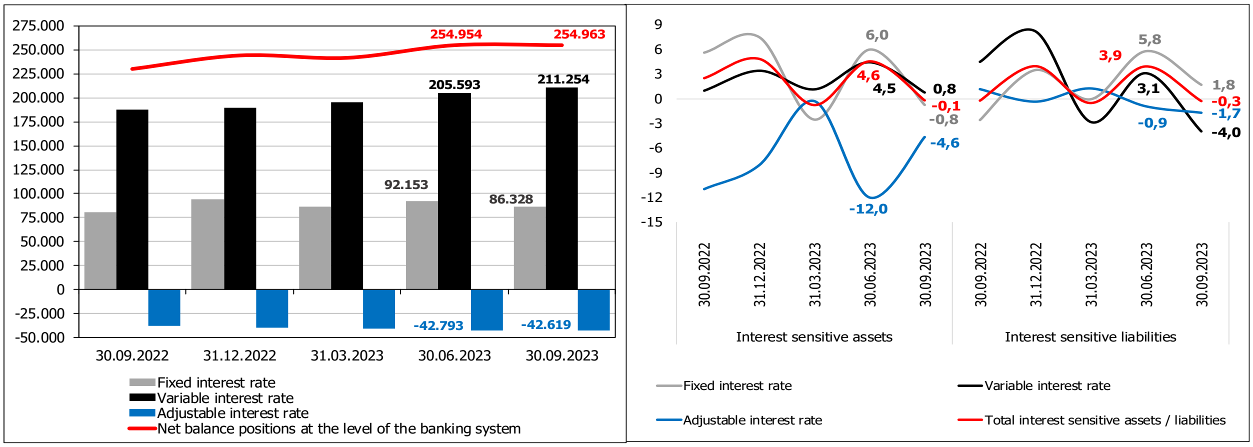


Source: National Bank, based on the data submitted by banks.

Analyzing the type of interest rate, the quarterly growth of the weighted value (net) of the banking book mostly results from the increase in the weighted value of the portfolio with variable interest rate[43] (by Denar 725 million, or 12.8%), as opposed to the slight decrease in the weighted value of the banking book with fixed interest rate (by Denar 48 million, or by 1.8%), and the portfolio with adjustable interest rate (by Denar 1 million).

[43] This increase is primarily due to the increase in the amount of placements in loans and the decrease in liabilities on demand with this type of interest rate.

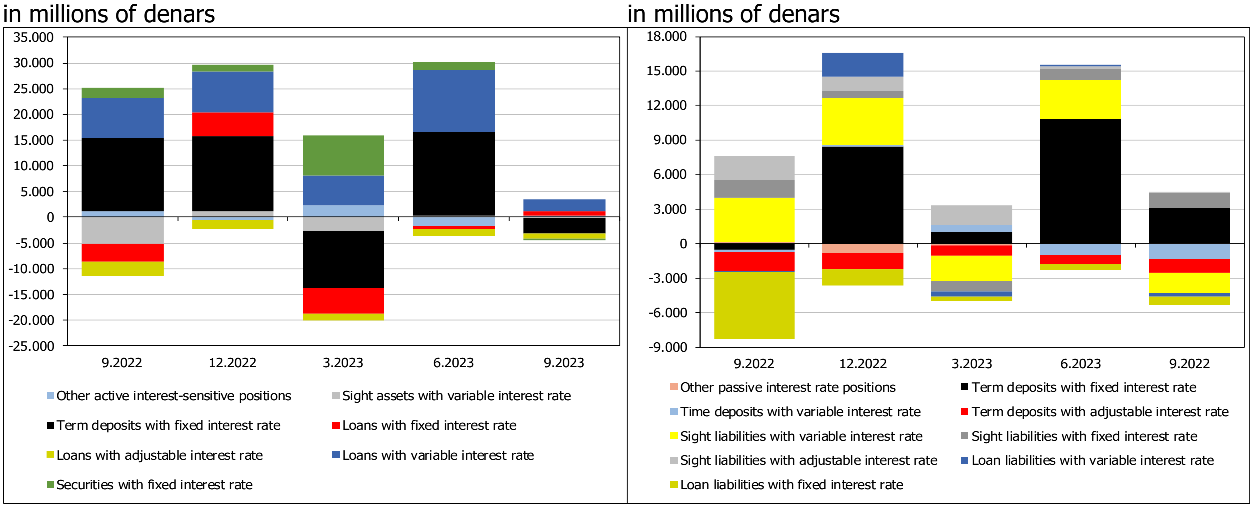
Chart 31
Interest-sensitive assets and liabilities by type of interest rate, gap (left) and quarterly growth (right)
in millions of denars in %



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

The total, non-weighted gap between interest sensitive assets and liabilities (i.e. net amount of interest sensitive assets and liabilities not using the prescribed interest shock of 2 percentage points) remained at almost the same level as at the end of the previous quarter. Individually, the positive gap between positions with fixed interest rate narrowed (by 6.3% or by Denar 5,825 million), mostly due to the decreased placements in time deposits and increased time deposit liabilities. On the other hand, the positive gap between assets and liabilities with variable interest rate widened (by Denar 5,661 million or by 2.8%), mostly due to the increased placements in loans and the decrease in liabilities on demand with this type of interest rates. The negative gap between assets and liabilities with adjustable interest rate registered no significant change compared to the previous quarter.

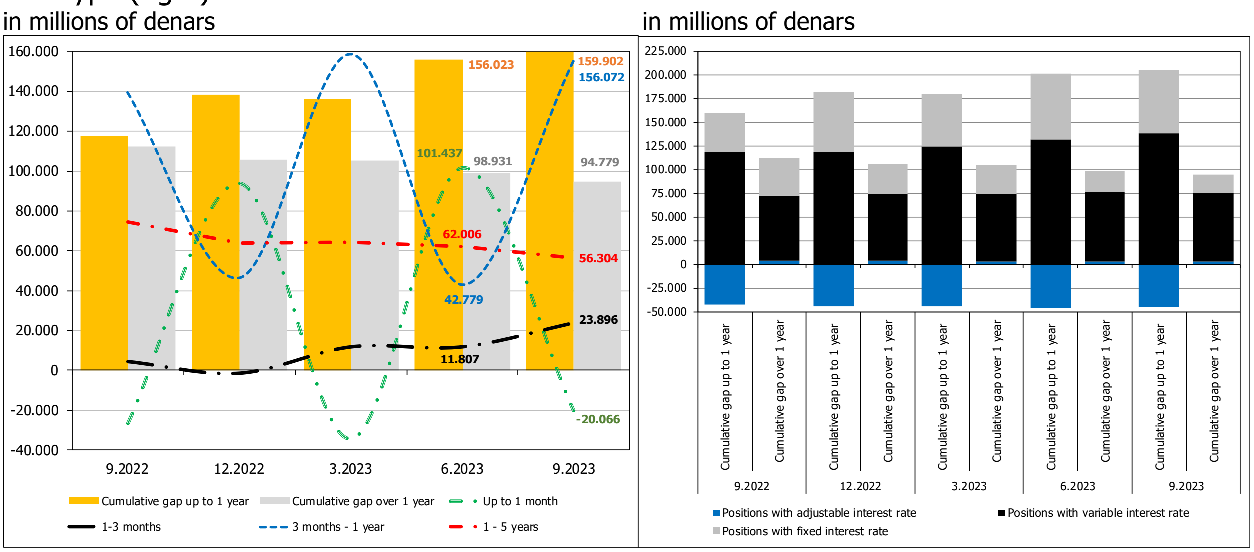
Chart 32
Quarterly changes of the interest sensitive assets (left) and liabilities (right), by type of instrument and type of interest rate.
in millions of denars in millions of denars



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

Analyzing the time period to the next interest rate reassessment, the gap up to 1 month narrowed by Denar 121,503 million, while narrowing of Denar 114,166 million was registered in the gap from 3 to 6 months. Such movements arise from redistribution of part of the placements in loans with variable interest rate, from the time bucket up to 1 month to the time bucket from 3-6 months.

Chart 33
Asset-liability gap, by period until next interest rate revaluation (left) and gap structure by interest rate type (right)

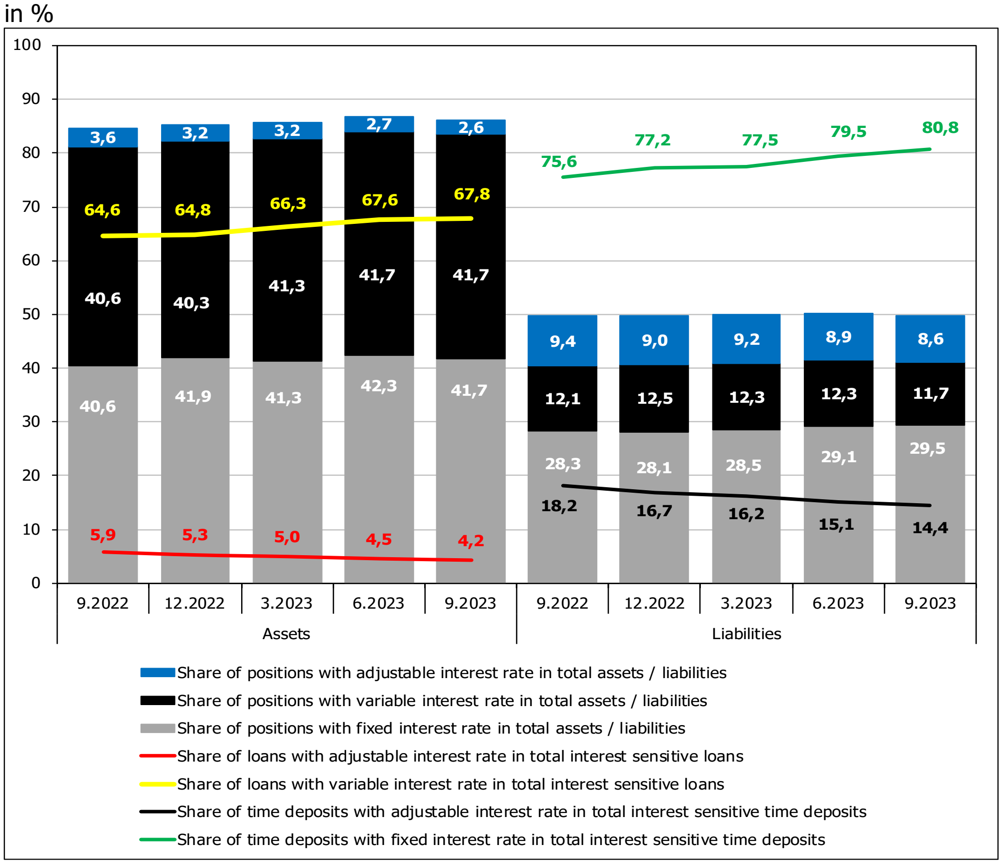


Source: National Bank, based on the data submitted by banks.

The indirect exposure to interest rate risk, which arises from the presence of loans with adjustable and variable interest rates, remains significant. As of 30.9.2023, the cumulative share of these loans in the total loans remained almost unchanged and equaled 72% (decrease of 0.1 percentage points compared to 30.6.2023), whereby 67.8% of the total loans have variable interest rate, while 4.2% are with adjustable interest rate. It should be borne in mind that in accordance with regulations, 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 30.9.2023, 16% 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[44].

[44] Or in other words, as of 30.9.2023, a variable interest rate is applied on 51.8% of loans, while for the remaining 16% (up to the presented 67.8% as of 30.9.2023), 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 interest rate.

Chart 34
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.

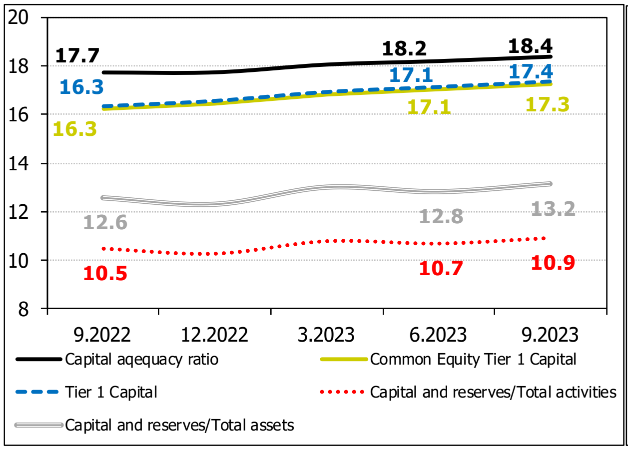
5. Insolvency risk

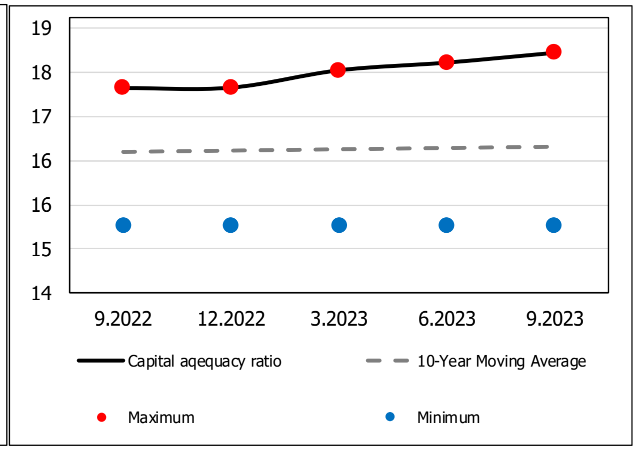
The solvency and capitalization ratios of the banking system continued to move upward in the third quarter of 2023. The capital adequacy ratio increased by 0.2 percentage points, to a level of 18.4%, which is the maximum value registered in the last seventeen years. This growth reflects the higher quarterly growth of own funds compared to the growth of assets weighted by risks. The growth of own funds in the third quarter is mostly due to the new emission of common shares, while the growth of assets weighted by risks mostly stems from the banks' lending to households. Part of the available own funds of the banking system were used to meet the countercyclical capital buffer rate applicable as of August 2023. This buffer acts preventively and further strengthens the domestic banks' capital. Around 36% of the total own funds account for the surplus of own funds and the capital buffers, which are especially important during crisis episodes, when they can be used to deal with challenges of different nature and intensity. The conducted stress testing of the banking system resilience to the simulated shocks with extremely conservative assumptions shows increased resilience of the banking system compared with the previous quarter. This is especially important given the still uncertain environment followed by tightening of financial conditions. In such circumstances, the solvency of the banking system, which is at a satisfactory level, significantly mitigates the negative effects of any potential significant risk materialization.

5.1. Solvency and capitalization of the banking system

The solvency and capitalization ratios of the banking system continued to move upward in the third quarter of 2023. Quarterly, the capital adequacy ratio increased by 0.2 percentage points, to 18.4%, which is the maximum value registered in the past seventeen years.

