National Bank of the Republic of North Macedonia
Financial Stability, Banking Regulations and Resolution Department

FINANCIAL STABILITY REPORT FOR THE REPUBLIC OF NORTH MACEDONIA IN 2020

August 2021

Contents

Summary

This Financial Stability Report is published in the conditions of the COVID-19 pandemic, which is a significant factor of uncertainty for the economic environment and a source of risks and challenges to financial stability, both globally and in domestic environment. The economic recovery of the global economy is underway, underpinned by the massive immunization and maintained monetary and fiscal stimulus. However, it is uneven and is fraught with risks, mainly related to the further development of the health crisis and the scope of policies to further support economies. Extensive measures taken so far in response to the crisis have greatly mitigated the risks to the global financial system. The initial volatility of the financial markets was overcome in a short time and prevented further influence of some of the risks that arose at the very beginning of the pandemic, such as the growth of risk premiums and liquidity pressures. This contributed to maintaining favorable financing conditions and the credit cycle, which facilitated the process of economic recovery. However, globally, financial institutions remain vulnerable to the risk of significant credit risk materialization and prolonged reduction of interest income, with adverse effects on banks' profitability and willingness to take risks. The risk related to the sustainability of public and private debt is also emphasized, especially in case of possible premature tightening of financial conditions. The economic medium-term prospects are favorable for the time being, but still accompanied by uncommon uncertainty and risks, thus creating risks also for financial stability.

In the domestic economy as well, policy makers reacted quickly and decisively to the crisis, which contributed towards mitigating the negative consequences on the economy. However, economic activity has been severely affected in certain segments, especially in activities that are sensitive to measures of social distance and the temporary disruption of production chains on a global scale. The financial sector remained stable and resilient from the very beginning of the pandemic, which was contributed by the adopted anti-crisis measures, as well as protective layers of liquidity and capital that the banks accumulated in the previous period. The systemic risks related to the developments in the non-financial sector are limited for now, but emphasized for the next period, in conditions of still high uncertainty about the duration of the pandemic and the economic consequences in the medium term.

Despite the pronounced effects of the pandemic, the risks related to the "household" sector remained within control, which was due to the adopted anti-crisis measures that mitigated the effects on the labor market and preserve the disposable income of households. Increased uncertainty and restrictive measures have led to a decline in private consumption and an increase in savings, which the households have mainly directed towards banks. Household indebtedness continued to grow in 2020, but is maintained at a moderate level and still depends mainly on loans from domestic banks. Households retained the ability to repay debt regularly, which contributed to maintaining the loan portfolio quality. Deferred loans due to COVID-19, a grace period that almost completely expired by mid-2021, had a moderate impact on the credit risk materialization, so the risks related to this portfolio for the next period are assessed as moderate. In addition to the risk of pandemic, the exposure to interest rate risk is also important for households, given the frequent practice of variable interest rates in household credit agreements in conditions when household debt to banks is mostly in longer-terms. Currency risk vulnerability is still present, which remains as a limited source of risk given the strategy for maintaining stable exchange rate.

The effects of the pandemic were more pronounced in the corporate sector, which faced declining revenues and deteriorating profitability, with services and micro-enterprises being the most affected. The measures taken in response to the pandemic eased the pressure from the liquidity shock and prevented it to spill over the solvency of the corporate sector, thus reducing the possibility of credit risk in the balance sheets of domestic creditors, mainly banks. The liquidity position of the corporate sector, although traditionally low, remained stable at the end of the year, and the sector increased its capital during the pandemic, which supported the growth of debt financing without increasing the level of indebtedness expressed as the debt-to-equity ratio (financial leverage). The debt of the corporate sector in 2020 increased slightly, but its indebtedness, measured by its share of GDP, grew and exceeded the ten-year average due to the decline in economic activity. However, the corporate sector still maintains a level of debt that is below the derived vulnerability threshold. A significant part of the companies' debt has a currency component and variable interest rates, which emphasizes the exposure to currency risk (which is limited due to the stable exchange rate strategy) and market risk, the realization of which may affect the ability to repay debts, and hence on the performance of financial institutions, primarily domestic banks. The COVID-19 pandemic remains the main source of risks for the corporate sector in the next period, as well. The possible prolongation of the crisis can be reflected in the impaired financial position of companies, with the risks being particularly high for the most financially vulnerable and highly indebted entities. The risk is also high for the companies that failed to adjust to the conditions imposed by the pandemic, especially after the expiration of some of the anti-crisis measures that contributed to the financial sustainability in the previous period.

