**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 2021*

April 2022

## Contents

# I. Summary

In 2021, the banking system still operates in a pandemic environment. In the second half of the year, the risks related to the disturbance in the global supply chains, the increased prices of energy products and mainly, the increased inflation rate, became more pronounced. In such conditions, the banking system remained stable, registering intensified credit growth of 8.5%, supported by deposit growth of 8.8%. The credit growth, mostly in denars, was almost equally channeled to enterprises and households. The contribution of the deposits at very short run remains dominant in the total deposit growth, while for the second consecutive year, foreign currency deposits recorded the highest absolute growth. In 2021, the process of the acquisition of one bank by another was completed, which resulted in a decrease in the number of banks and enlargement of the banking system.

The National Bank applied a relaxed monetary policy in 2021 and in the first quarter of the year further reduced the key interest rate by 0.25 pp to the historically lowest level of 1.25%. In order to improve stability, security and capacity of the banking system in order to provide further credit support to the economy, in February 2021, the National Bank Council decided to temporary limit the distribution and payment of dividends to shareholders. At the beginning of August, this decision was revoked, after a detailed analysis of the current circumstances, developments and perceptions of the banking system and the environment in which it operates, taking into account the results of stress tests on the banking system's resilience to presumed shocks.

**The solvency of the banking system improved.** As of 31.12.2021, the capital adequacy ratio equaled 17.3%, which is by 0.6 pp higher compared to the end of 2020. The growth of own funds, primarily as a result of the reinvested earnings, the issue of new shares and subordinated instruments, contributed the most to the increase in the capital adequacy ratio. Over 90% of the own funds account for the Common Equity Tier I capital, which represents the highest-quality segment of the banks' regulatory capital. Analyzed by use, more than half of own funds go to capital allowances determined according to the supervisory assessment of the capital buffers or are "free", over the minimum level, which is particularly important amid downward change of the economic cycle in conditions of crisis, when these layers of own funds could be used to meet different challenges. The stress testing of the resilience of the banking system and individual banks to simulated shocks shows improved resilience in 2021, compared to 2020.

**In 2021, in conditions of further growth of the liquid assets of the Macedonian banking system, the liquidity indicators remained stable and on satisfactory level.** New Decision on the methodology for liquidity risk management has been applied since the beginning of 2021, which introduced a requirement for the banks to maintain minimum level of so-called liquidity coverage ratio. This regulation is a significant step towards harmonization of the domestic regulation with the international standard Basel 3, including the adequate European regulations in relation to the minimum liquidity requirements. Specifically, this Basel liquidity standard measures the banks' liquidity resilience, i.e. the ability of banks to service liabilities that fall due within the next 30 days, amid assumed stress. As of 31.12.2021, the liquidity coverage ratio of the banking system was 292.2% (the regulatory minimum of this ratio is 100%), whereby the so called high-quality liquidity assets of the banking system is almost three times higher compared to the amount of net cash outflows, registered under stressful conditions for a period of 30 days. The share of the liquid assets in the total assets, the short-term liabilities and household deposits

remained stable and at satisfactory level of 32.4%, 52.3% and 65.5%, respectively. The results of the regular simulations of individual and combined liquidity shocks confirm the satisfactory volume of liquid assets, which allowed banks to smoothly carry out their business activities. They confirm the appropriate liquidity risk management by banks and the satisfactory resilience to the assumed extreme liquidity outflows.

**In 2021, non-performing and regular restructured loans to non-financial entities increased, but the materialization of credit risk is within control.** Despite the annual growth of non-performing loans to non-financial entities, by 4.5%, their share in total loans decreased by 0.2 pp, to the level of 3.2%. From a sectoral point of view, the annual growth of non-performing loans was concentrated in household loans, which increased by 33.8%, while non-performing corporate loans decreased by 5%. Non-performing to total loan ratio decreased to the historically lowest level of 4.5% in the corporate loan portfolio, while in the loan portfolio composed of households it deteriorated by 0.4 pp and reached 2% as of 31.12.2021. Regular restructured loans registered accelerated growth in the first half of the year, which largely resulted from restructured loans due to deteriorating financial condition of customers as a result of the corona crisis. These loans are closely monitored, but so far do not represent a significant risk factor because of their insignificant amount. The share of the regular restructured loans in total regular loans of the non-financial entities increased by 1.1 pp, reaching 2% on 31.12.2021.

**In 2021, the domestic banking system reported higher operating profit (by 26.2%), compared to the last year.** The largest contribution to the profit growth accounts for the uncollected previously written-off claims, followed by the net income growth and net interest income, as well as reduced impairment expenses. The rates of return on average assets and average equity improved, compared to the first half of 2020 and reached levels of 1.5% and 12.9%, respectively. The operational efficiency indicators registered various movements, given increase in the operating costs of 7.7% compared to the preceding year.

**The banking system's exposure to currency risk and interest rate risk in the** banking book equal 2.1% and 10% of own funds, respectively, which remains acceptable and far below the prescribed limits.

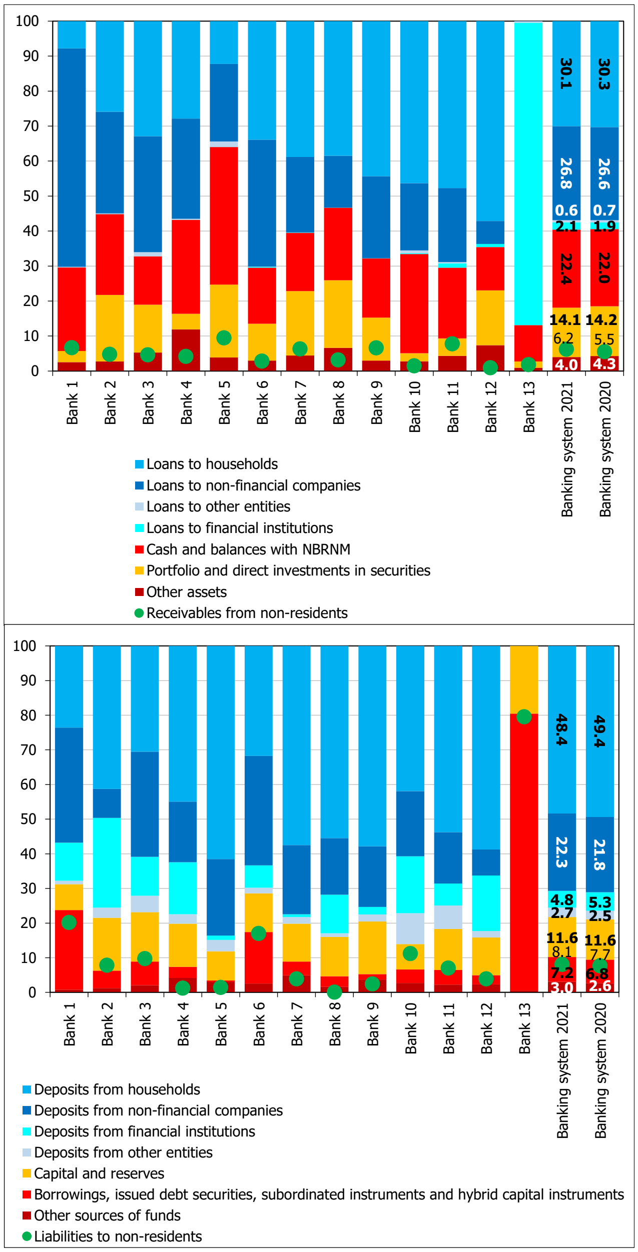
At the beginning of 2022, with the beginning of the conflict between Russia and Ukraine, the geopolitical risks to which the Macedonian economy is exposed intensified. The negative, primarily indirect, effects on North Macedonia coming from the materialization of these risks are relatively uncertain and are not yet fully known. Hence, the environment in which the domestic banking system operates is even more complex, given the risks associated with the further course of the health crisis, which still exist, but also with the disruptions in the global supply and production chains, as well as the current energy crisis. Thus, the growth dynamics of the economic activity and the activities of the banking system in the coming period will be largely conditioned by the intensity of mentioned risk factors and the success in dealing with the negative effects of each of them. The National Bank expects the banks to remain cautious in undertaking and managing risks and in maintaining their capital position. The National Bank, as always, is closely monitoring all developments and is ready to take all necessary measures that are within its competence whenever necessary.

# II. Structure of the banking system

# 1. Structure of the banking system

## 1.1 Main features of the business models of banks

Chart 1
Structure of the assets (up) and liabilities (down) of banks and the banking system, as of 31.12.2021
in %



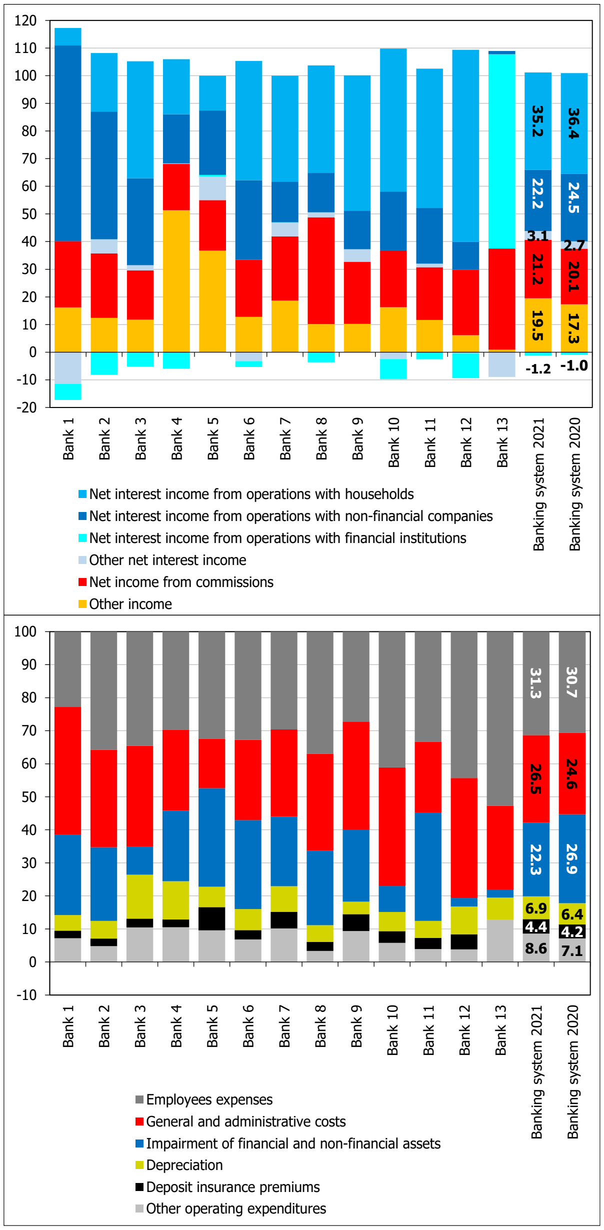

Source: National Bank, based on data submitted by banks.
The order of banks is random.

**The traditional business model of the Macedonian banks, collecting deposits and approving loans, registered no changes in 2021.** Household deposits, as the most important source of funding for banks, still have the largest portion in the total liabilities of the banking system, with a share of 48.4% (which is by 1.0 pp less compared to 31.12.2020). Analyzed by individual bank, household deposits have the highest share in the total sources of funds with ten banks. In two banks, the shares of deposits of both households and non-financial corporations are similar, while the liabilities of one bank are predominated by the credit lines from the international financial institutions, which it places to end users through the other banks in the country.

In the assets, loans of the non-financial sector prevail (with a share of 57.5%), within which the share of household loans is higher (30.1%), compared to the loans of non-financial corporations (26.8%)[1]. Analyzed by individual bank, three banks are more oriented towards lending to non-financial companies, and six banks lend more to the households. In three banks, the share of the lending to the two sectors is almost the same, and in one bank, loans to domestic banks prevail.

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

Chart 2
Structure of total income (top) and total expenditures (bottom) of banks and the banking system, in 2021
in %




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

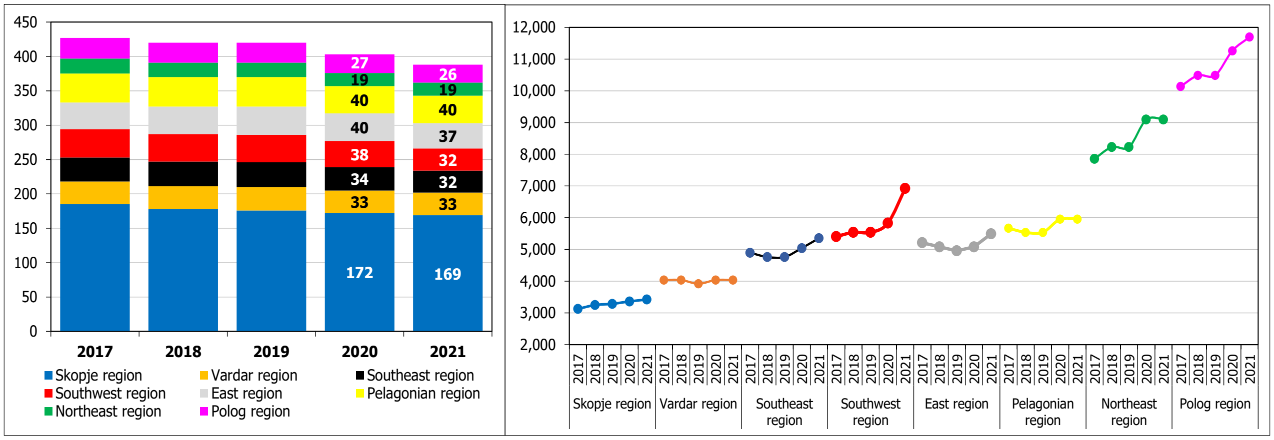
**The structure of total banks' income corresponds to the traditional business model.** Thus, net interest income, with a share of 59.3% is the most important in the structure of total income, although their share decreased by 3.3 pp compared to 2020. Net fee and commission income and other increase their share of total revenue. About one third (or 35.2%) of the total income originates from the net interest income based on working with households, while the share of net interest income from working with enterprises is 22.2%. In most banks (in ten banks), the net interest income from the non-financial entities is the basic income from the activity, while in two banks the other incomes have a larger share in the total income. In one bank, given its different business model, the net interest income from financial institutions prevails in the total income.

Staff costs (with a share of 31.3%), general and administrative costs (26.5%) and impairment of financial and non-financial assets (22.3%) dominate in the **expenditures at the level of the banking system.**

## 1.2 Number of banks and access to banking services

**As of 31.12.2021, fifteen depository institutions operate in the Republic of North Macedonia, i.e. thirteen banks and two savings houses[2]. Compared to the preceding year, the number of banks reduced by one[3], while the number of savings houses remained the same.**

Chart 3
Bank network (left) and number of inhabitants per business unit (right), by region in the Republic of North Macedonia

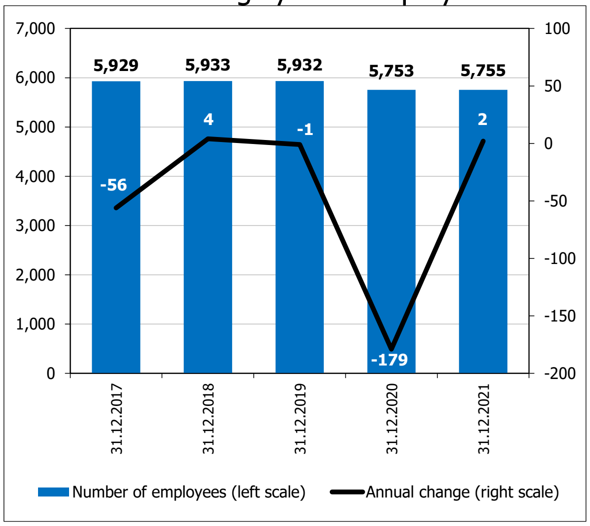



Source: The National Bank, based on data submitted by banks, State Statistical Office of the Republic of North Macedonia according to official data of the 2002 census.

**The banking network is spread across almost all cities in the country and consists of 388 business units[4]**. The total number of business units decreased by 15 compared to the previous year, mainly due to the status change of the merger of one bank with another. Nearly half (or 43.6%) of the total number of business units are concentrated in the Skopje Region, where the **access to banking services**, measured by the

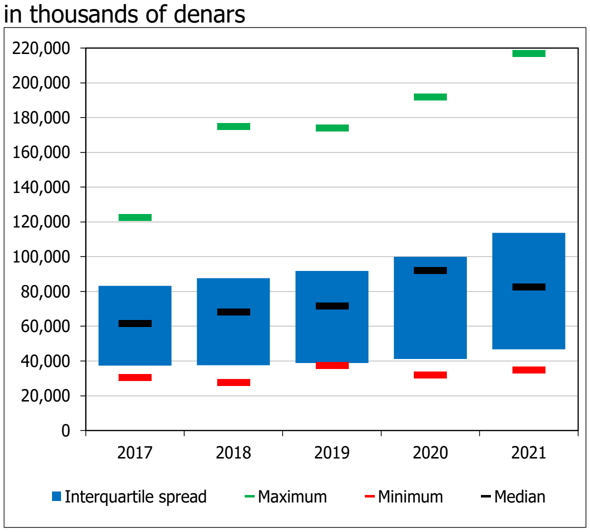
[2] The share of savings houses in total assets of depository financial institutions (banks and savings banks) is 0.3%, in total loans to non-financial entities 0.5% and 0.3% of total household deposits. Given the insignificant share of savings houses in the total banking system, they are subject to analysis only in the Reports on the Financial Stability of the Republic of North Macedonia.
[3] With the Decision of the Governor of the National Bank of 21 May 2021, a permit for status change was issued - accession of "Ohridska Banka" AD Skopje to "Sparkasse Bank" Makedonija AD Skopje. The registration of the change in the Central Register of the Republic of North Macedonia was conducted on 16 July 2021.
[4] The number of business units includes the banks' windows and branches of the banks, including the headquarters of the banks.

Chart 4
Number of banking system employees




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

Chart 5
Assets per employee*
in thousands of denars




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

number of inhabitants per business unit, is the easiest.

### 1.3 Employment in the banking system

**In 2021, the number of bank employees equals 5,755 and is almost unchanged (increased by 2 persons) compared to the previous year.** Qualification structure of employees in the banking sector registers an improvement. The share of employees with at least university education increase, reaching 85.3% of the total number of employees in the banking system, which is an annual growth of 1.4 pp.

**Banking system productivity has been improving.** The improvement can be perceived through the larger amount of assets per employee, which with moderate growth of assets during 2021, mainly results from the almost unchanged number of employees. The differences in productivity remained significant (from Denar 34.8 million to Denar 216.8 million assets per employee). By bank, in 2021 the productivity improved with most of the banks.

## 1.4 Ownership structure and concentration of the banking system

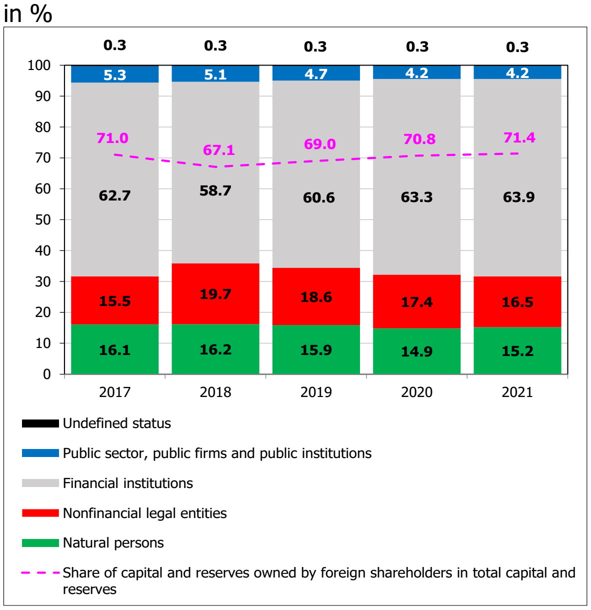
**As of 31.12.2021, due to the aforementioned status change[5], the number of banks which are owned by foreign shareholders and the number of branch offices of foreign banks reduced by one bank (and equaled nine and five, respectively).**

Table 1
Structure of the number of banks and major balance sheet positions, by banks' majority ownership (as of 31.12.2021)
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** | **55,879** | **75.7%** | **454,405** | **71.1%** | **314,675** | **82.0%** | **325,303** | **69.4%** | **19,415** | **73.6%** | **6,416** | **70.1%** |
| *- subsidiaries of foreign banks* | *5* | *49,037* | *66.5%* | *379,898* | *59.5%* | *262,173* | *68.3%* | *277,265* | *59.1%* | *16,619* | *63.0%* | *6,008* | *65.7%* |
| - Austria | 1 | 8,233 | 11.2% | 73,580 | 11.5% | 54,979 | 14.3% | 47,800 | 10.2% | 2,720 | 10.3% | 640 | 7.0% |
| - Bulgaria | 1 | 1,242 | 1.7% | 11,448 | 1.8% | 7,370 | 1.9% | 7,803 | 1.7% | 396 | 1.5% | 28 | 0.3% |
| - Greece | 1 | 17,326 | 23.5% | 114,103 | 17.9% | 79,828 | 20.8% | 88,265 | 18.8% | 5,714 | 21.6% | 2,466 | 27.0% |
| - Slovenia | 1 | 11,851 | 16.1% | 107,943 | 16.9% | 70,135 | 18.3% | 85,615 | 18.3% | 5,175 | 19.6% | 2,219 | 24.3% |
| - Turkey | 1 | 10,386 | 14.1% | 72,825 | 11.4% | 49,861 | 13.0% | 47,782 | 10.2% | 2,612 | 9.9% | 655 | 7.2% |
| *- other banks in dominant foreign ownership* | *4* | *6,842* | *9.3%* | *74,506* | *11.7%* | *52,502* | *13.7%* | *48,038* | *10.2%* | *2,797* | *10.6%* | *408* | *4.5%* |
| - Bulgaria | 2 | 3,321 | 4.5% | 27,154 | 4.3% | 18,785 | 4.9% | 19,732 | 4.2% | 1,377 | 5.2% | 221 | 2.4% |
| - Germany | 1 | 2,945 | 4.0% | 39,455 | 6.2% | 28,387 | 7.4% | 22,804 | 4.9% | 1,066 | 4.0% | 97 | 1.1% |
| - Switzerland | 1 | 576 | 0.8% | 7,896 | 1.2% | 5,330 | 1.4% | 5,501 | 1.2% | 354 | 1.3% | 91 | 1.0% |
| **Banks in dominant ownership of domestic shareholders** | **4** | **17,900** | **24.3%** | **184,261** | **28.9%** | **68,952** | **18.0%** | **143,542** | **30.6%** | **6,981** | **26.4%** | **2,734** | **29.9%** |
| *- private ownership* | *3* | *15,064* | *20.4%* | *169,763* | *26.6%* | *68,887* | *18.0%* | *143,542* | *30.6%* | *6,863* | *26.0%* | *2,694* | *29.4%* |
| *- state ownership* | *1* | *2,836* | *3.8%* | *14,498* | *2.3%* | *64* | *0.0%* | *0* | *0.0%* | *118* | *0.4%* | *40* | *0.4%* |
| **Total:** | **13** | **73,779** | **100.0%** | **638,666** | **100.0%** | **383,627** | **100.0%** | **468,844** | **100.0%** | **26,397** | **100.0%** | **9,150** | **100.0%** |

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

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

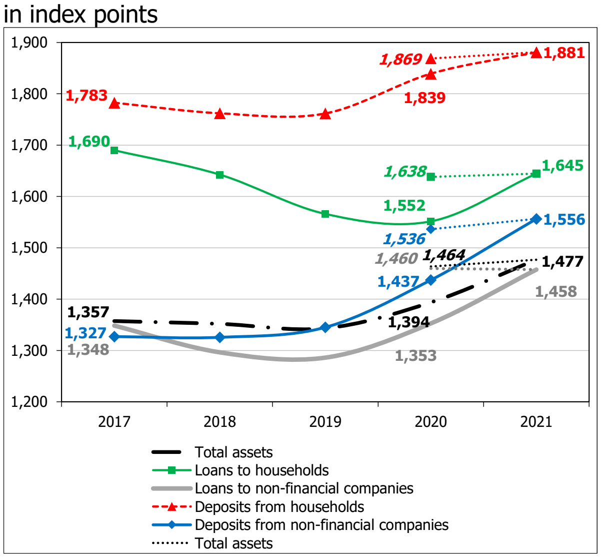



Source: National Bank, based on data submitted by banks.

**In 2021, the banks with mainly foreign ownership remained dominant in most of the activity categories**, mostly pronounced in loans to non-financial entities (82.0%) and equity and reserves (75.7%). The changes compared to the previous year are minimal.

[5] With the Decision of the Governor of the National Bank of 21 May 2021, a permit for status change was issued - accession of "Ohridska Banka" AD Skopje to "Sparkasse Bank Macedonia" AD Skopje.

Chart 7
Herfindahl index
in index points




Source: National Bank, based on data submitted by banks.
* The chart also shows the values of the index as of 31.12.2020 (with dashed lines), which includes the effects of the merger of the two banks (data on both banks as of 31.12.2020 are taken on a cumulative basis, i.e. both banks are considered as a single institution).

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

| Position | 31.12.2020 | | | 31.12.2021 | |
|---|---|---|---|---|---|
| | CR3 | CR5 | CR5** | CR3 | CR5 |
| Total assets | 57.3 | 76.5 | 81.0 | 58.0 | 81.0 |
| Loans to households | 59.6 | 77.9 | 82.9 | 61.2 | 83.1 |
| Loans to non-financial companies | 49.6 | 76.5 | 78.7 | 50.3 | 78.8 |
| Deposits from households | 71.0 | 82.3 | 85.5 | 71.0 | 85.8 |
| Deposits from non-financial companies | 54.2 | 79.4 | 83.9 | 54.8 | 84.0 |
| Financial result* | 77.2 | 90.0 | 90.0 | 76.4 | 90.5 |
| Total revenues* | 62.9 | 78.6 | 83.1 | 61.9 | 82.1 |

Source: National Bank, based on data submitted by banks.
*Total income and financial result refer to 2021.
** The indicator in this column is calculated by including the effect of the merger of the two banks (data for both banks on 31.12.2020 are taken on a aggregate basis, i.e. both banks are considered as a single institution).

**The ownership structure of domestic banks, the financial institutions dominate, making almost two thirds,** whose share in the capital and reserves of the banking system in 2021 increased by 0.6 pp. As opposed to this, the share of the non-financial legal entities fell by 0.9 pp

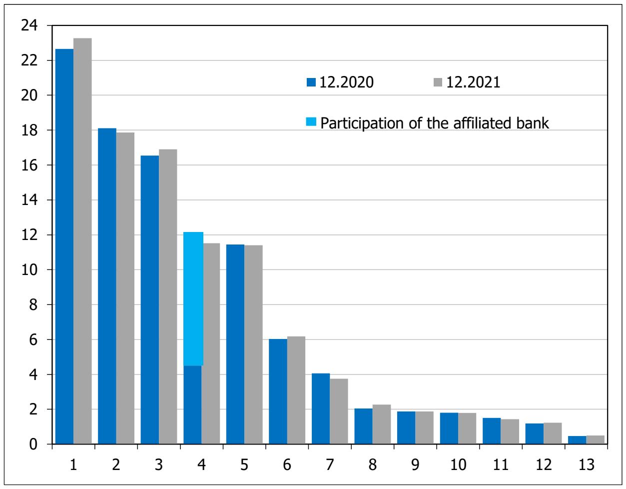
In 2021, the share of the foreign shareholders in the total equity and reserves increased by 0.6 pp. Shareholders from the European Union prevail (56%). By the country of origin, the largest share in the total capital and reserves accounts for Greece (21.7%), Slovenia (14.3%), Turkey (14.0) and Austria (10.7%).

**During 2021, there is an increase in the concentration of banking activities, mainly due to the mentioned status change - merger of two banks.** All values of the Herfindahl index[6] increased compared to the previous years. By certain categories of activities, the increase is most pronounced in the deposits of non-financial corporations, by 119 index points, loans to non-financial corporations, by 105 index points and in loans to households, by 93 index points. However, the value of the Herfindahl index for individual categories of activities **are withing the acceptable levels**.**[7].** The exception is the index calculated for household deposits, which shows a moderately higher level of concentration.

The higher concentration in the banking system is also perceived through the increased participation of the three, and especially of the five largest banks in the banking system in the separate categories of activities.

[6] 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.
[7] When the index ranges from 1,000 to 1,800 points, the concentration ratio is considered to be acceptable.

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




Source: National Bank, based on data submitted by banks.
* As of 31.12.2020, both banks that were later integrated into one institution are presented within one pillar, where the separate market share of those two banks can be seen.

**The difference between individual banks by the asset volume is substantial**. The ratio between the bank with the highest and the bank with the lowest share in the total assets of the system (23.3% and 0.5%, respectively), in 2021 expanded by 0.6 pp. Moreover, five banks have individual market shares lower than 2% (6.8% together). Three banks registered evident increase in the market share, which is especially evident with one bank after its status change (increase in the share of 7.0 pp).