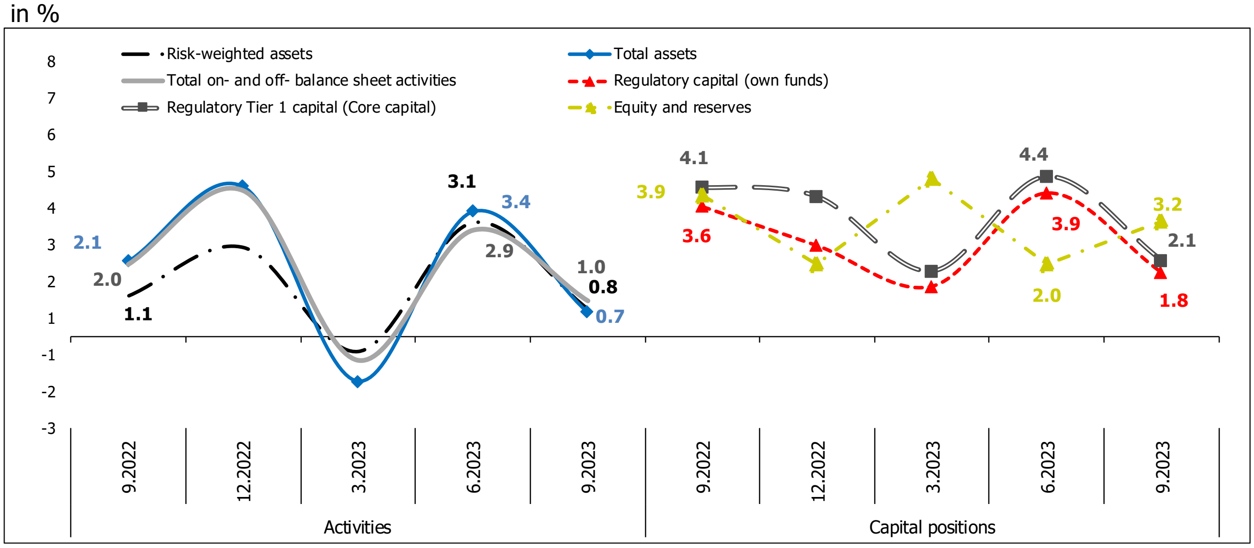
Chart 35
Indicators of solvency and capitalization of the Macedonian banking system (left) and capital adequacy ratio (right)
in %





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

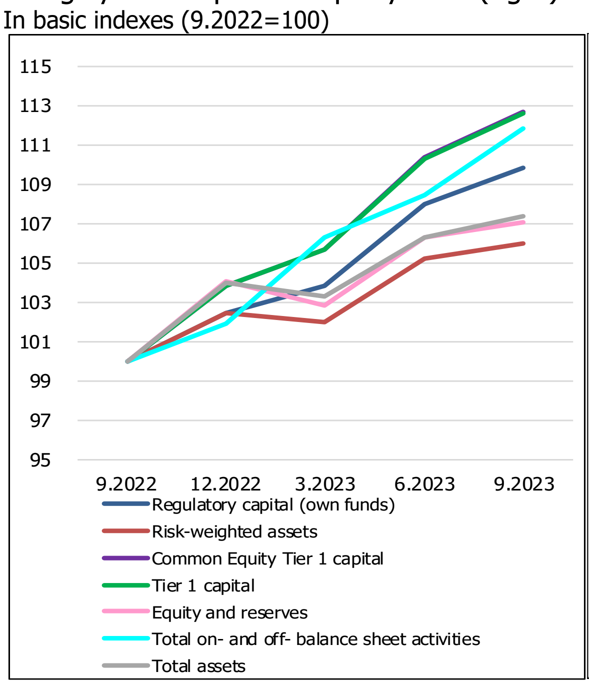
Chart 36
Quarterly growth of solvency ratio components
in %

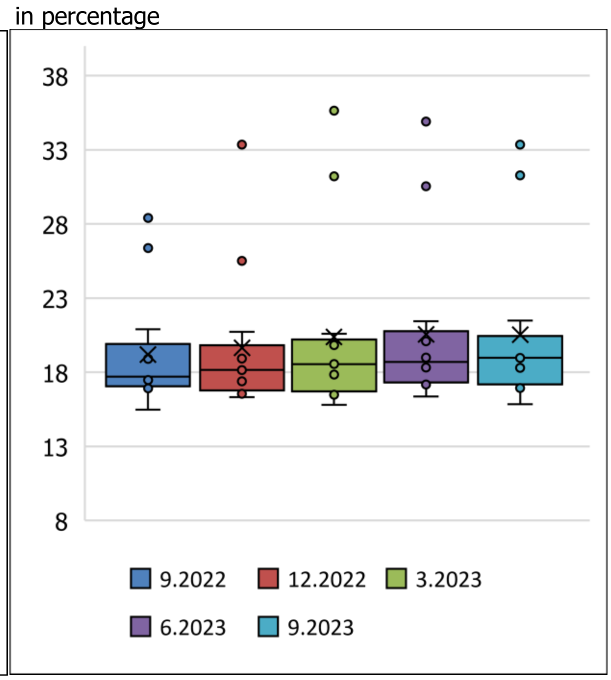


Source: National Bank, based on the data submitted by banks.

The Common Equity Tier 1 capital and Tier 1 capital ratios grew by 0.2 and 0.3 percentage points, reaching 17.3% and 17.4%. Capital and reserves made a quarterly growth of 3.2%, while own funds grew by 1.8% which mostly results from the new emission of common shares by one large bank. The shares of capital and reserves in total assets and total on-balance and off-balance sheet activities of banks slightly increased from 0.4 and 0.2 percentage points, to 13.2% and 10.9%, respectively. Therefore, total assets, total on-balance and off-balance sheet activities and the risk weighted assets grew by 0.7%, 1% and 0.8%, respectively.

Chart 37
Trends in nominator and denominator of solvency ratios (left) and dispersion measures of the banking system capital adequacy ratio (right)





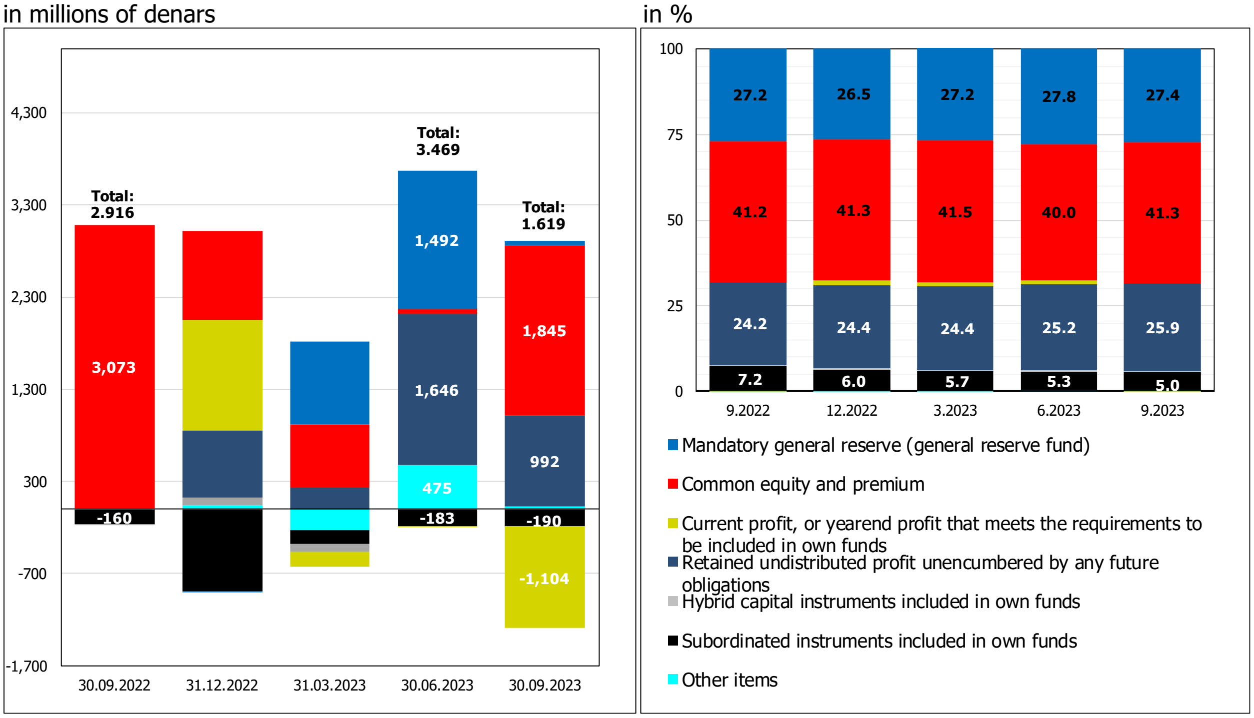
Source: National Bank, based on the data submitted by banks.
Note on the right chart: The average value is marked with X, while the median value is marked with the middle horizontal line within the column. The column explains the interquartile difference, i.e. indicates the capital adequacy ratios in half of the banks in the system. The remote dots show the extreme values, i.e. banks in the system with the highest capital adequacy ratio.

The decomposition of the banking system solvency ratios points to the conclusion that the upward movement of solvency indicators mainly results from the pronounced growth of the most quality layer of own funds, the Common Equity Tier 1 capital. The past quarters registered more pronounced upward trend in capital positions especially in the Common Equity Tier 1 capital, the growth of which entirely levels up with the growth of the Tier 1 capital. On the other hand, the growth trend of assets, total balance and off-balance sheet activities as well as risk-weighted assets is milder, which contributes to strengthening of the banking system solvency. **The dispersion of adequacy ratio in the banking system indicates a stable trend.** The median value of the adequacy ratio is higher compared to previous quarters, while the average value remained almost the same.

5.2. Quality of own funds of the banking system

The banking system has high-quality capital positions, which enable satisfactory resilience to possible stress situations. At the end of the third quarter of 2023, the most quality layer of banking system's own funds (Common Equity Tier 1 capital) dominated the total own funds with a share of 94.1% (93.8% as of 30.6.2023), while the Additional Tier 1 capital and Tier 2 capital account for 0.5% and 5.4% of the banking system's own funds (0.5% and 5.7% as of 30.6.2023, respectively).

Chart 38
Structure of the quarterly changes (left) and the Structure of the own funds (right)
in millions of denars | in %



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

In the third quarter of 2023, banking system's own funds grew by Denar 1,619 million, or 1.8%. The largest contribution to the growth of own funds was made by the new emission of common shares (1,845 million) by one large bank[45], thus the share of issued common shares in own funds increased by 1.3 percentage points and their premium by 41.3%. One bank from the group of large banks distributed the profit from the end of the previous year in general reserved fund and retained non-distributed profit, increasing their joint share in own funds by 0.3 percentage points, to 53.3%. Slight decrease was registered in subordinated instruments (in order to reduce the accounting value due to entering the last five years to maturity). For more details about the level of own funds by group of banks see annexes to this report.

[45]For more details, see page 8 on the following link.

Analyzed by purpose of own funds, almost all components of capital requirements increased. The amount of capital for covering risks increased by Denar 311 million, or by around 0.8%, yet its share in total own funds of the banking system decreased (from 44.0% as of 30.6.2023 to 43.6% as of 30.9.2023). The quarterly growth of capital for covering risks almost equally results from the increase in capital requirements for currency risk (by Denar 186 million)[46] and capital requirements for credit risk (by Denar 126 million)[47]. Therefore, the highest increase in total on-balance and off-balance sheet exposure of the banking system was recorded in positions with 20% risk weight (by Denar 4,027 million or 12.5%) due to increased claims from banks. More significant contribution to the growth was made by banks' activities with 100% risk weight (by Denar 3,749 million) mostly due to increased claims from other trade companies. There was a significant decline in banks' activities with 0% risk weight (by Denar 2,151 million) based on reduced claims on central governments and central banks, as well as reduced claims on public institutions. Total amount of capital buffers[48] increased by Denar 2,699 million, or by 13% on a quarterly basis and at the end of the third quarter of 2023 increased its share to 25.1% in total own funds of the banking system . The sharp growth of capital buffers almost entirely results from the countercyclical capital buffer, the application of which, i.e. fulfillment of obligation started as of 1 August 2023.[49] Introducing the countercyclical capital buffer rate for exposures of the banks in the Republic of North Macedonia in the amount of 0.5% acts preventively and further strengthens the domestic banks' capital. The amount of the capital supplement determined by the supervisory assessment registered a quarterly increase of Denar 171 million, or by 0.9% and accounts for 20.7% of the total own funds of the banking system. The growth of capital buffers was at the expense of the decrease of available own funds, above the minimum regulatory and supervisory requirements, which at the same time recorded a quarterly percentage drop of 13.7% (decrease of Denar 1,562 million), reducing its share to 10.6% (12.5% as of 30.6.2023) of total own funds.

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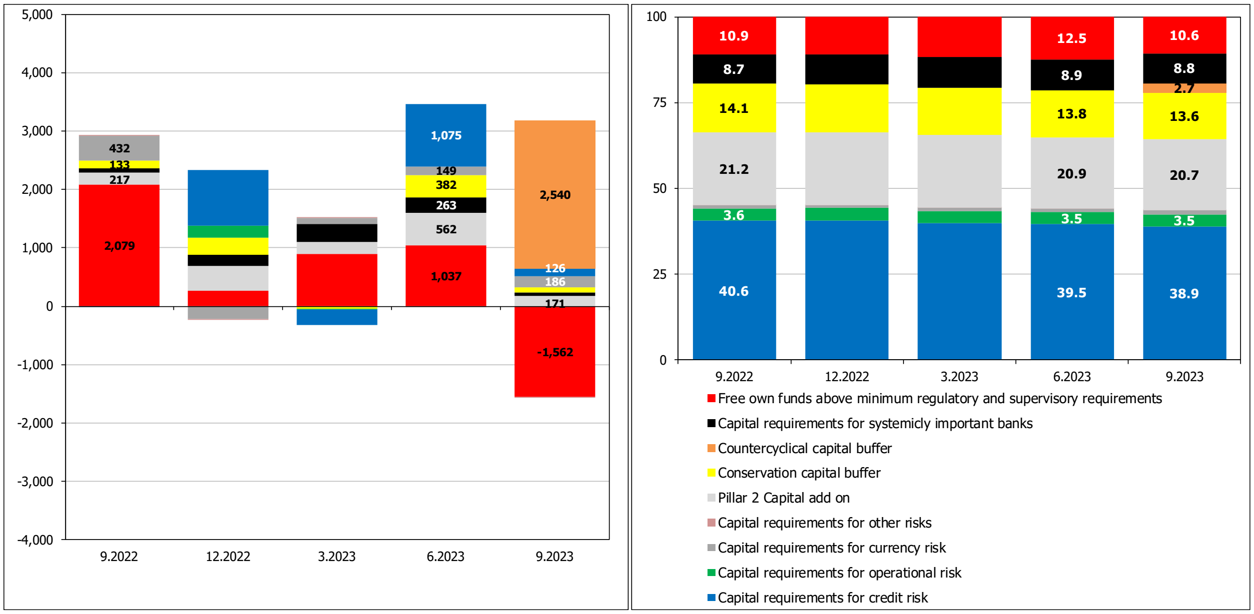
[46]The growth of capital for currency risk results from increased aggregate foreign currency position in the third quarter of 2023. For more details see the currency risk section of this Report.

[47]The increase in capital for covering credit risk is a result of the increased risk-weighted assets, namely small loan portfolio (increase of Denar 1,194 million), claims on banks (Denar 588 million), claims covered with residential properties (Denar 509 million) and claims of other trade companies (Denar 132 million) and stakes in investment funds (Denar 2 million). At the same time, decline is registered in claims covered with residential properties (Denar 496 million), claims on public institutions (Denar 485 million) and claims on local and regional government**.**

[48]From the four capital buffers specified by the Banking Law, in the third quarter of 2023, 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 (for more information visit the following link).

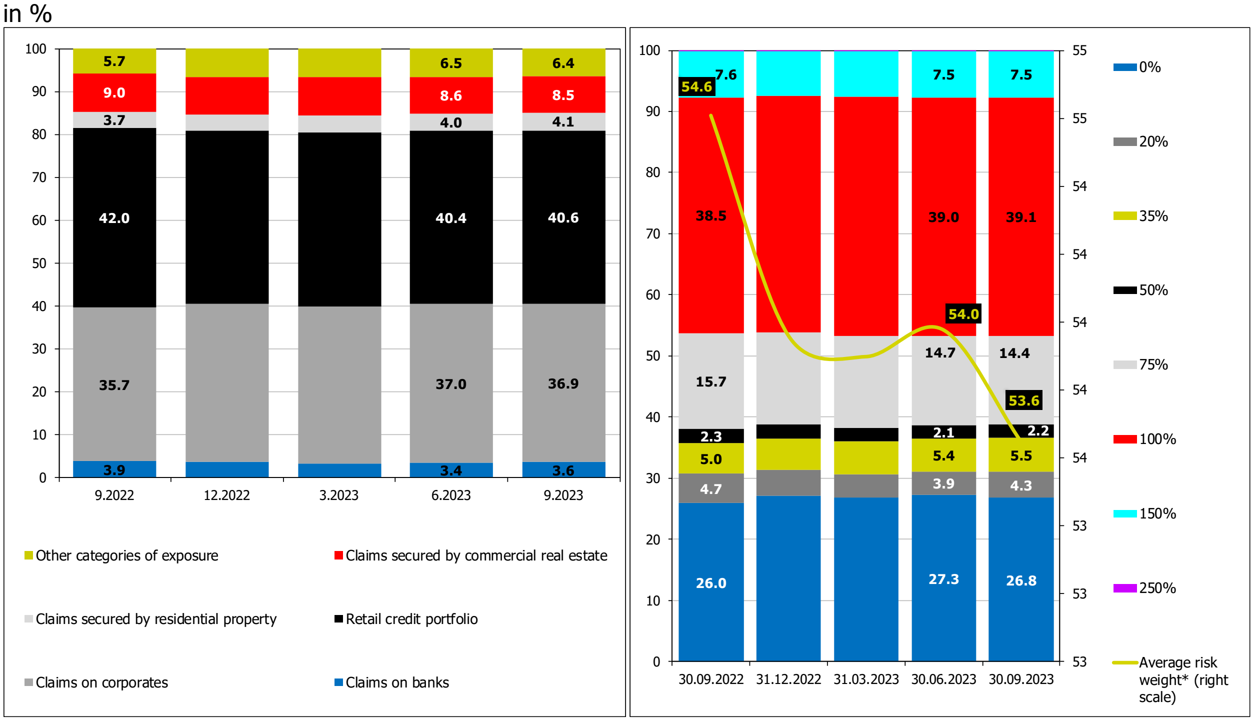
[49]For more details on the countercyclical capital buffer decisions visit the following link.