Despite the pandemic, the banking sector maintained its stability and reliability. Thereby, it registered increase in activities and contributed towards mitigation of the economic consequences of the corona crisis. The growth of the sources of financing, mainly driven by the growth of household deposits, the banks focused on prolonged lending to the private sector, mostly to households, as well as to the corporate sector. The solvency of the banking system is stable and has further improved, as has the liquidity, while the banks have continued registering profitable operating. The quality of the banks' loan portfolio was preserved, with further maintenance of the non-performing loans rate at a relatively low level. The prudent behavior of the banks themselves and risk management play an important role in the prudent behavior of the banking system for dealing with shocks. In addition, the strengthening of regulation in the pre-crisis period had significant contribution, as well, which contributed towards further strengthening the solvency and liquidity of domestic banks, as key pillars of the sector stability. The measures taken by the National Bank in response to the pandemic aimed at banks to refrain from paying dividends sent a clear signal to the banks about the need to build further capital potential, which is seen through the strengthening of solvency, mainly as a result of reinvesting banks' profits. Most of the profit from 2019 was reinvested, and such trends continued in the first half of 2021. The National Bank took several measures in response to the pandemic, which included lowering the key interest rate, releasing liquidity in the banking system, activating non-standard measures and enabling regulatory flexibility in the area of credit risk management. This contributed to easing the financial burden on debtors and reduced the risk of possible greater concentration of credit risk in the short term, with adverse effects on banks' balance sheets and willingness to take risks.

The National Bank expanded the frame for stress testing of the banking system in order to assess the risk and the readiness of the banking sector to deal with shocks in the specific pandemic conditions. In addition to the regular macro-stress test (top-down stress testing), a comprehensive and consistent individual stress test was made for the first time (bottom-up), carried out by in each bank. These stress tests incorporate the specifics of each bank and its clients, thus enabling a more comprehensive macro and micro prudential risk assessment. **The results from both stress tests show adequate capital buffers, set up by banks in the previous period, for further appropriate credit support for both household and corporate sector.** According to the stress test results, the capital adequacy ratio of the banking system would remain above the legal minimum of 8% even in a hypothetically deteriorating macroeconomic scenario with a presumed prolonged health and economic crisis, which would cause a more pronounced credit risk. The banking system has shown resilience to simulated shocks, which means that the capital the system has at its disposal provides sufficient capacity and space to successfully absorption of potential losses and maintain operating stability.

Fully funded private pension insurance during 2020 continued to register growth of accumulated assets and positive rates of return, although significantly reduced influenced by the pandemic and the variability of financial markets. In the structure of pension fund assets, investments in debt financial instruments continue to prevail, and the exposure to risks emphasizes the importance of credit and interest rate risk, as well as the risk of changes in the prices of foreign equity instruments. The challenges for the pension funds in the next period are connected with the duration of the health crisis and the effects on the financial markets, especially in conditions of historically low interest rates that affect the return on investment.

Within the insurance sector, the pandemic mainly reflected in the reduced demand for insurance policies in both insurance segments, while the risks of investment losses remained limited due to the conservative investment policies of insurance companies, in less risky and liquid instruments and low exposure in international financial markets. Despite the adverse effects, the insurance sector maintained stable liquidity and solvency position and achieved a positive financial result, which was contributed by the measures adopted by the Insurance Supervision Agency, as a competent supervisor and regulator, in response to the crisis. The pandemic remains a risk factor for the insurance sector in the next period with a possible impact on the sale of insurance policies. The pressures on the profitability can have low interest rates, which in turn reflects on the returns on financial investments, and the sector is exposed to the risks of climate change. An additional profitability constraint is the low operating efficiency, which is a long-term feature of the domestic insurance sector.