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

| Indicators on banking system risk exposures | Last 10 years (1.1.2012 - 31.12.2021)* | | | | | Last 5 years (1.1.2017 - 31.12.2021)** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 31.12.2020 | 31.3.2021 | 30.6.2021 | 30.9.2021 | 31.12.2021 | 31.12.2020 | 31.3.2021 | 30.6.2021 | 30.9.2021 | 31.12.2021 |
| **Insolvency risk** | | | | | | | | | | |
| Capital and reserves / assets | | | | | | | | | | |
| Capital adequacy ratio | | | | | | | | | | |
| Tier 1 ratio | | | | | | | | | | |
| Net-NPLs (non-financial sector) / regulatory capita | | | | | | | | | | |
| **Credit risk** | | | | | | | | | | |
| Default rate of credit exposure to non-financial sector | | | | | | | | | | |
| Restructured and prolonged loans to non-financial companies and households / loans to households and non-financial companies | | | | | | | | | | |
| Non-performing loans / total / total loans (non-financial sector) | | | | | | | | | | |
| NPL coverage ratio | | | | | | | | | | |
| Impairment losses (balance-sheet) / total credit exposure | | | | | | | | | | |
| Impairment losses (income statement) / total loans to non-financial sector | | | | | | | | | | |
| **Liquidity risk** | | | | | | | | | | |
| Liquid assets / total assets | | | | | | | | | | |
| Liquid assets / short-term liabilities | | | | | | | | | | |
| Loans / deposits | | | | | | | | | | |
| Liaquid assets / household deposits | | | | | | | | | | |
| **Market risks and indirect credit risk** | | | | | | | | | | |
| Open FX position / regulatory capital | | | | | | | | | | |
| Net weighted position / regulatory capital | | | | | | | | | | |
| Loans with currency component / total loans | | | | | | | | | | |
| Loans with variable and adjustable interest rates / total loans | | | | | | | | | | |
| **Profitability** | | | | | | | | | | |
| ROAA | | | | | | | | | | |
| Net-interest income / average assets | | | | | | | | | | |
| Operating expenses / total income | | | | | | | | | | |
| Impairment losses (income statement) / net-interest income | | | | | | | | | | |

**Legend (percentile ranks):**

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

* The affiliation to the percentile range is determined on the basis of quarterly data set for the indicators in the last 10 years (from 31.12.2011 to 31.12.2021).
**The affiliation to the percentile range is determined on the basis of quarterly data set for the indicators in the last 5 years (from 31.12.2016 to 31.12.2021).

At the cut-off date of this report, insolvency risk indicators are predominantly in the "green zone". Namely, the solvency of the banking system is at relatively high historic level during most of 2021. Thus, usually, during the second and third quarter of the year, when banks reinvest the last year's profit, the solvency indicators reach higher levels, while in the last quarter, in absence of more significant sources of increase of capital positions, amid usually more intensive activities by banks in this period of the year, these indicators decrease. In addition, in the second half of the year, certain banks used some of the retained earnings available to distribute dividends to shareholders, thus slowing capital and reserve growth, and their share of total assets entering the "orange zone" at the end of 2021.

Almost all liquidity risk indicators are in the "green zone". In the first three quarters of 2021, there was a slight decrease in some of the liquidity indicators, but after the solid growth of liquid assets in the last quarter of the year, almost all indicators ended the year at a historically high level. The exception is the indicator of the share of liquid assets in short-term liabilities, which is at a lower historical level, given the consistently high growth of demand deposits in the past period. However, this indicator is also at a satisfactory level, ranging between 50% and 55%.

Credit risk exposure indicators were held at a relatively low historical level and ended the year in "green" or "yellow zone". The deterioration of credit risk indicators was realized in the first two to three quarters of 2021 (after the end of the easing of credit conditions approved due to the pandemic), but the intensity of their increase was moderate, and in the last quarter of the year many of these indicators registered improvement.

The profitability of the banking system in 2021 is solid and most indicators in this segment are higher compared to last year. However, analyzed in a historical context, the profitability indicators are slightly lower, with some of them being almost twice lower, compared to the historical maximum reached in certain quarters of 2018.

Almost all indicators of market risks and indirect credit risk are in the "green zone", which indicates a relatively low historical level of these indicators. The exception is the indicator of the exposure of the banking system to interest rate risk, which is in almost constant growth, but its level is still satisfactory and within a controlled range. Indicators of indirect credit risk exposure improved in 2021, but traditionally the exposure to indirect credit risk has always been relatively high.

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

The banking system stability heat map includes five components: insolvency risk, credit risk, liquidity risk, market risks and profitability. For each component, a sum of the normalized values of selected indicators is calculated, by using the method of a so-called empirical normalization on quarterly data set covering the last ten (1.1.2012 - 31.12.2021) and the last five years (1.1.2017 - 31.12.2021). Afterwards, taking into account the calculated aggregate values for each component, its affiliation to appropriate percentile range has been determined (seven percentile ranges are introduced), for each date. Each percentile rank has its own color, and the spectrum of colors varies from green (that, in historical sense, corresponds to lower levels of risk) to red (that, in historical sense, corresponds to higher levels of risk). The preparation of the presented "heat" maps takes into account 22 indicators, arranged by component.

# III. Bank risks

## 1. Credit risk

**In 2021, besides the uncertainty related to the COVID-19 pandemic, the quality of the banks' credit portfolio was maintained. The rates of non-performing loans reduced to the historical bottom of 3.2%, which is lower compared to the pre-pandemic period. The improvement of the non-performing loans rate was supported by the intensified activities of the banks for collection of "bad" loans and the accelerated credit growth, in conditions when during the year there was a certain materialization of the credit risk. This was expected to some extent given the prolonged duration of the pandemic that caused the deterioration of creditworthiness of certain clients (primarily from the activities that were most affected by the corona crisis), especially with the expiration of the so-called COVID measures[8]. In such conditions, the non-performing loans moderately increased by 4.5%. Risks on the loan portfolio for the next period are possible given the increased geopolitical risks and disrupted supply and production chains that reflect on the dynamics of prices of primary products, with possible effects on economic growth and creditworthiness of bank customers.**

**From a sectoral point of view, the growth of non-performing loans was concentrated in household loans, while non-performing corporate loans decreased. Thus, the ratio between non-performing and total household loans deteriorated by 0.4 pp and reached 2%, while in the corporate loan portfolio this share decreased to the historically lowest level of 4.5%.**

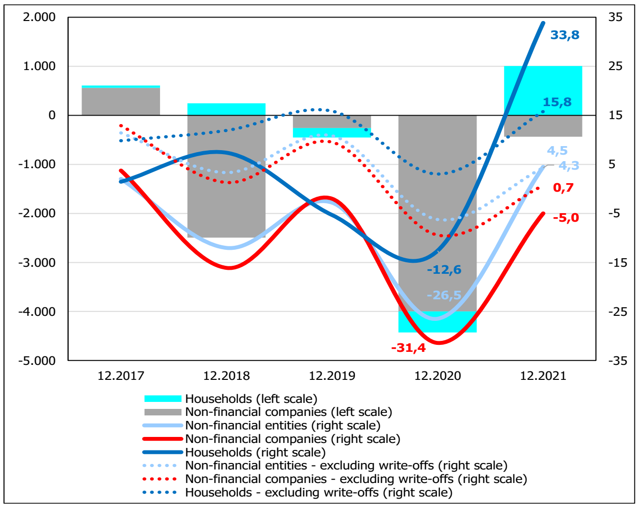
**Coverage of non-performing loans with impairment for them is maintained at a relatively high level which, together with the satisfactory volume and quality of the own funds, limits the negative effects on the banks' solvency of a possible complete default on these loans. The results of stress testing confirm the resilience of the banking sector to the simulated credit risk shocks.**

**Following the expiration of regulatory opportunities to ease lending terms due to the pandemic, banks have stepped up restructuring of borrowers' liabilities, which continue to face severe financial difficulties. Restructurings were particularly dynamic in the first half of the year, but their amount remains unchanged until the end of the year. At the end of 2021, restructured loans have a relatively low share in total loans to the non-financial sector (1.2%), and so far are not a significant risk factor for significant deterioration in the quality of the loan portfolio. However, as a result of the prolonged health crisis, accompanied by a greater emphasis on the risks associated with disrupted global supply chains, higher inflation rates, as well as more pronounced geopolitical risks from the beginning of 2022, further strengthening only of restructurings is possible due to adequate adjusting of lending terms to the changed financial condition of customers, as well as the growth of non-performing loans. The caution and objectivity of the banks in the implementation of the restructuring will**

[8] In almost all loans that were under moratorium due to the so-called covid-measures, the grace period ended in the first half of 2021 and customers were obliged to continue with regular settlement of their debts. The share of loans that are under moratorium as of 31.12.2021 is only 0.04% of total regular loans, with a share of 0.1% in the corporate segment, while in the portfolio of the households, such loans are absent.

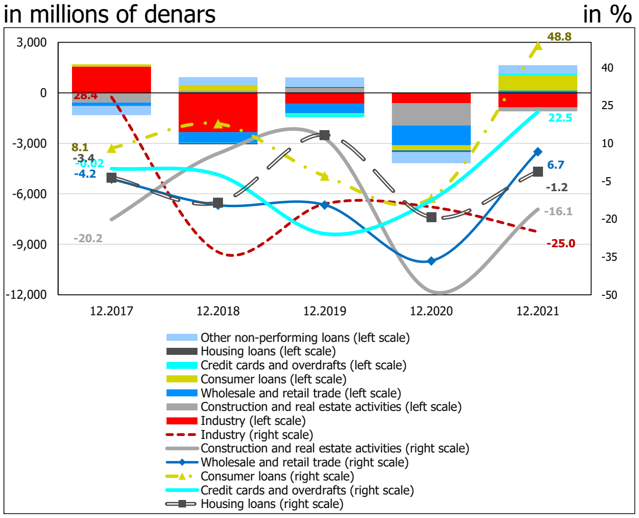
**enable to easier overcome the individual crisis episodes and further smooth functioning of the borrowers, which will maintain the quality of the loan portfolio.**

Chart 9
Annual growth of non-performing loans of non-financial companies
in millions of denars in %




Source: National Bank, based on 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 - 31.12.2021. Starting from December 2019, the data also contains the collected compulsorily written-off loans.

Chart 10 Annual growth rate of non-performing loans, by activity (non-financial corporations) and by credit product (households)
in millions of denars in %




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

## 1.1. Materialization of credit risk in banks' balance sheets

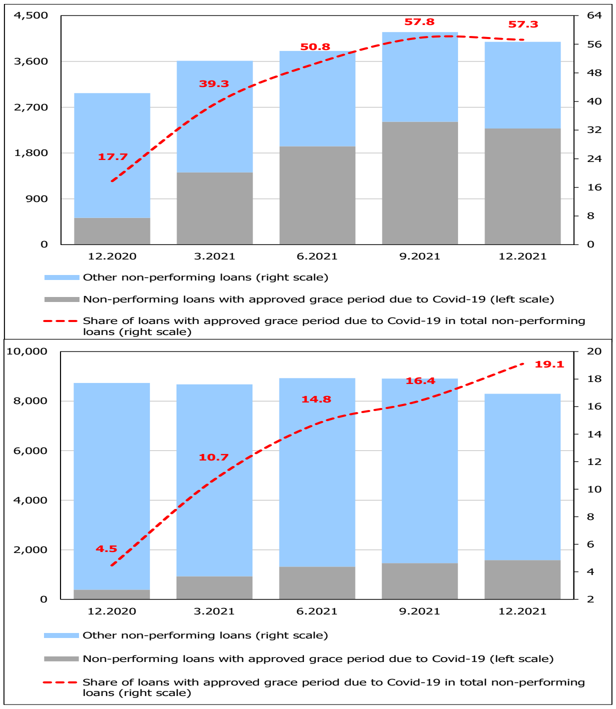
**In 2021, the total non-performing loans to non-financial sector increased by 4.5% (or by denar 535 million).** The growth originates almost entirely from loans that have expired their approved grace period, i.e. the temporary "freezing" of repayments due to the pandemic. As of 31 December 2021, the grace period expired on almost all loans to which it was approved (99.9%). Thus, repayments of all loans should be made in accordance with the "regular" contractual credit terms. Since the second half of 2021 and the beginning of 2022, the environment in which the domestic banking system operates has become even more complex, which increases the number of factors that may affect the creditworthiness of bank customers and consequently the levels of credit risk materialization.

**The increase in the volume of non-performing loans in 2021, mainly originates from their increase with households.** The non-performing loan portfolio comprised by households on annual basis increased by one third (33.8%), or by Denar 1,007 million[9]. The growth of non-performing loans to households is almost entirely attributed to non-performing consumer loans, which increased by almost half (48.8%) or by Denar 913 million, while an increase of Denar 101 million, or 42.6% was registered by non-performing loans based on credit cards. The new non-performing loans of households mostly come from clients whose loan repayments were temporarily "frozen" due to the pandemic. At the end of 2021, these non-performing loans account for 57.3% of the total non-performing loans to households.

[9] If the effect of mandatory net write-offs is excluded, then the growth of non-performing loans is significantly lower and amounts to 15.8%, due to the higher growth of previously written-off loans.

Chart 11 Non-performing loans with approved grace period due to COVID-19 of households (top) and non-financial corporations (bottom)

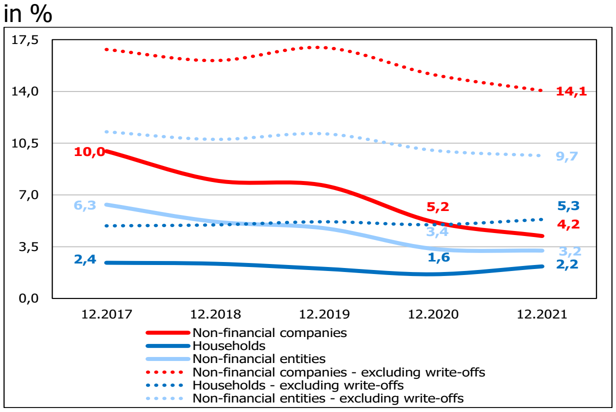
in millions of denars in %




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

Chart 12 Rate of non-performing loans of non-financial corporations, by sector

in %




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

**The non-performing corporate loans[10] went down by 5.0%, or Denar 435 million compared to 2020.** In the corporate loan portfolio, non-performing loans show different movements in certain economic activities. A more pronounced increase was observed with the clients who were most affected by the COVID-19 pandemic, and perform economic activity in the catering activity and activities in the field of cultural and artistic life (economic activity - art entertainment and recreation), as well as clients in food industry[11]. Decline in non-performing loans has been registered in "wholesale and retail trade" and "transport and storage". Decrease was registered in the economic activity "agriculture, forestry and fisheries", "construction and real estate activities" and "textile industry". An important driver for the significant reduction of non-performing corporate loans in 2021 is the activity "electricity, gas, steam and air conditioning supply", which, in turn, is due to events related to a larger client[12]. The new non-performing loans arise mainly from loans that have been granted a pandemic moratorium. At the end of 2021, such non-performing loans account for 19.1% of total non-performing loans to enterprises.

**Given the intensified credit support by banks, despite the increase in non-performing loans, their share in total loans improved by 0.2 pp compared to the previous 2020.** Consequently, on 31.12.2021, the share of non-performing loans in the total loans of the non-financial sector was reduced to the historically lowest level of 3.2%[13].

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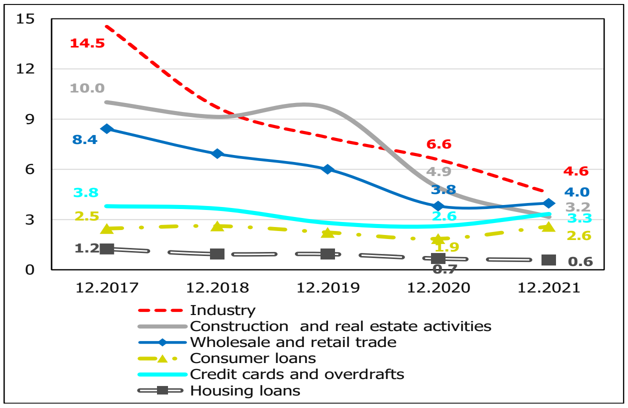
[10]Non-performing corporate loans prevail in the total non-performing portfolio with a share of 66.9%.

[11] In the other branches of manufacturing industry, chemical and other processing activity, there was a significantly lower growth of non-performing loans, compared to food industry.

[12] In the second half of 2021, the non-performing clams from a larger client were written off, of which by the end of the year, part was collected or transferred to third parties.

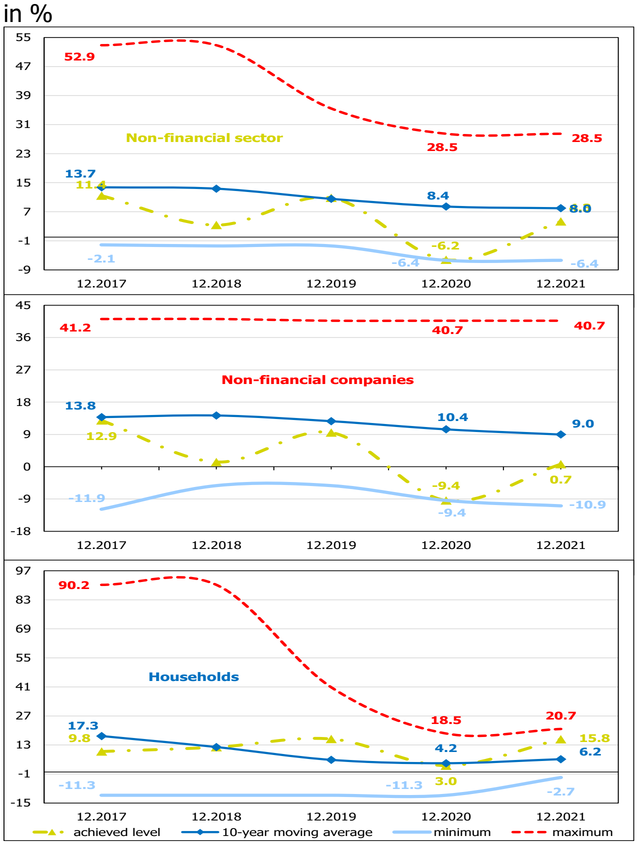
[13]Without the effect of the mandatory net write-offs, the share of non-performing to total loans equals 9.7% and is below the 10-year moving average (11.0%).

Chart 13
Rate of non-performing loans, by activity and credit product
in %




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

Chart 14 Non-performing loans rate, 10-year moving average and maximum and minimum level, by individual sectors
in %



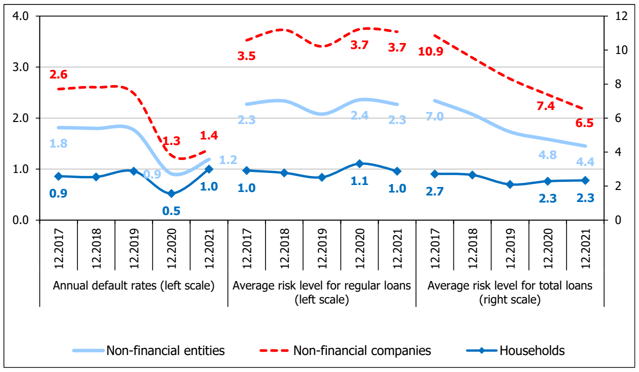

Source: National Bank's Credit Registry, based on data submitted by banks.
* Note: Excluding the effect of all mandatory write-offs made in the period 1.1.2016 - 31.12.2021. Starting from December 2019, the data also contains collected compulsorily written-off loans.

**The share of non-performing loans in the total loans to households on 31.12.2021 is 2%, which is more by 0.4 pp from the historically lowest level achieved on 31.12.2020, of 1.6%.** The rate of non-performing loans to households (excluding the effect of net write-offs) was 5.3%, which is below the 10-year moving average for this rate (5.6%). Analyzed by individual purposes, this rate is higher in the overdrafts of transaction accounts and credit cards (3.3%, increasing by 0.7 pp) and consumer loans (2.6%, with annual increase of 0.7 pp).

**In the corporate loan portfolio, the non-performing loans rate decreased by 0.7 pp, reducing to the new historical bottom of 4.5% at the end of 2021.** Excluding the effect of net write-offs, the non-performing corporate loans rate was 14.1%, which is below its 10-year moving average (15.6%). According to the individual activities, this rate is deteriorating in certain activities, but it is most pronounced in the activities "art, entertainment and recreation" and "catering".

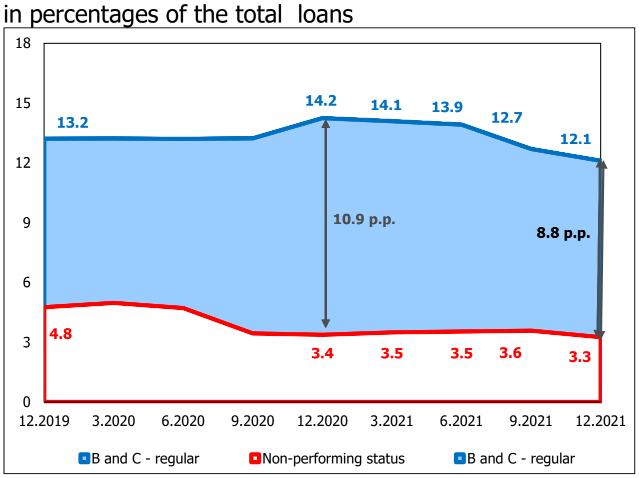
**The annual default rate of regular credit exposure of non-financial sector and individually, of both its segments, significantly deteriorated in 2021.** This growth, as well as the growth of non-performing loans, is mainly due to the increased transition to non-performing loans that were eased due to COVID-19. The increase in the annual default rate was accompanied by a decline in the average provision of regular loans, indicating that banks determined a lower relative amount of expected losses. At companies, banks allocated higher amount of impairment relative to the realized default rates, which is an indicator of their perceptions of higher risks of the corporate loans than to households, although in 2021, banks reduced the average provision of regular loans to enterprises. Banks kept the average expected losses from the

Chart 15 Annual rates of default and average risk level of performing and total loans, by sector
in %




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

Chart 16
Gap between regular loans in risk categories B and B * and non-performing loans
in percentages of the total loans




Source: National Bank's Credit Registry, based on data submitted by banks.
* Regular loans classified in risk categories B and C are an approximation of loans from the so-called group 2 according to IFRS 9.

portfolio composed of households at the same relative level as the previous year.

With the termination of the validity of the regulatory relief introduced in order to mitigate the negative effects of the pandemic, there has been a certain shift between regular loans, from risk category A, to the next two risk categories (B and C[14], whose share of total loans to non-financial entities increased to 14.2% on 31.12.2020), which led to the widening of the gap between these loans (B and C - regular) and non-performing loans[15] in 2020. In 2021 this gap narrowed and at the end of 2021 it was reduced to the level of 8.8 pp.

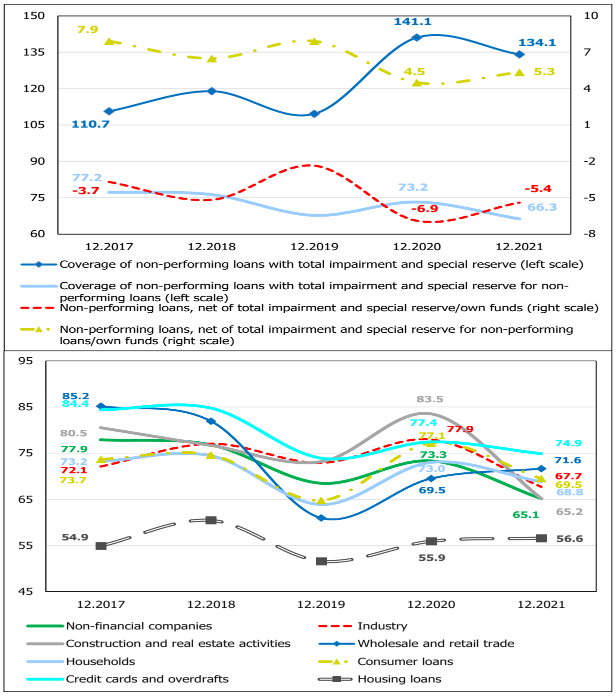
**The negative effects of the possible complete default on non-performing loans, i.e. the volume of unexpected losses on this basis, have a limited impact on the solvency of the banking system.** Namely, a significant portion of the non-performing loans are substantially covered with impairment (66.3%), despite the d4ecrease in the preceding year. Thus, the non-provisioned amount of non-performing loans is only 5.3% of own funds of the banking system and amid assumptions of its complete default, the solvency of the system wouldn't be jeopardized.

**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.** Restructured loans are a possible factor for growth 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. Currently, the regular restructured loans have a small share in the total regular loans of the banks, which is 2%

[14]As an approximation of loans in group 2 according to IFRS 9.
[15]As an approximation of loans in group 3 according to IFRS 9.

Chart 17 Coverage of non-performing loans with impairment (up) and by activity and credit product (down)

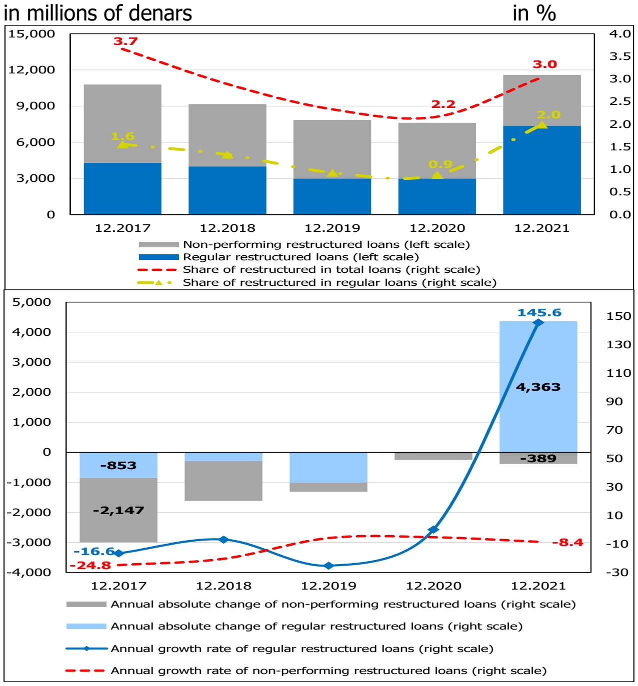
in %




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

Chart 18 Restructured loans of non-financial corporations

in millions of denars in %




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

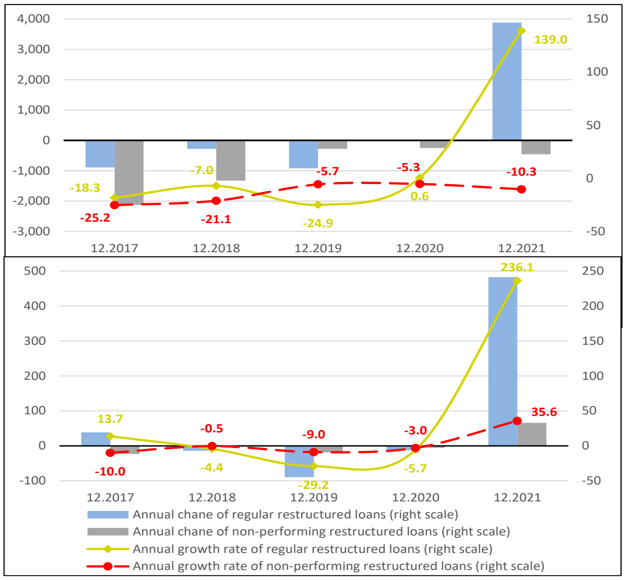
on 31.12.2021. However, regular restructured loans recorded high growth in 2021, of 145.6%, or Denar 4,363 million. The higher inherent risk from the restructured loans is also perceived through the higher average reserve of the regular restructured loans which is 19.5%, as opposed to 2.3% for the total regular loans. The coverage of non-performing restructured loans with separate provisions is similar to the coverage of total non-performing loans.

**Restructuring is mainly present in non-financial corporations, as they account for about 92% of the entire restructured loan portfolio.** Thus, the annual growth of restructured regular loans to legal entities amounted to 139.0% (Denar 3,881 million). The sector "construction" together with the economic activity in the field of real estate with 41.2% has the largest contribution to this expansion of the volume of restructured loans, while at the same time a large share of 68.6% in reducing the level of restructured non-performing loans.

There is also a significantly high growth in the volume of restructuring in the "household" sector, where the restructured regular loans increased by almost two and a half times (or 483 million denars) annually, and three quarters of the growth resulted from consumer loans, which , on the other hand, almost completely (93.2%) contribute to the growth of non-performing restructured loans.

Chart 19 Annual change of restructured loans, by individual sectors

in millions of denars in %

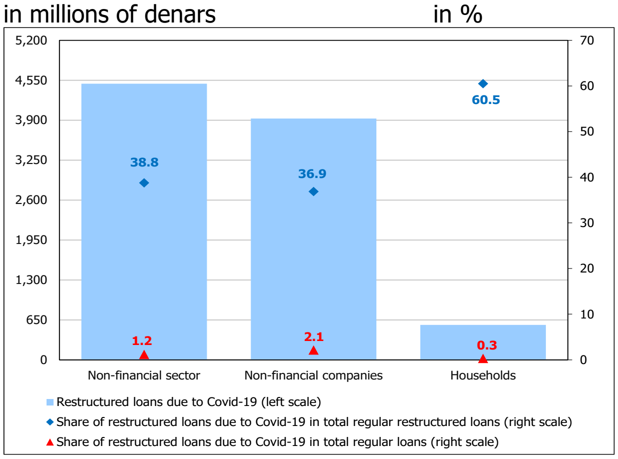



Source: National Bank's Credit Registry, based on data submitted by banks.

Chart 20

Restructured loans due to COVID-19 as of 31.12.2021, by individual sectors

in millions of denars in %




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

Despite the high accelerated growth of regular restructured loans, due to their low initial amount, at the end of 2021, the share of restructured regular loans in total regular loans is not high and equals 3.8% and 0.4% in enterprises and households, respectively.

The loans that were restructured due to COVID-19[16] during entire 2021 have fully conditioned the growth in the restructured loans and on 31.12.2021 participated with 38.8% in the total restructured loans[17], but only 1.2% of the total loans.