Chart 39 Structure of quarterly 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.

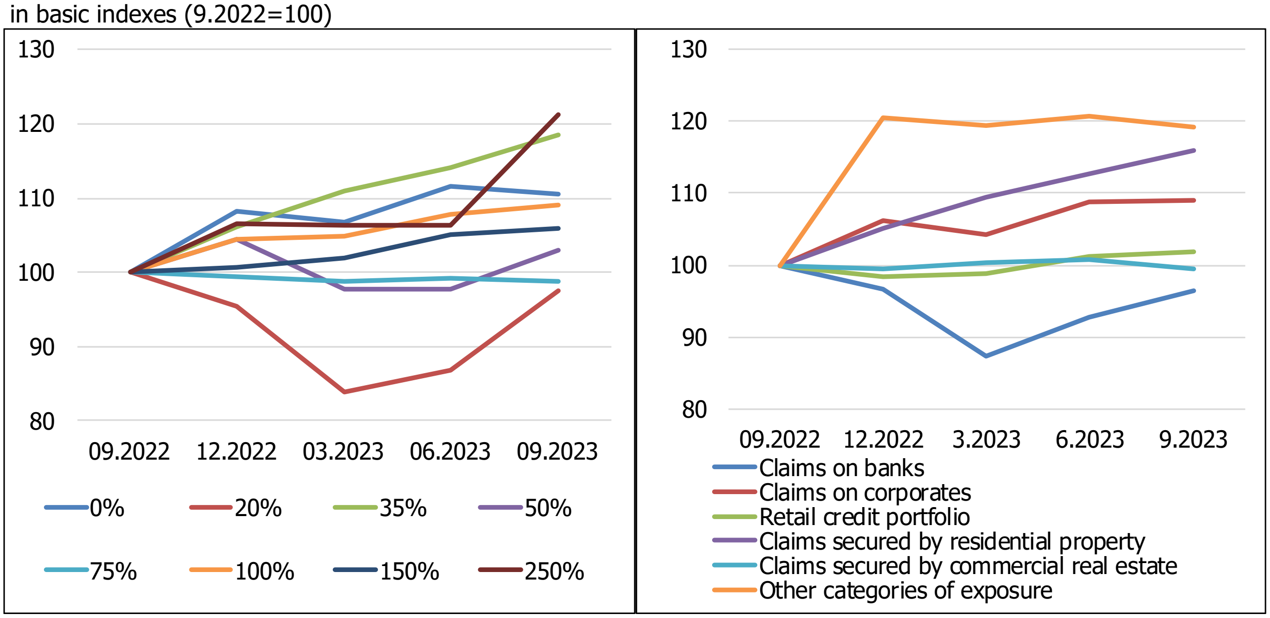
Chart 40 Structure of capital requirements for covering credit risk, by category of exposure (left) and total on-balance and off-balance exposure, by risk weights (right)
in %



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 lower quarterly growth of risk-weighted assets by 0.8% (Denar 13.4 million) compared to the growth in total on-balance and off-balance sheet exposure of the banking system (1%) resulted in a decline (of 0.4 percentage points) of the average risk weight, to 53.6%. 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.

Chart 41 Movement trend of the total on-balance and off-balance sheet exposure, according to risk weights (left) and credit risk exposure categories (right)
in basic indexes (9.2022=100)



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

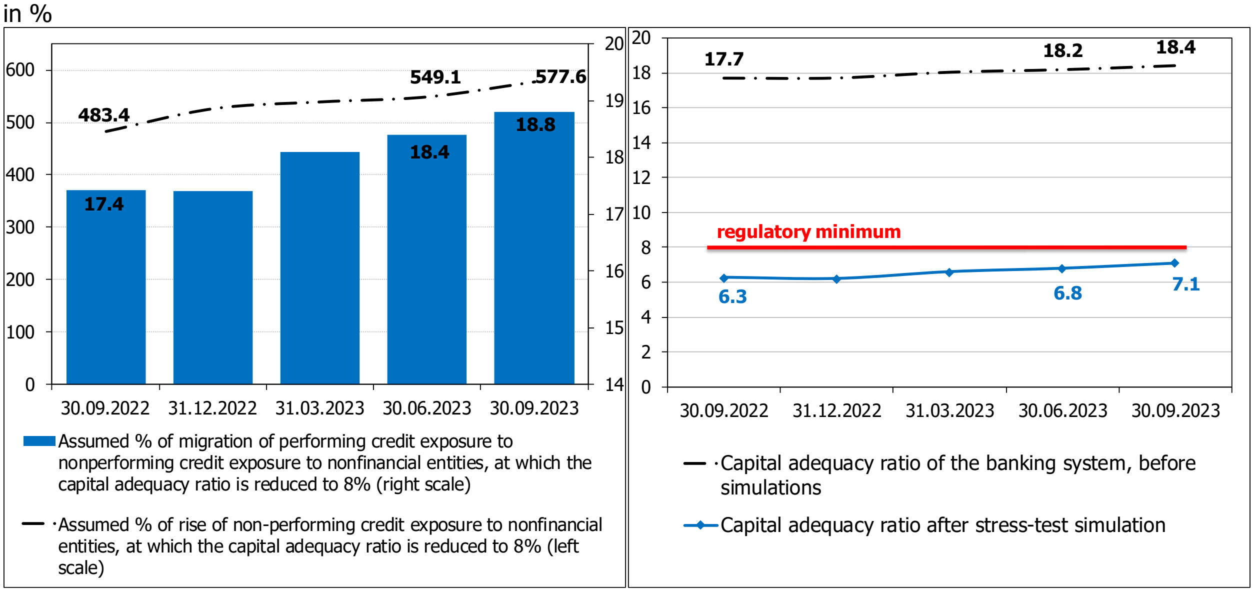
The movement trend analysis of the total on-balance and off-balance sheet exposure by risk weights indicates that the most pronounced growth, compared to the same quarter last year, was registered in activities with a risk weight of 35% including claims covered with residential properties, as well as low-risk activities of banks (investments in securities issued by central banks and governments). On the other hand, the growth of activities with higher risk weights is more moderate.

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 (isolated, or in combination with materialization of the currency and/or the interest rate risk in the banking book). The results of the regular stress-testing improved compared to 30.6.2023, mostly due to the higher initial level of capital adequacy ratio. The regular stress-testing highlights only the simulations with highly extreme assumptions, the probability for materialization of which is very low, which is in fact the point of the stress-testing process. For the purpose of this report we present the result of **the simulation for simultaneous**

materialization of credit, currency and interest risk[50]. After such shock, the capital adequacy ratio of the banking system is reduced below the requirement, to 7.1%, which is better compared to the last quarterly date when the capital adequacy ratio is reduced to 6.8%.

Chart 42
Necessary deterioration of the quality of credit exposure for the capital adequacy of the banking system to drop to 8% (left) and results of stress-test simulations (right)
in %



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

Hypothetical shocks on the part of the credit risk had the greatest impact on the solvency of the banking system. The stress testing results show that it takes growth of 577.6% of non-performing loan exposure, i.e. migration of 18.8% from regular to non-performing loan exposure for the capital adequacy of the banking system to drop to 8%. However, these are rather extreme and less likely simulations, especially in the short term, given that in the third quarter of 2023, only 0.4% of the regular credit exposure to non-financial sector received a non-performing status. In addition, the condition of non-performing credit exposure to non-financial entities registered a quarterly decrease of 1.5%. 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.

[50] 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;

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

1. Bank activities

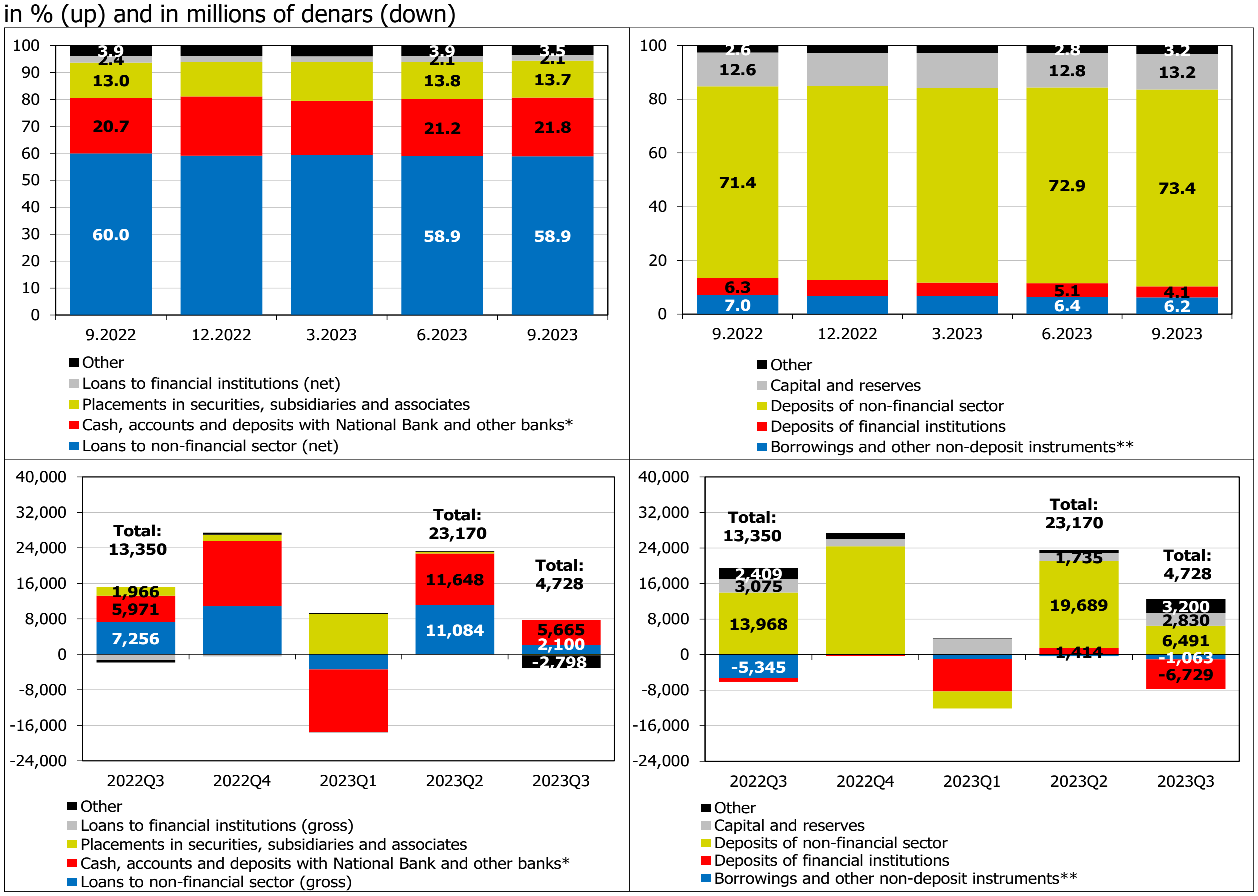
The macroeconomic environment in which the banks operate featured gradual stabilization of the price growth and favorable foreign exchange market, with existing risks and uncertainties, mainly associated with global factors and geopolitical turmoil. In such conditions, the National Bank continued with monetary tightening in the third quarter, with changes to the reserve requirement acting in the same direction, aimed at increasing denar savings, as well as taken macro-prudential measures, which additionally strengthened the banking system.

The balance sheet of the banking system further grew in the third quarter of 2023, mostly due to the increase in deposits of non-financial entities, higher banks' profits and new emission of shares. However, the quarterly growth of banks' balance sheet is significantly slower, due to significantly slower growth of deposits of non-financial entities, reduced deposits of financial institutions and borrowings. Corporate deposits made the largest contribution to the quarterly growth of total deposits, while household deposits registered a slight quarterly decline. Analyzing the currency features of deposits, the quarterly growth of foreign currency deposits is significantly higher, amid modest growth of denar deposits. Favorable movements were registered in terms of deposit maturity, where long-term deposits grew significantly compared to demand deposits and short-term deposits.

Within the assets of the banking system, liquid assets and placements in non-financial loans grew, yet moderately compared to the previous quarter. As opposed to the movements of deposit activity, household loans increased, while corporate loans registered a slight quarterly decline.

Chart 37 Structure of the assets (up left) and liabilities (up right) and structure of the quarterly changes of the assets (down left) and liabilities (down right) of the banking system in % (up) and in millions of denars (down)

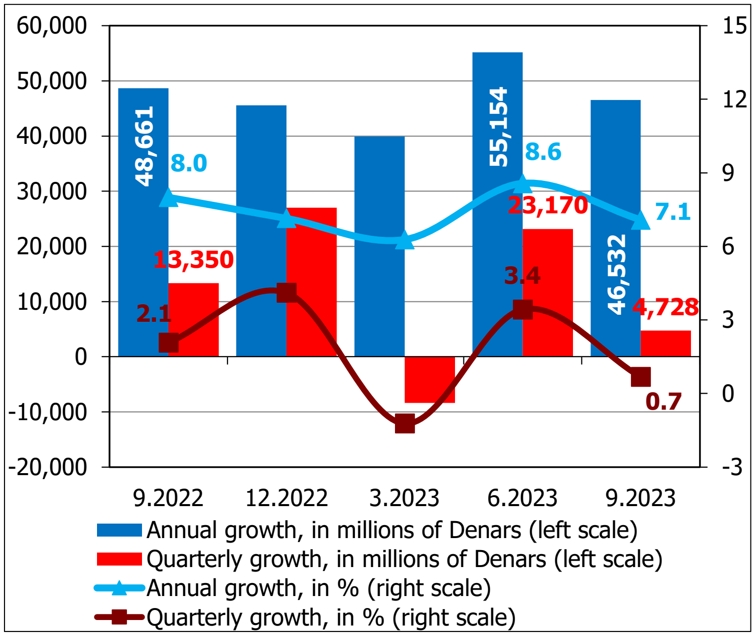
in % (up) and in millions of denars (down)



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 non-deposit instruments include issued subordinated and hybrid capital instruments.

In the third quarter of 2023, the balance sheets of the banking system increased by Denar 4,728 million, or by 0.7%, which means slower growth compared to both previous quarter (3.4%), and the same quarter of 2022 (2.1%). Drivers of the quarterly growth are the higher deposits of non-financial entities and banks' profits, as well as the new emission of shares by one bank. However, the growth of deposits of non-financial entities decelerated, while deposits of financial institutions and borrowings decreased, which contributed to the slower growth of balance sheet, which remains solid on annual basis and equals 7.1%. Within assets, banks increased their liquid assets and placements in loans to non-financial entities, albeit moderately compared to the previous quarter.

Chart 44 Assets growth of the banking system
in millions of denars and in %

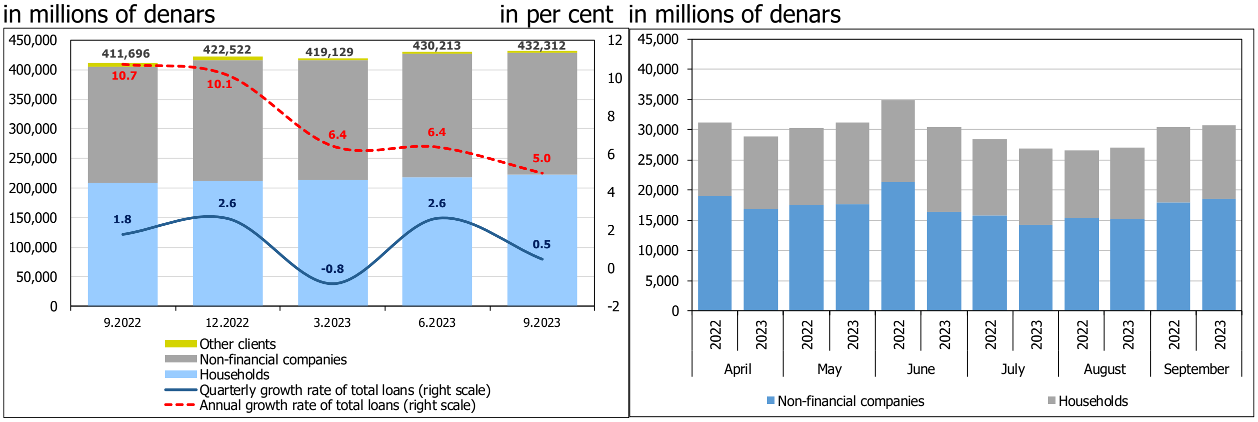


Source: National Bank, based on the data submitted by banks.