The other financial institutions (savings houses, leasing companies, investment funds and financial companies) are still with a small scope of activities and for now have a very limited importance as a source of systemic risk for financial stability.

In general, the analyzes presented in this report show that the domestic financial sector has so far coped well with the specific risk of a pandemic and is ready to respond to the challenges in the future. The current recovery of the economy have positive contribution to the stability and mitigates systemic risks. However, the uncertainty remains unusually high, making it important for the financial institutions to further maintain adequate capital layers which will ensure protection in case of risks. The effects of the pandemic on the financial sector can be fully seen only after the normalization of economic activity and the expiration of anti-crisis measures. Until then, the priority remains the constant strengthening of the resilience of financial institutions and the ability to absorb possible losses in the next period. The National Bank remains committed to take appropriate measures in the next period if it deems it necessary to maintain the stability of the banking sector, as well as the overall financial stability.

I. INTERNATIONAL AND DOMESTIC ENVIRONMENT

During 2020, changes in the international environment were strongly influenced by the COVID-19 pandemic, which caused a deep drop in global economic activity and high volatility in financial markets in the first wave of the pandemic. Extensive and timely measures taken by policy makers globally in response to the crisis have helped markets to stabilize rapidly, preventing the risks from spilling over into the financial sector. The global financial system remained stable and resilient to the shock, supporting eased financing conditions, which helped maintaining the credit cycle and support the economic recovery. However, the recovery is uneven and is still accompanied by extremely high uncertainty, which is mainly associated with the pandemic and its duration. The risks are particularly pronounced for developing countries and low-income countries, which have been hit hardest by the pandemic and could face higher economic losses in the medium term. The global financial system is exposed to risks related to sustainability of both the public and the private debt, especially in case of early tightening of the funding conditions. The uncertain prospects for the banks' loan portfolio quality globally produce risks of possible higher impairment losses in the next period and pressures on profitability, which is already low in conditions of prolonged maintenance of low interest rates. The possible realization of these risks could influence on the banks' balance sheets and readiness for taking risks with possible effects on the economic recovery dynamics.

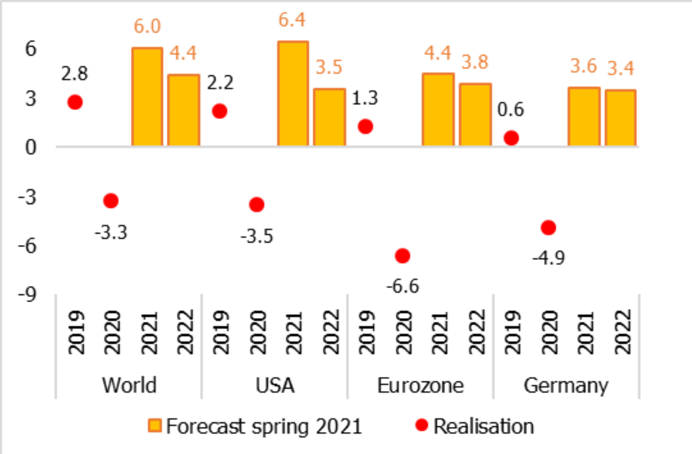
The domestic economy did not deviate from global trends and registered a decline in economic activity, which throughout the year was dispersed between different economic activities. The service activity was particularly affected, followed by industry and construction, as activities that are most exposed to social distance measures and the temporary disruption of production chains on a global scale. The pandemic hit households and the corporate sector, but the risks to financial stability stemming from the non-financial sector remained limited, contributing to measures taken by policy makers in response to the crisis. The disposable income of households continued to grow, although at a significantly slower pace, which together with low interest rates, contributed to maintaining creditworthiness and a moderate level of household vulnerability to debt levels. The effects of the pandemic on the corporate sector reflected in declining revenues and profitability, which moderately worsened the debt repayment ratios, although they remain at an acceptable level. The corporate sector ended the year with a stable liquidity (although traditionally low) and solvency position, which, together with the still moderate level of indebtedness contributes to the relative resilience of the sector to shocks. The highest risk exposure is still shown by the micro entities that were most affected by the crisis.