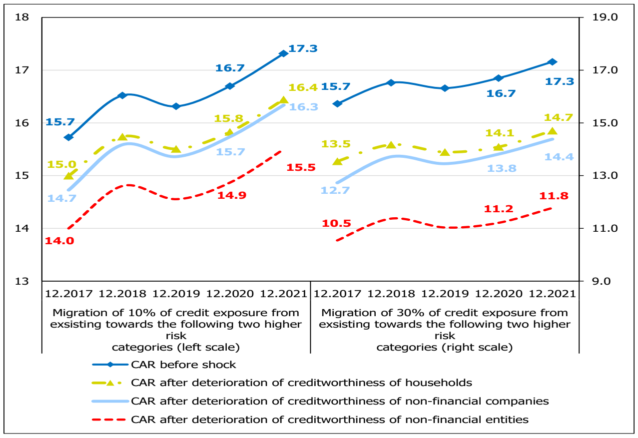
## 1.2. Stress-testing of the resilience of the banking system to increased credit risk

**The results of stress testing confirm the resilience of the banking system to the simulated credit risk shocks.** The capital adequacy ratio of the banking system does not go below 8% in individual hypothetical simulations. In case of the most extreme, but less possible simulation for a migration of 30% of the credit exposure to non-financial corporations, from the existing to the next two higher risk categories, the capital adequacy ratio of the banking system is reduced by 5.5 pp compared to the initial level of capital adequacy ratio (which is almost identical result to one in the previous year). By industry, the largest negative impact on the capital adequacy ratio has the assumed deterioration of the quality of credit exposure in those industries where the total credit exposure is highest ("in-

[16] Corporate loans are predominant in the loans that are restructured due to corona crisis, with a share of 87.4%.

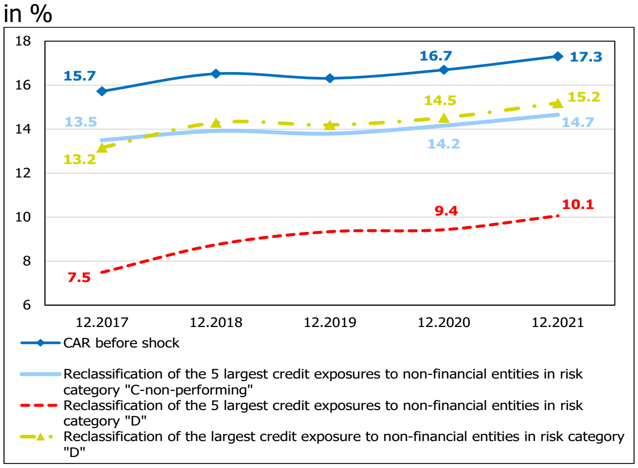
[17] Observed by individual sectors, loans that are restructured due to COVID-19 accounted for 60.5% and 36.9% of restructured household and corporate loans, respectively.

Chart 21
Capital adequacy ratio before and after hypothetical shocks of selected segments of credit exposure
in %




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

Chart 22 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
in %




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

dustry", "wholesale and retail trade" and "construction"). According to individual credit products of households, the greatest effect on the capital adequacy ratio has the hypothetical deterioration of the consumer loans quality, as the most common credit product.

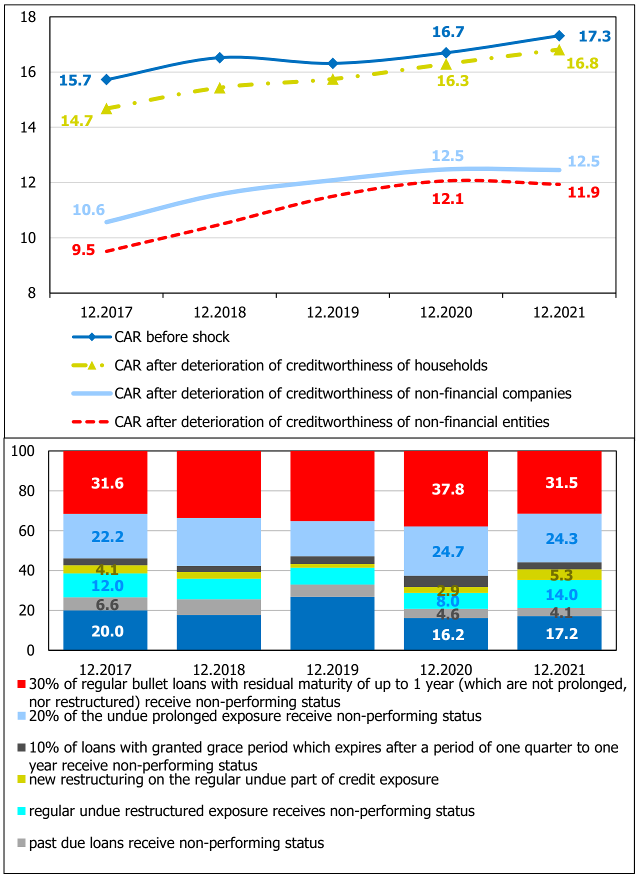
The results of the stress test simulations for the concentration in the loan portfolio towards the non-financial sector have improved compared to the end of 2020. The improvement in the results stems from the higher capital adequacy before the simulations, and partially is a result also of the decrease in the level of the concentration level in the non-financial sector's loan portfolio[18].

The banking system resilience is also examined by extreme simulation based on a combination of seven hypothetical shocks of worsening of the quality of the credit portfolio to the non-financial sector[19]. 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 5.4 percentage points to 11.9%, which is a slight deterioration compared to the end of the previous year (4.6 percentage points and 12.1%, respectively). The highest effect on the capital adequacy ratio is that of the assumed deterioration in the quality of bullet loans, which contributes to 31.5% of the total reduction of capital adequacy amid combined shock. In addition, the effect of the hypothetical worsening

[18] On annual basis, the five and ten largest exposures to the non-financial sector decreased by 5.9% and 5.1%, respectively, while own funds increased significantly by 10.9%. This contributed to reducing the share of the five and ten largest exposures to the non-financial sector in own funds to 46.6% and 73.2%, respectively on 31.12.2021 (compared to the shares of 48.6% and 77.2%, respectively on 31.12.2021).
[19] The seven hypothetical shocks are the following: 1. complete default on the existing non-performing loans; 2. the total past due loans receive non-performing status; 3. the total regular undue restructured exposure receives non-performing status; 4. banks carry out new restructuring of the regular undue part of the credit exposure which according to the volume correspond with the amount of restructured exposures which received a non-performing status, from the previous item; 5. 10% of loans with granted grace period which expires after a period of one quarter to one year receive a non-performing status; 6. 20% of the undue prolonged exposure receives a non-performing status; 7. 30% of regular bullet loans with residual maturity up to one year (which are not prolonged, nor restructured) receive a non-performing status.

Chart 23 Capital adequacy ratio before and after hypothetically combined shocks of various credit exposure segments (up) and contribution of individual shocks to the reduction of the capital adequacy ratio (down)

in %




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

of the quality of prolonged loans (accounting for 24.3% of the total reduction of the capital adequacy ratio of the banking system) is also significant, as well as the assumed complete default on non-performing loans of the non-financial sector (17.2% of the total decline in capital adequacy in the combined shock). An increased contribution is registered in the assumed acquisition of non-performing status of regular restructured loans (14.0% of the total reduction of capital adequacy as of 31.12.2021).

## 2. Liquidity risk

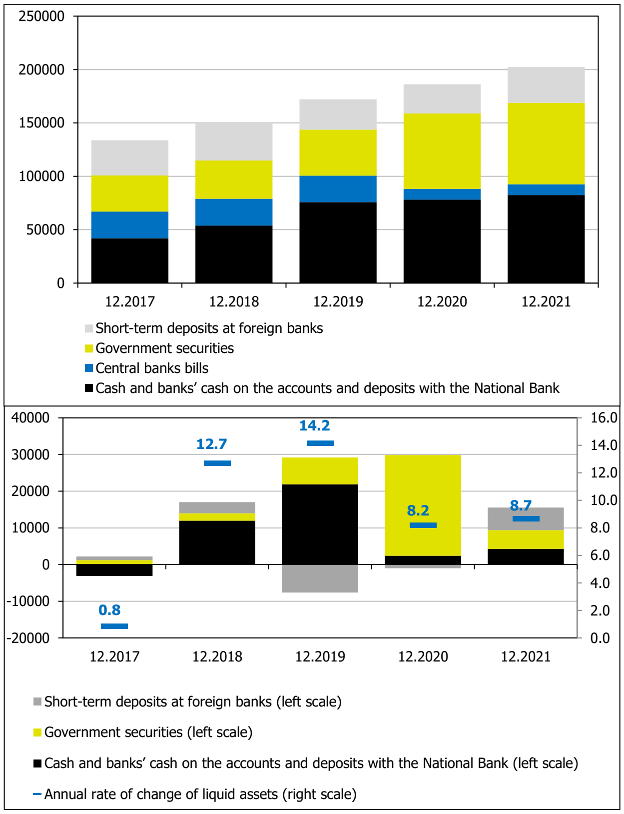
**Banks have a solid volume of liquid assets, which enables the liquidity risk to be within acceptable frames, without the occurrence of liquidity pressures. The stable liquidity is one of the main pillars of the stability of the banking system as a whole, which is especially important in times of crisis. Namely, in 2021, despite the uncertainties caused by the coronavirus, and coupled with the energy crisis which intensified at the end of the year, as well as the higher inflation rates, Macedonian banks maintained a stable and solid liquidity position. Amid solid growth of the deposit potential, the total liquid assets increased in 2021, at a fast pace. In their structure, generator of the growth were the banks' assets on the accounts with the National Bank and on the correspondent accounts with foreign banks, as well as the banks' placements in government bonds. The indicators for liquidity monitoring and evaluation remained at the usual stable and satisfactory level. In terms of currency, an improvement is registered in almost all indicators of foreign currency liquidity, but also in some of the indicators of denar liquidity, which are still traditionally at a higher level compared to the foreign currency liquidity indicators. The cumulative gaps between the agreed cash inflows and outflows of up to 1 year are negative, but banks expect a relatively high level of deposit stability, as the main source of financing of their activities.**

**Since the beginning of 2021, the new Decision on the methodology for liquidity risk management[20] has been applied, which introduced an obligation for banks to maintain a minimum level of the so-called liquidity coverage ratio. More specifically, this Basel liquidity standard measures the banks' liquidity resilience, i.e. the ability of banks to service liabilities that fall due within the next 30 days, amid assumed stress. As of 31.12.2021, the liquidity coverage ratio of the banking system is almost three times higher than the regulatory minimum for this ratio (which is 100%). The vitality of the liquidity position of banks is also confirmed by the results of the other regular simulations of individual and combined liquidity shocks. They point to the appropriate liquidity risk management by banks and a satisfactory resilience to the assumed extreme liquidity outflows.**

**With the occurrence of the COVID-19 pandemic in 2020, the National Bank adopted several measures for monetary relaxation and regulatory flexibility, as a support to the banking system and the economy as a whole, in conditions of crisis. During the first quarter of 2021, the key interest rate was further reduced by 0.25 percentage points, to the historically lowest level of 1.25%. The operational monetary policy framework remains flexible thus ensuring stable liquidity and equilibrium on the foreign exchange market.**

[20] This regulation is a significant step forward towards harmonization of the domestic regulation with the international standard Basel 3, in relation to the minimum liquidity requirements.

Chart 24
Liquid assets, structure (top) and growth (bottom)
in millions of denars and in %



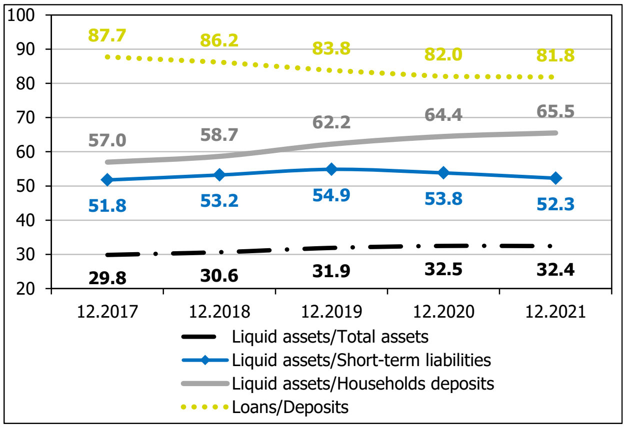

Source: National Bank, based on data submitted by banks.

## 2.1 Dynamics and composition of liquid assets

**At the end of 2021, the total liquid assets[21] of the banking system amounted to Denar 202,360 million and registered an annual growth (of 8.7% or by Denar 16,120 million), which is higher compared to the annual growth registered in 2020 (of 8.2%).** In terms of individual financial instruments that make up liquid assets, the annual increase in the banks' liquidity is mostly due to the increased assets of banks on the denar account with the National Bank (by Denar 10,228 million, or by 57.2%), and a more significant increase is also registered in the banks' assets on the correspondent accounts with foreign banks (by Denar 6,142 million, or by 22.4%), the banks' placements in government bonds (by Denar 5,860 million, or by 11.3%)[22], as well as the banks' assets on account with the National Bank in foreign currency (by Denar 2,982 million, or by 79.3%). In contrast, with the exception of treasury bills placements, which remained almost unchanged, the other financial instruments that make up liquid assets declined on an annual basis. The largest decrease, of Denar 7,510 million, or by 17.6%, was registered in the banks' placements in overnight deposit facilities[23] with the National Bank, and a more significant reduction was also registered in the banks' placements in seven-day deposit facilities with the National Bank (by Denar

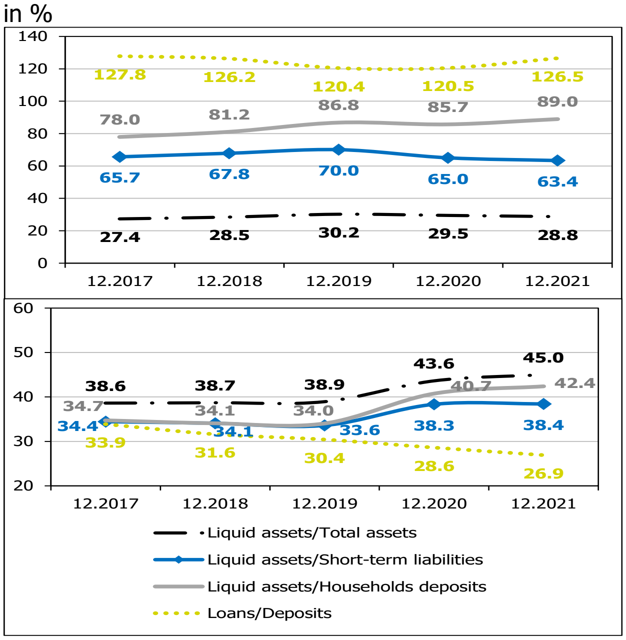
[21] The liquid assets encompass: 1) assets and claims on the National Bank, which include cash, assets on the accounts of banks with the National Bank, deposit facility with the National Bank and CB bills; 2) short-term deposits with foreign banks, including the assets of the banks on their correspondent 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.
[22] Most of the increase in the banks' placements in government bonds accounted for the increased investments in government bonds in denars with foreign exchange clause, as well as for bonds in denars, which on an annual basis increased by Denar 3,612 million and by Denar 1,286 million, respectively. On the other hand, the growth of the investments in Macedonian Eurobonds is smaller and equals Denar 962 million (on the one hand, in March 2021, the Ministry of Finance issued the eight Eurobond worth Euro 700 million, with a maturity of 7 years and at an interest rate of 1.625%, while on the other, in July 2021, it paid the principal and interest on the Eurobond issued in 2014 with a nominal value of Euro 500 million).
[23] According to the regulation, the banks could place deposits with the National Bank every working day with a maturity of one business day (overnight) and once a week with a maturity of seven days. These deposits are placed without the possibility of early withdrawal. In 2021, the interest rates on these deposits remained unchanged (from the latest change in March 2018) and equaled 0.15% on overnight deposits and 0.30% on seven-day deposits.

Chart 25 Liquidity indicators of the banking system
in %




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

Chart 26
Banking system liquidity ratios according to currency structure, Denars (top) and FX (bottom)
in %




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

1,719 million, or by 64%). Banks' placements in treasury bills also decreased (by Denar 746 million or by 10.7%).

### 2.2 Liquidity indicators

**In 2021, in conditions of further growth of the liquid assets of the banking system, the liquidity indicators remained at a stable and satisfactory level.** Namely, the proper liquidity risk management of banks is confirmed by the relatively stable share of liquid assets in the total bank assets (which is almost unchanged at the level of one third) and the coverage of short-term liabilities and household deposits with liquid assets, which also remained stable (over 50% and 60%[24], respectively). The loan-to-deposit ratio at the level of the banking system is stable and is around 80%, which additionally points to acceptable frames of liquidity risk the banks are exposed to and their appropriate liquidity management.

**In terms of currency features of liquid assets and liabilities**, during 2021, an improvement was mainly registered in the indicators of foreign currency liquidity, while the indicators of denar liquidity showed divergent movements. Most of the denar liquidity ratios remain at a higher level compared to the foreign currency liquidity indicators, which results from 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 the high denar liquidity and the possibility to provide foreign currency liquid assets[25], if necessary.

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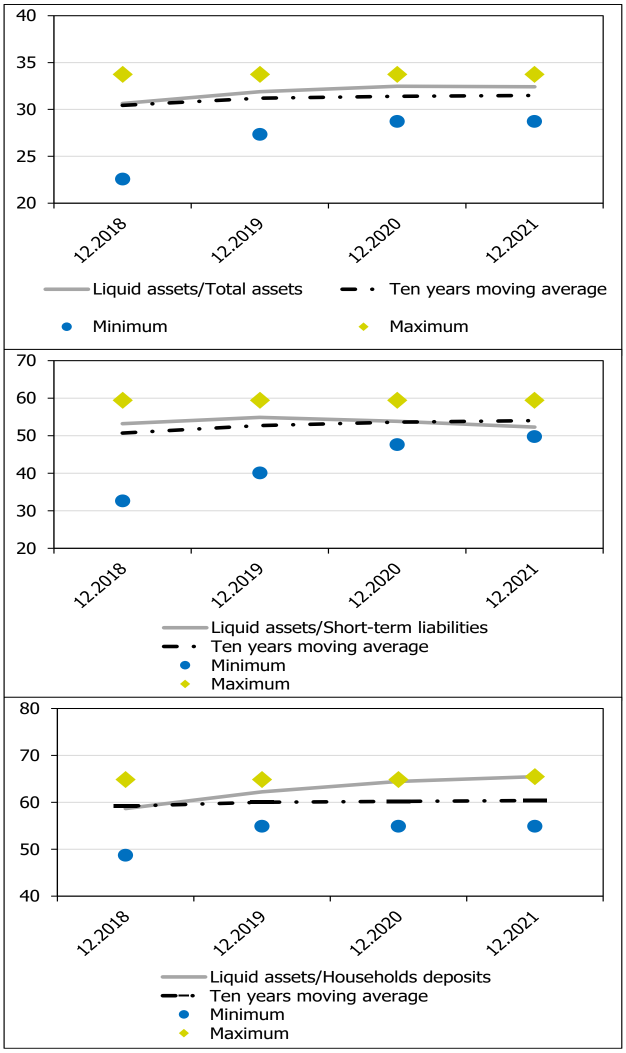
[24] Analyzed by bank, as of 31.12.2021, the share of liquid in total assets ranges between 21.1% and 53.5%, with a median of 26.3% (31.12.2020: between 21.5% and 50.9%). The coverage of short-term liabilities with liquid assets ranges between 37% and 72%, with a median of 48.1% (31.12.2020: between 41.6% and 67.9%), and the coverage of household deposits with liquid assets between 39.3% and 101.4%, with a median of 64.8% (31.12.2020: between 35.8% and 91.5%). The Development Bank of North Macedonia AD Skopje is excluded from this analysis.

[25] 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) decided to extend the validity of repo line granting the National Bank access to euro liquidity for the first time in August 2020, with adequate collateral. The deadline for application of the repo line, worth up to Euro 400 million, has been extended to January 2023. So far, despite the crisis period of the past two years, the National Bank

Chart 27 Liquid assets / total assets (top), liquid assets / short-term liabilities (middle) and liquid assets / household deposits (bottom)

in %




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

**As of 31.12.2021, the liquidity coverage ratio of the banking system[26]** equals 292.2%, which is more by almost three times than the regulatory minimum (100%[27]) and confirms the satisfactory volume of liquidity available to the banking system. Liquidity coverage ratios of all individual banks exceed the prescribed minimum level and range from 156% to 1,172.9% (with a median of 335.6%), which additionally points to acceptable frames of liquidity risk the banks are exposed to and their stable liquidity management.

## 2.3 Maturity structure of assets and liabilities

**As of 31.12.2021, the maturity structure of banks' inflows and outflows, by including the cumulative amount of the so-called unencumbered assets of banks[28], is predominated by the agreed inflows of banks distributed in the period over one year and by the agreed outflows of banks distributed in the period up to seven days.** 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 the banks' outflows from liabilities on demand and without a maturity in the maturity segment up to seven days, i.e. due

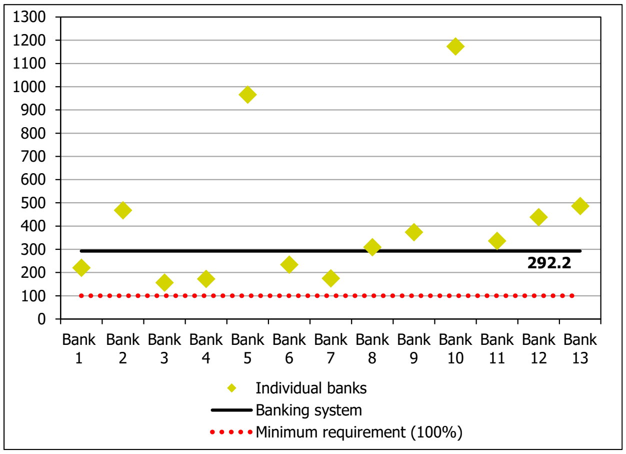
had no need to use the repo line, given the constant maintenance of both denar and foreign currency liquidity of the banking system at an appropriate level, with a visible tendency of further increase in the banks' liquid assets. For more details please visit: https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220328~986539101a.en.html.

[26] Since the beginning of 2021, a new Decision on the methodology for liquidity risk management (adopted in May 2020) started to be applied, which further harmonized the domestic regulations with the Basel standards (Basel III) and the provisions of the relevant EU regulations in this area and introduced the liquidity standard - Liquidity Coverage Ratio (LCR). The regulation allows, in case of stress, to reduce the the liquidity coverage ratio below the prescribed minimum.

[27] In addition to on a cumulative basis, banks are required to determine and monitor a liquidity coverage ratio for each currency that is significant to the bank (each currency whose share of the bank's total balance sheet liabilities is at least 5%). Thereby, the prescribed minimum level of 100% refers only to the total liquidity coverage ratio and not to the ratios by each significant currency. As of 31 December 2021, the liquidity coverage ratios for the two significant currencies, euros and denars, were 129.3% and 299.7%, respectively.

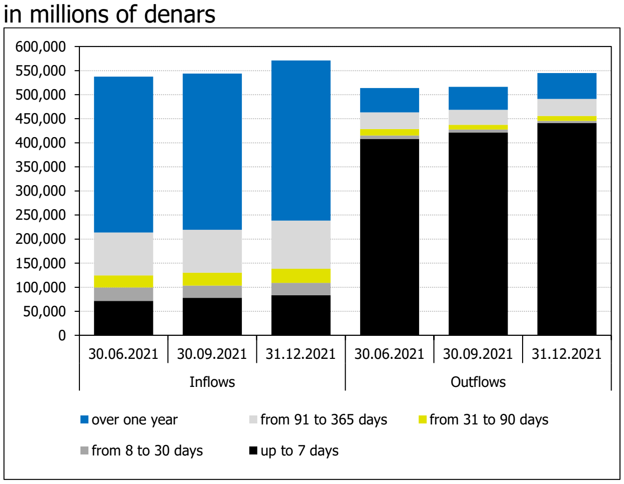
[28] Unweighted assets are the assets that banks have at their disposal and that they can use as collateral to obtain additional sources of funds, such as the assets that banks can trade or the assets that the central bank accepts as collateral instruments in conducting monetary operations (unweighted assets also include cash, funds on account with the Central Bank, placements in equity instruments that meet the criteria to be part of the highly liquid assets of banks). According to the new regulations, unweighted assets are not included in the determination of net cash outflows (as cash inflows) if they are included in high-quality liquid assets.

Chart 28
Liquidity coverage ratio, as of 31.12.2021
in %




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

Chart 29
Maturity structure of the inflows and outflows on the basis of on-balance sheet assets and liabilities
in millions of denars




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

to claims based on loans and advances included in the 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 gaps in relation to the assets of the banking system are 35.3% (the cumulative gap up to 7 days) and 24.1% (the cumulative gap up to 1 year).

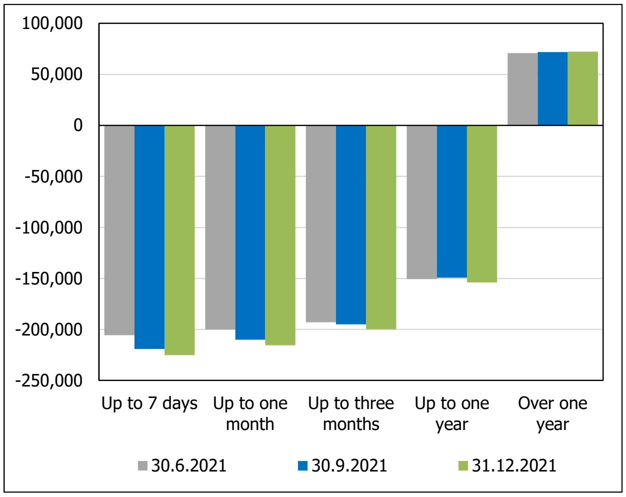
Given the depositors' behavior, banks estimate that most of the agreed cash outflows based on deposits will not be realized by depositors in the next 12 months. The high percentage of stable deposits was also maintained when there are still risks and uncertainty arising from the COVID-19 pandemic, further complicated by the negative news about the occurrence and intensification of the energy crisis and increase in inflation rates.

### 2.4. Stress-simulations for liquidity shocks

**On 31.12.2021, the results of the conducted stress simulations for liquidity shocks show that the banking system is characterized by a stable liquidity position, i.e. it has sufficient liquid assets to respond appropriately to the individual simulated cash outflows.** The resilience of the banking system to liquidity shocks is confirmed by the results of all individual simulations of liquidity shocks, with the liquid assets being fully used (107.1% on 31.12.2021) only in case of significantly extreme simulation of liquidity shock, which covers combined outflows[29] of funds from banks on several bases. Considering the extremity of assumption, for the purpose of this

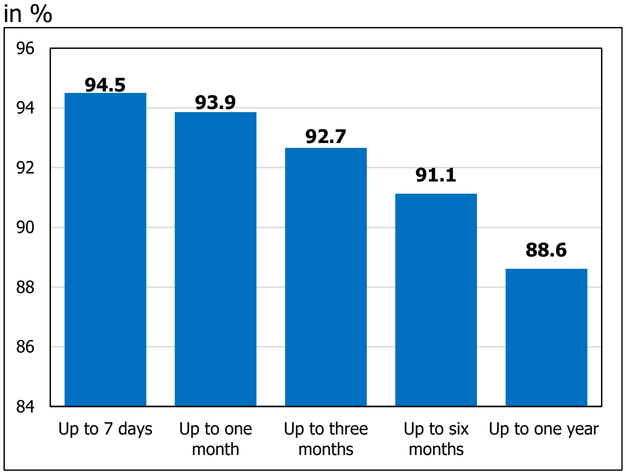
[29] The simulation assumes outflow of: deposits of the ten largest depositors, 20% of household deposits, liabilities to parent entities (liabilities on subordinated instruments and hybrid capital instruments are excluded from the simulation as, according to the regulations for calculating capital adequacy,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

Chart 30
Cumulative gap between the agreed inflows and outflows, by including the cumulative amount of unencumbered assets
in millions of denars




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

Chart 31
Expected deposit stability, according to the remaining period to maturity, as of 31.12.2021
in %



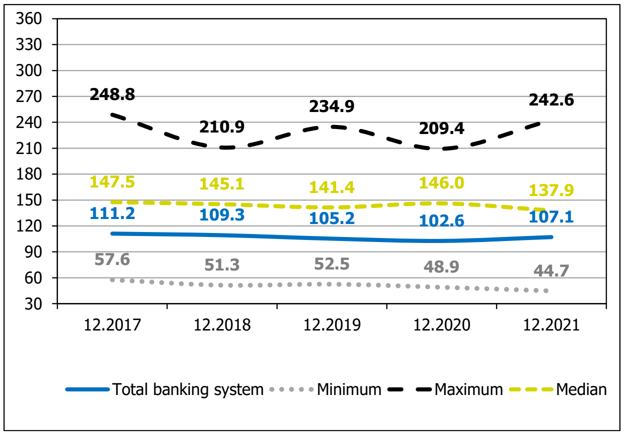

Source: National Bank, based on data submitted by banks.

simulation, the usual coverage of liquid assets is extended with other financial instruments[30] owned by banks, for which it is estimated that banks will quickly and easily collect or turn into cash. In such a case, amid combination of the assumed shocks, the liquid assets of the banking system would not be fully utilized (specifically, to cover the liquidity outflows, it would take 93.5% of the available liquid assets, according to the expanded definition).

**At individual simulations of liquidity shocks, the high level of liquidity which banks have at their disposal provides settlement also of all assumed, individual, extreme liquidity outflows.** The sharpest decline in liquid assets occurs amid outflow of the 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 significantly greater similarity in the results for individual banks, thereby confirming the importance of deposits to the financing of the banks' activities. It follows that the confidence in the banking system is important for the sustainability of the liquidity position of banks and for growth of their activities. In the case of assumed conversion of certain off-balance sheet liabilities of the banks into on-balance sheet claims[31], the banks would spend about 20% of their liquid assets, which although less compared to the simulations of outflow of

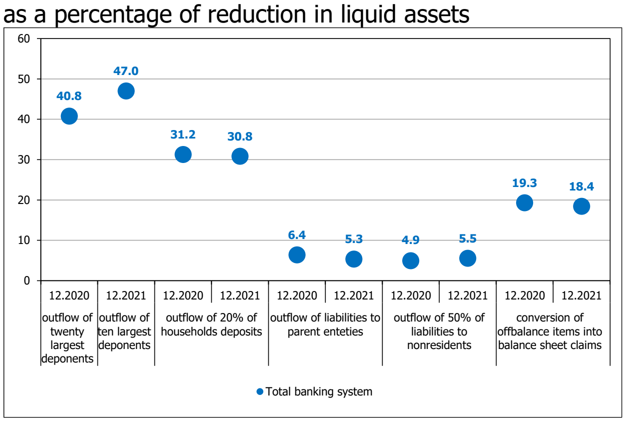
[30] Financial instruments that comprise liquid assets, also include the following financial instruments: assets in the guarantee fund in KIBS, long-term deposits in foreign banks, money market instruments issued by foreign non-government issuers, loans with contractual residual maturity of up to 30 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.
[31] 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.