1.1. Loans to non-financial entities[51]

Banks' lending activity continued to grow in the third quarter of 2023. Compared to the second quarter of 2023, loans to non-financial sector grew by Denar 2,100 million or by 0.5%. The annual growth rate of loans decelerated compared to the same period last year, but remained moderate and equaled 5.0%. Such movements occur in conditions of slight monetary tightening, net tightening of credit standards and net decrease in demand for loans[52]. Slightly over 80% of the growth accounts for the increased lending by large banks.

Chart 45
Stock flow of loans of non-financial entities (left) and newly approved loans, by sector (right)



Source: National Bank based on data submitted by banks.

In the third quarter of 2023, newly approved loans of non-financial sector[53] decreased by 6.6% on a quarterly basis. The decline is due to reduced newly approved household loans (7.9%) and corporate loans (5.5%).

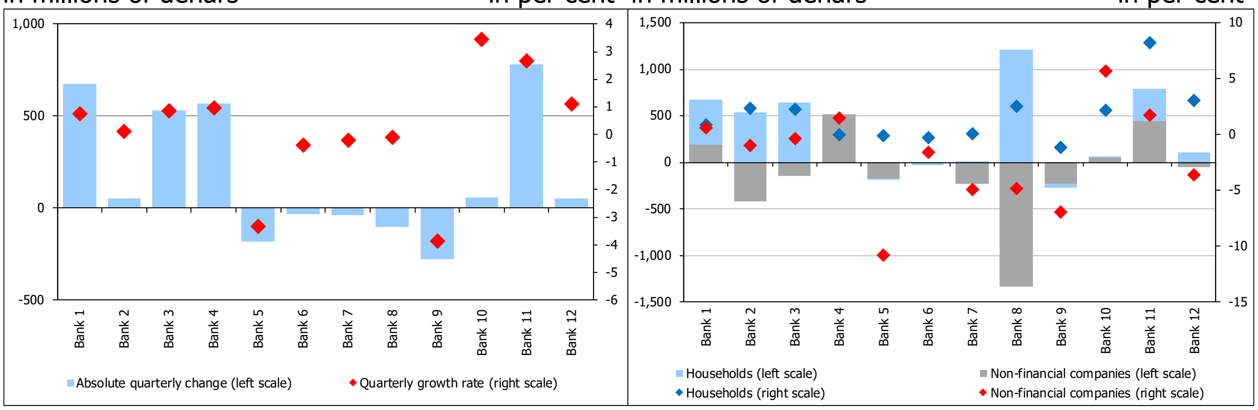
[51] Loans to non-financial entities include loans to resident and non-resident non-financial entities, including loans to private and public non-financial companies, central government, local government, non-profit institutions serving households (loans to other clients), sole proprietors and natural entities (loans to households).

[52] According to the Bank Lending Survey for the third quarter of 2023, net tightening was registered in both corporate and household lending, while net reduced demand for loans was also noted in both sectors. In the third quarter of 2023, the policy rate of the National Bank increased on two occasions by a total of 0.30 percentage points to the level of 6.30%.

[53] Non-financial entities include only legal entities and households, while other clients are excluded due to large fluctuations of newly approved loans.

Chart 386
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.

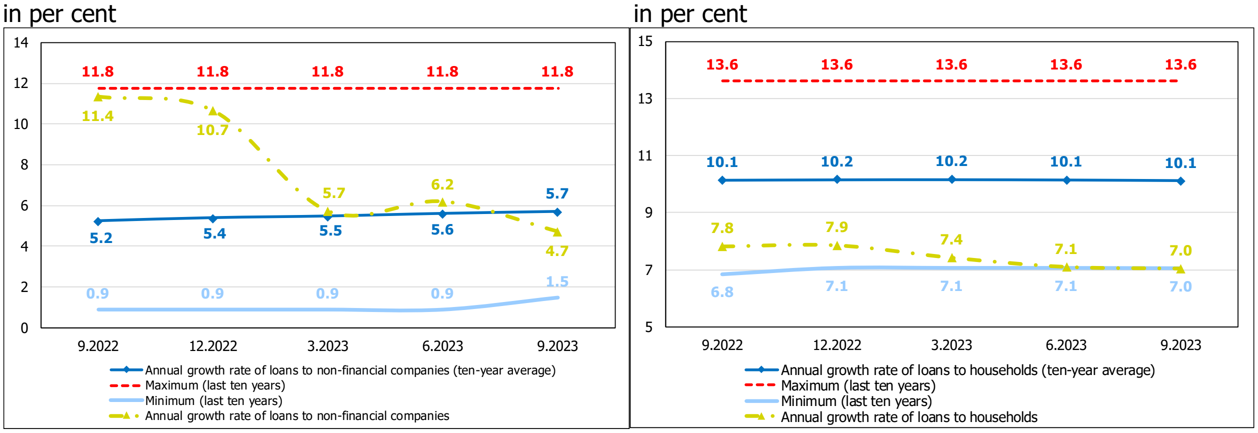
The corporate lending in the third quarter of 2023 slightly declined on a quarterly basis, amid reduced demand for loans by corporate sector and tightened credit standards, mainly due to reduced amount of newly approved loans, and loan collection in this sector. **Annually, corporate loans continue to grow.** As of 30.9.2023, corporate loans dropped by Denar 1,395 million or by 0.7% compared to 30.6.2023. The decline was due to reduced loans to clients in wholesale and retail trade and industry (especially manufacturing industry), with a decrease in loans in catering sector. On the other hand, lending to clients in electricity supply further grew, yet slower, same as loans to construction sector and real estate activities (0.8%). The downward movements in corporate lending compared to the previous quarter occur in conditions of net tightening of credit standards by banks, as opposed to their previous expectations, with a net reduction in demand for loans as well. Net tightening of lending standards was noted in interest rate, non-interest income, the size of loan and collateral requirements. The credit growth amounted to 5.0% annually[54] and slowed down mainly due to significantly reduced growth rate of lending to construction sector, with a slight decelerated growth in industry. The fourth quarter of 2023 expects slight net tightening of credit standards, while net reduction of demand will continue.[55]

[54] Excluding the effect of net write-offs, the annual growth rate equaled 4.7%, which is lower than the ten-year moving average.
[55] Source: Bank Lending Survey in the third quarter of 2023.

Chart 47

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

in per cent in per cent



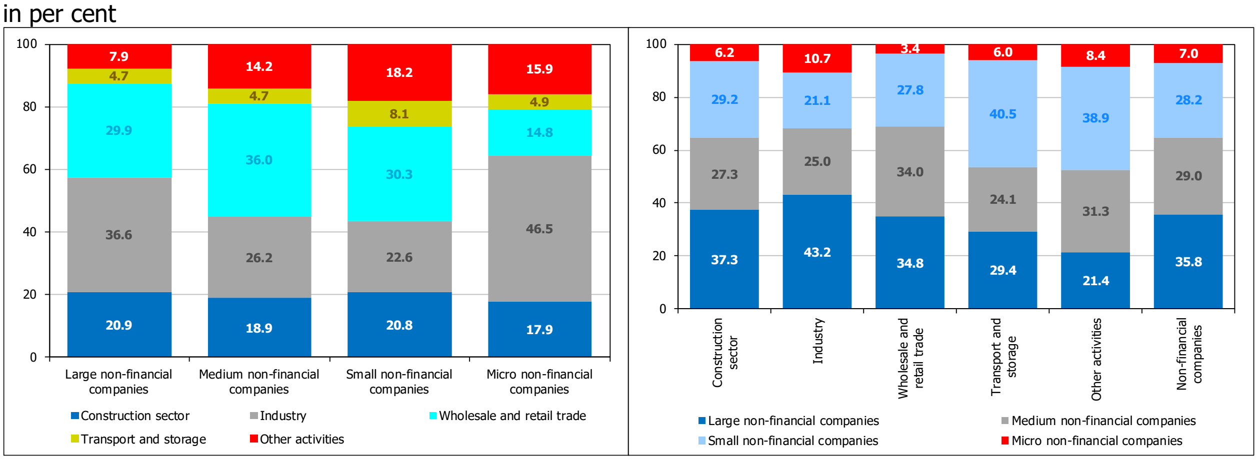
Source: National Bank based on data submitted by banks.

* Note: Excluding the effect of all mandatory write-offs made in the period 1.1.2016 - 30.9.2023. Starting from December 2019, the data also contains collected compulsorily written-off loans.

Chart 48

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.

Analyzing the size of non-financial companies[56], loans to large enterprises have the largest share (35.8%), which is unchanged compared to the previous quarter, while the share loans to microenterprises (7.0%) is the lowest and registered a decrease, which is partly due to higher amounts of loans to larger enterprises, and partly to banks' hesitation of lending to smaller enterprises[57].

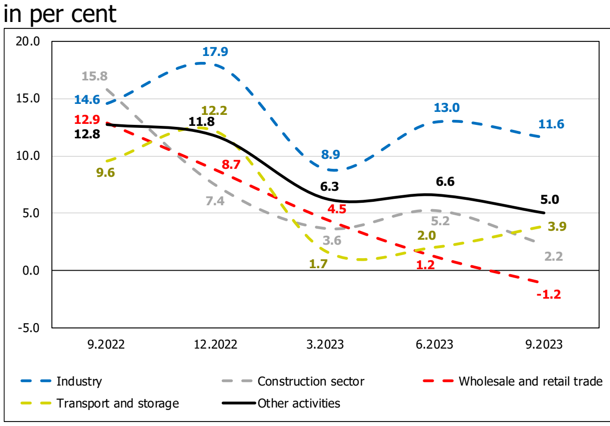
[56] The criteria for Classification of entities by size (into large, medium, small and micro) are defined in Article 470 of the Law on Trade Companies.

[57] 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). 5 in Macedonia 2025(2020). *Barriers for access to finance for MSMEs in North Macedonia: Stock of existing data and knowledge*.

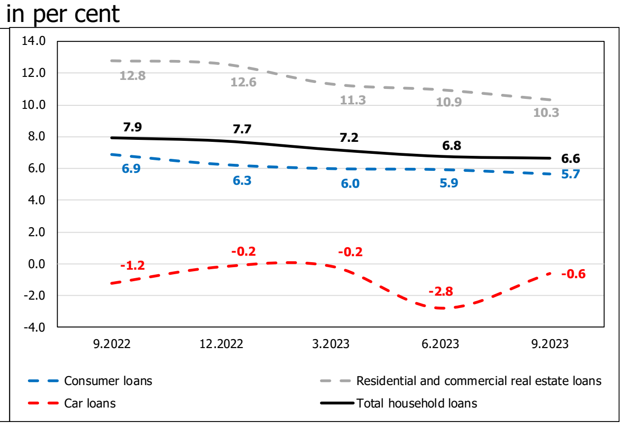
Observing clients' activity, the largest share was registered in loans to companies in wholesale and retail trade (30.8%) and industry (30.3%), with a significant share of loans in construction (20.1%).

Household lending in the third quarter of 2023 grew both quarterly and annually, but the growth decelerates in conditions of net tightening of credit standards and net reduction of demand for loans. As of 30.9.2023, household loans increased by Denar 3,272 million or 1.5% compared to 30.6.2023, while the annual growth rate amounted to 6.6%[58]. Observing the type of credit product, quarterly growth was registered in loans for purchasing residential and commercial properties (1.7%) and consumer loans (1.1%), yet the growth rates are lower compared to the previous quarter. These movements further decelerated the annual growth rates. However, one should bear in mind that net tightening of interest rates in lending to households is more moderate compared to the previous quarter, which reflects the slight increase in policy rate, with a moderate net reduction of demand for loans. The fourth quarter of 2023 expects moderate net tightening of the credit standards and slight net increase of the demand for loans[59].

Chart 49
Annual growth rate of corporate loans (left) and household loans (right)
in per cent



in per cent



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

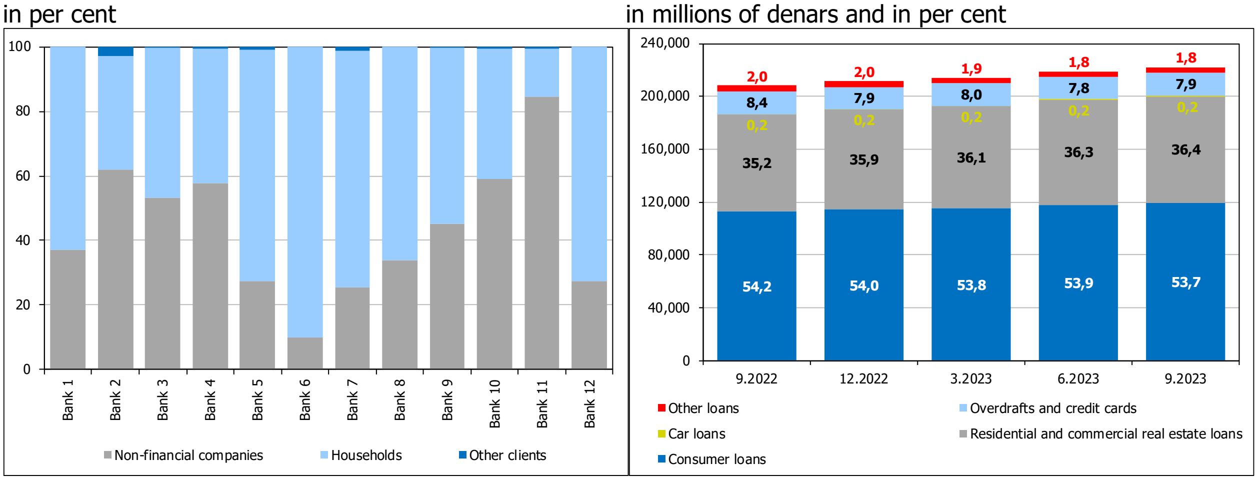
The share of household loans in total structure of 51.4% remains slightly higher than the share of corporate loans, with an increase of 0.6 percentage points compared to the previous quarter. Within household loans, non-earmarked loans dominate with a share of 63.4%.

[58]Excluding the effect of net write-offs the growth amounted to 7.0%, which is the lowest growth rate in the past ten-year period.
[59] Source: Bank Lending Survey in the third quarter of 2023.

Chart 50

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

in per cent | in millions of denars and in per cent



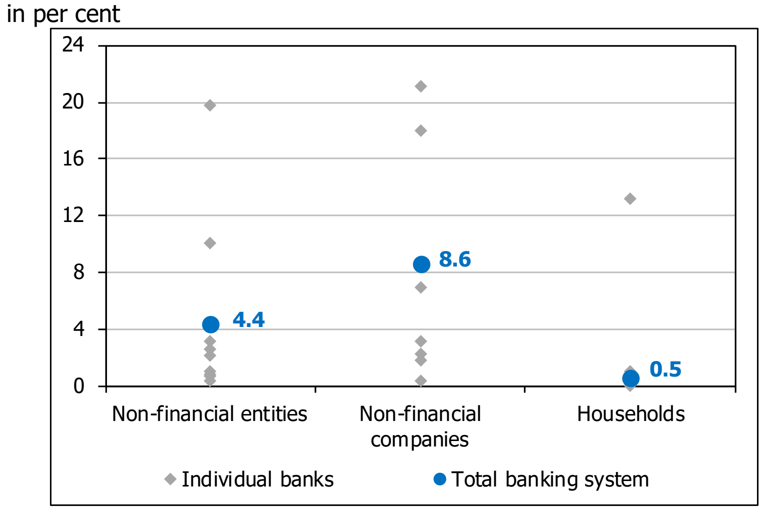
Source: National Bank's Credit Registry based on data submitted by banks.

Green loans[60] further grew, but their share in the banking books remain low at 4.4%, with a double-digit share in only two banks.[61] Total green loans to non-financial sector as of 30.9.2023 increased by Denar 1,167 million or 6.6% compared to 30.6.2023, which means that the growth rate halved on a quarterly basis compared to the previous quarter. The growth is solely due to increased green corporate loans by 7.0%, while green household loans slightly decreased by 0.1%.

[60]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 changes. 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; 9iii) support investments in renewable energy sources, control and prevention of pollution, protection of the environment, mitigation of the risks from climate changes, 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 changes, etc.

[61] Two banks, out of twelve analyzed banks, as of 30.9.2023 have no "green loans" in the portfolio. In the banks that have approved such loans, the share of green loans in total loans ranges from 0.3% to 19.8%. Analyzed by sector, the share of green loans in total loans by individual banks is between 0.3% and 21.1% in corporate loans, i.e. between 0.0% and 13.2% in household loans.