The risks to financial stability arising from the macroeconomic environment for the next period are mainly related to the possible prolongation of the health crisis, which may affect the dynamics of the economic recovery. This would increase the risks to the solvency of households and the corporate sector with possible negative effects on the balance sheets of financial institutions, primarily banks, as major creditors of the non-financial sector. The National Bank remains ready to take appropriate measures in the next period if it deems necessary to maintain the stability of the banking sector, as well as the overall financial stability.

1.1. International macroeconomic environment

Since the beginning of 2020, the global economy has faced one of the largest and most severe crisis caused by the COVID-19 pandemic, which had serious economic consequences and increased risks to financial stability globally. The emergence and rapid spread of viral infection on a global scale and the subsequent introduction of measures to protect public health, led to a sudden cessation in social and economic activity, plunging the global economy into recession, which is considered the deepest since the Great Depression in 1930. The drop in the gross domestic product was significant in all leading economies, with the exception of China, with global economic activity declining by 3.3% on annual basis. According to the IMF estimates, the fall would have been much deeper[1] if no comprehensive and timely measures were taken by policy makers globally in response to the crisis. Thanks to the measures, the medium-term economic consequences of the pandemic are expected to be milder compared to the global economic crisis of 2008-2009[2], which mitigates the risks to financial stability. However, the uneven effect of the crisis should be taken into account, with some countries being more affected than others depending on the structure of the economy and the effectiveness of the measures taken. This creates risks of uneven economic recovery in the next period, with vulnerability still being emphasized for countries with high tourism dependence on gross domestic product and countries with limited space for shock response policies. The impact of the pandemic was strong on developing and low-income countries, for which economic losses could be higher in the medium run.

Chart 1
Economic growth
real annual GDP growth, in %



Source: IMF, IMF's World Economic Outlook, April and October 2020 and April 2021

The pandemic has hit euro area countries and other countries that are important foreign trade partners for the domestic economy. The euro area economy in 2020 experienced a significant decrease of 6.6%, but the impact was unequal by country and by sector. The economies of Spain, Italy and France suffered the largest blow, with the deepest drop being registered in the economic activity.[3]. Germany, as the largest EU economy and a country with the largest share in the foreign trade[4] of the Republic of North Macedonia registered a decrease of 4.9%. Introduced restrictions on social interaction and population mobility have hit

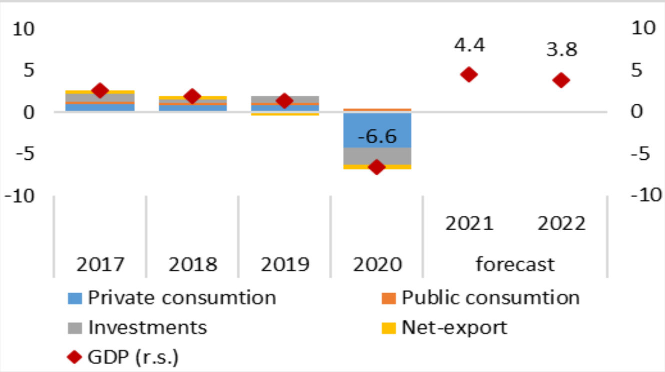
[1]According to the IMF estimates (IMF's World Economic Outlook, April 2021), the decrease in the economic activity would be three times deeper if the policy makers failed to take extensive measures of support globally.

[2]IMF's World Economic Outlook, April 2021.

[3] The decline in GDP in Spain in 2020 equaled 11%, in Italy 8.9% and in France 8.2%.

[4] In 2020, the share of the total foreign trade of the Republic of North Macedonia with Germany equaled 32.8% of GDP and decreased compared to the previous year (36.5% of GDP).