Chart 32
Reduction of liquid assets after the simulation of combined liquidity shocks (after all shocks)
in %




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

Chart 33
Contribution of individual 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 data submitted by banks.
Note: In case of assumed individual liquidity shock which includes full outflow of deposits of the ten largest depositors, in accordance with the changes in the regulations for liquidity risk management, the input data in the simulation for 2021 refers to the deposits of the ten largest depositors, instead of the previous coverage of the twenty largest depositors (before 30.6.2021).

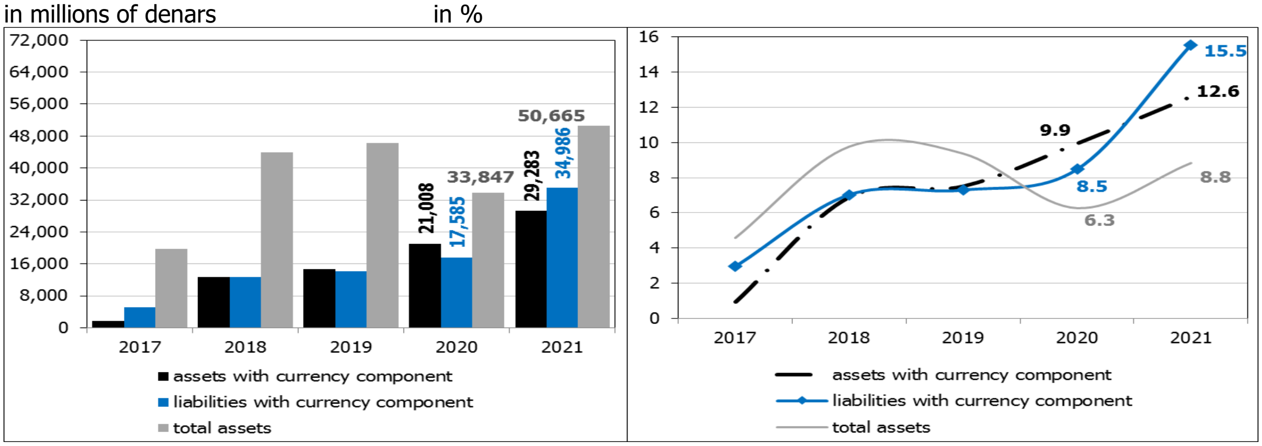
deposits[32], yet this assumed reduction in liquid assets can be considered significant. The small share of liabilities to non-residents, as well as to parent entities in the structure of the total sources of funding for banks, causes moderate impact of the shocks associated with them on the overall result of this simulation.

[32] During a simulation of outflow of the deposits of the ten largest depositors, the liquid assets of the banking system are reduced by 47%, while in case of assumed outflow of 20% of the household deposits, liquid assets are reduced by 30.8%.

## 3. Currency risk

**In 2021, the banking system reduced its currency risk exposure, reflected by the lower ratio between the open currency position and the own funds, as well as by the smaller share of the gap between assets and liabilities with currency component in the own funds. Analyzed by individual bank, as of 31.12.2021, all banks were in line with the prescribed limit of 30% for the aggregate currency position to own funds ratio. After a longer period of almost continuous reduction, the level of euroization, as measured by the shares of assets and liabilities with currency component in total assets, i.e. liabilities, has been growing for the second consecutive year. In contrast, the share of loans with currency component in total loans to the non-financial sector decreased on an annual basis, although it remains high and indirectly exposes banks to currency risk. However, bearing in mind the predominant share of the euro in loans, but also in the other bank activities with currency component, the probability of materialization of the currency risk is minimal, given the implementation of the strategy of maintaining a stable nominal exchange rate of the denar against the euro.**

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

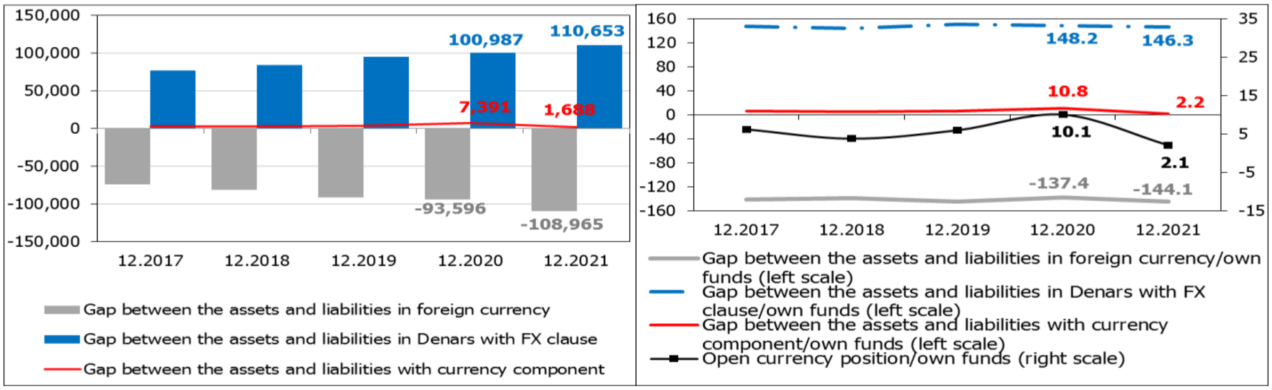



Source: National Bank, i.e. the report on open currency position based on data submitted by banks.
* The assets are on a net basis, reduced by the impairment of claims that are classified in risk categories "C", "D" and "E", in accordance with the regulations on currency risk management. DBNM is not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

**As of 31.12.2021, the gap between assets and liabilities with currency component was positive and amounted to Denar 1,688 million,** which is an annual decrease by significant 77.2%, or by Denar 5,703 million. This reduction in the gap is due to the higher increase in the liabilities (by 15.5% or by Denar 34,986 million)[33] compared to the growth of assets with currency component (by 12.6% or by Denar 29,283 million)[34]. The fast decline in the gap between assets and liabilities with currency component, amid simultaneous growth of the own funds, reduced the ratio of this gap and the own funds. Thus, at the end of the year, the ratio of the gap between assets and liabilities with currency component and banks' own funds equaled 2.2%, which is an annual fall of 8.6 percentage points, while the open currency position equaled 2.1%

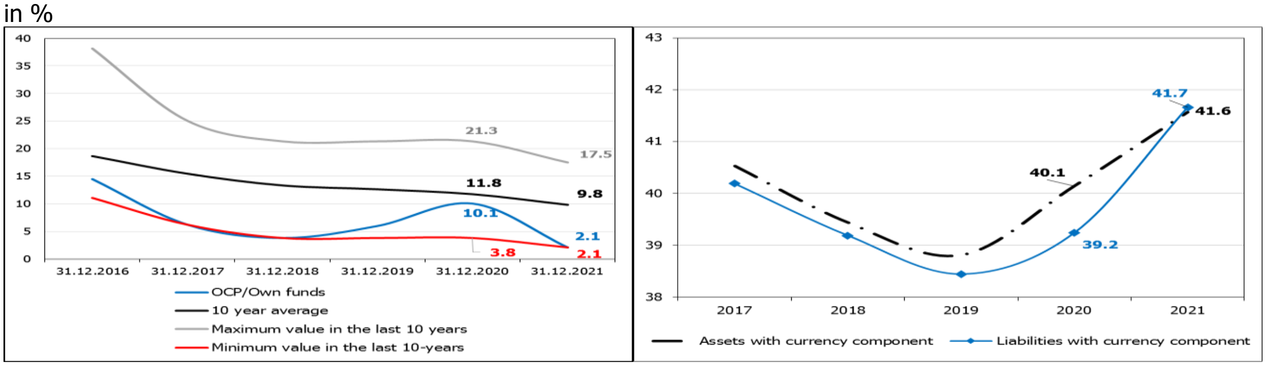
of the own funds of the banking system (the lowest level registered in the last ten years) and is lower by 8.0 percentage points compared to 31.12.2020[35].

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




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

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




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 AD Skopje.

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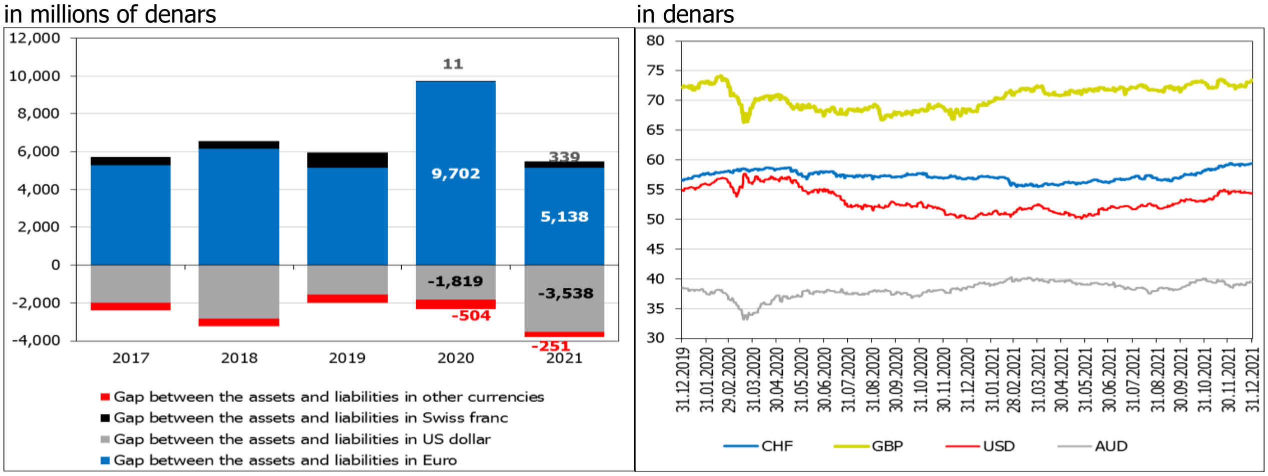
33 The growth of liabilities with currency component was mostly conditioned by the growth of the position "Current accounts and other short-term liabilities" by Denar 21,436 million (which includes the growth of current accounts of natural persons, of Denar 13,372 million and the growth of current accounts of private non-financial companies in foreign currency by Denar 6,256 million). Also, the major contribution to the increase in liabilities with currency component was that of foreign currency deposits which increased by Denar 9,693 million, while the impact of the growth of liabilities based on foreign currency loans was smaller (by Denar 2,108 million), as well as the growth of subordinated liabilities in foreign currency to non-residents (by Denar 1,229 million).

34 Assets with currency component increased mostly as a result of the annual growth of loans with currency component (by Denar 8,531 million) and current accounts in foreign banks (by Denar 6,346 million). The growth of assets with currency component was largely affected by the increased investment in government bonds of Denar 4,020 million (of which Denar 3,612 million account for bonds in denars with foreign exchange clause and Denar 408 million in bonds in foreign currency), as well as by the increased investment in treasury bills in denars with foreign exchange clause (growth of Denar 3,027 million). The growth of assets with currency component was somewhat influenced by the growth of the accounts in foreign currency with the NBRNM (by Denar 2,982 million), obligatory foreign currency reserves with the NBRNM (by Denar 2,562 million) and by the increased investment in securities issued by non-residents, by Denar 1,168 million.

35 The gap between assets and liabilities with currency component represents the difference between the balance sheet assets and liabilities with currency component, while the open currency position, besides the gap between balance sheet assets and liabilities with currency component, includes the gap between off-balance sheet assets and liabilities with currency component.

**The faster growth of assets and liabilities with currency component, relative to the growth of total assets, increased the share of assets, i.e. liabilities with currency component in total assets, i.e. liabilities of the banks**, by 1.4 and 2.4 percentage points, respectively. Thus, the growth of euroization, which started the previous year, continued.

Chart 37
Dynamics and 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.

Analyzed by currency, the narrowing of the positive difference between assets and liabilities with currency component, is primarily due to the narrowing of the gap between the positions in euros and Euroclause (fall of Denar 4,564 million), but also to the widening of the negative gap between the positions in US dollars and denars with US dollar clause (which expanded by Denar 1,720 million). The reduced gap between the positions in euros and Euroclause results from the faster growth of liabilities in euros and in denars with Euroclause (by Denar 30,839 million), relative to the growth of assets in euros and in denars with Euroclause (by Denar 26,275 million)[36]. Also, the widening of the negative gap between the positions in US dollars and in denars with US dollar clause stems from the faster growth of liabilities in dollars and in denars with US dollar clause (by Denar 3.567 million) relative to the assets in this currency (by Denar 1.847 million)[37].

[36] Similar to the total assets and liabilities with currency component, the annual growth of the liabilities with Eurocomponent was mostly conditioned by the growth of the position "Current accounts and other short-term liabilities" by Denar 17,666 million, of deposits by Denar 10,095 million and of loan liabilities by Denar 2,108 million, while the growth of the assets with Eurocomponent mostly results from the growth of the position "cash, cash equivalents, gold and precious metals" from the Report on the exposure to currency risk by position (which also includes the current accounts in euros) by Denar 8,483 million, by the increased investments in securities by Denar 8,767 million, as well as by the growth of loans with Eurocomponent by Denar 8,743 million. Banks submit the Report on the exposure to currency risk by position to the National Bank in accordance with the Instructions for implementing the Decision on managing the currency risk (Official Gazette of the Republic of Macedonia No. 154/2008).

[37] The annual growth of the liabilities in dollars and in denars with US dollar clause is a result of the annual growth of the position "Current accounts and other short-term liabilities" by Denar 3,128 million, while the growth of the assets with dollar component results from the growth of the position "cash, cash equivalents, gold and precious metals" from the Report on the exposure to currency risk by position.

Changes in the gap in the positions in other currencies have no significant influence on the movements of the total gap between assets and liabilities with currency component.[38]

Table 3

Currency structure of assets and liabilities with currency component

in %

| Currency | 31.12.2020 | | 31.12.2021 | |
|---|---|---|---|---|
| | **Assets** | **Liabilities** | **Assets** | **Liabilities** |
| **Euro** | 90.8 | 89.5 | 90.7 | 89.3 |
| **US dollar** | 5.8 | 6.8 | 5.9 | 7.3 |
| **Swiss franc** | 1.3 | 1.4 | 1.5 | 1.3 |
| **Australian Dollar** | 0.7 | 0.9 | 0.5 | 0.7 |
| **British pound** | 0.5 | 0.6 | 0.6 | 0.6 |
| **Other** | 0.9 | 0.9 | 0.9 | 0.8 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** |

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

The euro still dominates the currency structure of assets and liabilities with a currency component, so that the maintenance of a stable nominal exchange rate of the denar against the euro is a key factor for maintaining low probability of materialization of both the direct and the indirect currency risk. Namely, more than 99% of the loans with currency component are denominated in euros, or are in denars with Euroclause. As of 31.12.2021, the share of currency component loans in total loans to the non-financial sector decreased by 1.1 percentage points, mainly due to the reduced share of currency component loans with non-financial companies.

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 | | Australian Dollar | | Other | | |
| | Long | Short | Long | Short | Long | Short | Long | Short | Long | Short | |
| **under 5%** | 3 | 5 | 10 | 2 | 4 | 7 | 7 | 4 | 11 | 1 | 8 |
| **from 5% to 10%** | 4 | | | | | | | | | | 4 |
| **from 10% to 20%** | | | | | | | | | | | |
| **from 20% to 30%** | | | | | | | | | | | |
| **over 30%** | | | | | | | | | | | |

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

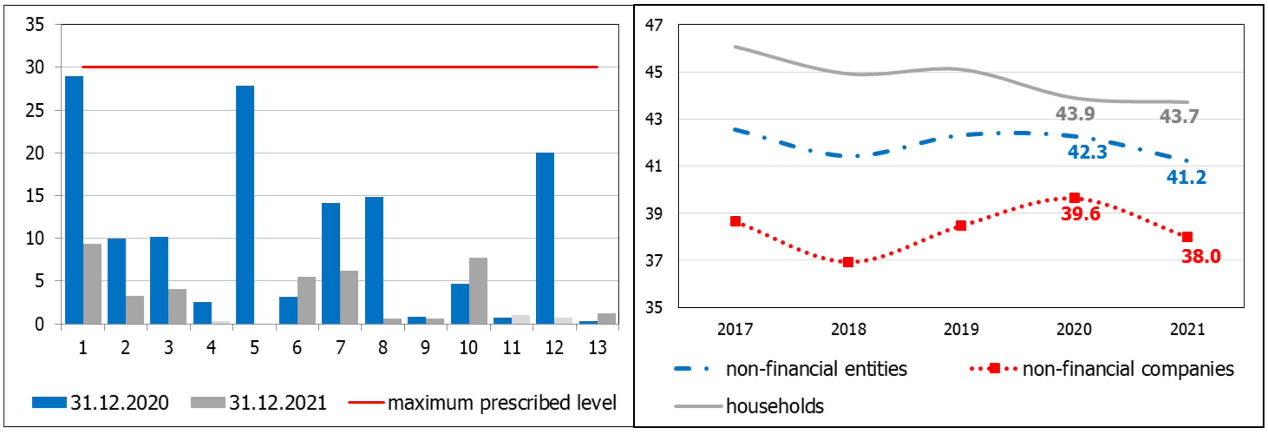
As of 31.12.2021, all banks were in line with the prescribed limit of 30% for the aggregate currency position to own funds ratio. Nine banks had a long foreign currency position, as opposed to three banks that recorded a short foreign currency position. The highest aggregate foreign currency position was long and amounted to 9.3% in relation to the bank's own funds, while the lowest was negative and amounted to 0.3% of the bank's own funds.

[38] The positive gap between assets and liabilities in Swiss francs expanded by Denar 328 million, as a result of the faster growth of the assets in this currency. The other analyzed currencies registered a widening of the negative gap between assets and liabilities by Denar 253 million.

Chart 38

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

in % in %




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

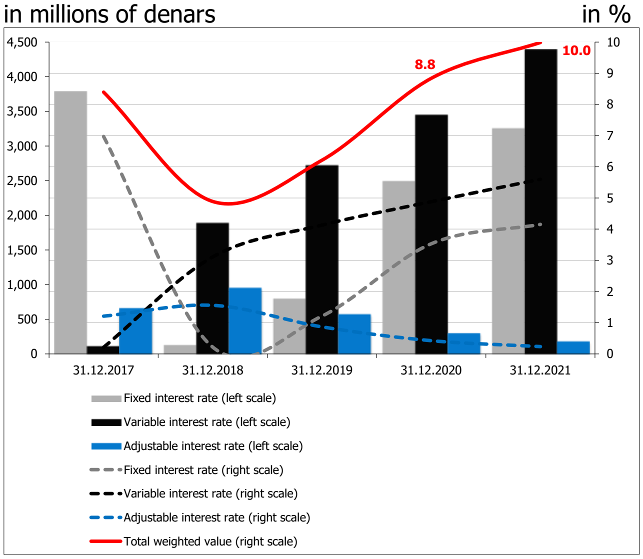
* Columns with lighter shades, refer to the banks that have a short foreign currency position, but shown in absolute value.

** As of 31.12.2021, 12 banks were shown (by one bank less) given the acquisition of one bank by another.

## 4. Interest rate risk in the banking book

**At the end of 2021, the weighted value of the banking book, as a measure for the exposure to the interest rate risk, increased, in both absolute terms and in terms of the own funds of the banking system. On an aggregate basis, the banking system is still exposed to the risk of reducing interest rates, given the positive total gap between the interest-sensitive assets and liabilities. The significant presence of the loans with variable and to a lesser extent with adjustable interest rates continues to emphasize the exposure to indirect credit risk associated with the risk of increasing interest rates.**

Chart 39
The total weighted assets of the banking book*, by interest rate type, in absolute amount (left scale) and relative to own funds (right scale)
in millions of denars in %



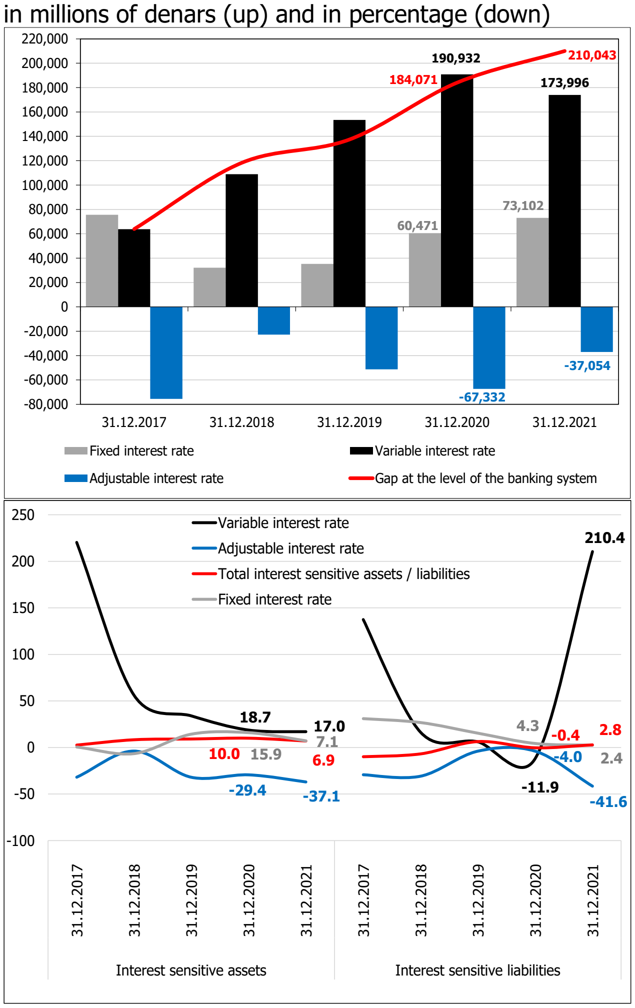

Source: National Bank, based on data submitted by banks.
*The total weighted value of the banking book denotes the potential loss of the economic value of this portfolio, amid assumed unfavorable interest shock of ±2 percentage points.

**The total weighted value of the banking book registered an annual growth of 25.4%, or by Denar 1,583 million, reaching a level of 10.0% of the own funds of the banking system (8.8% at the end of 2020).** Analyzing by bank, this ratio ranges from 0.5% to 16.8%, which is below the level of the prescribed 20%[39]. By type of interest rate, the weighted values of the portfolios with fixed and with variable interest rate increased (by Denar 759 million, or by 30.5% and by Denar 940 million, or by 27.3%, respectively). In contrast, the weighted value of the portfolio with adjustable interest rate registered an annual decrease of Denar 116 million, or by 39.0%.

In 2021, the realized level of the ratio between the net weighted position and the own funds exceeded the calculated average of this indicator for the last 5 years and came close to the maximum level registered in the last 5 years[40].

[39] 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.
[40] Data on the exposure of banks and the banking system to the interest rate risk in the banking book are available from 2010, which enable determining of five-year averages starting from 2016.

Chart 40
Interest-sensitive assets and liabilities by type of interest rate, gap (up) and annual growth (down)
in millions of denars (up) and in percentage (down)




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

**In 2021, the total gap, i.e. the net non-weighted position between interest-sensitive assets and liabilities, registered an annual growth of 14.1% or by Denar 25,972 million. This is mostly due to the annual changes in the gaps between the positions with adjustable and fixed interest rate.** The negative gap between assets and liabilities with adjustable interest rate registered an annual narrowing (by Denar 30,278 million, or by 45.0%), mostly due to the reduction of liabilities on demand[41] (by Denar 42,675 million) versus the decline in the placements in loans (by Denar 17,010 million) with this type of interest rate. The growth of the placements in loans with this type of interest rate (by Denar 17,687 million), made the largest contribution to the widening of the gap of the positions with fixed interest rate (of Denar 12,631 million, or by 20.9%). The positive gap between assets and liabilities with variable interest rate registered an annual narrowing, of Denar 16,936 million, or by 8.9%, which is a result of the higher annual growth of liabilities on demand[42] (by Denar 53,936 million) as opposed to the annual growth of the placements in loans (by Denar 30,920 million) with this type of interest rate.

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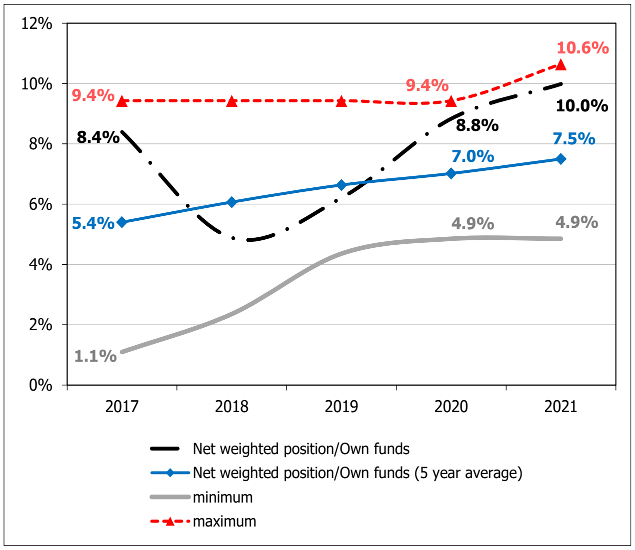
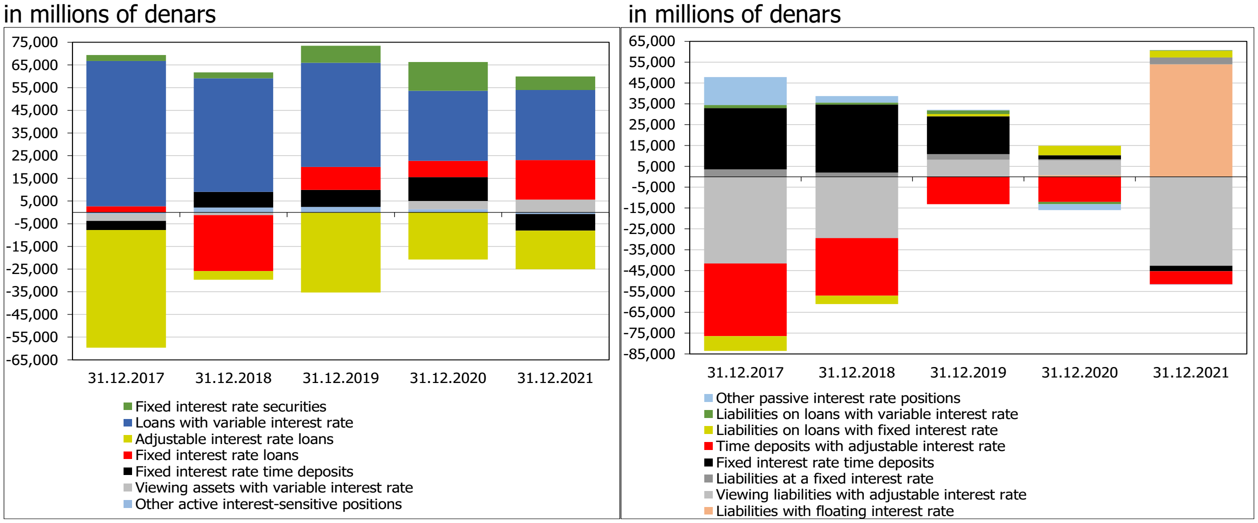
[41] Primarily due to the reclassification of liabilities on demand in one bank, from positions with adjustable to positions with variable interest rate.
[42] Given the already mentioned reclassification of liabilities on demand in one bank, from positions with adjustable to positions with variable interest rate.