Chart 51
Share of "green" loans in the total loans to non-financial entities and by individual sectors, by individual bank



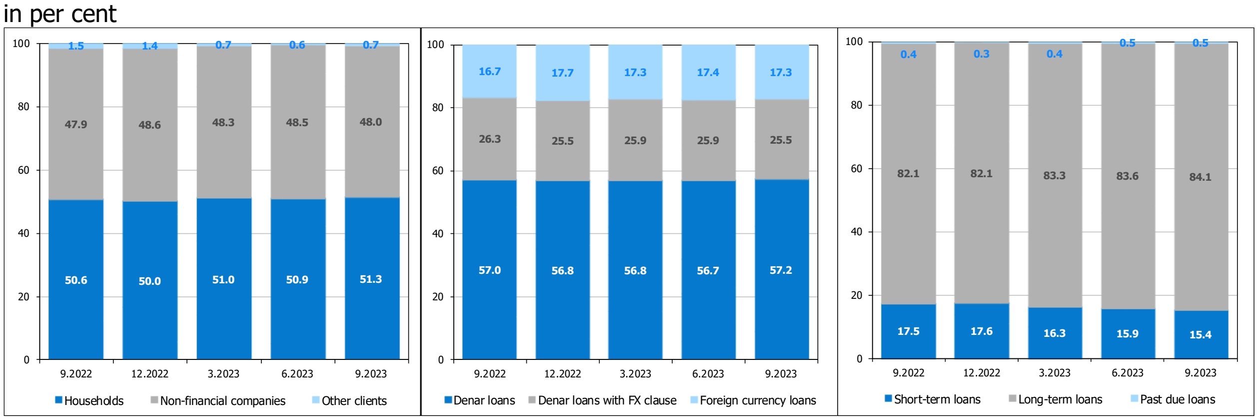
Source: National Bank based on data submitted by banks.

The currency structure of loans shows that the increase in the third quarter of 2023 compared to the previous quarter is registered only in denar loans. Compared to the second quarter of 2023, denar loans increased by Denar 3,285 million or by 1.3%[62], while loans with currency component decreased by Denar 1,186 million or by 0.6%[63]. Within total currency structure, denar loans account for 57.2%, which is by 0.5 percentage points higher compared to the previous quarter. Within loans with currency component, the share of loans with foreign currency clause is higher (25.5%) compared to foreign currency loans (17.3%).

[62] The quarterly growth of denar loans to non-financial sector is due to higher household loans by Denar 2,117 million or by 1.8% and corporate loans by Denar 1,069 million or by 0.9%, while loans to other clients increased by Denar 100 million or by 8.1%.

[63] The decline of loans with currency component to non-financial sector on a quarterly basis is due to reduced denar loans with FX clause by Denar 1,059 million or 1.0% as well as to the decline in foreign currency loans by Denar 127 million or by 0.2%. The decline in denar loans with FX clause is mainly due to reduced corporate loans (by Denar 1,711 million or 6.6%), with a partial contribution of the decline in loans to other clients (by Denar 48 million or 6.0%), while household loans grew (by Denar 700 million or 0.8%). The reduced foreign currency loans were registered amid decline in corporate loans (by Denar 752 million or 1.3%), with a mitigating effect of the increased household loans (by Denar 455 million or 3.0%), and the sharp growth of loans to other clients (by Denar 170 million or 26.9%).

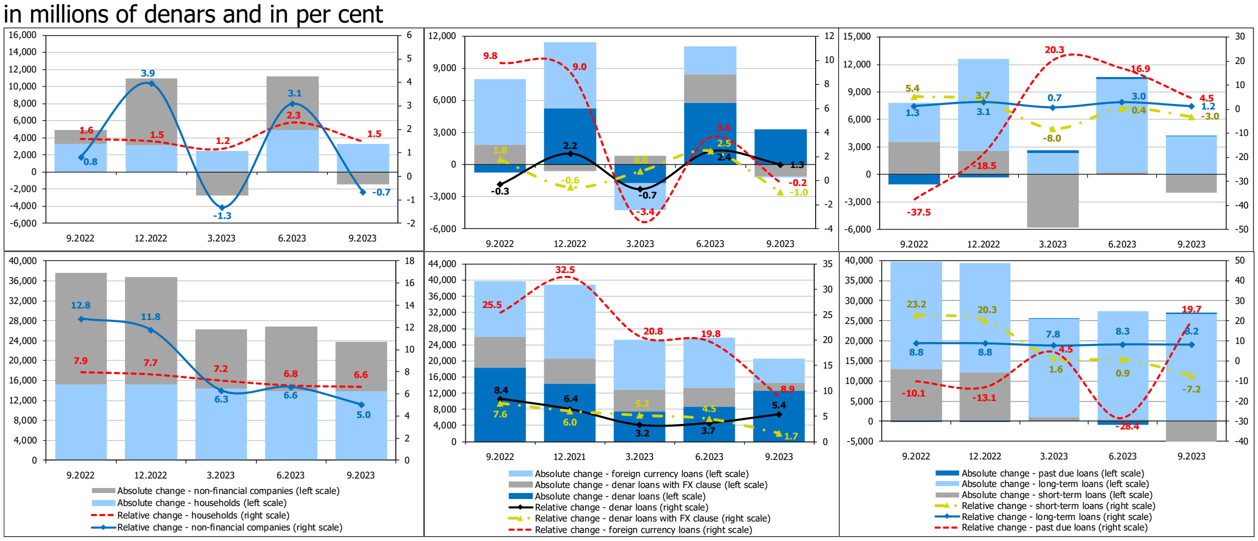
Chart 52
Structure of total loans, by sector (left) and currency (middle), and structure of regular loans, by maturity (right)
in per cent



Source: National Bank based on data submitted by banks.

The movements within maturity structure[64] are determined by long-term loans, the share of which in total loans increased to 84.1%.

Chart 53
Quarterly (top) and annual (bottom) growth of loans, by sector, currency and maturity
in millions of denars and in per cent



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

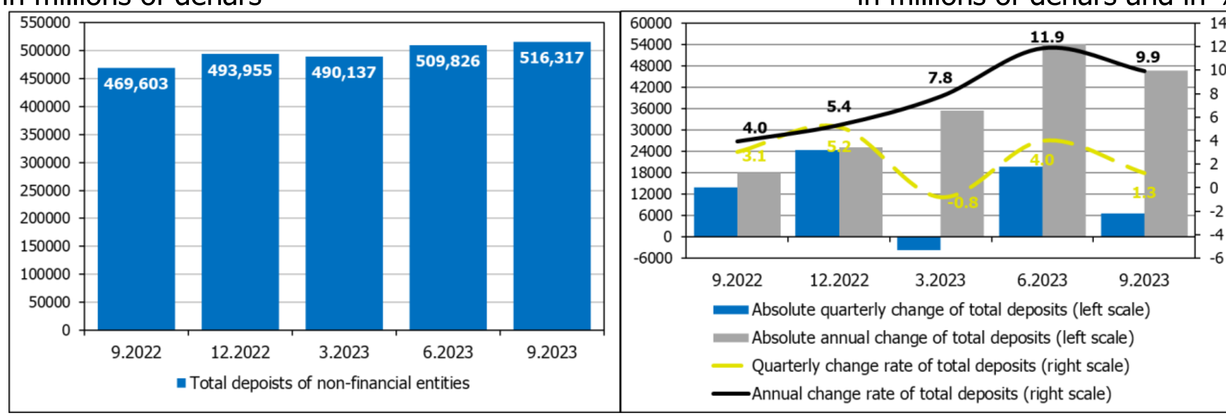
[64] The analysis of maturity structure excludes non-performing loans.

1.2. Deposits of non-financial entities

Deposits of non-financial entities further grew in the third quarter of 2023 (Denar 6,491 million or 1.3%)[65], but at a slower pace. On an annual basis, the growth of deposits to non-financial entities (Denar 46,714 million or 9.9%) is significantly higher compared to the annual growth as of 30.9.2022.

Observed by sector, the slower quarterly growth of deposits was mostly conditioned by non-financial corporations, which increased by Denar 5,699 million (or by 3.8%). At the same time, **household** deposits, with the highest share in banks' deposit base (65.9%), registered a slight quarterly decrease (by Denar 188 million or 0.1%). Annually, growth was registered in both household deposits (by Denar 22,506 million or 7.1%) and deposits of non-financial companies (by Denar 21,215 million or 15.7%).

Chart 54 Stock (left) and flow (right) of deposits of non-financial entities
in millions of denars in millions of denars and in %

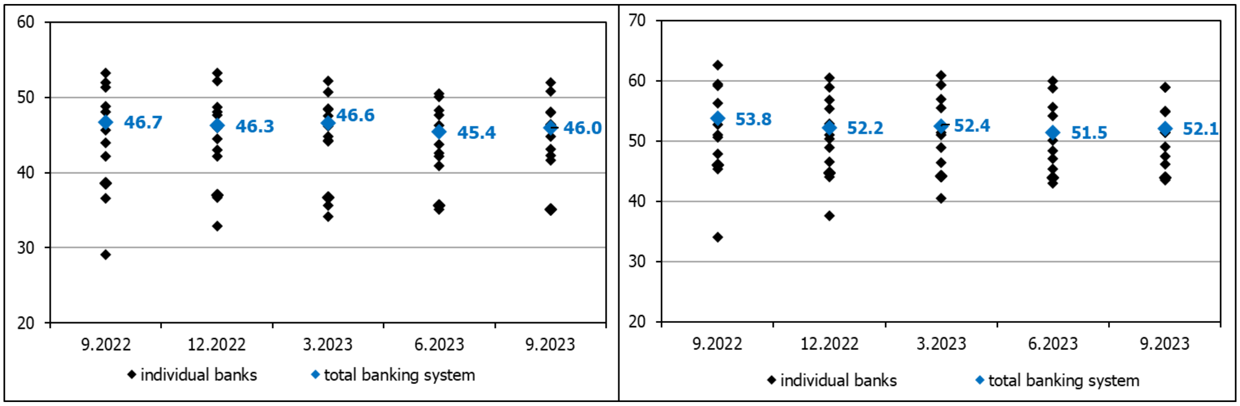


Source: National Bank, based on the data submitted by banks.

Analyzing currency, the growth of foreign deposits conditioned the quarterly increase in total deposits of non-financial entities. However, denar deposits grew faster annually compared to foreign currency deposits[66]. In the third quarter of 2023, foreign currency deposits registered a faster growth and increased by Denar 6,055 million or 2.6%[67], while denar deposits grew slightly by Denar 463 million, or 0.2%. The quarterly growth of foreign currency deposits mostly resulted from the increase in demand deposits of non-financial companies (Denar 3,849 million or 9.4%) and long-term household deposits Denar (Denar 2,830 million or by 5.9%). Such movements caused certain increase in the share of foreign currency in total deposits by 0.6 percentage points to the level of 46%, at the expense of denar deposits which reduced their share to 53.9%. At the same time, the share of foreign currency in total household deposits increased as well to the level of 52.1%. Annually, the growth of denar deposits (Denar 28,590 million or 11.5%) exceeds the increase in foreign deposits (Denar 18,016 million or 8.2%).

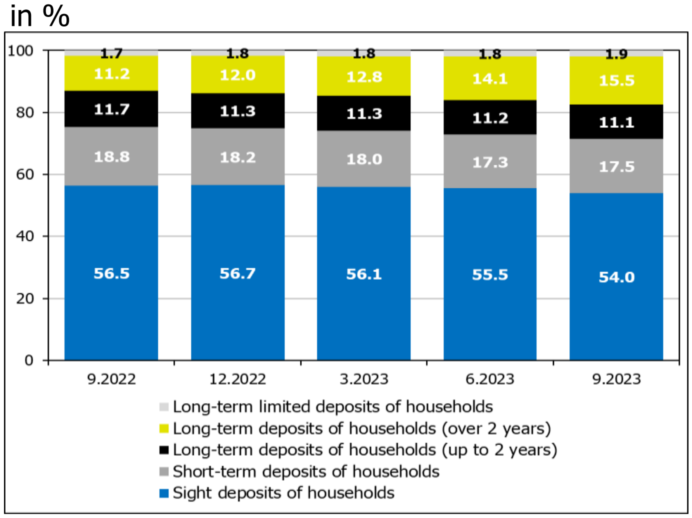
[65]Analyzed by bank, seven banks registered a quarterly increase in deposits (increase of Denar 8,531 million), while five banks registered a quarterly decrease (of Denar 2,040 million).
[66]The average growth of denar deposits in 2023 amounted to 1.7% and is twice as fast compared to 2022, as opposed to the average increase in foreign deposits in 2023 (1.3%), which is slower compared to 2022 (2.1%).
[67]In the second quarter of 2023, foreign currency deposits went up by Denar 3,078 million, or 1.3%.

Chart 55 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 56 Maturity structure of household deposits
in %

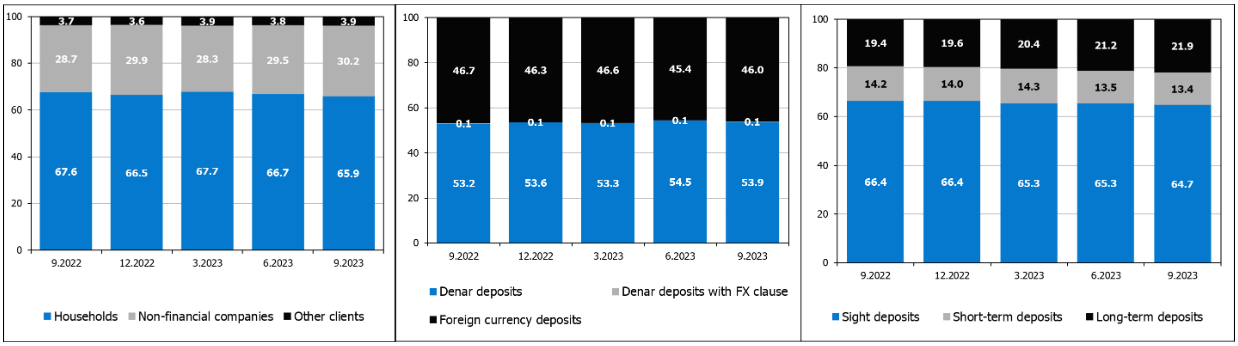


Source: National Bank, based on the data submitted by banks.

Analyzing maturity, long-term deposits made the largest contribution (78.5%) to the quarterly growth of total deposits, with a quarterly increase of Denar 5,098 million or 4.7%[68]. Albeit lower, growth was also registered in demand deposits (Denar 1,123 million or 0.3%), as well as in short-term deposits (Denar 269 million or 0.4%). Annually, long-term deposits registered the highest growth rate in the last decade (24.4% or Denar 22,175 million)[69], with a solid absolute annual growth in demand deposits (Denar 22,272 million or 7.1%), and moderate increase in short-term deposits (3.4% or Denar 2,267 million).

[68]The quarterly increase in long-term deposits as of 30.9.2023, arises from both foreign currency deposits (by Denar 2,900 million, or 5.5%) and denar deposits (by Denar 2,186 million, or 4.0%).
[69]Long-term household deposits increased by Denar 18,424 million or 23.5% (of which, 8,507 million account for denar, while 9,916 for foreign currency deposits), while long-term deposits of non-financial corporations grew by Denar 3,682 million or 34.9% (of which 2,810 million account for denar, while 826 million for foreign currency deposits).

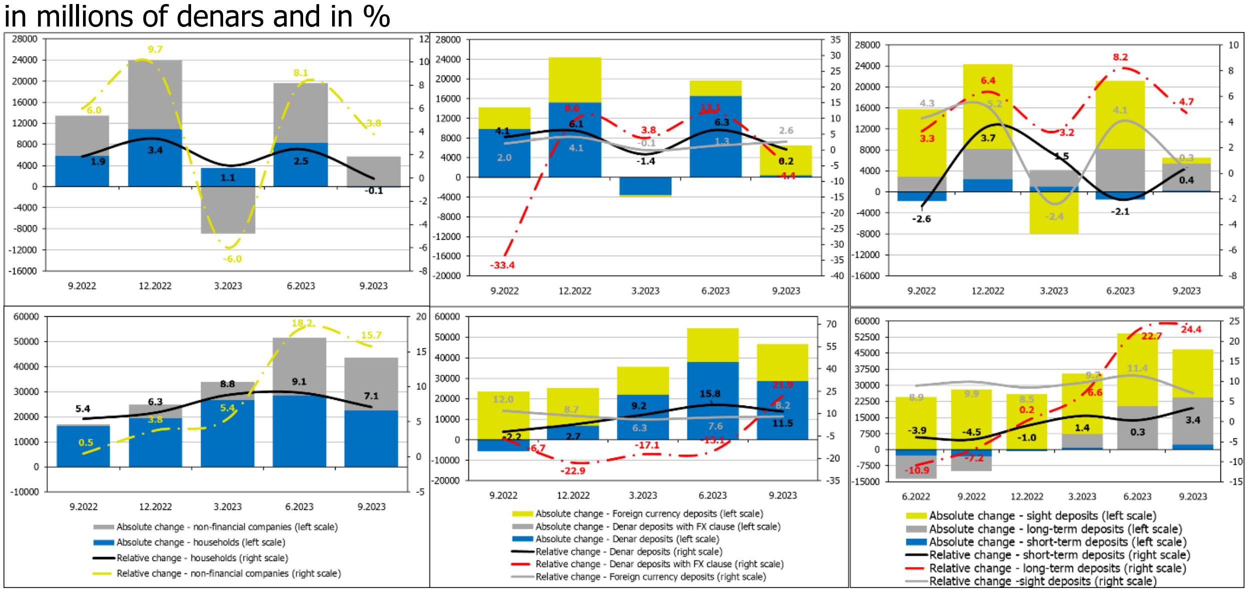
Chart 57 Structure of total deposits, by sector (left), currency (middle) and maturity (right)
in %



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

Such movements resulted in decrease of 0.6 percentage points in the share of demand deposits in total deposits to the level of 64.7%, while the share of long-term in total deposits increased by 0.7 percentage points, to 21.9%. Analyzing the maturity structure of household deposits in the third quarter of 2023, there was an increase in the structural share of long-term deposits (from 27.1% as of 30.6.2023, to 28.5% as of 30.9.2023). Although insignificant, increased share of 0.1 percentage point was registered in short-term deposits in this sector, while demand deposits registered a decline in their share of 1.5 percentage points, reducing to 54.0%.