Chart 2
Contribution to the real annual GDP growth in the euro area
in percentage points



Source: Eurostat

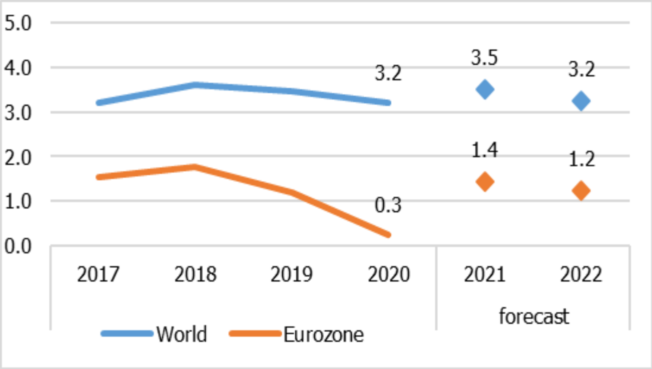
the service sector harder, as opposed to the industrial sector, where recovery is faster. Although the fiscal measures taken provided support to households and the corporate sector,
high uncertainty about the pandemic development and the effects on employment and disposable income were reasons for refraining from spending, which had adverse effect on the domestic demand. Domestic demand was further limited by the reduced investment activity of the corporate sector, amid weakened corporate balance sheets and increased uncertainty related to the economic outlook for the next period.

The forecasts for the next period are favorable for now, expecting that the economy in the euro area in 2021 and 2022 will grow at rates of 4.4% and 3.8%, respectively[5]. The global economy in 2021 and 2022 is expected to register growth rates of 6% and 4.4%, respectively[6], supported by the extended fiscal stimulus in several leading economies, amid favorable financial conditions and expectations for enhanced immunization against COVID-19 virus globally. **However, expectations for the growth of the global economy are accompanied by extremely high uncertainty, which is mainly associated with the pandemic and its duration. An additional risk factor is the effectiveness of the introduced measures in limiting the long-term consequences of the crisis, as well as the future dynamics of financial conditions and prices of primary products and the ability of economies to adapt to emerging conditions.**

[5] IMF, World Economic Outlook of the IMF, April 2021.
[6] IMF, World Economic Outlook of the IMF, April 2021.

The average inflation rate in the euro area in 2020 decelerated and averaged 0.3% compared to 1.2% in the previous year. The downward shift is largely a reflection of declining global demand, as well as low energy prices that prevailed throughout the year, largely due to the spread of the pandemic globally.In the period ahead (2021 and 2022), in conditions of expectations for economic growth and higher level of oil prices, the inflation rate in the euro area is expected to moderately accelerate to the level of 1.4% and 1.2%, respectively.

Chart 3
Inflation rate
annual average, in %



Source: World Economic Outlook, IMF, April 2021.

In the international financial markets, the great uncertainty associated with the pandemic, together with the deteriorating outlook for economic growth, initially reflected in the growth in the demand for safe instruments, which caused a decline in government bond yields issued in the United States and the euro area. With the rapid spread of COVID-19 virus infection globally, the volatility indices of the bond markets at the end of the first quarter of 2020 increased sharply, indicating higher uncertainty. Given a reduced risk appetite, the US government securities yields fell sharply, with a decline, but to a lesser extent, being registered also in the government securities yields in the euro area. Amid a swift and coordinated response from the monetary and fiscal authorities, movements in US government and euro area securities markets stabilized rapidly, with no significant changes by the end of the year. At the beginning of 2021, with the increased optimism about the prospects for the future global economic growth and the additional support from the policy makers in conditions of the third wave of COVID-19, the tendency of the investors to take risks increased, and the yields of the government securities in the United States and the euro area have seen an upward trend.