Chart 41
Net weighted position / own funds
in %




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

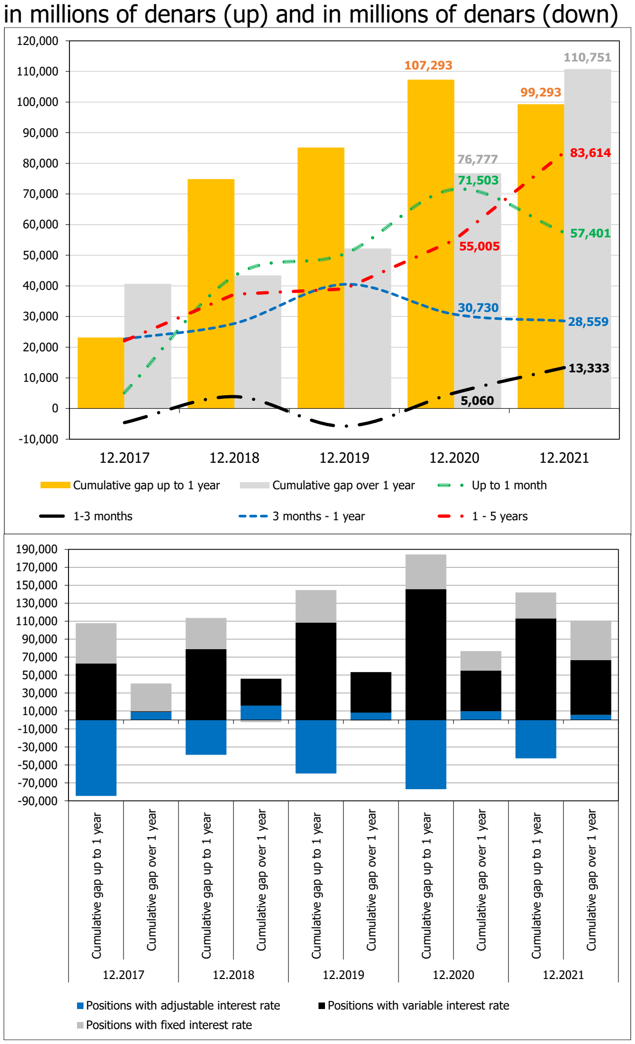
Chart 42
Annual growth of interest sensitive assets (left) and liabilities (right), by type of instrument and type of interest rate
in millions of denars
in millions of denars




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

**Analyzed by time period until the next interest rate revaluation, in 2021,** the largest contribution to the widening of the total gap between interest-sensitive assets and liabilities was made by the gap from 1 to 2 years (growth of Denar 26,280 million). The gap between the positions where the time period until the next interest rate revaluation is

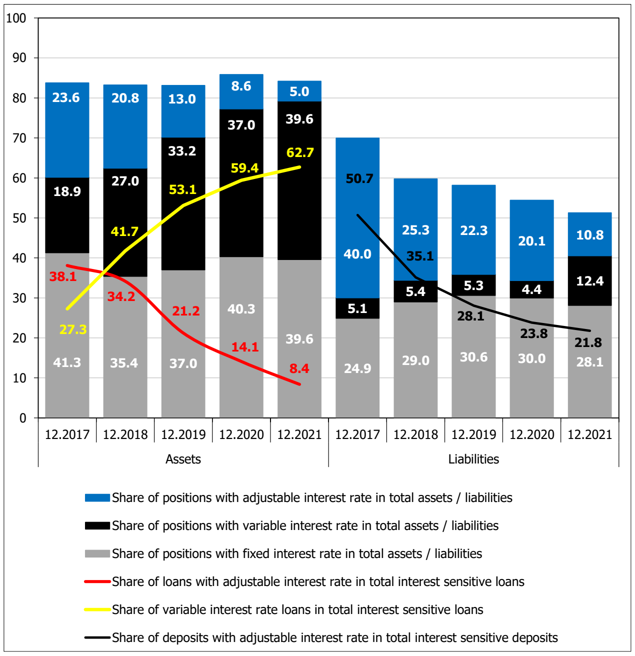
Chart 43
Asset-liability gap, by period until next interest rate revaluation (up) and gap structure by interest rate type (down)
in millions of denars (up) and in millions of denars (down)




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

from 1 to 2 years expanded mostly due to the growth of the placements in loans, with variable and with fixed interest rate, and of the investments in securities with fixed interest rate, as opposed to the annual decline in term deposits and liabilities on the basis of loans, primarily with fixed interest rate. Significant change, but in the opposite direction (decrease of Denar 14,102 million) was registered in the gap between the positions where the time period until the next interest rate revaluation is up to 1 month, which is mostly a consequence of the increased liabilities on demand with variable and fixed interest rate versus the simultaneous decline in the placements in term deposits. On an aggregate basis, the banking system is still exposed to the risk of reducing interest rates, given the positive total gap between the interest-sensitive assets and liabilities.

Chart 44
Assets and liabilities structure, by type of interest rate
in %




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

**The indirect exposure to the risk of increasing interest rates, i.e. the indirect credit risk, which results from the presence of loans with variable and adjustable interest rate remains significant, although it registered certain reduction in 2021.** As of 31.12.2021, the cumulative share of these loans in the total loans is 71.1% (73.5% as of 31.12.2020), whereby 62.7% of the total loans have variable interest rate, while 8.4% are with adjustable interest rate.

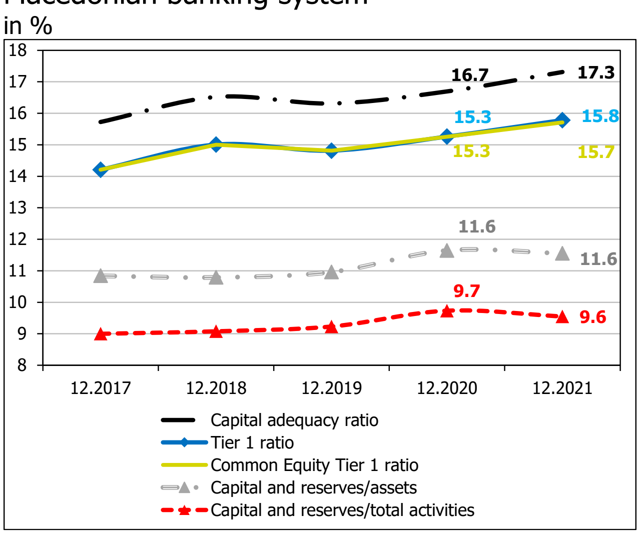
The downward trend of the share of the positions with adjustable interest rate continued in 2021. Thus, the share of the adjustable interest rate in interest-sensitive assets decreased from 8.6% at the end of 2020, to 5.0% at the end of 2021. At the same time, on the liabilities side, the share of positions with adjustable interest rate halved, from 20.1% as of 31.12.2020, to 10.8% as of 31.12.2021.

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

## 5. Insolvency risk

**In 2021, the banking system maintained its high capitalization and stable solvency position. The higher growth of the banks' own funds relative to the risk exposure led to an improved solvency position, and thus improved capacity to deal with unexpected losses. The capital adequacy ratio registered an annual increase of 0.6 percentage points, to the level of 17.3%. The growth of own funds is mostly due to the retained earnings, the issue of ordinary shares and the issued new subordinated instruments, while the growth of the risk weighted assets was mostly concentrated in the credit risk weighted assets. Slightly more than 70% of the growth of own funds was used to meet the regulatory and supervisory requirements. The remaining part of the annual increase of own funds was used to increase the "free" capital above the minimum regulatory and supervisory requirements, which increased its share in the own funds to the level of 10.9% (9.1% at the end of 2020). In addition, 42.8% of the own funds of the banking system account for the capital supplements determined according to the supervisory assessment and for the capital buffers, which in turn are especially important in conditions of 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 shows satisfactory resilience.**

Chart 45
Indicators of solvency and capitalization of the Macedonian banking system

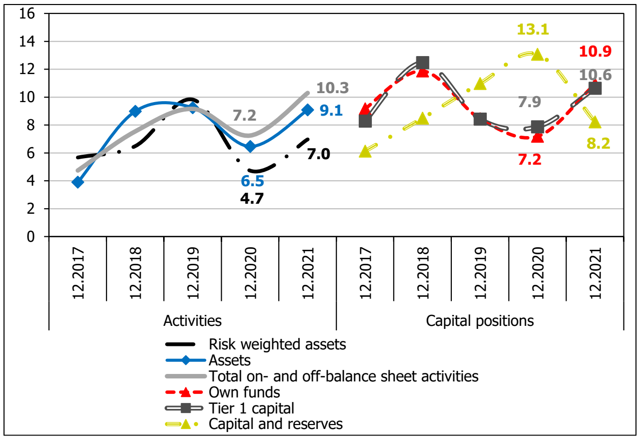



Source: National Bank, based on data submitted by banks.

### 5.1. Solvency and capitalization ratios of the banking system

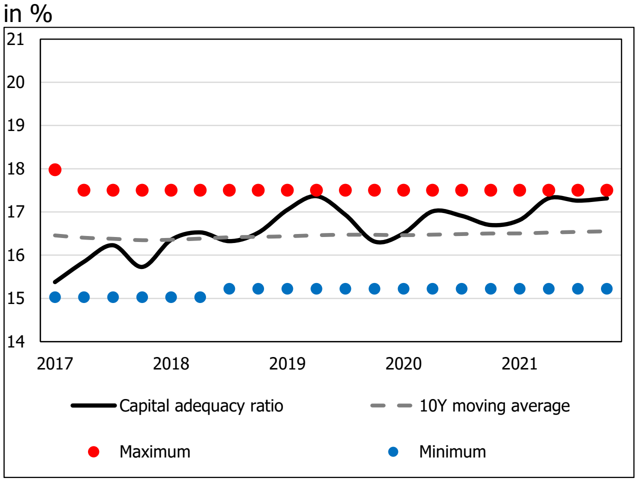
**The banking system ended 2021 with mainly improved solvency and capitalization ratios, compared to the previous year.** On an annual basis, the capital adequacy ratio increased by 0.6 percentage points, to the level of 17.3%, which is above the calculated ten-year average of this ratio (16.5%) and is very close to the maximum registered in the past ten years (17.5%) An annual increase of half percentage point was also registered in the Tier I capital ratio and the Common Equity Tier I capital ratio, which as of 31.12.2021 equal 15.8% and 15.7%, respectively and are significantly higher than the prescribed minimum of 6% and 4.5%, respectively (only one bank has issued Additional Tier 1 capital instruments). In contrast, the share of capital and reserves in total assets remained at the same level (11.6%), while the ratio between capital and reserves and the total activities of the banking system decreased

Chart 46
Annual growth of solvency ratio components
in %




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

Chart 47
Capital adequacy ratio
in %




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

minimally by 0.1 percentage point and reduced to 9.6%. Own funds, the Tier I capital and the capital and reserves registered a solid annual growth of 10.9%, 10.6% and 8.2%, respectively, while the increase in the risk weighted assets, the on-balance sheet assets and the total (balance sheet and off-balance sheet) activities of banks amounted to 7%, 9.1% and 10.3%, respectively. The slowdown of the annual growth of capital and reserves (of about 5 percentage points) is mostly due to decreased retained earnings which are available for distribution to shareholders, due to dividend payments[45] to shareholders by three banks[46].

In order to ensure an appropriate level of capital and prevent excessive indebtedness, banks are obliged to determine and monitor the leverage ratio on a semi-annual basis (as the ratio between the Tier I capital and the total on-balance sheet and off-balance sheet exposure). The average leverage ratio calculated for 2021, amounts to 10.6%[47] and is unchanged compared to2020.

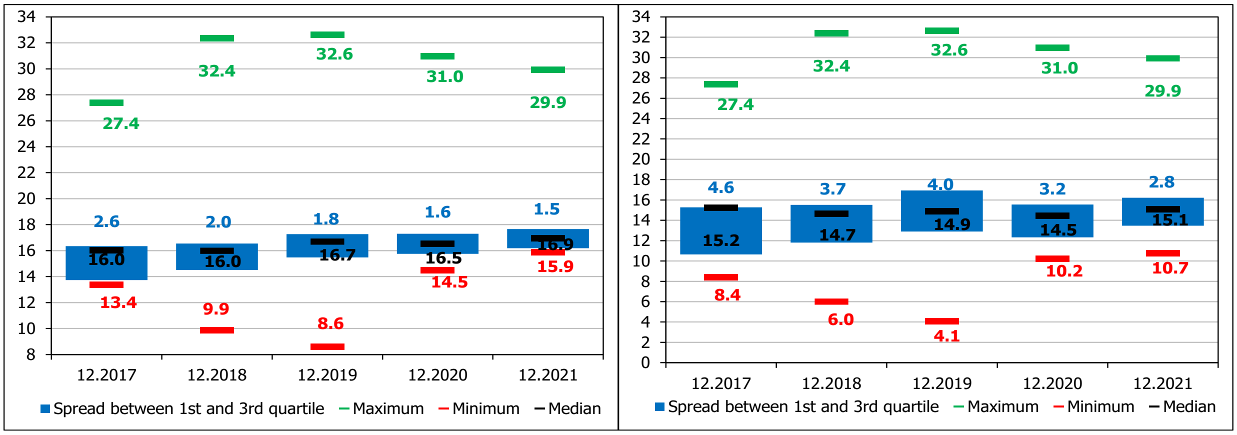
Analyzed by individual bank, the capital adequacy ratios in seven banks registered an annual increase (in an interval from 0.4 to 2.3 percentage points), in two banks they remained the same, while the other four banks registered an annual decrease (in an interval from -0.1 to -1 percentage points).

[45] In February 2021, the National Bank adopted a Decision on temporary restriction of dividend distribution and payment. This decision was adopted for preventive purposes, and to further increase and maintain the banking system resilience and stability, as well as support the lending activity, amid uncertainty around the further course of the health crisis. The decision was valid until the end of 2021, with a possibility of being revoked prematurely, depending on the circumstances with the pandemic In the beginning of August 2021, the National Bank revoked this decision, upon previously conducted detailed analysis of the current circumstances, the movements and perceptions of the banking system and the environment it operates in, while taking into account the results from the performed stress-tests on the resilience of the banking system to assumed shocks.

[46] The dividend payment had no effect on the annual movement of banks' own funds and their capital adequacy ratio, given the fact that the retained earnings available for distribution to shareholders, which were used for dividend payment, were not included in banks' own funds according to the regulation.

[47] The average leverage ratio calculated for the first half-year of 2021 amounts to 10.6%, and for the second half of the year it amounts to 10.7%.

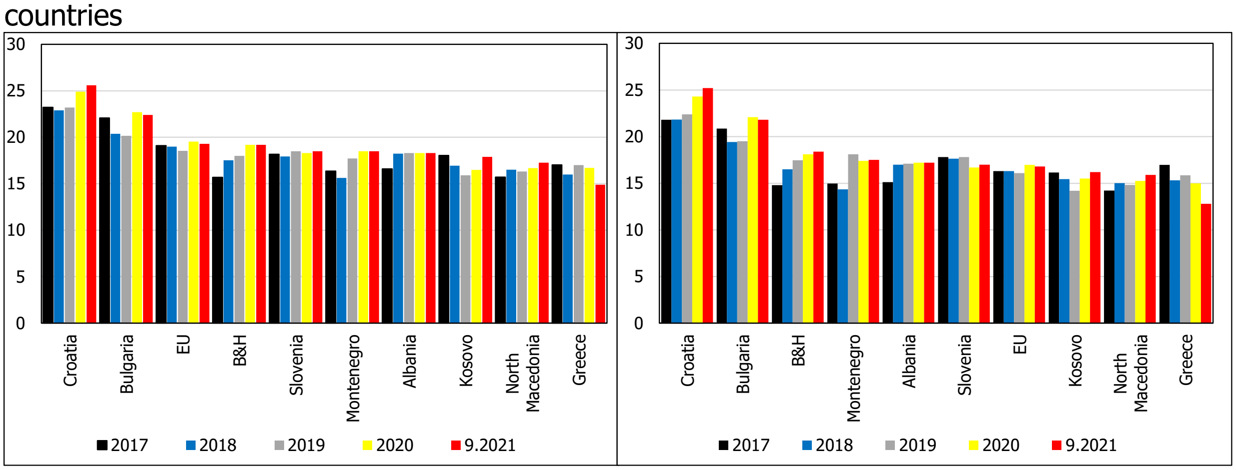
Chart 48
Measures for capital adequacy ratio distribution (left) and Tier 1 capital rate (right) in the banking system
in %




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

The capital adequacy ratio in the banking systems of our neighboring countries and the EU ranges between 14.9% and 25.6%.

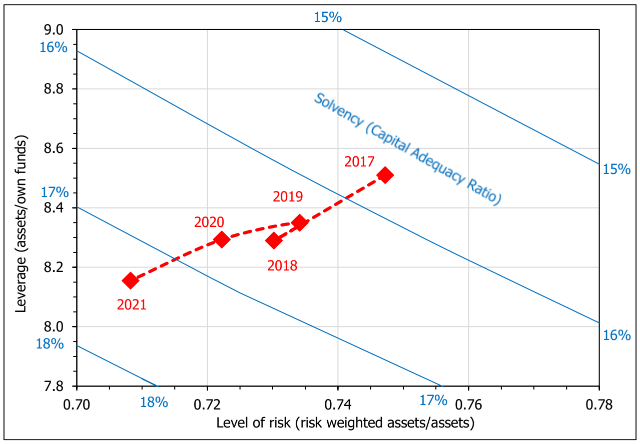
Chart 49
Capital adequacy ratio (left) and Tier 1 capital ratio (right) for the banking systems of selected countries




Source: IMF, EBA and websites of institutions
* Data on the banking system of the Republic of North Macedonia as of 30.09.2021, due to better compatibility with other countries' banking systems, for which the latest available data is as of September 2021.

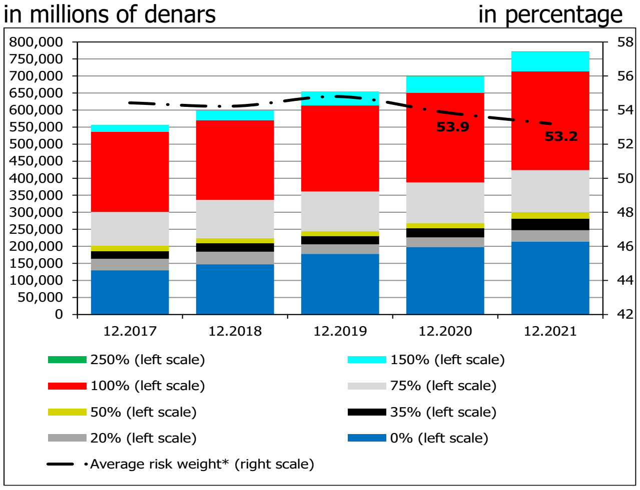
The breakdown of the capital adequacy ratio of its components indicates a simultaneous reduction of the ratio between assets and own funds (indicator for the level of leverage), as well as of the share of the risk weighted assets in the total assets (indicator for the level of risk of the activities of the banking system), which contributed to increasing the capital adequacy ratio in 2021.

Chart 50
Leverage, risk and solvency of the banking system
in times and in %




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

Chart 51
Amount of total on-balance sheet and off-balance sheet exposure, by risk weights
in millions of denars in percentage



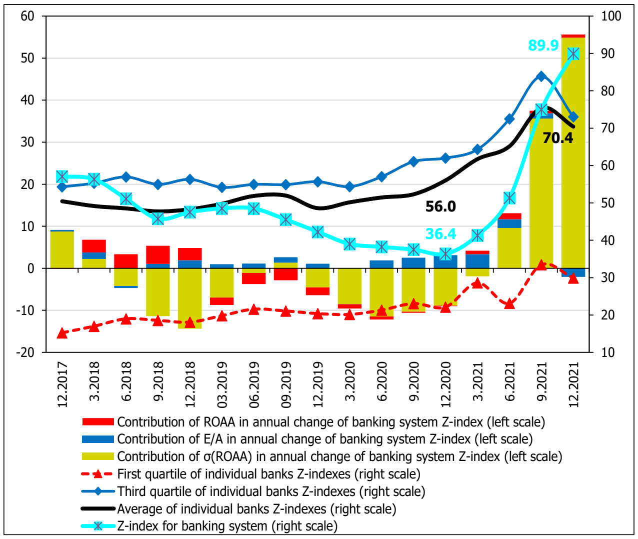

Source: National Bank, based on data submitted by banks.
Note: The average risk weight is calculated as a ratio between risks weighted assets and total banking system balance and off-balance sheet exposure.

**The annual growth of the total risk weighted assets accelerated and amounted to 7% (4.7% in 2020) or Denar 29.480 million,** which mostly resulted from the growth of the credit risk weighted assets of Denar 33.747 million, or by 8.9%. The banks' activities that are included with risk weight of 100% registered the highest growth (by Denar 27.275 million), mostly as a result of the increase in claims on other trade companies (claims on enterprises). However, almost 55% of the growth in claims with risk weight of 100% stems from the increase in off-balance sheet assets claims. At the same time, claims with risk weight of 0% (mainly liquidity assets of the banking system[48]) registered solid growth of Denar 15.390 million, which is higher compared to other claims, subject to other risk weights, with the highest increase of Denar 8.636 million registered in claims with risk weight of 150% (consumer loans with original maturity equal to or higher than 8 years). **Such movements in the credit risk weighted assets contributed to lowering the average level of bank risks (as measured by the credit risk-weighted assets to total on-balance and off-balance sheet exposure ratio) by 0.7 percentage points, up to 53.2%.**

Banking system stability measured by the so-called Z-index[49] is relatively high. On average, it requires a negative shock of at least 70.4 standard deviations from the rate of average return on assets to fully exhaust the capital potential of the banking system. Significant increase (improvement) of the average value of the Z-index was registered during 2021, due to decreased volatility of

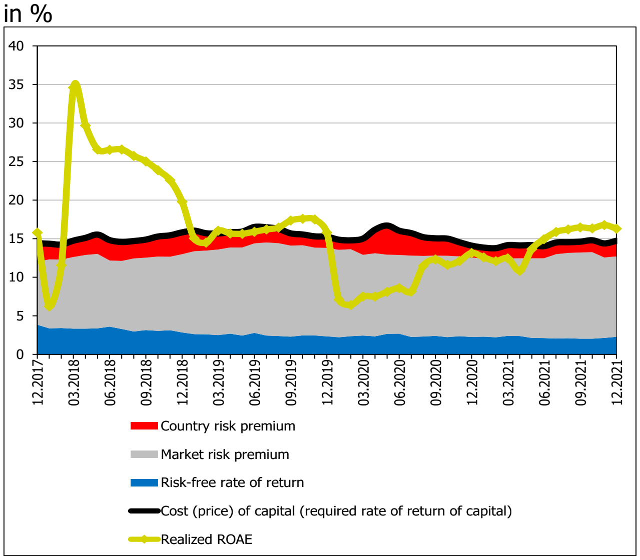
[48] More details in the section concerning the liquidity risk of this Report.
[49] The Z-index is calculated as follows: Z=(ROAA+E/A)/(σ(ROAA)), where ROAA is the rate of return on assets, E is equity and reserves, A is assets and σ( ROAA) is the standard deviation of the rate of return on assets, calculated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

Chart 52
Z-index
in levels




Source: National Bank, based on data submitted by banks.
* Upward movement of the Z-index indicates lower risk level and higher overall stability.

Chart 53
Level and structure of the cost (price) of the capital of the banks whose shares are listed on the official market of the Macedonian Stock Exchange
in %




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

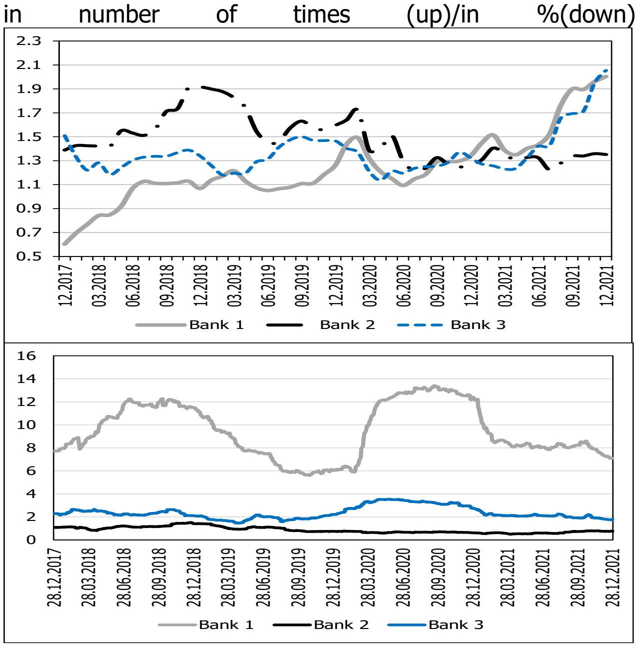
the banks' profits during the year, measured through the standard deviation of the rate of return on average assets, as well as due to higher rate of return on average assets.

**The cost of capital, i.e. the required rate of return to investors in the shares of banks, calculated by applying the so-called CAPM[50], on a sample of eight[51] banks whose shares are listed on the official market, registered an annual increase.** The cost of capital, calculated using this model increased by 0.6 percentage point, to a level of 14.3% at the end of 2021. The rate of return on equity of the banks included in the analysis also increased to 16.3%, which exceeds the level of the required rate of return on shares. The higher required rate of return on the banks' shares mostly results from the increased country risk premium, which increased by 0.5 percentage points annually (which is a result of the expansion of the difference between the yields on the issued Macedonian Eurobonds and the yields on comparable German bonds). The increase in this premium was more pronounced in the second half of 2021, especially in the last quarter, amid prolonged uncertainty surrounding the pandemic (occurrence and spread of the new Omicron variant), increase in energy prices and negative news about the emergence and escalation of the energy crisis and mainly higher inflation rates.

In 2021, the price-to-book ratio for the three largest banks in the system remained relatively high. Moreover, this indicator specifically increased in the second half of the year in two of the analyzed banks, when the expectations for dividend payment were more pronounced, thus the price-to-

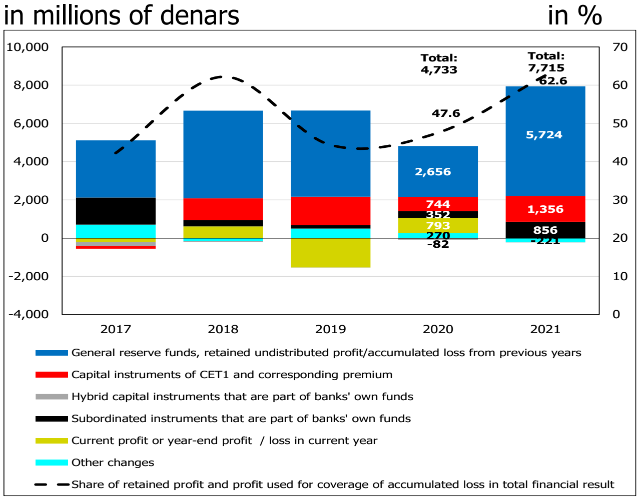
[50] Calculated using the so-called Capital-Asset Pricing Model (CAPM), where the price of equity is the sum of: 1) risk free yield rate (determined as the average of the yields to maturity of bonds listed on the Macedonian Stock Exchange), 2) the product of beta coefficient per share and the difference between the market rate of return and risk free rate on return (or premium market risk) and 3) the premium for country risk (defined as the difference between the yields of the Macedonian Eurobonds and comparable German bonds). Market risk premiums is calculated as the average premium for market risk for each bank, weighted by the size of their assets.
[51] Since August 2021, the number of banks reduced to seven, given the acquisition of one bank by another.

Chart 54
Price-to-book ratio for the shares (up) and percentage of turnover ratio for the previous one-year period (down), for the three largest banks in the system
in number of times (up)/in %(down)




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

Chart 55
Structure of annual changes in own funds
in millions of denars in %




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

book ratio in two banks reached a level of 2(times).

### 5.2. Quality of own funds of the banking system

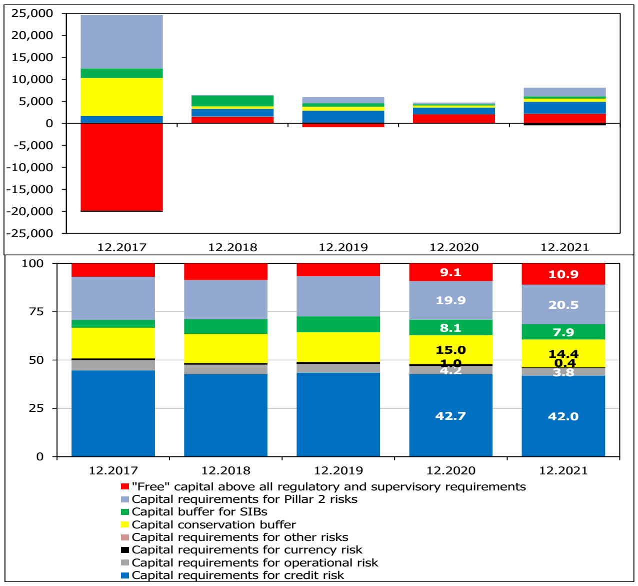
**The structure of the own funds at a level of the banking system shows that the sector has high-quality capital positions, which provide it with satisfactory resilience to potential stressful scenarios.** At the end of 2021, the highest-quality buffer of the own funds of the banking system (the Common Equity Tier I capital) accounts for 90.8% of the total own funds, the Additional Tier I capital accounts for only 0.4% of the own funds of the banking system, while the Tier II capital makes up 8.8%.

**In 2021, the own funds of the banking system registered rapid annual growth** of Denar 7.715 million, or 10.9% (7.2% in 2020). The largest contribution to the growth of own funds in 2021 was made by the reinvestment of the banks' profits achieved in the previous year, as well as the issue of new ordinary shares (by two large banks[52], one medium-sized bank[53] and one small bank [54]) and the issued new subordinated instruments[55]. For more details about the level of own funds by group of banks see annexes to this report.

**Almost[56] all components of own funds, analyzed by their purpose registered an annual growth.** Capital requirements for covering risks (from pillar 1) increased by Denar 2.358 million, or by 7% and as of

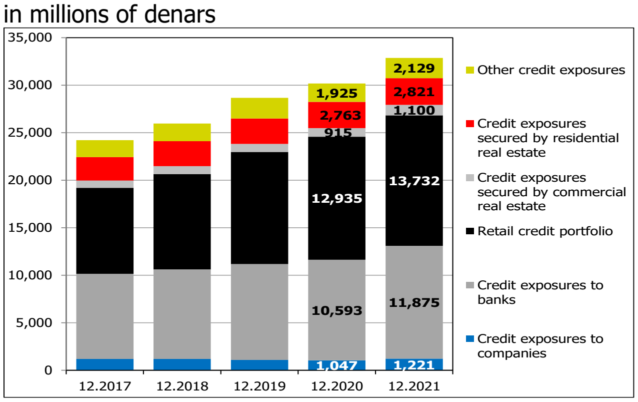
[52]For more information visit: Јули - Korrik 2021.pdf (sec.gov.mk), page 8 and Месечен извештај април 2021.pdf (sec.gov.mk),
[53]For more information visit: Владата го зголеми капиталот на Развојна банка за поголема поддршка на приватниот сектор (mbdp.com.mk).
[54]For more information visit: Ноември / Nëntor 2021 (sec.gov.mk), page 8.
[55] In 2021, subordinated instruments in a total amount of Denar 1.261 million were issued by one large bank (Denar 922 million) one medium-sized bank (Denar 277 million) and by one small bank (Denar 62 million).
[56] Capital requirements for currency risk decreased annually by Denar 417 million, or by 58.9%, due to the more significant decrease of the aggregate currency position of the banking system. More information in the section concerning the currency risk of this Report.