Chart 58 Quarterly (up) and annual (down) deposit growth by sector (left), currency (middle) and maturity (right)
in millions of denars and in %

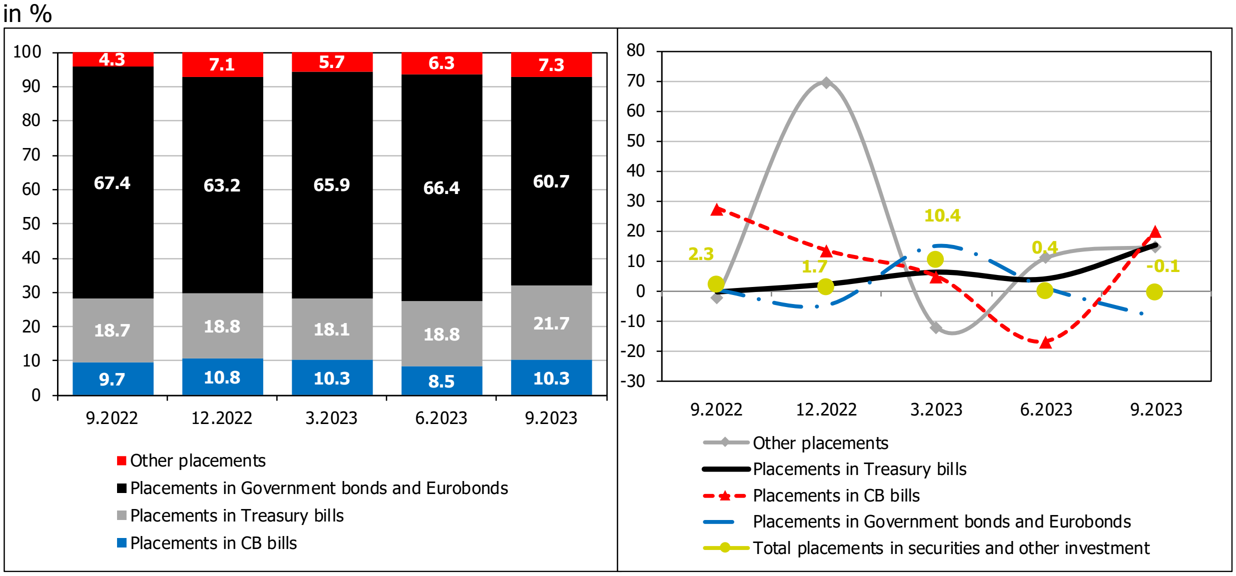


Source: National Bank, based on the data submitted by banks.

1.3. Other activities

Banks' placements in securities, subsidiaries and associates[70] slightly reduced on a quarterly basis, by Denar 125 million (or by 0.1%), slightly decreasing their share in total banks' assets to 13.7% (13.8% at the end of the previous quarter). The largest quarterly growth of 20% (Denar 1,652 million) was registered in investments in CB bills with the National Bank[71]. Placements in treasury bills[72] registered high quarterly growth rates of Denar 2,828 million or 15.6%, while banks' investments in government bonds declined by Denar 5,521 million or 8.6%. Other investments of banks in securities grew by Denar 916 million or 15%, mostly due to placements of three large banks in bills and bonds issued by foreign central banks and governments. Such developments increased the share of investment in treasury bills and CB bills in total banks' placements in securities to 32% as of 30.9.2023 (27.3% as of 30.6.2023) at the expense of the decrease in the share of investments in government bonds of 60.7% (66.4% as of 30.6.2023).

Chart 59 Structure (left) and quarterly rate (right) of investments in securities, subsidiaries and associates
in %



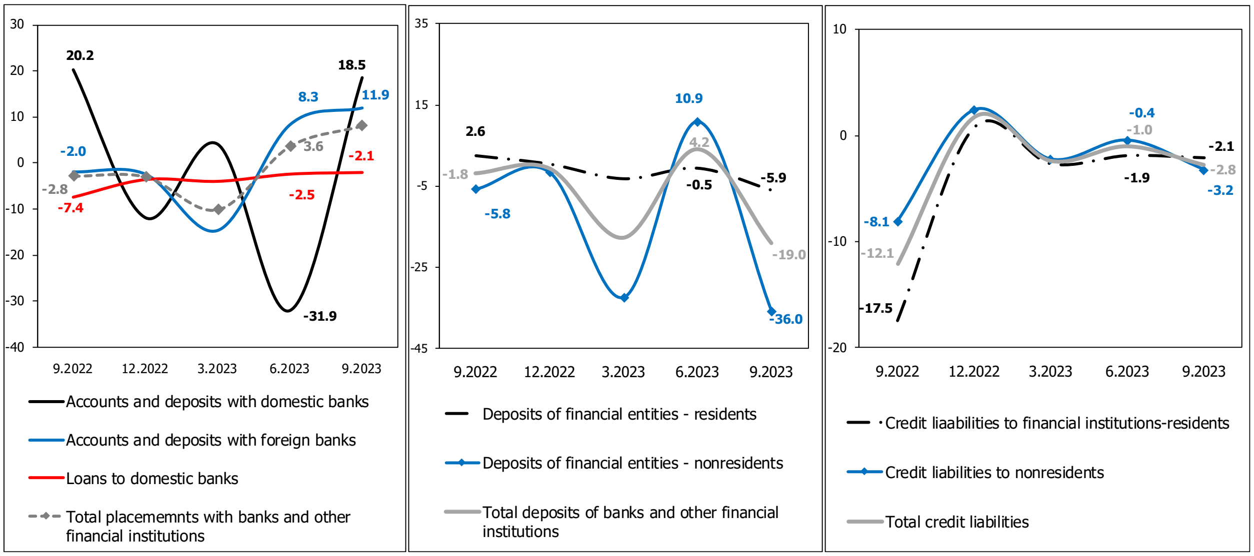
Source: National Bank, based on the data submitted by banks.

Placements with banks and other financial institutions account for 7.5% of the total assets of the banking system and in the third quarter of 2023 increased by Denar 3,942 million, or 8.1%. Such increase mainly resulted from deposits in foreign banks (which

[70] The analyses of these investments are based on their net book value.
[71]At the CB bills auctions, held in the third quarter of 2023, the offered amount of CB bills remained the same, i.e. Denar 10,000 million, while the demand increased and at the auction held in September reached the level of the amount offered. During the third quarter of 2023, the National Bank increased the interest rate on CB bills increased by a total of 0.30 percentage points to the level of 6.30%.
[72]During the third quarter of 2023, interest rates on one-year treasury bills, set by the Ministry of Finance registered an increase of 0.25 percentage points and at the beginning of the quarter remained at 4.25%. The interest rate on government bonds also grew and at the last issue held in the third quarter of 2023 it amounted to 6.15% for bonds without currency clause and 5.90% for bonds with currency clause.

increased by Denar 3,842 million or 11.9%)[73] with a lower growth (Denar 230 million or 18.5%) in accounts and deposits with domestic banks. On the other hand, loans to domestic banks decreased (by Denar 289 million, or by 2.1%[74]).

Chart 60 Quarterly growth rate of claims on financial institutions (left), loan liabilities (right) and deposits of financial institutions (middle)
in %

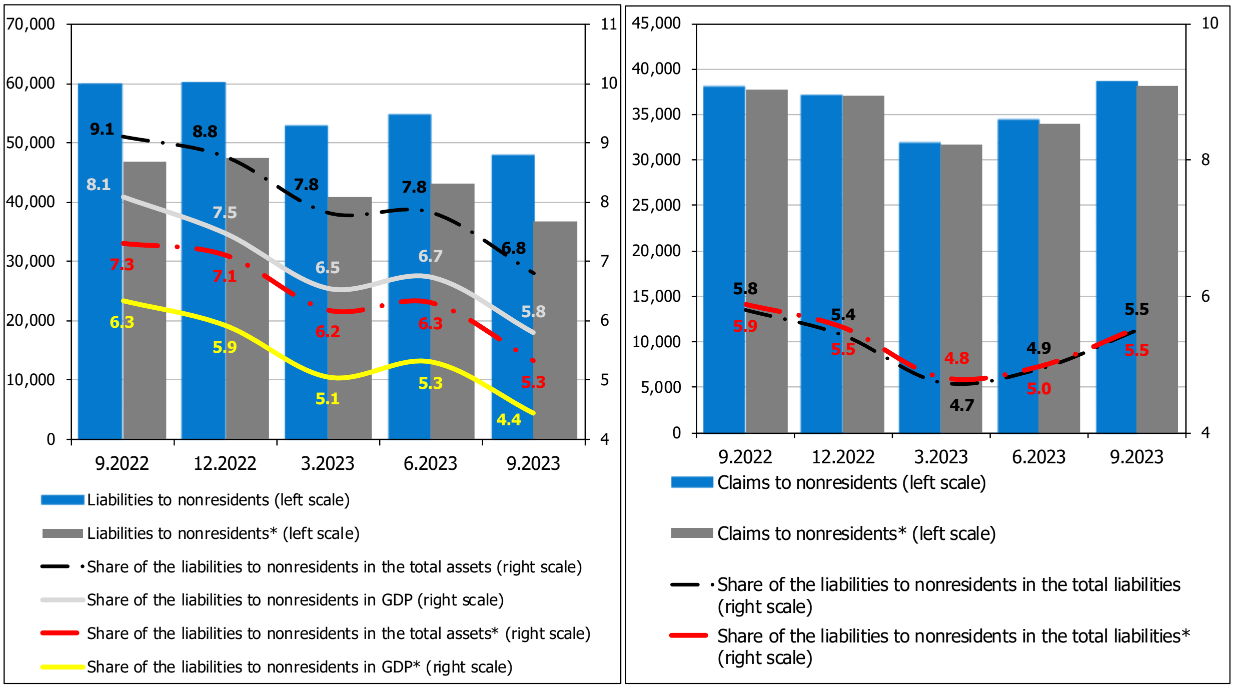


Source: National Bank, based on the data submitted by banks.

Liabilities based on loans and deposits of non-financial institutions accounted for 9.3% of the banking system liabilities and in the third quarter of 2023 reduced by Denar 7,778 million or 10.6%. This decrease mostly resulted from the decrease in deposits of banks and other institutions (by Denar 6,729 million or 19%), with a decline in loan-based liabilities as well (of Denar 1,049 million or 2.8%)[75]. The quarterly decline in deposits of bank and other financial institutions almost entirely resulted from the decline in short-term deposits of non-resident financial institutions (parent entities of two large banks). In addition to deposits of non-resident financial institutions, the third quarter of 2023 registered a significant decline in deposits of pension funds (Denar 1,700 million, or 23.2%), mostly long-term (Denar 1,209 million).

[73]This growth resulted from foreign currency time deposits abroad from one to three months with a quarterly growth of Denar 3,304 million and overnight foreign currency time deposits abroad with a quarterly growth of Denar 1,561 million.
[74] The quarterly decrease in loans to domestic banks almost entirely stems from the decrease in long-term loans to banks in foreign currency with maturity of over two years, with DBNM, while the increase in accounts and deposits with domestic banks is due to the increase in term deposits in foreign currency in domestic banks.
[75]Largest contribution to the decrease of loans to domestic banks was made by the decrease in foreign currency loan liabilities with maturity of over five-year with one large bank (by Denar 124 million) and with maturity of two to five years with other large bank (by Denar 70 million).

Chart 39 Liabilities to (left) and claims on (right) non-residents
in millions of denars and in %

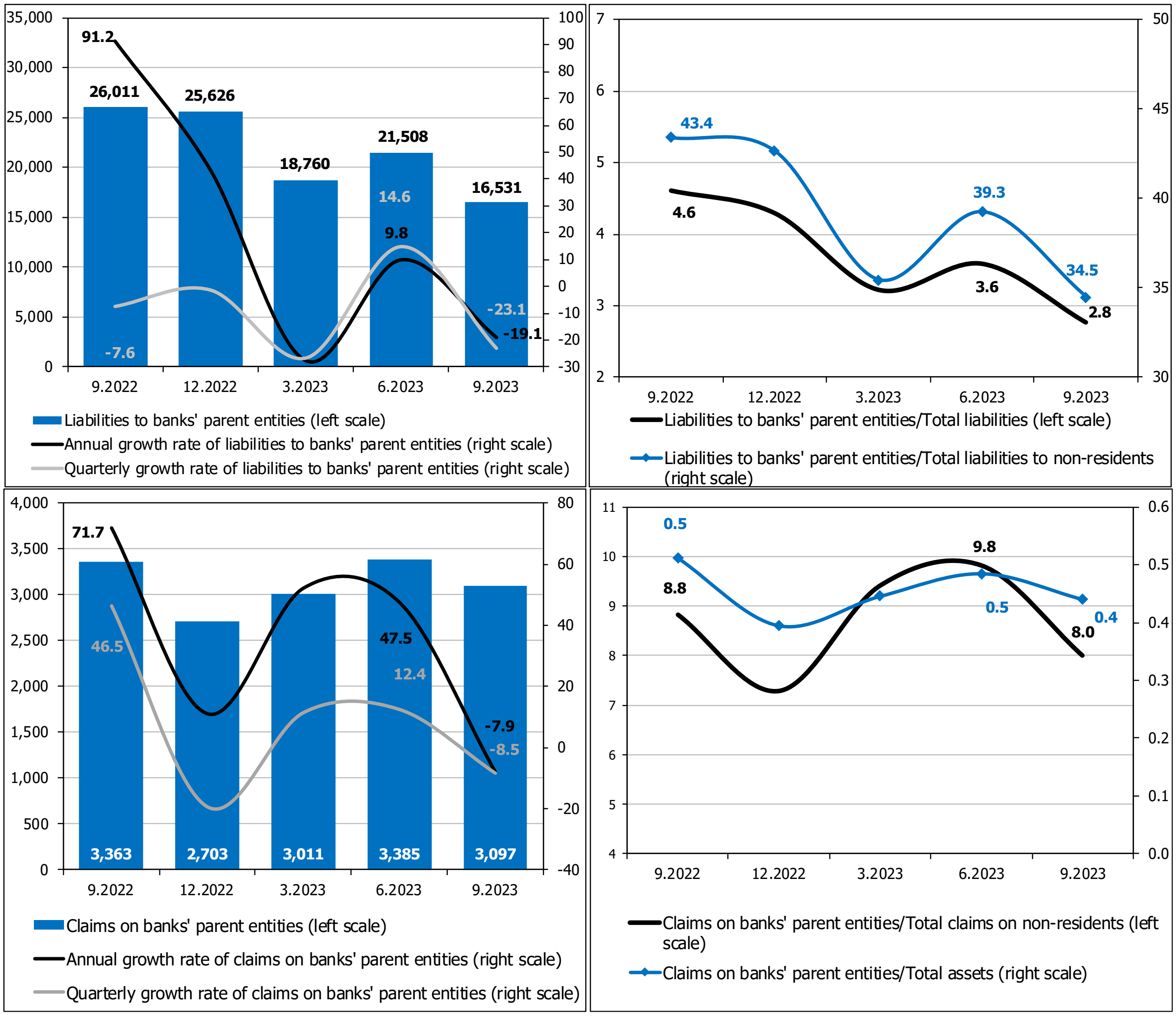


Source: National Bank, based on the data submitted by banks.
*Without the share of DBNM AD Skopje

The volume of banking system activities with non-residents is small. As usual, as of 30.9.2023, the banking system owes[76] more than it claims on non-residents, with decreased liabilities, while claims on non-residents increased. Domestic banks' liabilities to non-residents went down quarterly by Denar 6,856 million, or 12.5%, with a decline in their share in total banking system liabilities of 6.8%[77]. Such quarterly decrease almost entirely results from the aforementioned reduced liabilities on short-term foreign currency deposits of non-resident financial institutions. The quarterly growth of banks' claims on non-residents amounted to Denar 4,246 million, or 12.3%, largely due to increased foreign currency time deposits abroad from one to three months.