Chart 4
Bond and shares market volatility indices
in points

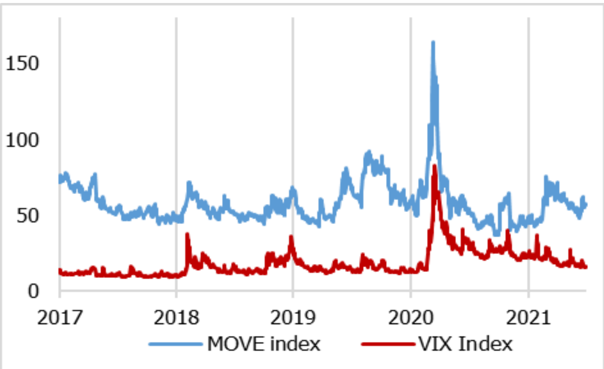
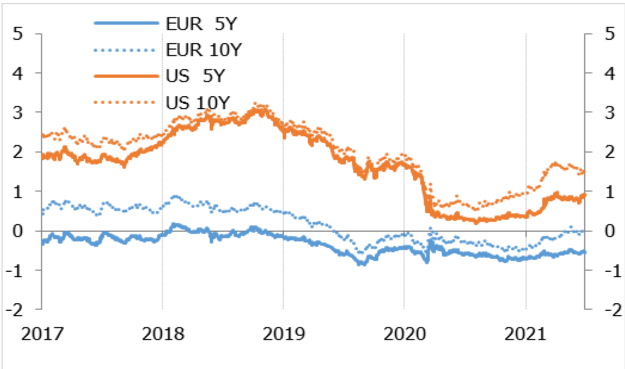


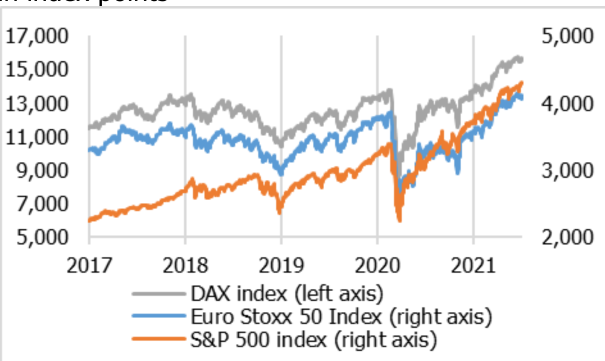
Chart 5
Yields on government bonds issued in the USA and the euro area
in %



Source: Online publishing service.
Note: The MOVE index (MOVE-Merrill Lynch Option Volatility Estimate) shows the implicit volatility of US government bonds over the next 30 days. It is calculated as a weighted average of bonds with different maturities, with the highest representation of 10-year government bonds. The VIX index (Volatility Index) is constructed based on the implied volatility of S&P500 index options. Downward indices path indicates a decrease in volatility of trading terms.

Significant changes were registered also in the stock exchanges in the USA and the euro area. At the end of the first quarter of the year, as a result of growing uncertainty, stock indices in the United States and the euro area registered a significant downward shift. After the measures for easing the financing conditions and providing sufficient liquidity support for the smooth functioning of the financial markets, the value of the stock exchange indices was quickly corrected and by the end of the year there was an upward trend. At the beginning of 2021, most companies in Europe and the United States announced solid financial results, which, combined with the prospects for growth of economic activity in the coming period, influenced the stock indexes to continue to grow globally and reach new historical highest values.

Chart 6
Movement of stock exchange indices of shares
in index points

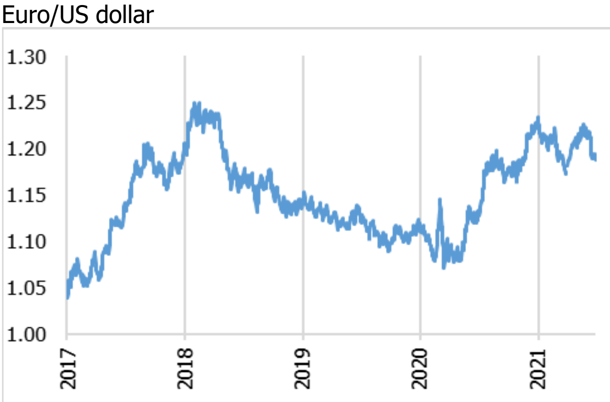


Source: Online publishing service.