Chart 56
Structure of annual growth (up) and balance (down) 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 57 Stock and structure of capital requirements for credit risk, by category of exposure
in millions of denars




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

31.December 2021, they account for 46.2% of the total own funds of the banking system (47.9% as of 31 December 2020). The annual growth of capital requirements for covering risks mostly results from the increase in capital requirements for credit risk, mostly from banks' activities with companies (claims on other trade companies) and households (claims based on retail loan portfolio). Capital buffers[57] (for capital conservation and for systemically important banks[58]) increased by Denar 1.249 million, or by 7.7%, on an annual level and at the end of 2021 account for 22.4% of the total own funds of the banking system (23.1% as of 31.12.2020). The amount of the capital supplement determined by the supervisory grade and evaluation (pillar 2) registered an annual increase of Denar 1.952 million, or by 13.9% and accounts for 20.5% in the total own funds of the banking system. Finally, the free own funds, above the necessary regulatory and supervisory requirements, registered solid annual growth of Denar 2.155 million, or by 33.6% and reached a share of 10.9% of total own assets.

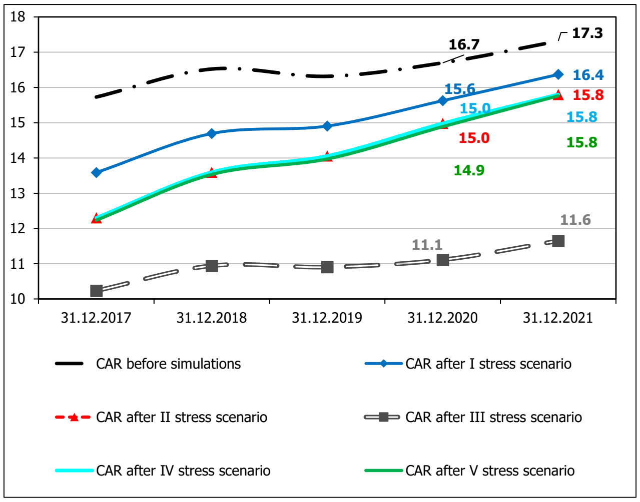
For more details on the capital requirements for covering risks and on the capital adequacy ratio, by group of banks, see annexes to this Report.

## 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,**

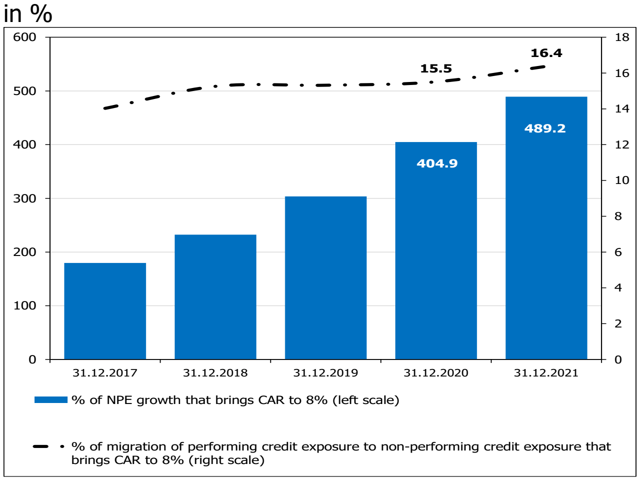
[57] From the four capital buffers specified by the Banking Law, in 2021, all banks were required to meet the capital conservation buffer, while the seven banks (six banks, after the acquisition of one bank by another) identified as systemically important banks are also required to meet an appropriate rate of capital buffer for systemically important banks.
[58] Pursuant to the Decision on the methodology for identifying systemically important banks ("Official Gazette of the Republic of Macedonia" no. 26/17 and Official Gazette of the Republic of North Macedonia No. 88/21), not later than 30 April of each year, the National Bank identifies the systemically important banks and determines the rates of capital buffer that these banks should maintain. Systemically important banks are required to comply with the prescribed capital buffer rates for systemically important banks by 31 March next year. The calculation for identifying systemically important banks for the period April 2021 - March 2022 is conducted on the basis of the data, as of 31 December 2020. According to this calculation, seven banks have been identified as systemically important banks (which should meet the determined rate of capital buffer for systemically important bank, not later than 31.3.2022). For more information visit: [Skopje, 11 (nbrm.mk)](). With the acquisition of one bank by another, the number of systemically important banks reduced to six.

Chart 58
Results of stress-test simulations
in %




Source: National Bank, based on data submitted by banks[43].

Chart 59
Necessary deterioration of the quality of credit exposure to cause a decline in the capital adequacy of the banking system to 8%
in %




Source: National Bank, based on data submitted by banks[44].

**which assume extreme materialization of the credit risk (isolated, or in combination with materialization of the currency and/or the interest rate risk).** The results of the conducted regular stress-testing of the resilience of the banking system and of the individual banks to simulated shocks are better compared with 31.12.2020, mostly due to the higher initial level of the capital adequacy ratio, before shocks. The capital adequacy of the banking system does not fall below 8% in any of the simulations, although individual banks reveal hypothetical need for recapitalization in the simulated extreme shocks.

Hypothetical shocks on the part of the credit risk had the greatest impact on the solvency of the banking system. The results of the reverse stress test show that it takes growth of 489.2% of non-performing loan exposure migration of 16.4% 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 2021, the non-performing credit exposure to non-financial entities registered an annual increase of 4.6%. On the other hand, in 2021, only 1.2% of the regular credit exposure to the non-financial sector received a non-performing status. However, the banks and their clients still face numerous challenges. Besides the direct adverse effects of the health crisis, the risks with the disturbances

[43] Stress testing includes the following simulations:
I: Increase in non-performing loan exposure to non-financial entities by 50%;
II: Increase in non-performing loan exposure to non-financial entities by 80%;
III: Migration of 10% of the regular to a non-performing credit exposure to non-financial entities;
IV: Increase in non-performing loan exposure to non-financial entities by 80% and increase in interest rates from 1 to 5 percentage points;
V: Increase in non-performing loan exposure to non-financial entities by 80%, depreciation of the Denar exchange rate by 30% and increase in interest rates from 1 to 5 percentage points;

[44] Stress testing includes the following simulations:
I: Increase in non-performing loan exposure to non-financial entities by 50%;
II: Increase in non-performing loan exposure to non-financial entities by 80%;
III: Migration of 10% of the regular to a non-performing credit exposure to non-financial entities;

in the global value chains, the growth of energy prices and inflation rates were also pronounced, and since the beginning of 2022 the geopolitical risks to which the Macedonian economy is exposed to and the consequences of which are uncertain and not completely known, intensified. In such conditions, the solvency of the banking system is at a satisfactory level and significantly mitigates the negative effects of possible materialization of risks of any nature.

IV: Increase in non-performing loan exposure to non-financial entities by 80% and increase in interest rates from 1 to 5 percentage points;
V: Increase in non-performing loan exposure to non-financial entities by 80%, depreciation of the Denar exchange rate by 30% and increase in interest rates from 1 to 5 percentage points;

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

## 1. Bank activities

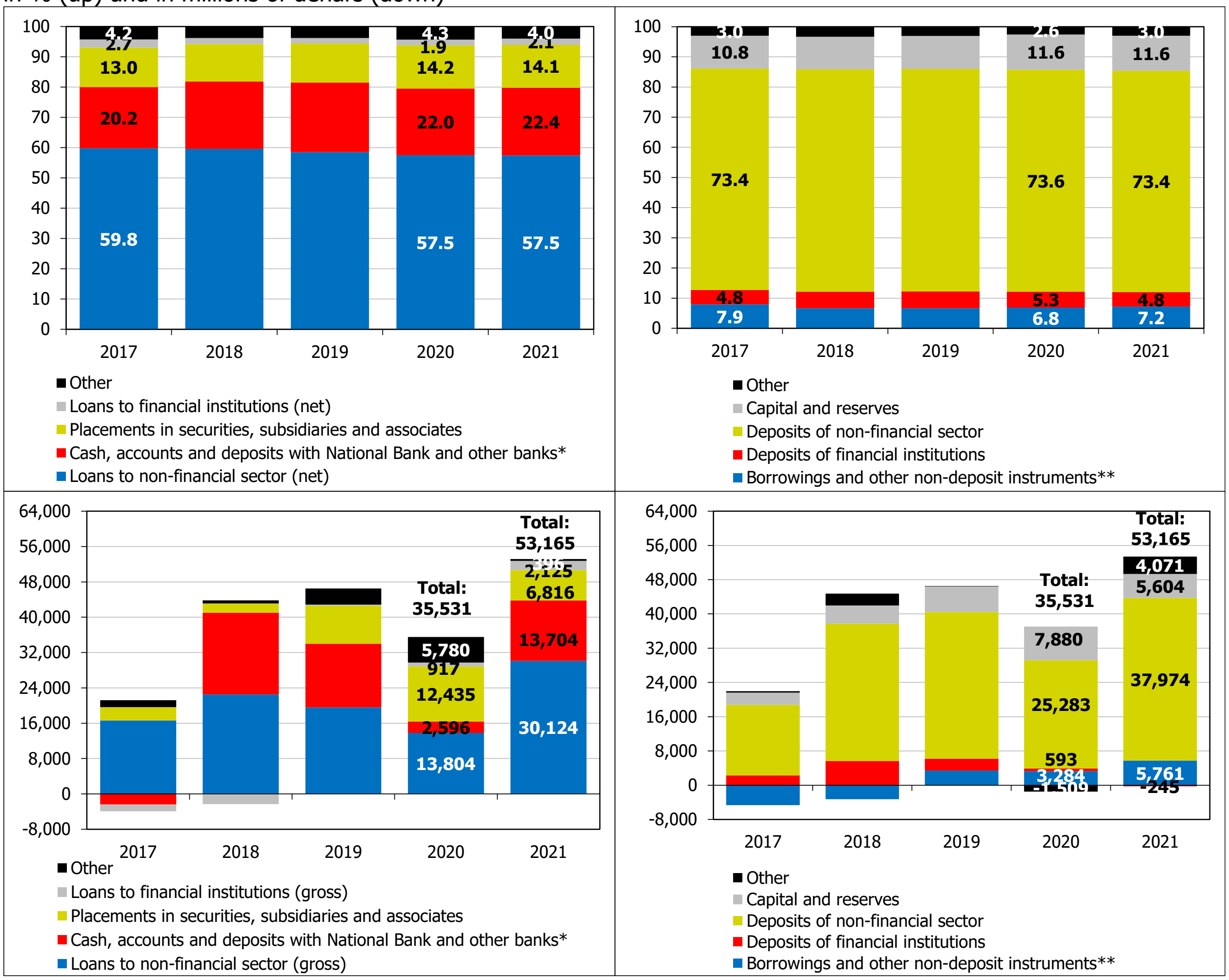
**In 2021, despite the uncertainty with the pandemic, risks related to disturbances of the global supply chains, higher energy prices and mainly increased inflation rate were pronounced. In such conditions, the growth of the balance sheets of the banking system accelerated and increased at a similar annual rate as in the pre-pandemic 2019.**

**On the side of the sources of funds, the annual growth of deposits accelerated, compared to 2020. Both, household and corporate deposits register a rapid growth, but the propensity for foreign currency deposits in very short terms is very high and such deposits mostly contributed to the annual growth of total deposits. Some contribution to the increase in liabilities was also made by non-deposit sources of funds, where the growth was distributed between liabilities based on loans, capital and reserves and the higher profit for 2021.**

**The highest growth in the assets of the banking system was registered in loans, whose annual rate exceeded the one registered in 2020, as well as in the pre-pandemic 2019. The annual credit growth was almost equally directed towards companies and households, mostly in denars. Significant contribution to the annual growth of assets of the banking system was also made by the higher liquid assets of banks.**

**In the beginning of 2022, the environment around the domestic banking system became even more complicated with the onset of the conflict between Russia and Ukraine whose indirect effects, from the materialization of risks related to these events on North Macedonia, are relatively uncertain. The pace of growth of the economic activity and the activities of the banking system in the next period will be largely conditioned by the intensity of the stated risk factors and by the success in dealing with the adverse effects of each.**

Chart 60
Structure of the assets (up left) and liabilities (up right) and structure of the annual changes of the assets (down left) and liabilities (down right) of the banking system
in % (up) and in millions of denars (down)

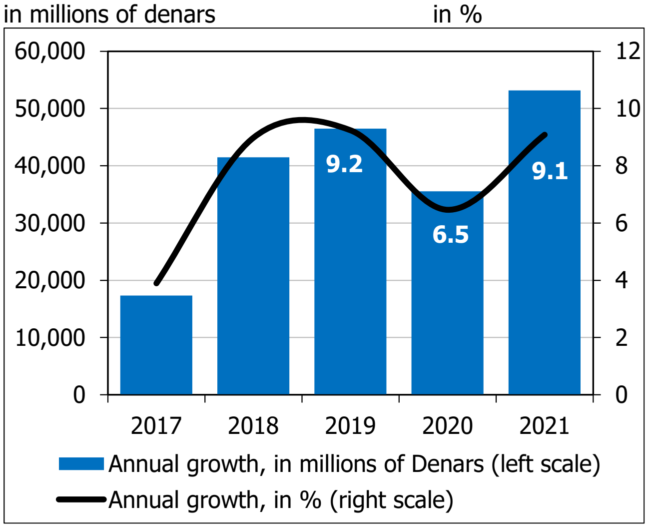



Source: National Bank, based on data submitted by banks.
Note: * Cash, accounts and deposits with the NBRNM and other banks also include the assets in the guarantee fund of KIBS, as well as the reserve requirement in foreign currency; ** Other issued non-deposit instruments include issued subordinated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

**In 2021, the growth of the balance sheets of the banking system accelerated and increased at a similar annual rate as in 2019, before the pandemic.** On an annual basis, the assets of the banking system increased by Denar 53.165 million, or by 9.1% (in 2020, the assets increased by Denar 35.531 million or by 6.5%). The highest annual growth in assets was registered by loans to non-financial entities, followed by liquid assets in the banking system, with the highest increase in banks' assets on accounts with the National Bank and foreign banks, as well as placements in government bonds. On the liability side, deposits of non-financial entities registered the highest annual growth, with a certain contribution of non-deposit sources of funds, where the growth was distributed between liabilities based on loans, capital and reserves and the higher profit for 2021.

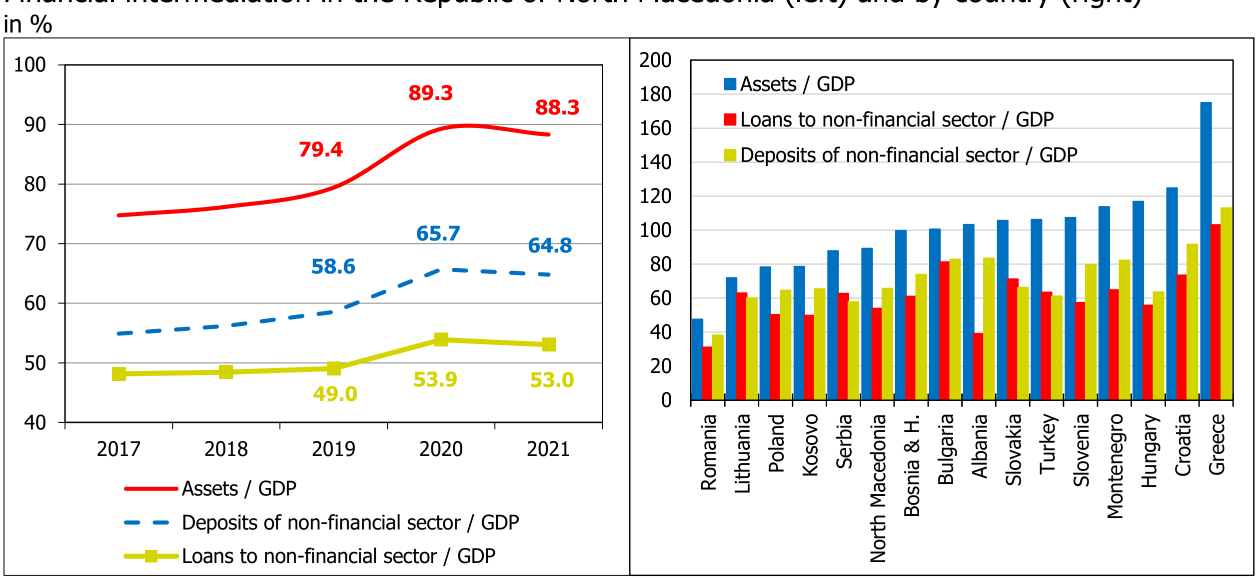
**Financial intermediation indicators decreased in 2021,** which is largely a result of the high base effect in 2020, due to the GDP fall last year. The comparative analysis with other countries of Central and Southeast Europe indicates a level of financial intermediation in our country which is still modest.

Chart 61
Assets of the banking system




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

Chart 62
Financial intermediation in the Republic of North Macedonia (left) and by country (right)

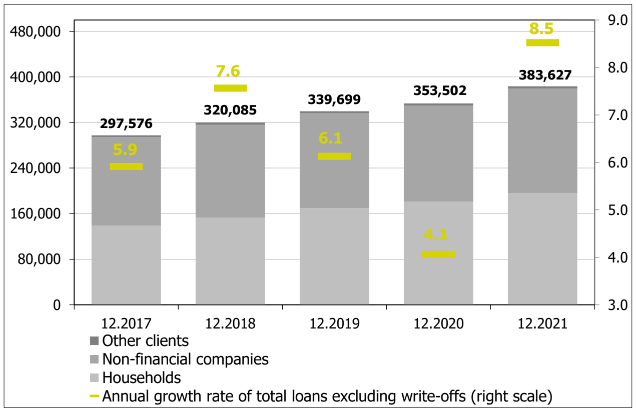



Source: The National Bank and the SSO, based on data submitted by banks, the IMF and the websites of the individual central banks.

## 1.1 Loans to non-financial entities[59]

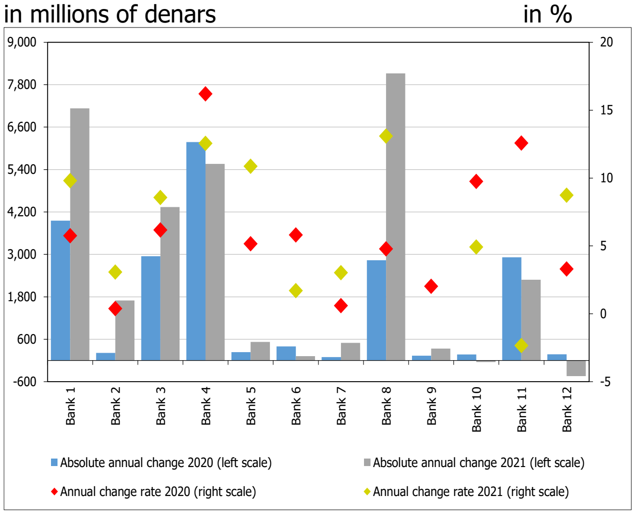
**In 2021, lending to non-financial sector registered rapid growth of 8.5%, i.e. the volume of loans increased by Denar 30 billion compared to the last year. The acceleration partly stems from** the favorable environment due to the package of monetary measures and regulatory changes taken by the National Bank during 2020 due to the COVID-19 pandemic, which were coupled with the government package of measures to support lending activity[60] Analyzed by banks, 83.5% of the annual growth of loans to non-financial entities was due to increased lending activity of four large banks.

Chart 63
Amount and annual growth rate of loans to non-financial entities
in millions of denars in %




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

Chart 64
Annual growth of the total lending to non-financial entities, by bank
in millions of denars in %

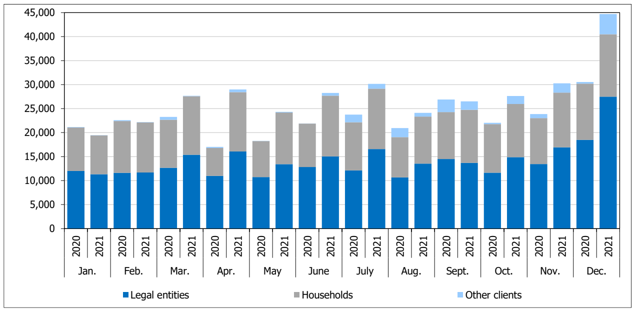



Source: National Bank, based on data submitted by banks.

59 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 persons (loans to households).

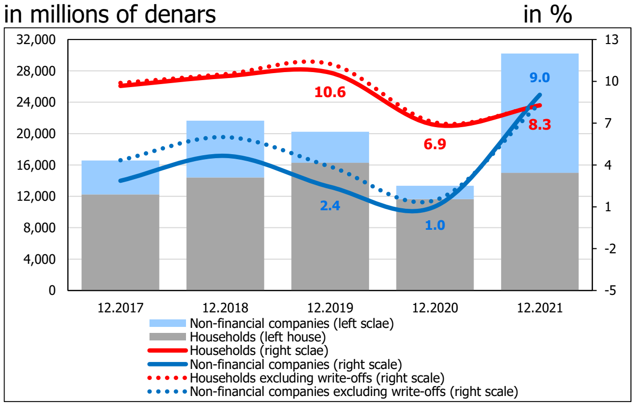
60 For more information on the package of measures taken by the National Bank see the Report on the Risks in the Banking System of the Republic of North Macedonia in 2020, available at https://www.nbrm.mk/content/Godisen_BS_31_12_2020.pdf The Government measures are presented at https://vlada.mk/ekonomski-merki-covid19.

Chart 65
New loans by individual sectors
in millions of denars




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

Chart 66 Growth of loans to non-financial corporations and households
in millions of denars in %




Source: National Bank, based on data submitted by banks.
Note: The lines with dots show the growth of loans by excluding the effect of all mandatory write-offs made in the period 1.1.2016 - 31.12.2021. Starting from December 2019, the data also contains the collected compulsorily written-off loans.

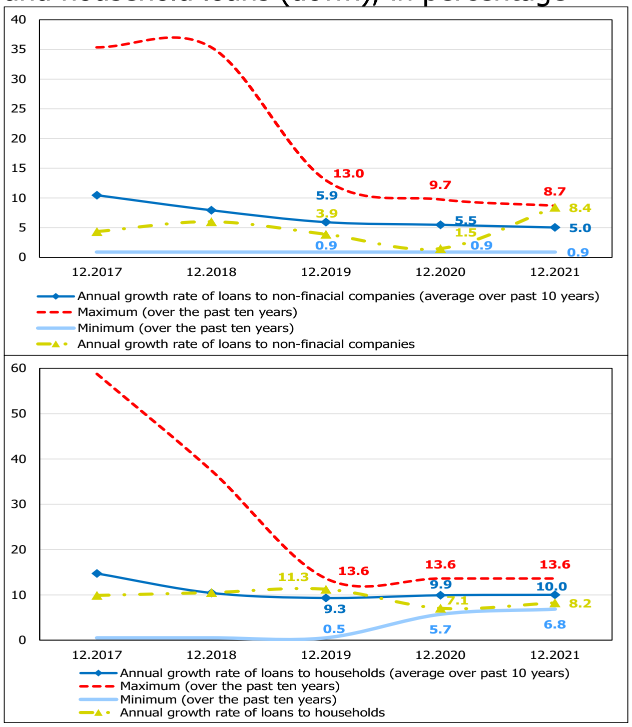
**The volume of new loans in 2021 registered a significant increase of more than one fifth, or by 19.2% (Denar 53.858 million), compared to 2020.** On a monthly basis, the newly granted loans generally increased throughout 2021. Analyzed by segments, more than half of the growth of new loans is a result of the increased lending activity with companies, amid similar relative growth in new loans to businesses (by 22.6%) and households (by 21.2%).

**The annual growth of lending activity almost equally results from lending to households and lending to non-financial companies.**

**After the slower growth in the pandemic year of 2020, loans to non-financial companies registered an accelerated growth** in 2021, by Denar 15.219 million, or by 9.0%[61], compared to the modest growth of 1.0% at the end of 2020. The accelerated growth of the lending to the corporate sector (excluding the effect of net write-offs) is also perceived by the approximation of the growth rate to the maximum value of the annual growth registered in the last 10 years (the difference between the two growth rates is only 0.3 percentage points).

[61] If we exclude the effect of the mandatory net write-offs, the annual growth of loans to non-financial companies is 8.4% (1.5% as of 31.12.2020).

Chart 67
Ten-year moving average of annual growth rates of loans to non-financial corporations (up) and household loans (down), in percentage



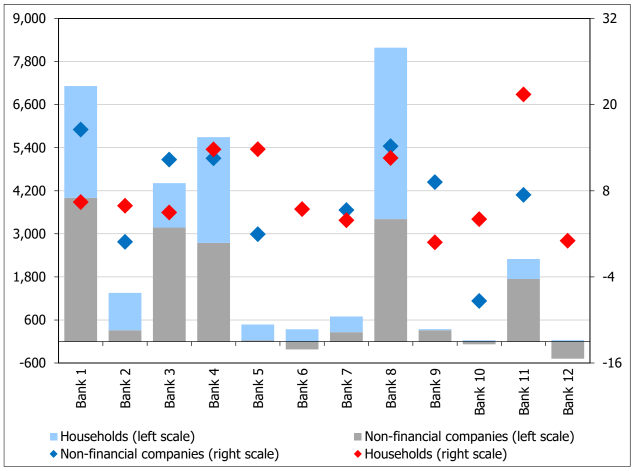

Source: National Bank, based on data submitted by banks.
*Note: Excluding the effect of all mandatory write-offs made in the period 1.1.2016 - 31.12.2021. Starting from December 2019, the data also contains collected compulsorily written-off loans.

**The reasons for the accelerated credit growth are partly due to the slower growth in 2020 as a result of the COVID-19 pandemic, [62] and largely, according to banks' indications[63], due to more pronounced net increase of total demand for corporate loans, amid net tightening of the conditions [64] for approving corporate loans[65] throughout the year.** For the first quarter of 2022, banks expect net easing of the credit conditions for approving corporate loans, amid net reduction of the credit demand by companies.

According to the economic activity of the clients, the structure of loans to non-financial companies is predominated by loans approved to clients from wholesale and retail trade and industry. Analyzing the size of non-financial companies[66], at the end of 2021, most of the approved corporate loans refer to small enterprises (33.1%), with a relatively similar share of large enterprises (31.5%). They are followed by loans to medium-sized enterprises (28.8%) and loans to micro enterprises (6.6%).

[62] In 2020, the tightened loan supply prevailed on the credit market (in the second half of the year) amid simultaneously reduced demand for loans (during 2020).
[63] Source: National Bank's Lending Surveys.
[64] Analyzing the individual conditions for the lending to the corporate sector, banks point to net tightening in the non-interest revenues and in the collateral requirements, throughout 2021. Regarding the other credit conditions (interest rate, size and maturity of loans) banks pointed to changes in terms of direction, net easing in some quarters and net tightening in other quarters of 2021.
[65] Source: National Bank's Bank Lending Survey in the first, second, third and fourth quarter of 2021.
[66] 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.

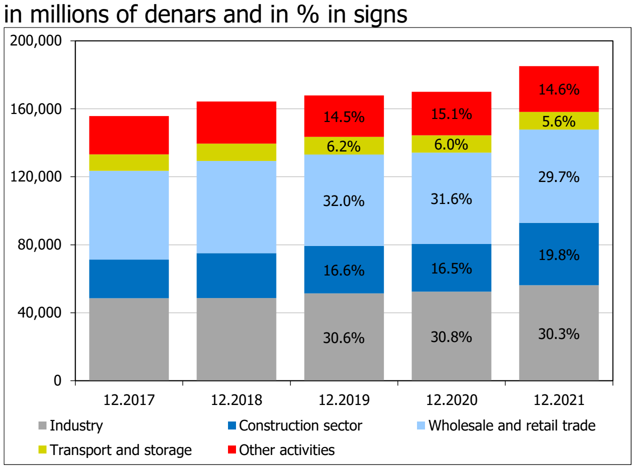
Chart 68
Annual growth of loans to non-financial corporations and households, by bank
in millions of denars                                                    in %




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

**Solid upward movement is also registered in the loan portfolio of the households,** where the annual growth rate in 2021 is 8.3%[67], amid growth of these loans of Denar 15.001 million (the growth in 2020 amounted to 6.9% or Denar 11.656 million). Despite the accelerated growth for a second consecutive year, the annual growth of household loans (excluding the effect of net write-offs) is below the 10-year moving average of the annual growth rates of these loans.

Chart 69 Structure of loans to non-financial corporations, by activity
in millions of denars and in % in signs

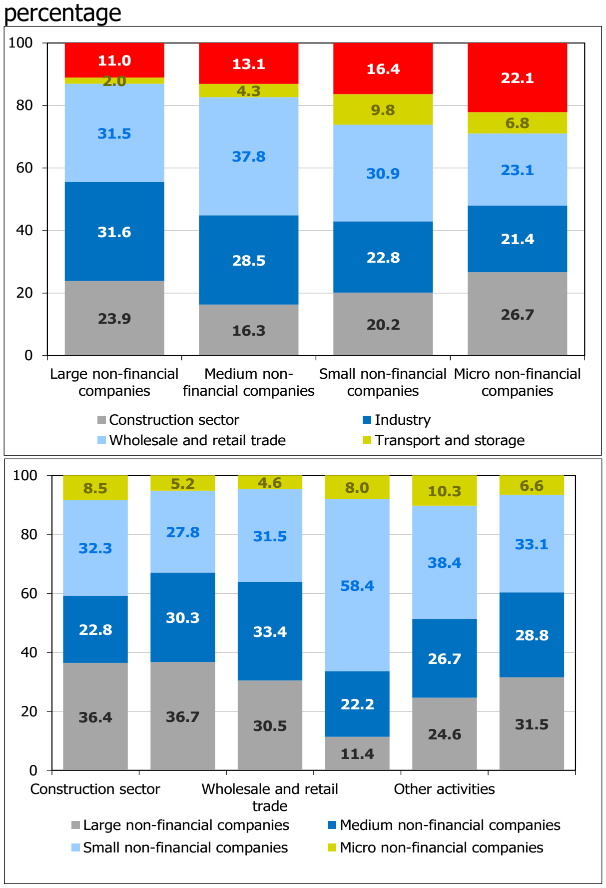



Source: National Bank's Credit Registry, based on data submitted by banks.

**The accelerated growth of household lending partly stems from the lower growth in 2020, while it is mostly a result of the increased demand for loans, amid simultaneously eased credit conditions[68].** In 2021, most of the banks point to net easing of the credit conditions[69] in household loans[70]. Analyzed by individual types of loans, banks pointed to continuous net easing of the credit conditions in housing loans, while consumer loans registered small net tightening in the third quarter of 2021. On the demand side, banks point to net increase in the demand for loans to households, except in the fourth quarter[71] when there is a net decrease in the demand for all types of loans to households.