[76] As of 30.9.2023, seven of thirteen banks owe more than they claim on non-residents.
[77] If DBNM AD Skopje is excluded from the analysis, the share of liabilities to non-residents in total liabilities would be 5.3%.

Chart 62 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 represent a significant source of financing to domestic banks' activities. In the third quarter of 2023 they decreased by Denar 4,976 million (or 23.1%) largely due to the decrease in short-term deposits of the parent entity with two large banks. Consequently, the share of banks' liabilities to parent entities (including subordinated liabilities and hybrid capital instruments) in total liabilities of the domestic banking system, and in liabilities to non-residents decreased to 2.8% and 34.5%[78], respectively. Claims on parent entities also registered a quarterly decline of Denar 289 million or 8.5%, thus reducing

[78]As of 30.6.2023, these rates equaled 3.6% and 39.3%, respectively.

its share in total asset to 0.4% (0.5% as of 30.6.2023) and claims on non-residents to 8% (9.8% as of 30.6.2023).

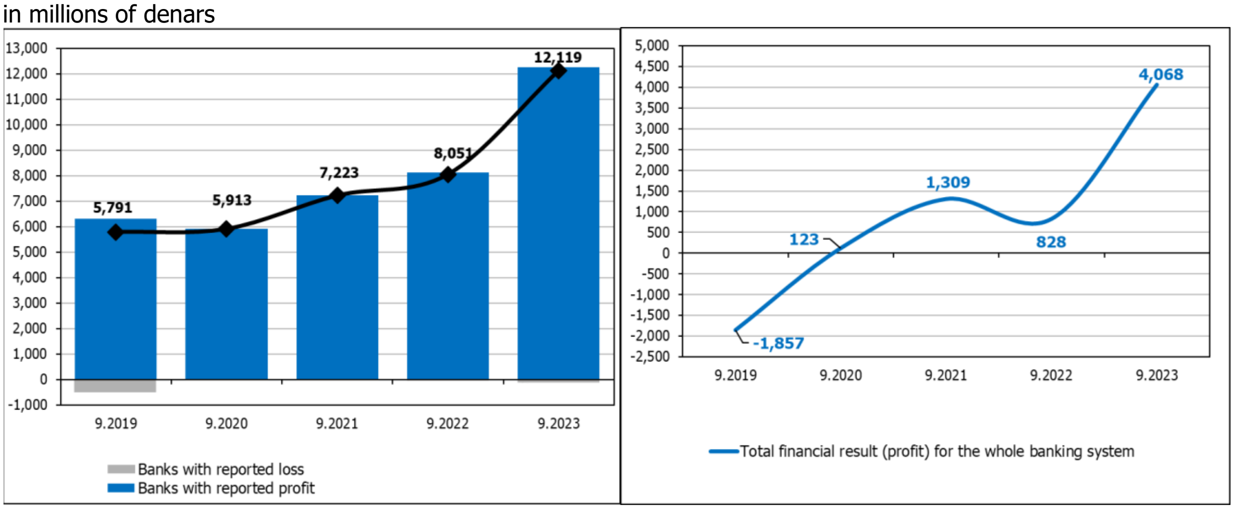
2. Profitability

In the first nine months of 2023, the domestic banking system reported an accelerated profit growth compared to the same period last year. The profit growth reflects higher net interest income, which mostly results from higher interest rate of return from banks' placements, and partly from increased interest-bearing assets. A slight contribution to the profit growth was made by higher net commission income. The expenditures grew on all grounds. The accelerated profit growth positively affected the basic operational profitability and efficiency ratios of the banking system. Both lending and deposit interest rates hiked in the first nine months of 2023.

2.1. Banking system profitability and efficiency ratios

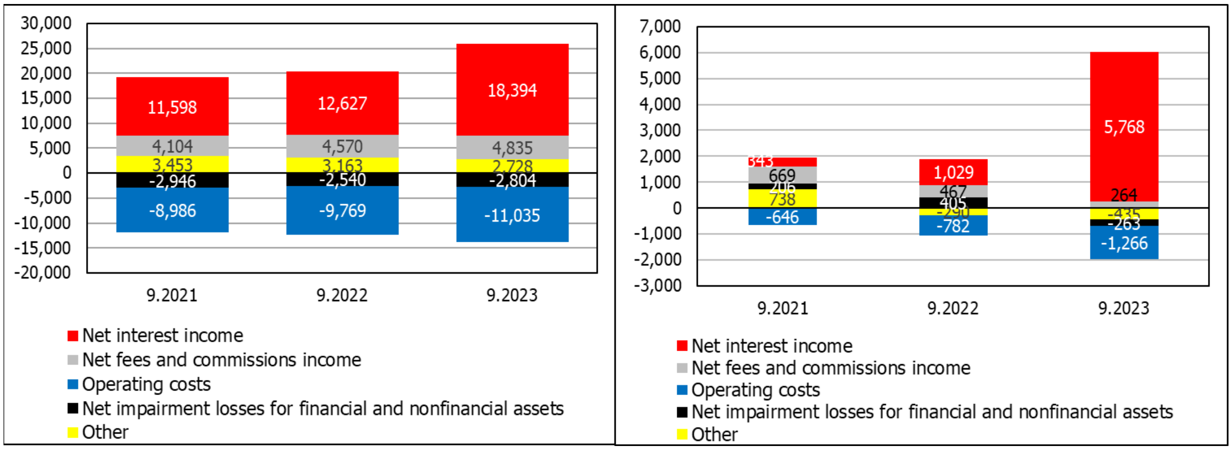
In the first nine months of 2023, the banking system generated profit of Denar 12,119 million, which is by Denar 4,068 million, or by 50.5% higher compared to the same period of the previous year. Higher net interest income was the main engine of the profit growth (net interest income increased by Denar 5,768 or 45.7%) with a positive, yet significantly lower contribution from net fee and commission income (the increase of which equals Denar 264 million or 5.8%). Negative contribution to the profit growth was made by other income, which compared to the same period of the previous year was lower by Denar 420 million or by 13.1%. At the same time, operating costs increased by Denar 1,266 million or by 13.0%, which means faster growth compared to the growth as of 30.9.2022 (increase of Denar 782 million or 8.7%). The net impairment cost increased by Denar 263 or 10.4%. Analyzed by bank, eleven banks reported positive financial operating result.

Chart 63 Total profit recognized by banks (left) and annual growth (right)
in millions of denars



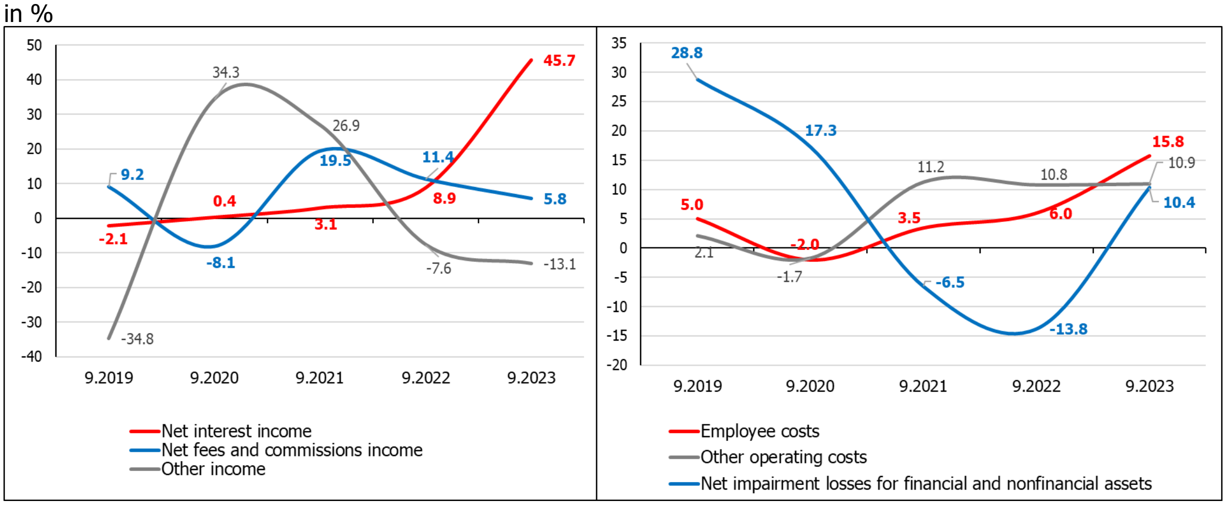
Source: National Bank, based on the data submitted by banks.

Chart 64 Contribution to the formation of profit (left) and to the profit growth (right) of banks
in millions of denars



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

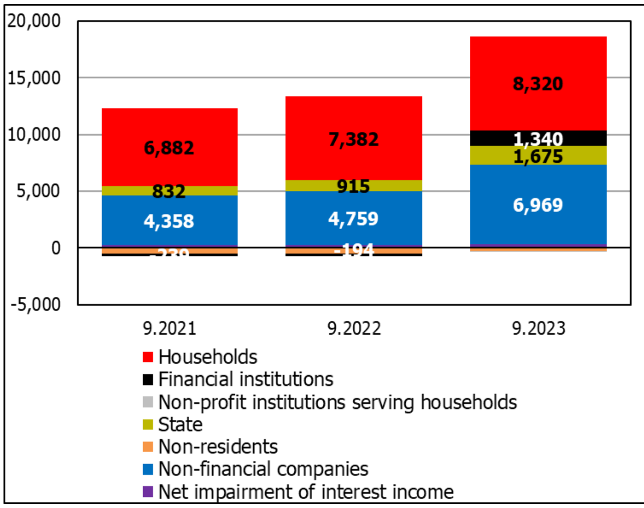
Chart 65 Annual growth rate of the main income (left) and expenditure items (right) of banks
in %

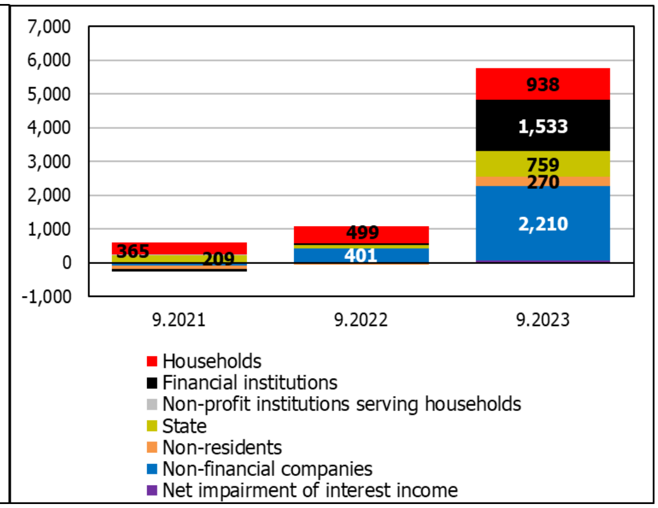


Source: National Bank, based on the data submitted by banks.

Higher net interest income of banks is based on higher interest income (by Denar 7,234 million or 48.8%), compared to the growth of interest expenses (by Denar 1,466 million or 66.9%). Therefore, net interest income recorded growth from almost all sectors, amid faster growth of interest income compared to the growth of interest expenses.

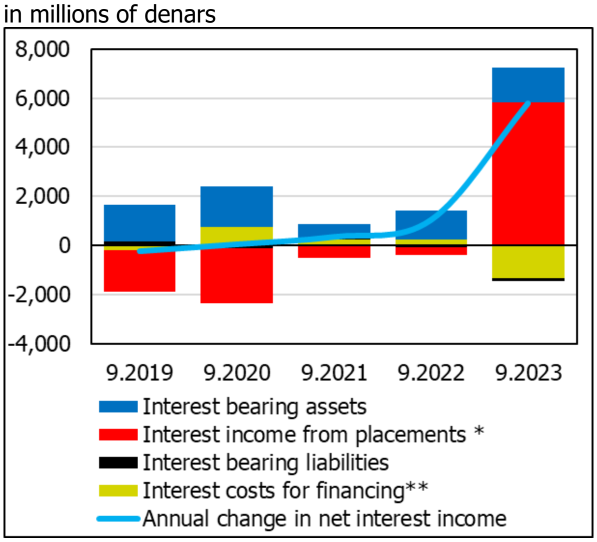
Chart 66
Net - interest income by sector, structure (left) and contribution to the growth (right)
in millions of denars





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

Chart 67
The structure of annual changes of net interest income, by generation source[79]
in millions of denars



*Contribution of the change of interest income from placements determined as interest income/ average interest-bearing assets to the change of net interest income.
** Contribution of the change of interest costs for financing determined as interest expenses/ average interest-bearing liabilities to the change of net interest income.
Source: National Bank, based on the data submitted by banks.

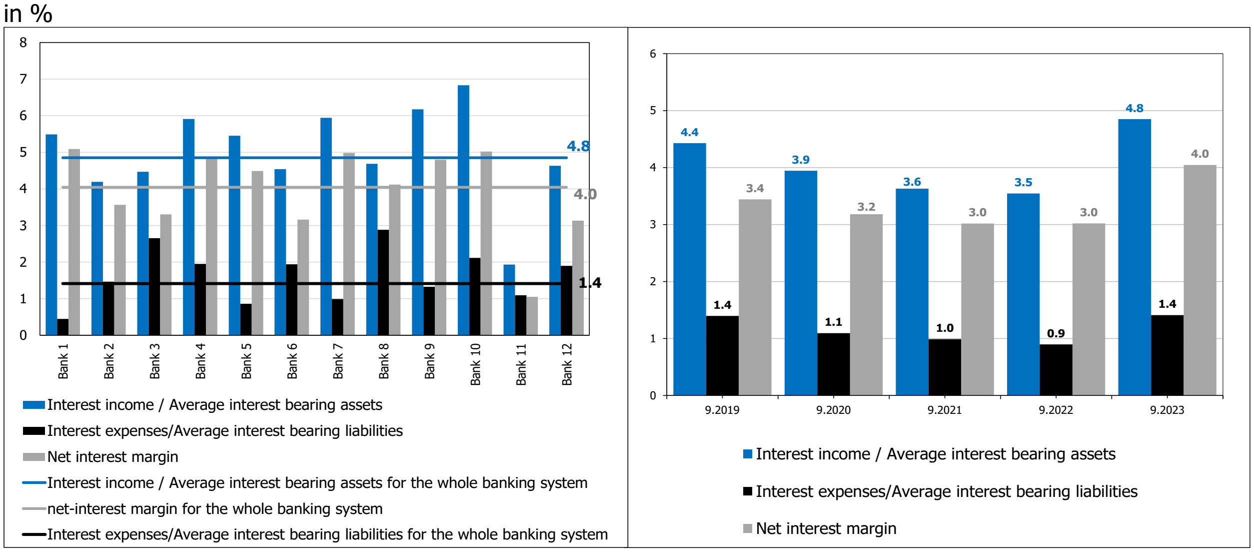
[79]The chart is created by estimating the contribution of change in each growth source of net interest income (change in interest income, change in interest expenses, change in interest-bearing assets and liabilities) in the annual changes of interest income i.e. expenses, assuming that other sources remain unchanged. With this calculation, a small part of the annual changes of net interest income results from the simultaneous mutual change in all of the aforementioned sources, which is proportionally distributed among each generating source of net interest income.

The high growth of net interest income in the past year was mostly due to higher interest income rates from banks' placements[80]. Certain contribution, but significantly lower, to the increase of net interest income was made by higher interest-bearing assets (placements) of banks. Higher interest expenses resulted from higher interest costs for financing[81] banks' activities as well as from increased interest-bearing liabilities (mainly deposits), which had an adverse effect on the annual change of net interest expenses, which was significantly lower compared to the positive contribution of interest income. Such movements indicate a drastic change in the net interest income dynamics and their components compared to the past years, when, amid negative contribution of interest returns from placements, net interest income grew moderately (in certain years they even decreased), mostly due to higher interest-bearing assets of banks and to a lesser extent to reduced interest costs for financing. In the past one-year period, the share of interest-bearing assets in net interest income remained similar to the previous years, but the importance of interest income from placements which makes the largest contribution to the high annual growth of net interest expenses significantly grew. Banks continue to maintain interest-bearing assets high, mostly through the presence of non-interest-bearing liabilities which registered the record high in the previous years (payment accounts and demand deposits of clients), although the last year registered changes in the scope and trend of interest-bearing liabilities due to the growth of time deposits, amid increased interest rates, and converting certain non-interest-bearing liabilities into interest-bearing (some banks started paying interest on demand deposits).