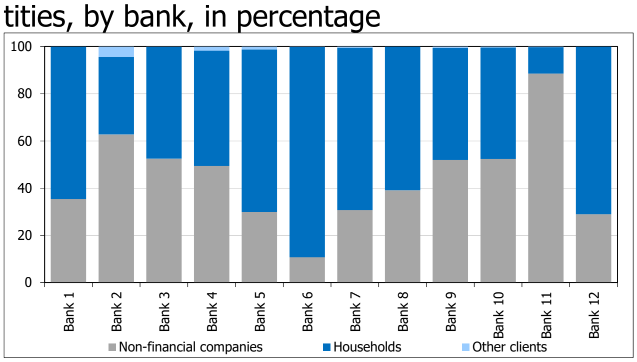
[67] Excluding the effect of mandatory net write-offs, household loans increased by 8.2% (compared with the growth of 7.1% in 2020).
[68] Source: National Bank's Lending Surveys.
[69] With the exception of the third quarter of 2021 when most of the banks pointed to tightened credit conditions.
[70] In terms of individual credit conditions, there is more pronounced net easing in almost all conditions related to approving housing and consumer loans (interest rate, commissions on housing loans, non-interest income in consumer loans, loan maturity, and coverage of the housing loans with collateral). Net easing is registered only in collateral liabilities, i.e. net tightening in consumer and housing loans, respectively.
[71] In housing loans, banks pointed to a net decrease in demand in the first quarter of 2021.

Chart 70 Structure of loans to non-financial corporations (up) and by individual activities (down), according to the size of companies, in percentage




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

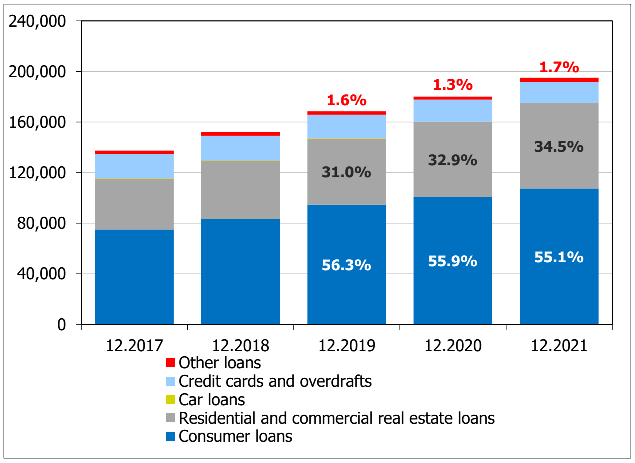
Chart 71
Sectoral structure of loans to non-financial entities, by bank, in percentage




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

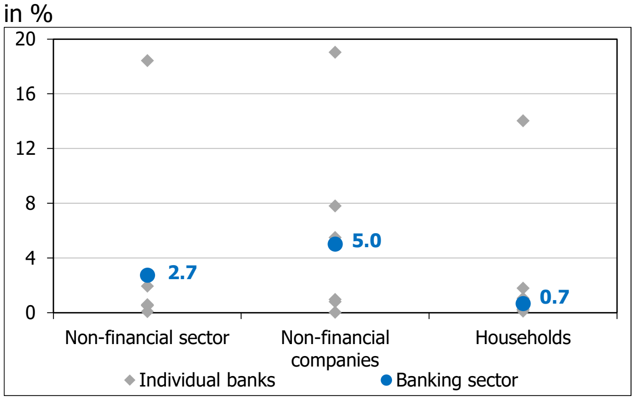
The slightly higher growth of corporate loans, compared to the growth of household lending, slightly decreased the gap in the sector structure of loans to non-financial entities, namely 51.1% and 47.9% of loans belong to households and companies, respectively, while only 1% account for loans to other clients. By credit product, 63.7% of the loans to natural persons are intended for financing the non-identified consumption by natural persons (consumer loans, overdrafts and credit cards). Housing loans are the fastest growing category that increased in 2021 by 13.9%. This growth is relatively similar to the annual growth registered in 2020 (13.8%), and even higher compared to 2019, when it amounted to 13%. In contrast, the health crisis has had much stronger effects on the consumer loans movements, whose annual growth rate halved, from 13.7% at the end of 2019, to a level of 6.3% as of 31.12.2020. During 2021, the annual pace of growth of consumer loans slightly recovered and as of 31.12.2021 amounted to 6.7%. Accordingly, the share of housing loans in total loans to natural persons increased from 32.5% at the end of 2020, to 34.1% at the end of 2021, while the share of consumer loans in total loans to natural persons moderately decreased from 55.9% as of 31.12.2020, to 55.1% as of 31.12.2021.

Chart 72
Structure of loans to natural persons, by product
in millions of denars and in %




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

Chart 73
Share of "green" loans in the total loans to non-financial entities and by individual sectors, by individual bank
in %



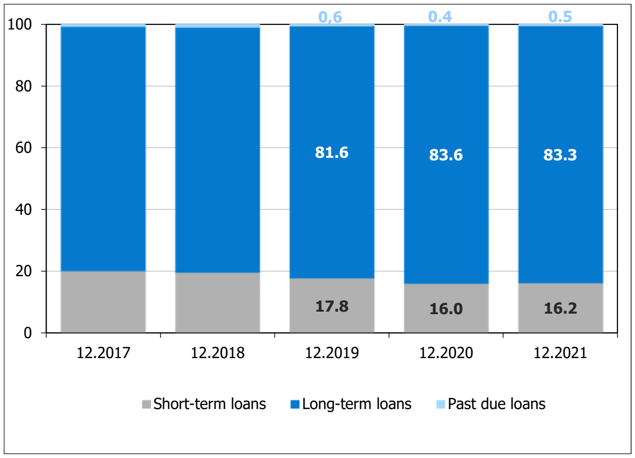

Source: National Bank, based on data submitted by banks.

**The domestic creditors are increasing their interest in financing "green" projects which have a positive impact on the environment, people's health and encourage the development of renewable energy sources. However, the share of these loans in the loan portfolio of the banking system is modest. At the end of 2021 "green" loans[72] approved by banks, account for 2.7% of the total loans to non-financial entities, with greater share of 5.0% in non-financial companies and only 0.7% in households.[73] The groups of large and medium-size banks have identical share in the amount of "green loans", of 50%. Although the share of these loans is still small, they registered a significant growth in 2021 of about 19% (23.5% in 2000).**

**In 2021, denar loans[74] made the largest contribution (71.1%) to the growth of total loans to non-financial corporations, while the contribution of denar loans with foreign exchange clause[75] and foreign currency loans[76] is significantly smaller (12.2% and 16.6%, respectively).** The currency structure of total loans remained almost the same as in the previous quarter, with continued structural domination of denar loans.

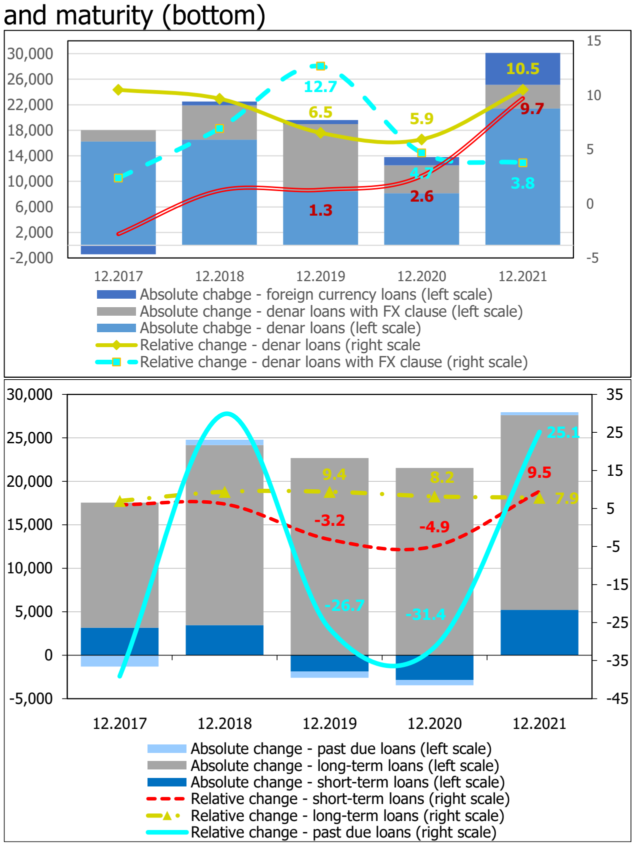
[72] For the purposes of this report, "green" loans denote loans that are intended to improve the energy efficiency of the households and the corporate sector; loans for support of the investments in green technologies, materials and solutions; loans for support of investments in renewable energy sources, control and prevention of pollution, protection of the environment, mitigation of the risks from climate changes, etc.
[73] From the twelve analyzed banks, five banks have not approved "green" loans as of 31.12.2021. In the banks that have approved such loans, the share of "green" loans in total loans ranges from 0.1% to 18.4%. Observed by sector, the share of "green" loans in total loans by individual banks is between 0.03% and 19% in corporate loans, i.e. between 0.1% and 14.2% in household loans.
[74] Denar loans increased annually by Denar 21,428 million, or 10.5%, primarily driven by corporate loans (growth of Denar 12,213 million, or 12.0%) and household loans (growth of Denar 8,763 million, or 8.6%). Although loans to other clients went up by significant 55.5% or by Denar 451 million, their contribution to the annual growth of Denar loans was small and equaled 2.1%.
[75] Denar loans with foreign exchange clause increased annually by Denar 3.689 million (or 3.87%), mainly as a result of household loans (Denar 5.269 million, or 7.6%) despite the decrease in corporate loans (Denar 1.328 million, or 4.8%).
[76] Foreign currency loans grew up annually by Denar 5,008 million, or 9.7%, namely, corporate loans increased by Denar 4,333 million (or 11.0%) and household loans amounted to Denar 968 million (or 9.2%).

Chart 74 Structure of total loans, by currency (top) and structure of regular loans, by maturity (bottom)*
in %




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

Chart 75 Annual growth of loans, by currency (top) and maturity (bottom)




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

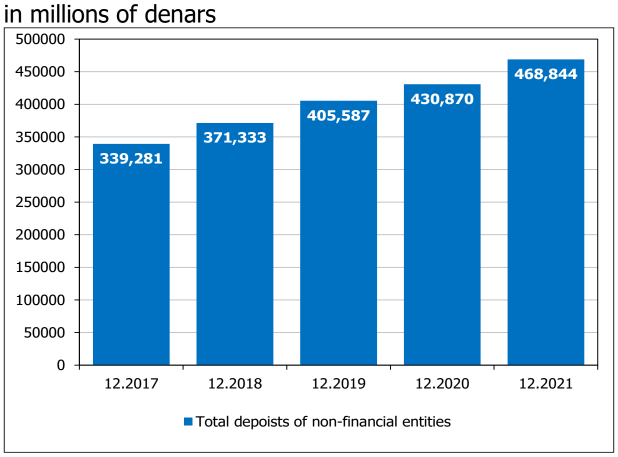
**The increase in credit portfolio maturity continued in 2021 reflecting the growth of long-term lending (by 8.4%, or by Denar 24.057 million), which as of 31.12.2020, accounted for 83.4% of the structure of total regular[77] loans. Most of the growth of long-term loans (60%) was due to household loans. Short-term loans also went up by Denar 5,197 million, increasing by 9.5% compared to last year.**

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

## 1.2 Deposits of non-financial corporations

**In 2021, amid protracted uncertainty, deposits of non-financial entities continued to grow (by Denar 37,974 million, or 8.8%), faster though compared to the previous year (when the growth was slower and amounted to 6.2%). Despite the uncertainty caused by the pandemic, the second half of the year witnessed risks related to supply chain disruptions, higher energy prices and accelerated inflation rate, which also influenced the depositor behavior.** Analyzed by bank, large banks made up more than 85% of the annual deposit growth, and only one of them accounts for about 37% of the total annual growth.

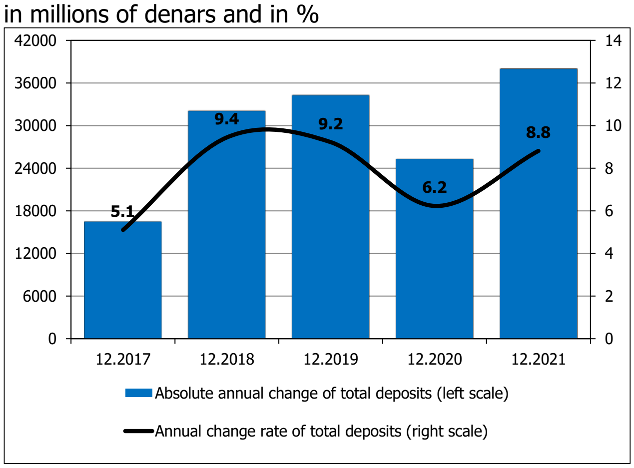
Chart 76 Stock of deposits of non-financial entities
in millions of denars




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

**Both non-financial sectors reported accelerated deposit growth. Households** as major depositor in the Macedonian banking system (share of 65.9% in total deposits), in 2021, increased their assets in banks by Denar 20,059 million, or 6.9% (4.5% in 2020). On the other hand, deposits of **non-financial corporations** increased by Denar 15,094 million, or 11.8% (10.9% in 2020).

Chart 77 Growth of deposits of non-financial entities
in millions of denars and in %

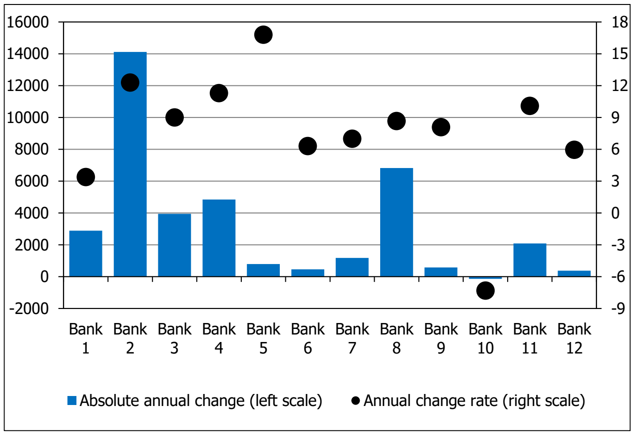



Source: NBRM, based on the data submitted by banks.

**The protracted COVID-19 pandemic coupled with the rising growth of energy prices and accelerated inflation brought about a change in the currency and maturity preference of depositors, seen through the growth of foreign currency deposits and very short maturities. Thus, demand deposits and foreign currency deposits made the largest contribution to the growth of total deposits. This caused changes in the currency and maturity structure of deposits[78]. Looking back, such changes in depositors' preferences have been exacerbated by growing uncertainties of any nature.**

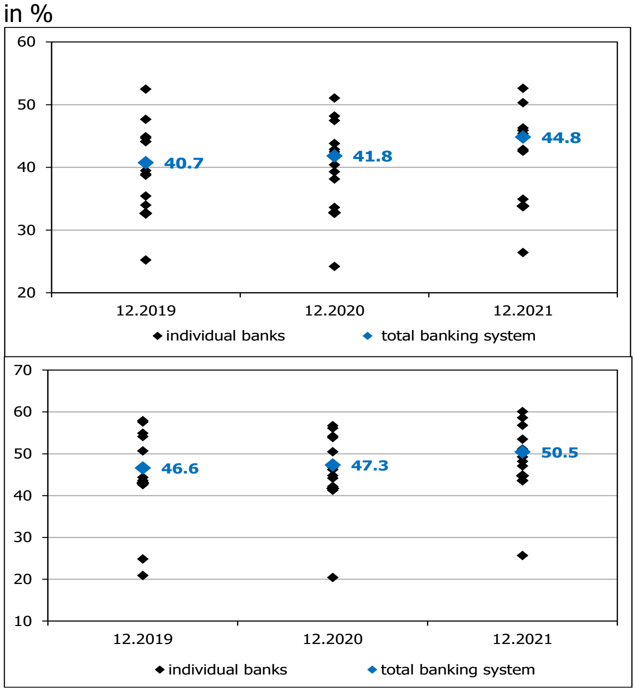
[78]Since the outbreak of the pandemic, the share of foreign currency deposits has increased by about 3 pp, while the share of demand deposits has increased by almost 10 pp.

Chart 78 Growth of deposits of non-financial entities, by bank
in millions of denars and in %




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

Chart 79 Share of total foreign currency deposits in total deposits of the banking system (top) and of the foreign currency household deposits in total household deposits (bottom)
in %




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

Thus, in terms of currency, the annual deposit growth mainly resulted from **foreign currency deposits** (78.9%), which in 2021 jumped nearly twofold (by Denar 29,970 million, or 16.6%) compared to the growth in the previous year (by Denar 15,002 million, or 9.1%). The annual growth of foreign currency deposits reflects the increase in demand deposits, mostly of the household sector. On the other hand, **denar deposits** registered a more modest annual increase (of Denar 7,746 million, or 3.1%), which is a slowdown compared to the growth of the previous year (4.2%). The annual growth of denar deposits is entirely due to the increase in demand deposits, with nearly equal contribution of the deposits of both households and non-financial corporations. As a result, the share of denar deposits in total deposits decreased to 55% at the end of 2021 (58.1% as at 31.12.2020), while the share of foreign currency deposits increased to 44.8 % (41.8% as at 31.12.2020).

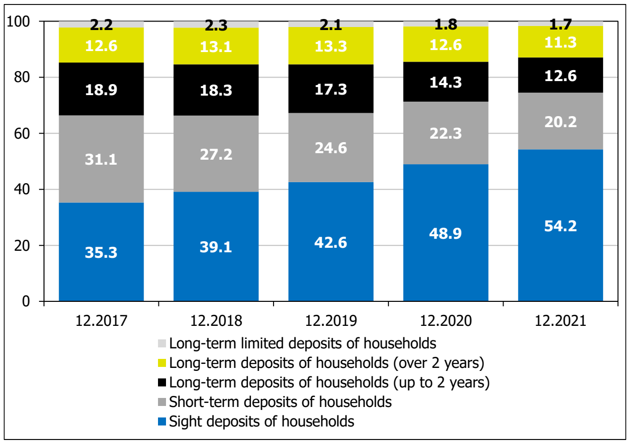
**Analyzing maturity, demand deposits were the sole generators of the annual deposit growth in 2021,** with an absolute annual increase of Denar 44,243 million, or 17.1%. The growth of demand deposits is a result of the growth of deposits in both sectors, with the largest contribution (of about 40%) made by foreign currency household deposits, followed equally by the increase in denar deposits of the households and of the denar and foreign currency deposits of non-financial companies. The opposite trend was observed in short-term and long-term deposits, which on annual basis decreased by Denar 3,736 million, or by 5.1% and by Denar 2,533 million, or by 2.6%, respectively. However, the decrease in short-term[79] and long-term[80] deposits slowed down significantly compared to 2020, when

[79]The absolute annual decrease in short-term deposits almost equally results from the decrease in denar deposits of the households of Denar 2,545 million and in denar deposits of the non-financial companies of Denar 2,128 million.
[80]The annual decrease in long-term deposits entirely reflects the decrease in denar deposits of households of Denar 5,281 million, or by 11.5%, amid increase in foreign currency long-term deposits of the households (of Denar 1,138 million, or 3.1%) and of the non-financial companies (of Denar 1,505 million, or 36.7%).

these deposits dropped by 8.5% and 6.1%, respectively.

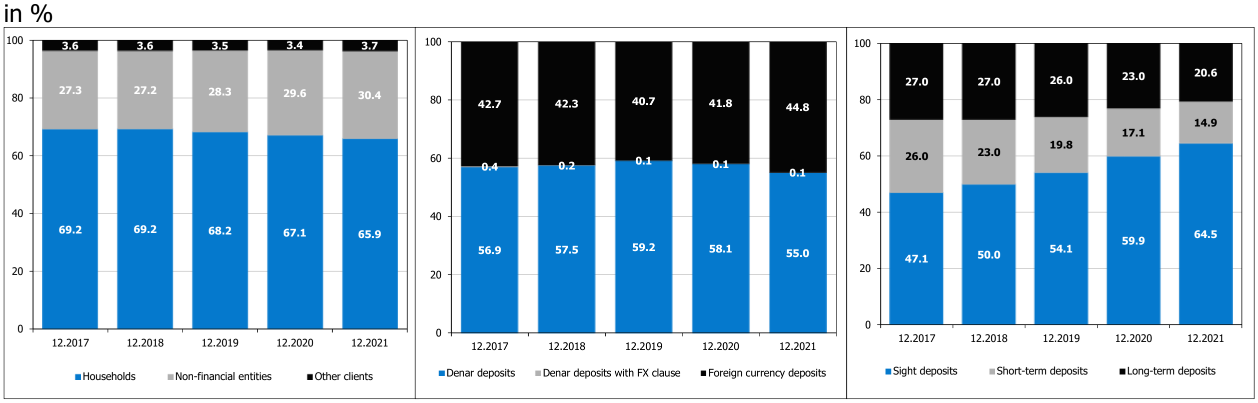
As a result, as at 31.12.2021, the structural share of household demand deposits in household deposits increased to 54.2%. In contrast, the share of short-term and long-term household deposits decreased.

Chart 80 Maturity structure of household deposits
in %



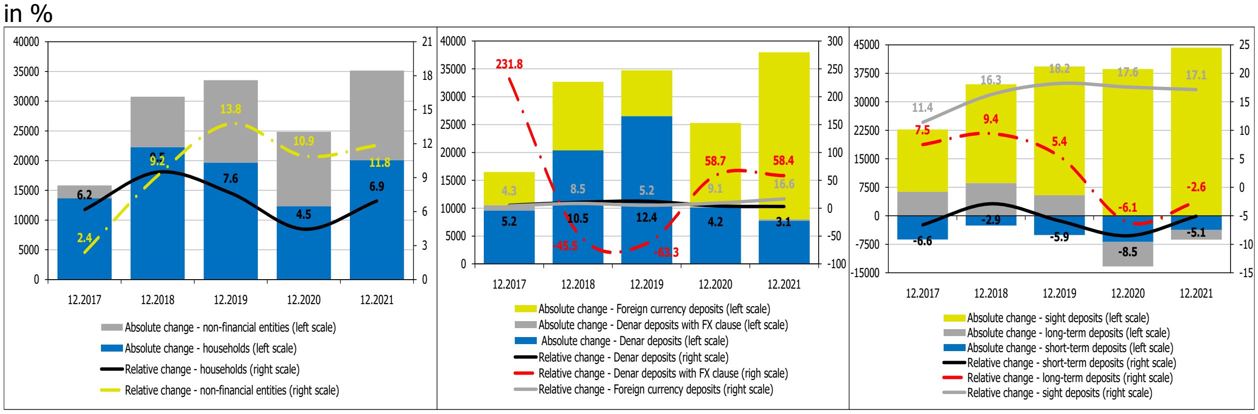

Source: NBRM, based on the data submitted by banks.

Chart 81 Structure of total deposits, by sector (left), currency (middle) and maturity (right)
in %




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

Chart 82 Annual deposit growth, by sector (left), currency (middle) and maturity (right)
in %

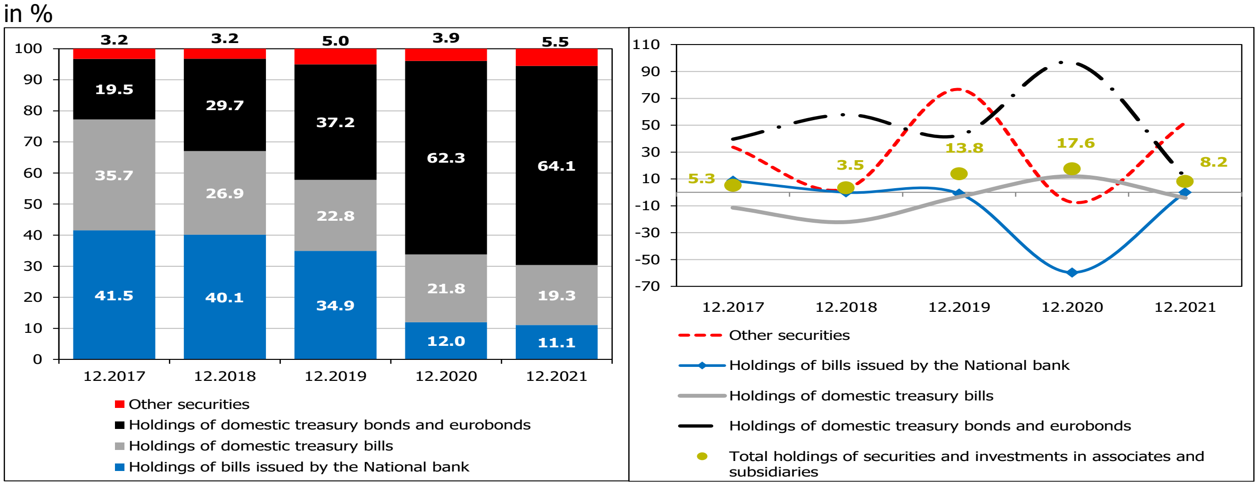



Source: National Bank, based on data submitted by banks.

### 1.3. Other activities

**Banks' investments in securities, subsidiaries, and associates[81] continued to grow in 2021, twice as weaker though as to last year** (growth of Denar 6,816 million, or 8.2% in 2021, compared to the growth of Denar 12,433 million, or by 17.6% in 2020). Their share in total assets is almost unchanged (14.1%). **Analyzing the structure of these investments, the share of placements in domestic government bonds and Eurobonds is the highest, whose predominant share was further enhanced up to 64.1%.** Placements in domestic government bonds and Eurobonds registered an annual growth of Denar 5,860 million (11.3%). Investments in domestic treasury bills decreased on an annual basis, by Denar 746 million (or 4.1%), thus reducing their share in total investments in securities to 19.3%. At the same time, amid unchanged monetary policy stance, the amount of placements in CB bills remained almost the same, but their share in total investments in securities decreased to 11.1%. Banks' placements in debt securities issued by foreign countries are negligible (2% of total investments in securities, subsidiaries and associates), despite the high growth of 173.8% (or Denar 1,168 million) in 2021.

Chart 83
Structure (left) and annual growth rate (right) of investments in securities, subsidiaries and associates
in %




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

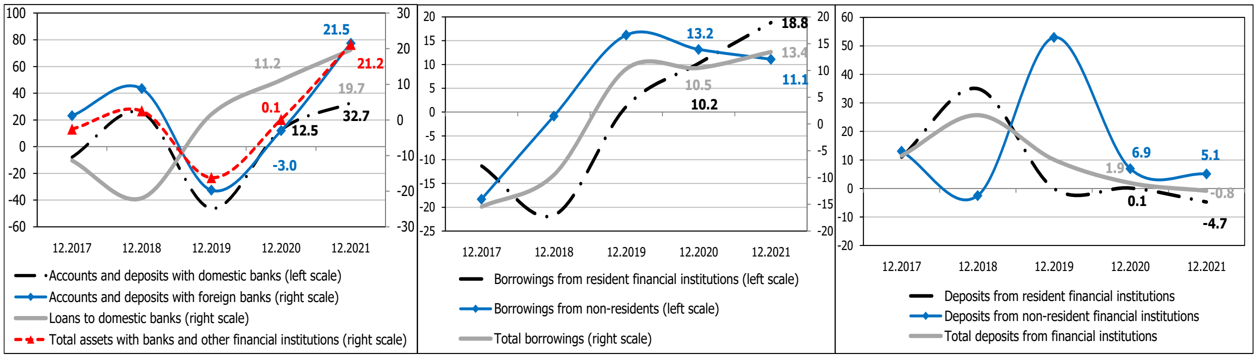
**Placements with banks and other financial institutions (accounting for 8.1% of the total assets of the banking system) in 2021 increased** by Denar 9,005 million, or 21.2%. This increase was mostly due to the growth of banks' placements on current accounts in foreign banks (of Denar 6,346 million), and less to the growth of domestic banks' loans (Denar 2,078 million), which, in turn, is as a result of the placements of the DBNM AD Skopje in the domestic banks.

Total **loan liabilities** (accounting for 6% of total liabilities of the banking system) increased annually by Denar 4,532 million, or 13.4%, mostly resulting from the activities of DBNM AD Skopje (concluding credit lines with international financial institutions and placement of funds from these credit lines to domestic banks[82]).

[81] The analyses of these investments are based on their net book value.

Chart 84 Annual growth rate of claims on financial institutions (left), loan liabilities (middle) and deposits of financial institutions (right)

in %



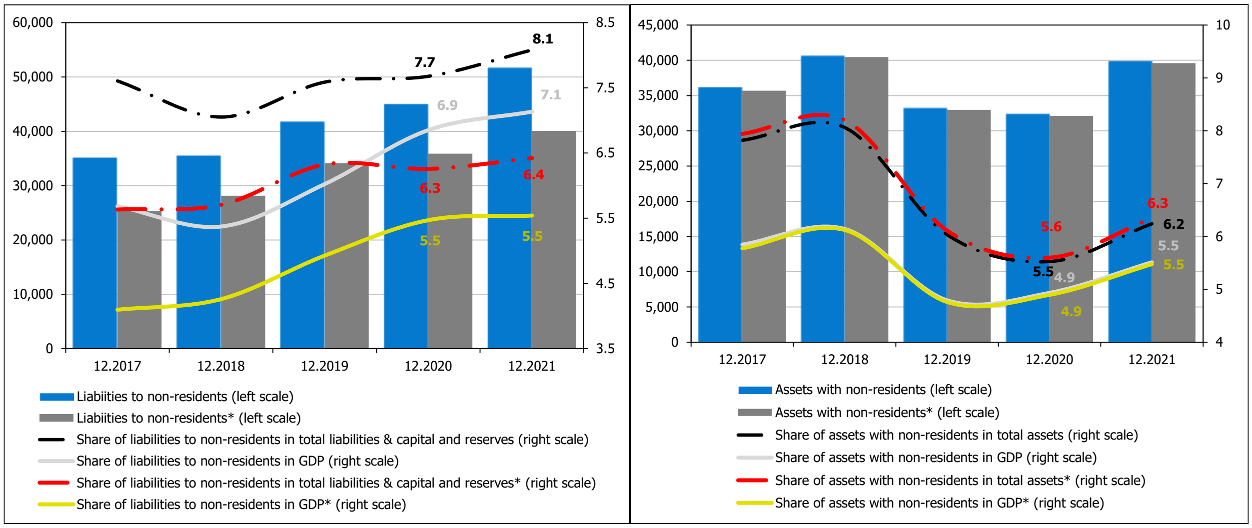

Source: National Bank, based on data submitted by banks.