Chart 408

Net interest margin as of 30.9.2023, 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.

The net interest margin grew (by 1 percentage point) reaching a level of 4%. The widening of the net interest margin results from the growth of net interest income (45.7%) amid slight increase in average interest-bearing assets (8.8%). Observing the clients' sectors,

[80]Interest income from placements: Interest income/average interest-bearing assets.

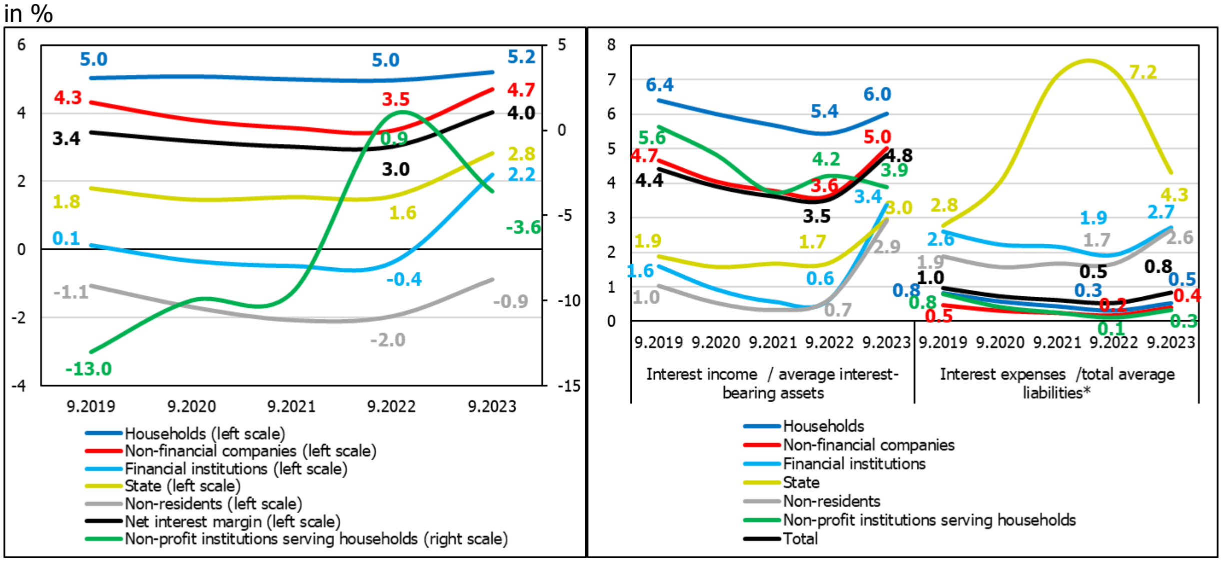
[81]Interest expenses for financing: Interest expenses/average interest-bearing liabilities.

in the past one-year period (as of 30.9.2022-30.9.2023), net interest margin registered the sharpest increase in banks activities with non-financial corporations, financial institutions and government, while the growth of activities with households was minimal. Positive contribution to net interest margin was made by activities with non-residents, out of which banks still earn negative net interest margin. Most of the interest-bearing assets are placed in a form of household loans and non-financial corporations (35.4% and 32.2% of total interest-bearing assets, respectively), from which banks earn the highest net interest margins (5.2% and 4.7%, respectively), i.e. the highest interest income from placements (6% and 4.7%, respectively). Most of the activities originate from these two sectors (57.8% and 26.5% of total liabilities, respectively), therefore banks generate interest expenses at rates of 0.5% and 0.4%, respectively.

Chart 69

Net interest margin (left), share of interest income in average interest-bearing assets (right) and share of interest expenses in total average liabilities*(right), by sector of banks' clients

in %



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

*In addition to interest-bearing liabilities, total average liabilities also include non-interest bearing liabilities. No data is available on interest-bearing liabilities by banks' client sector.

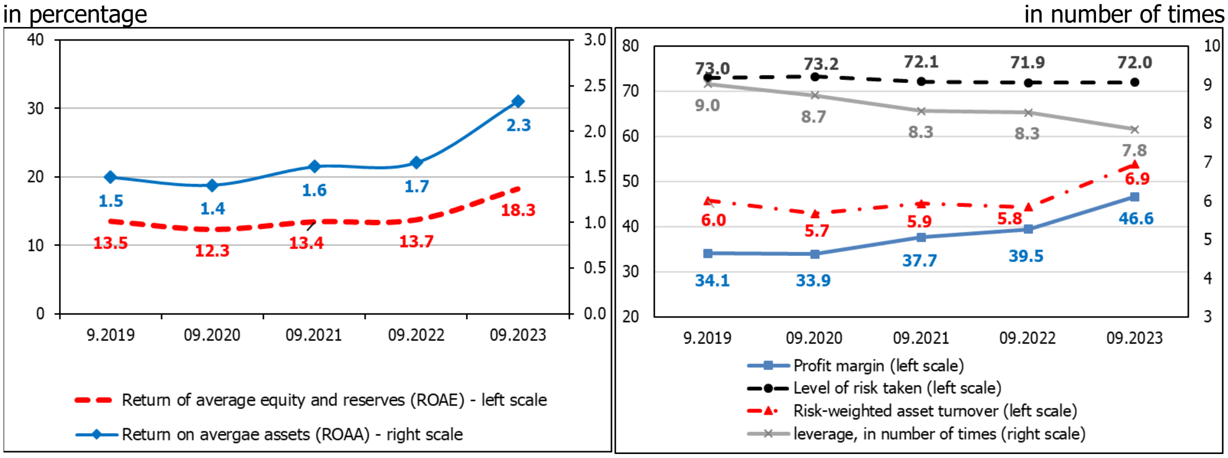
The accelerated profit growth in the first nine months of 2023 improved the main profitability ratios[82] of the banking system. Compared to the same period last year, the return on average equity and the return on average assets increased by 4.5 and 0.7 percentage points, respectively. Analyzing the components of these rates[83], their growth is mostly due to increased profit margin, with a certain impact of the higher risk-weighted assets turnover and slightly higher level of risk taken (analysis of the first nine months of 2023 compared to the

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

[83] According to the DuPont analysis approach, the rate of return of average assets can be shown this way: POAA = $PM * RWAturnover * RBAratio$, where: Pm=profit margin (profit/ total income), RWAturnover=risk weighted assets turnover (total income/average risk weighted asset), RBAratio=risk-based average ratio (average risk-weighted assets/average asset), while the rate of return of the average capital and reserves can be shown this way: POAE = POAA $* L$, whereby L=leverage (average asset / average capital and reserves).

same period last year). On the other hand, certain negative contribution to the growth of return on average equity and reserves was made by the reduced level of the banking system leverage in the first nine months of 2023.

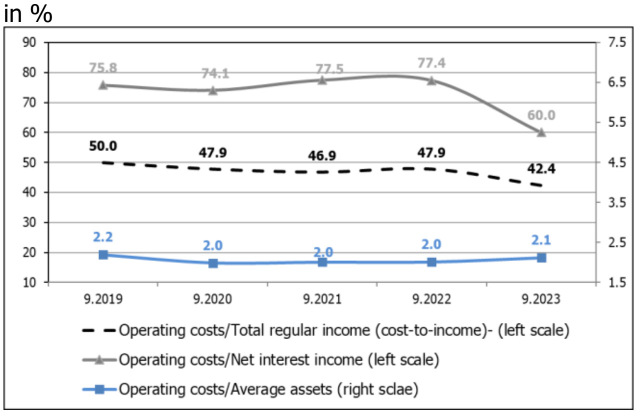
Chart 70
ROAA and ROAE (left) and their components (right)
in percentage in number of times



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

The indicators of banking system operating efficiency registered divergent movements. The operating costs to interest income ratio, as well as operating costs to total regular income ratio significantly improved, by 17.4 and 5.5 percentage points, respectively, due to the faster growth of net interest income (45.7%) and total regular income (27.5%)[84] compared to the increase in operating costs (13.0%)[85]. The operating costs to average assets ratio slightly increased by 0.1 percentage point.

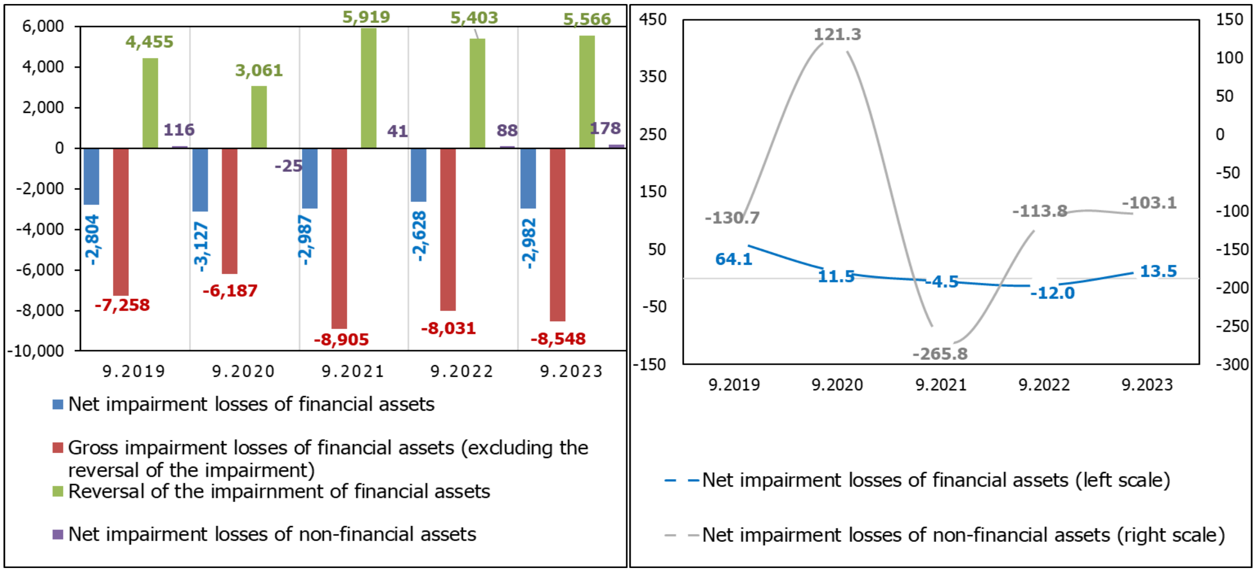
Chart 71
Operational efficiency ratios
in %



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

[84]The increase in total regular income was determined by the increase in net interest income (by Denar 5,768 million, or 45.7%) and net fee and commission income (by Denar 246 million, or 5.8%).
[85] In the nine months of 2023, the operating costs increased by Denar 1,266 million (or by 13.0%), primarily employee expenses (by Denar 647 million or by 15.8%) and general and administrative costs (by Denar 422 million or 11.4%).

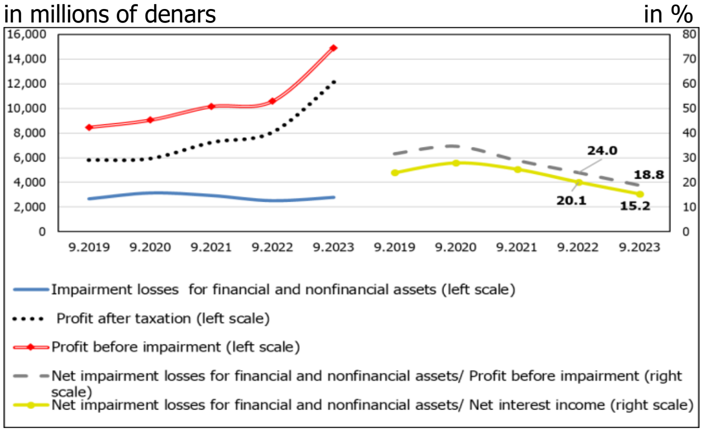
Chart 72
Impairment cost for financial and non-financial assets, stock (left) and annual flow (right)
in millions of denars and in %



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

In the first nine months of 2023, impairment costs of financial assets (net) increased by Denar 354 million or 13.5%, while the same costs to non-financial assets had a status of income item (since in the first nine months of 2023, banks released more impairment costs of non-financial assets than they created), which grew by Denar 91 million. The increase in impairment costs of financial assets was mostly due to the growth of gross impairment costs of loans and placements (by Denar 417 million or 5.9%). The decrease in net impairment of non-financial assets on one hand results from the lower gross costs of these assets (by Denar 50 million) and on the other hand from larger release of impairment of non-financial assets (by Denar 41 million).

Chart 73
Impairment costs to gain and to net interest income ratios
in millions of denars in %

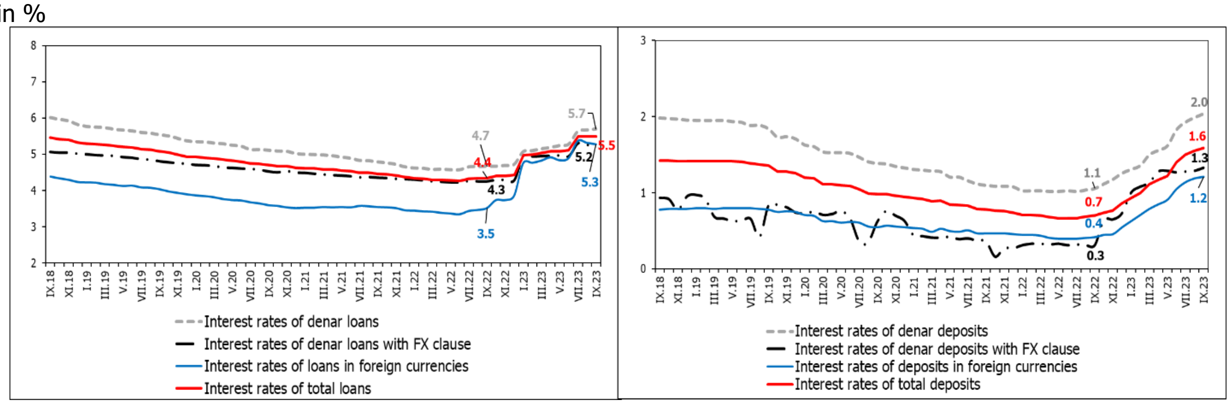


Source: National Bank, based on the data submitted by banks.

2.2. Movements in interest rates and interest rate spread

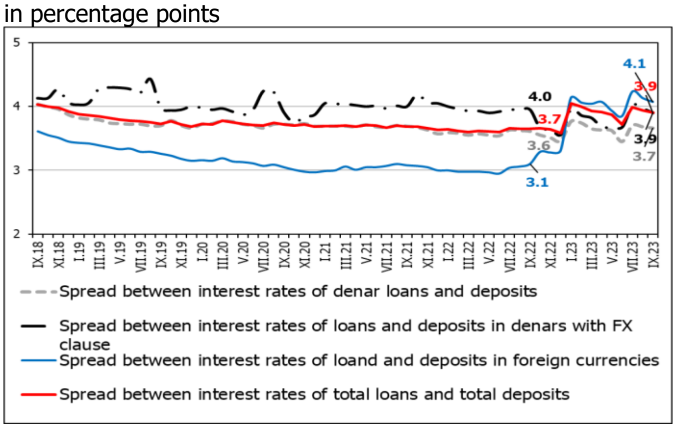
At the end of the third quarter of 2023, total interest rate on loans and deposits amounted to 5.49% and 1.59% respectively, which is an increase of 1.14 and 0.89 percentage points compared to the end of the first nine months last year when they equaled 4.35% and 0.70%, respectively. The interest rate spread widened, due to the faster growth in lending interest rates, relative to the growth in deposit interest rates. The spread between the total loan interest rate and the total deposit interest rate in September 2023 equaled 3.90 percentage points, compared to 3.65 percentage points at the end of the third quarter of 2022.

Chart 74 Lending (left) and deposit interest rates (right)
in %



Source: National Bank

Chart 75 Interest spread
in percentage points



Source: National Bank.

Interest rates on newly agreed activities of banks (loan and deposits) also grew. Thus, the interest rate on newly granted loans (denar and foreign currency) in September 2023 amounted to 5.49%, compared to 4.09% in September 2022, which is an increase of 1.40 percentage points. The total interest rate on newly accepted deposits (denar and foreign currency) also grew by 1.08 percentage points, while in September 2023 it equaled 2.15% (1.07% in September 2022). Hence, the faster growth of interest rate on newly granted loans compared to newly accepted deposits has widened the interest rate spread by 0.32 percentage points, thus at the end of September it amounted to 3.34% (3.02% September 2022).