**Deposits of banks and other financial institutions** (accounting for 4.8% of total liabilities of the banking system) did not change significantly in 2021 (a decrease of 0.8%, or Denar 245 million). More precisely, deposits of domestic pension funds reported a significant annual decrease of 1,477, or 15.5%, amid simultaneous growth of deposits of non-resident financial institutions (Denar 442 million), deposits of domestic banks (Denar 430 million) and deposits of other domestic financial institutions (Denar 256 million).

**The scope of banking system activities with non-residents is constantly small, with bank-to-bank differences. The banking system's liabilities[83] to non-residents exceed their claims.** Domestic banks' liabilities to non-residents went up annually by Denar 6,659 million, or 14.8%, and their share in total banking system liabilities increased to 8.1%[84] (7.7% as at 31.12.2019). This increase stems from the growth of loan liabilities to non-residents (of Denar 2,510 million, primarily of DBNM AD Skopje to EIB), deposits of non-resident non-financial entities (Denar 2,226 million) and liabilities on subordinated instruments (Denar 1,230 million). Banks' claims on non-residents (accounting for 6.2% of total assets of the banking system[85]) also increased by Denar 7,504 million, or by 23.2%, mostly due to the above mentioned increases in banks' placements in current accounts in foreign banks (6,346) and placements in debt securities issued by foreign countries (Denar 1,168 million).

[82]More specifically, in 2021, DBNM AD Skopje withdrew and placed funds from two tranches of the EIB credit line.
[83] As of 31.12.2021, seven of thirteen banks use more than they place non-residents' funds.
[84] If DBNM AD Skopje is excluded from the analysis, the share of liabilities to non-residents in total liabilities would be 6.4%.
[85] The balance sheet claims of the banking system on customers from Russia and Ukraine make up only 0.04% of the total claims on non-residents (i.e. a share of 0.002% in the banks' assets).

Chart 85
Liabilities to (left) and claims on (right) non-residents
in millions of denars and in %

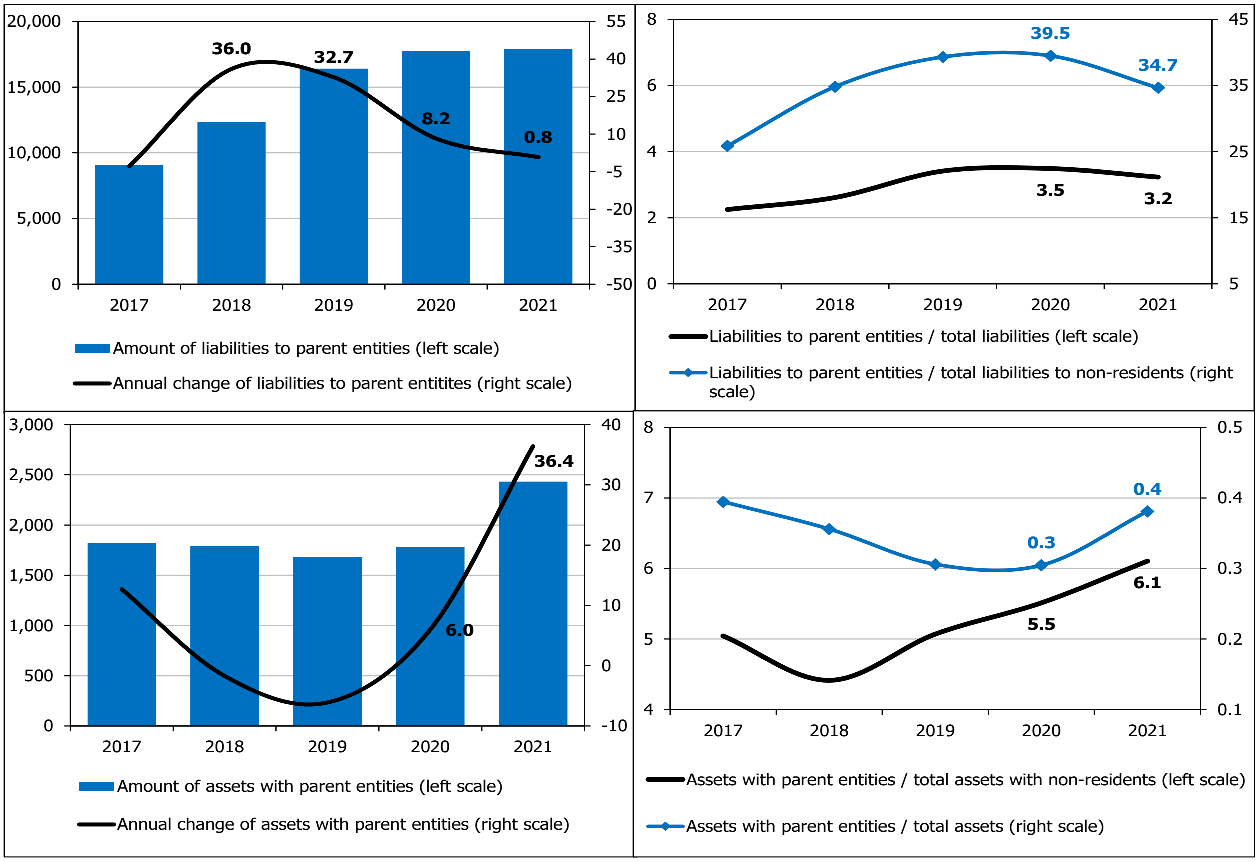



Source: National Bank, based on data submitted by banks.
Source for GDP: State Statistical Office.
*Without DBNM AD Skopje

**Borrowing from parent entities is not a significant source of financing the banking system' activities, although bank-to-bank differences can be observed.** In 2021, banks' liabilities to parent entities went up insignificantly by Denar 135 million (0.8%)[86]. Given the decelerated annual growth, 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 3.2% and 34.7%, respectively (2.1% and 21.3%, respectively as at 31.12.2020). Claims on parent entities registered slightly faster growth in 2021, of Denar 650 million, or 36.4%. However, the shares of these claims in total assets and in claims on non-residents are still modest i.e. 0.4% and 6.1%, respectively as at 31.12.2021.

[86]There are significant annual changes in the structure of liabilities to parent entities. Namely, liabilities to parent entities on the basis of subordinated instruments and deposits registered an annual growth of Denar 1,230 million and Denar 622 million, respectively, amid simultaneous annual decrease of loan liabilities of Denar 1,561 million.

Chart 86
Liabilities to (top) and claims on (bottom) banks' parent entities
in millions of denars and in %




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

## 2. Profitability

**The banking system profitability ratios improved in 2021 as a result of the higher profit, compared to the previous year. Banks' collections of non-performing loans increased the profit of the banking system, which ensured higher income from collected written off claims and lower impairment costs due to the impairment release in the collection of non-performing loans. Net fee and commission income also contributed significantly to the profit growth. Unlike in 2020, when due to the health crisis, banks abolished or reduced fees for some of their services (mostly those related to e-banking), causing their decline, in 2021, they returned to pre-pandemic levels, and even reported a significant growth. Net interest income also increased reflecting primarily the decline in interest expenses, but also the moderate growth of interest income (after the decrease in the previous four years).**

**Banks' operating expenses increased, thus negatively contributing to the annual growth of the profitability of the banking sector. The increase in these costs is mostly due to the higher general and administrative costs of banks, with certain contribution of the growth of staff costs and depreciation.**

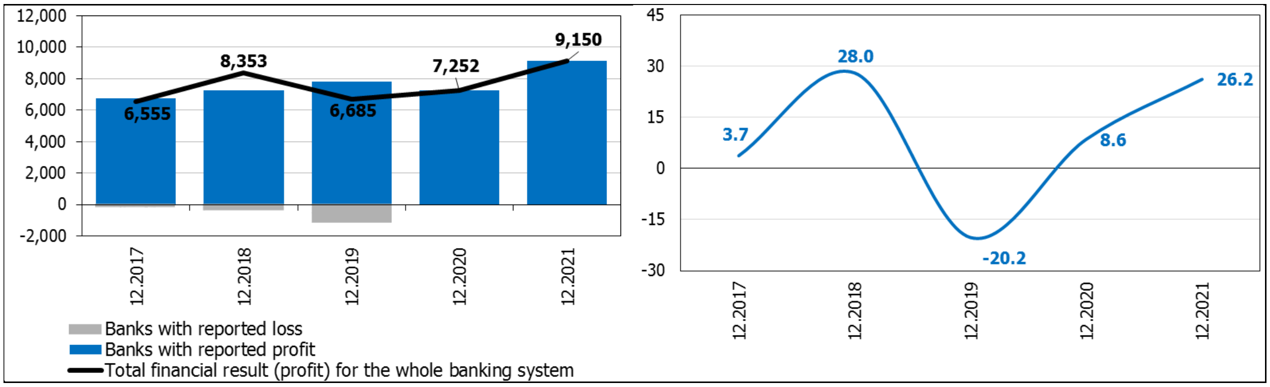
**In the first quarter of 2021, the National Bank cut the interest rate on CB bills by 0.25 pp to 1.25%, which level remained until the end of the year. The downward trend in banks' lending and deposit interest rates continued in 2021. In conditions of almost identical decrease of the weighted average lending and deposit interest rate, the interest rate spread did not change significantly.**

### 2.1 Banking system profitability and efficiency ratios

**In 2021, the banking system generated operating gain of Denar 9,150 million, which is by 26.2% or Denar 1,898 million higher compared to the previous year.** The largest contribution to the profit growth was made by income from collected written off claims that exceeded Denar 1,704 million, or more than doubled, compared to 2020. Significant contribution was also made by net commission income (which increased by Denar 750 million, or 15.5%), the reduced impairment costs (by Denar 683 million)[87], as well as the higher net interest income (by Denar 586 million, or 3.9%). Capital gains from the sale of foreclosed assets[88] were lower by Denar 971 million, while operating expenses increased by Denar 890 million.

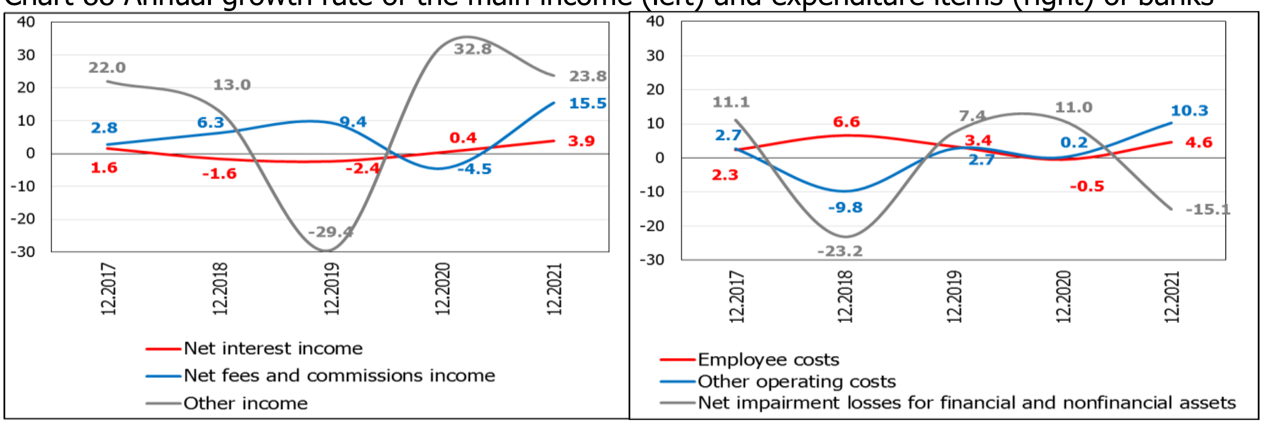
**Analyzed by bank, all banks reported positive financial operating result.**

Chart 87 Dynamics of the presented total profit of banks (left) and its annual change (right)
in millions of denars



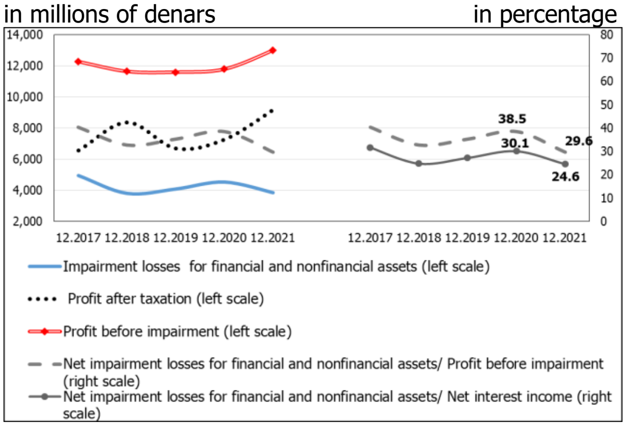

Source: National Bank, based on data submitted by banks.

Chart 88 Annual growth rate of the main income (left) and expenditure items (right) of banks




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

Chart 89
Impairment costs to gain and to net interest income ratios
in millions of denars in percentage

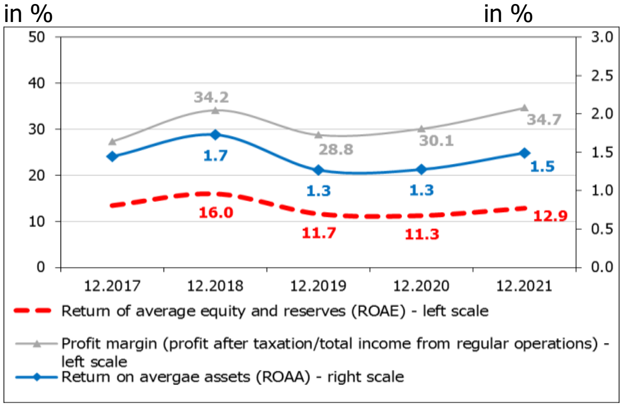



Source: National Bank, based on data submitted by banks.

**The profit growth in 2021 improved the main profitability ratios of the banking system.** The profit margin registered the largest increase of 4.5 pp reflecting the faster growth of profit (26.2%) compared to the growth of total income (9.6%), due to the reduced impairment costs, primarily of financial assets. The growth of the rates of return on average equity and average assets was 1.6 and 0.2 pp, respectively. The rates of return on average assets (1.5%) and average equity (12.9%) are above the ten-year average of these indicators (1.1% and 9.4%, respectively), but are almost twice as low as the maximum

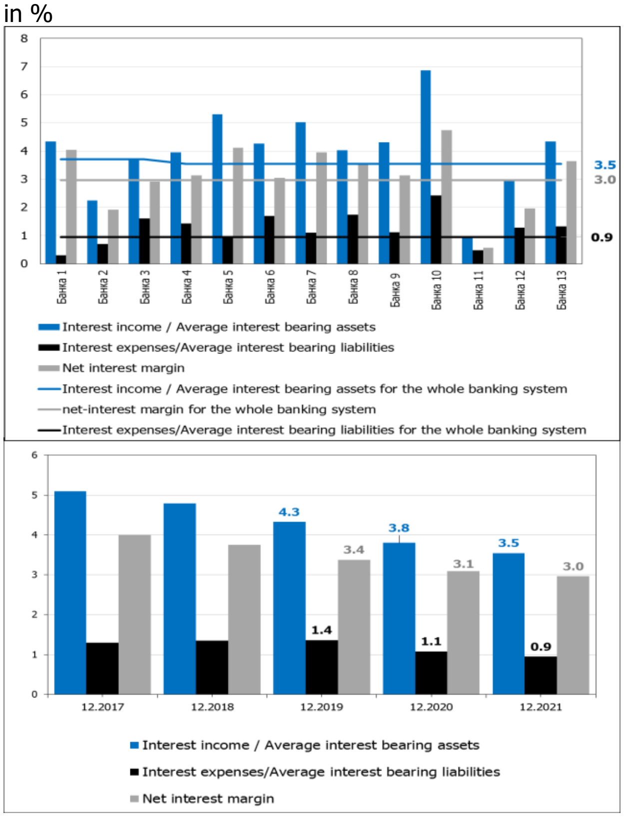
[87]The reduction of impairment costs arises largely from financial assets, and to a lesser extent from non-financial assets.
[88] The decrease in capital gains from the sale of assets in 2021 is a result of the growth of these gains in 2020 when a large bank reported capital gains from the sale of foreclosed assets, in the amount of nearly one billion denars.

Chart 90
Rates of return on average assets and on average equity and profit margin




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

Chart 91
Net interest margin by bank, as of 31.12.2021 (top)* and of the banking system (bottom)




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

registered in the analyzed period (3.1% and 28%, respectively, as at 31.3.2018)[89].

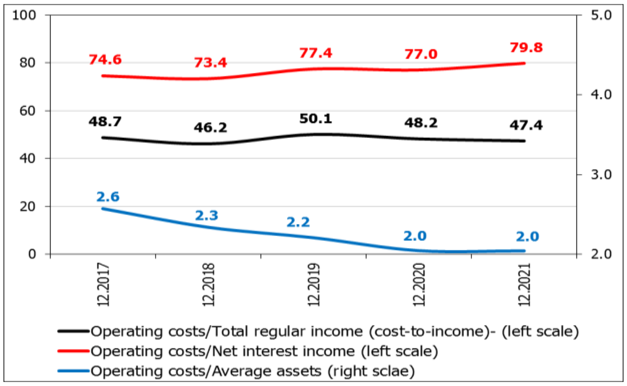
**Amid continued interest rate cut, the net interest margin also decreased.** The decrease in net interest margin results from the modest growth of net interest income (of 3.9% or Denar 586 million), compared to the growth of the average interest-bearing assets (of 8.5% or Denar 41,201 million). The increase in net interest income was caused primarily by the annual decline in interest expenses (of Denar 384 million, or 11.1%) and less by the increase in interest income (of Denar 201 million or 1.1%).

**In 2021, as usual, financial intermediation with households made the largest positive contribution (of 59.4%) to the net interest income.** Net interest income from households increased annually by Denar 528 million, or by 6.0%, given the growth in interest income[90] and decline in operating interest expenses with this sector[91]. Given the growth of placements in government securities, net interest income from the government sector increased by Denar 230 million, or 26.2%. On the other hand, the net interest income from non-financial corporations, which accounted for 37.4% of total net interest income, registered an annual decline of Denar 41 million, or 0.7%. In the credit-deposit activity with other sectors (financial institutions, non-profit institutions serving households and non-residents), the banking system reported net interest expenses.

**The indicators of banking system operating efficiency registered divergent movements.** With annual growth of operating expenses of 7.7%, or Denar 890 million, their ratio to total regular income[92] improved by 0.9 pp, while the ratio to net interest income[93] increased by 2.8 pp, and the ratio to average assets remained almost the same. Analyzing the

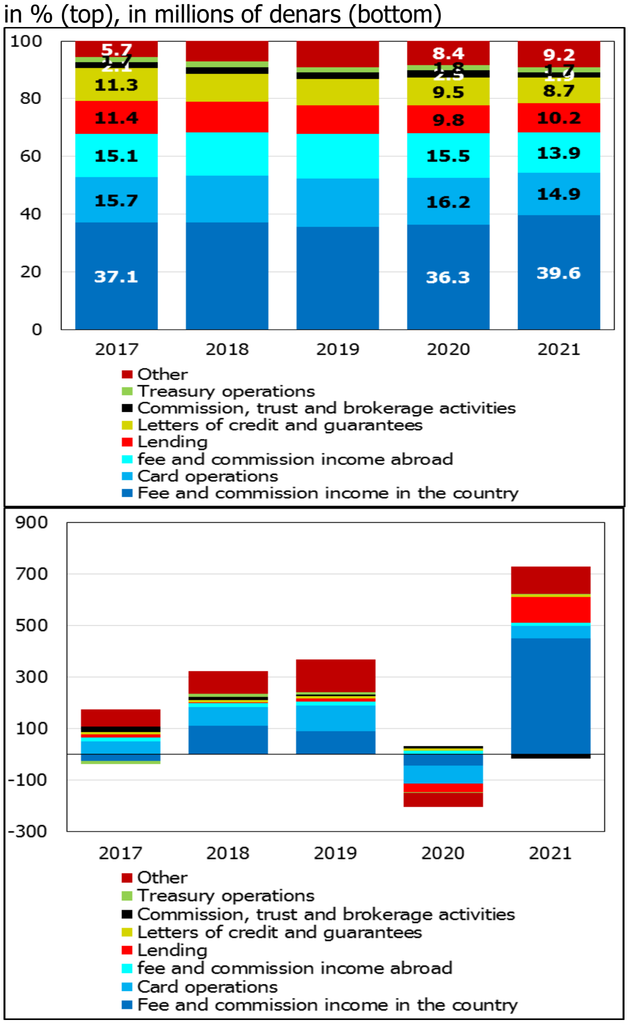
[89]The calculations are made using a monthly data series for the period 31.12.2011 to 31.12.2021.
[90] In 2021, household interest income increased by Denar 178 million or 1.7% relative to the previous year.
[91] In 2021, household interest expenses decreased by Denar 350 million or 22.4% compared to 2020.
[92] Total regular income increased by 9.6%.
[93] Net interest income increased by 3.9%.

Chart 92
Operational efficiency ratios
in %




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

Chart 93
Structure of net fees and commission income (top) and annual growth (bottom)
in % (top), in millions of denars (bottom)

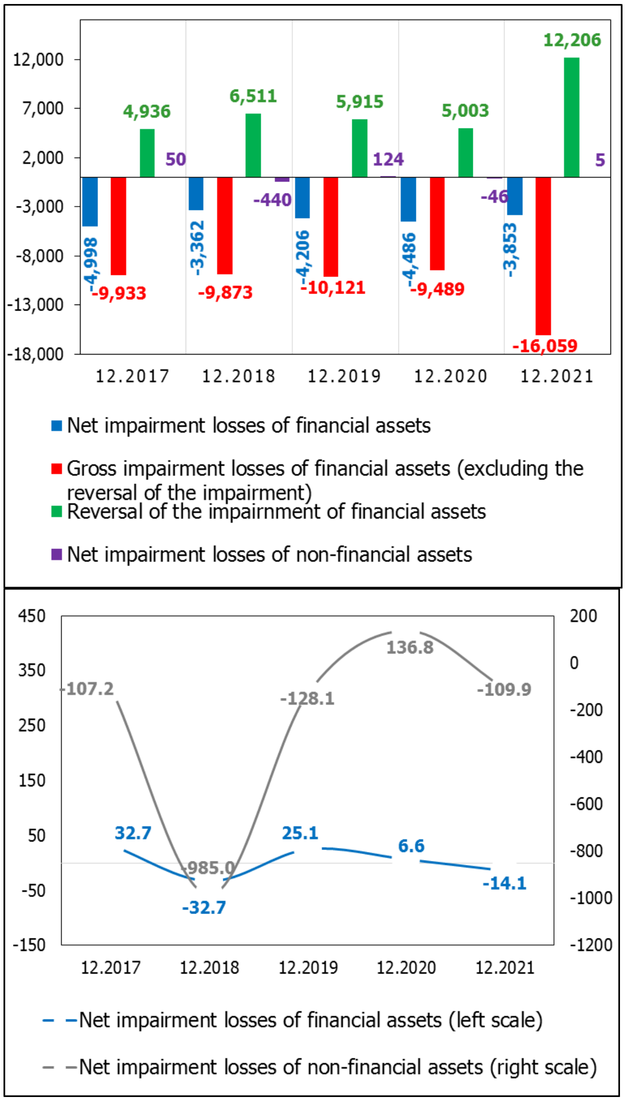



Source: National Bank, based on data submitted by banks.

operating income structure, the largest increase of Denars 794 million or 26.2% was registered in other income as a result of the aforementioned growth of income from collected written off claims. Net commission income, which increased by Denar 750 million, or 15.5% had a nearly equal impact on the growth of total regular revenues. Analyzing the structure of operating expenses, general and administrative expenses registered the fastest growth (Denar 433 million or 10.4%), followed by staff costs (Denar 238 million or 4.6%) and depreciation costs (Denar 100 million or 9.3%).

**Net fee and commission income from domestic payment operations made the largest contribution of nearly 61% to the growth of total net fee and commission income in 2021.** Unlike in 2020, when banks largely reduced commission fees due to the pandemic (which also led to lower net commission income in 2020), in 2021 they returned to pre-pandemic levels and even increased. Moreover, this income has continuously had the highest structural share in total net commission income, which for 2021 increased by 3.3 pp and reached nearly 40%. Payment services, lending, and vault operations of banks generate 65.4% of total net income from fees and commissions, which is an almost unchanged share in the last five years (65.2% for 2017).

Chart 94
Impairment cost (top) and annual growth (bottom)
in millions of denars and in %



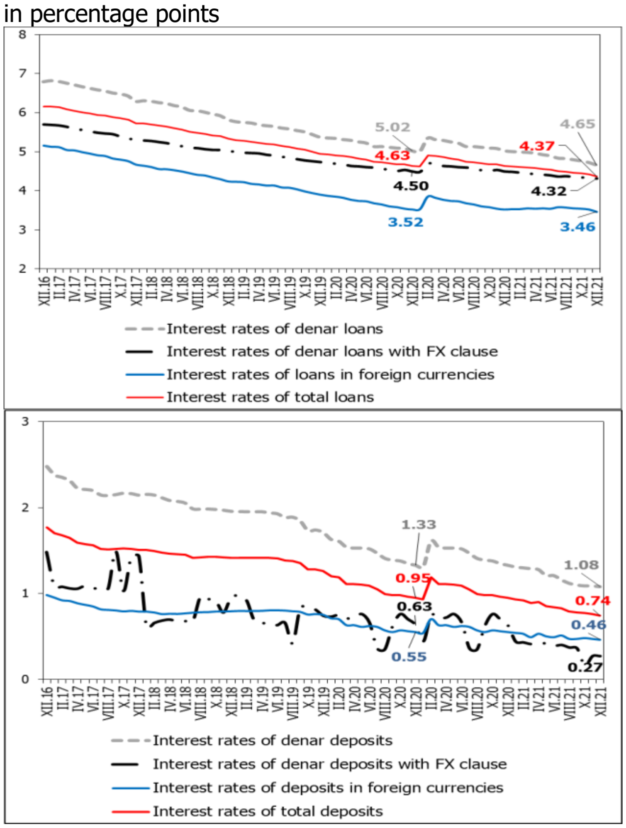

Source: National Bank, based on data submitted by banks.

**In 2021, impairment costs for financial and non-financial assets decreased by Denar 683 million or 15.1%.** The decrease in these costs was mainly driven by lower net impairment costs of financial assets (which fell by Denar 633 million, or 14.1%), reflecting the larger release of impairment of financial assets (of Denar 7,202 million)[94], compared to the growth of gross impairment of financial assets (Denar 6,570 million)[95].

The net cost of impairment of non-financial assets decreased by Denar 50 million[96],compared to 2020, which results from the Denar 39 million higher release of asset impairment, amid simultaneous decrease in impairment cost of non-financial assets of Denar 11 million.

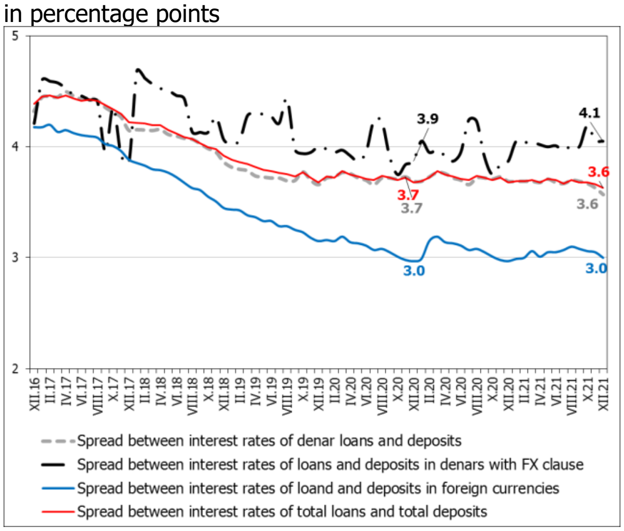
[94]The growth of impairment of financial assets was mostly generated by the growth of impairment of loans and placements, with an increase of Denar 5,450 million.
[95]The growth of the gross impairment of the financial assets was driven primarily by the gross impairment for loans and placements, which increased by Denar 4,910 million.
[96] Note that on a net basis, the impairment of non-financial assets was positive in 2021. On the other hand, in 2020, this impairment was negative and has an expense status in the income statement.

Chart 95
Lending (top) and deposit interest rates (bottom)
in percentage points




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

Chart 96
Interest spread
in percentage points




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

## 2.2 Movements in interest rates and interest rate spread

**In the first quarter of 2021, the National Bank cut the interest rate on CB bills by 0.25 pp to 1.25%, which level remained until the end of the year. The steady downtrend in banks' lending and deposit interest rates continued.** Compared to the previous year, the weighted average lending and deposit interest rate of the banks (as an average of the interest rates at the end of each month of the year) decreased by 0.1 pp each to 4.6% and 0.9%, respectively. Analyzed by currency features, the average interest rates on both loans and deposits decreased almost identically[97].

**Given almost identical decrease of weighted average lending and deposit interest rates, the interest rate spread did not changed significantly i.e. narrowed by 0.02 percentage points, compared 2020.**

[97]The text analyzes the average interest rates, calculated using the interest rate levels at the end of each month of the year. The graphs show the interest rate levels at the end of each month.

# ANNEXES