The movements of stock exchange indices of shares have some impact on the assets of domestic financial institutions, but the direct exposure to price changes in these markets is limited when it comes to insurance companies and banks. The share of foreign ownership instruments in the total assets of the insurance companies equals 0.9% and only 0.001% in the banks. Regarding the pension funds, the share of the placements in foreign shares, and in units and shares in foreign investment funds to total pension funds assets ratio was 26.7% (in mandatory pension funds) and 27% (in voluntary pension funds)[7]. With the investment funds[8], the share of the foreign equity instruments in the total assets equals 21.2%.

The currency pair euro / US dollar had a variable movement during the year. At the end of 2020, the value of the euro against the US dollar was higher by 9% on an annual basis and amounted to US dollar 1.2213 per euro. The changes in the euro / US dollar currency pair were largely influenced by the uncertainty caused by the pandemic, the readiness for rapid and coordinated fiscal support in the euro area countries, the increased political risks in the US (uncertainty over the outcome of the presidential election) and changes in inclination to investors to take risks. In the domestic context, given the policy of maintaining a fixed nominal exchange rate of the denar against the euro and the largest share of the euro among foreign currencies in the financial institutions' balance sheets, changes in the currency pair

Chart 7
Euro/US dollar



Source: Eurostat.

[7] The financial result of the pension funds from the possession and management of foreign equity instruments for 2020 is positive. For more details, see the pension funds section of this report.

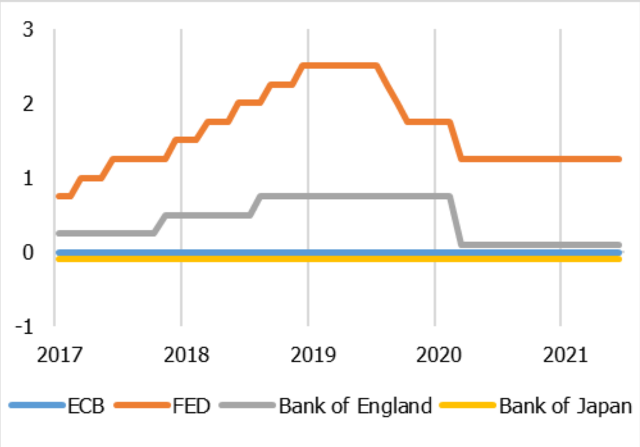
[8] The annual rate of return on domestic investment funds, whose investment strategy is to place assets in equity instruments at the end of 2020 was in a negative zone, decreasing, from a high 25% at the end of 2019, to -2.6% of 31.12.2020. Analyzed on an aggregate basis, the annual rate of return of all investment funds was reduced to a level of only 0.2% at the end of 2020 (from 8.4% on 31 December 2019).

euro / US dollar do not have a significant impact on the currency structure of their balance sheets.

Coordinated and rapid measures of the monetary and fiscal authorities for mitigating the pandemic effects

With the rapid spread of the COVID-19 virus infection in early 2020, the monetary and fiscal authorities in most cases acted fast and in a coordinated manner.

Chart 8
Interest rates of the leading central banks
in %



Source: Internet sites of central banks.

Leading central banks have taken fast and concerted measures to ease funding conditions. Central banks, except through the reduction of interest rates and the application of the instrument for forward guidance introduced a number of non-standard measures to mitigate the adverse effects of the shock, provide sufficient liquidity and support credit flows in economies. In March 2020, the FED reduced the target interest rate level by a total of 1.5 percentage points on two occasions (3rd and 15th March), at an interval of 0% to 0.25%. Also during the year, the FED eased the conditions under which it provides liquidity support, through changes to existing securities purchase programs, and activated some of the non-standard instruments it used during the Great Depression. In addition, FED introduced new instruments, in order to ensure enough liquidity in the system and efficient and smooth functioning of the monetary transmission mechanism. More specifically, the FED increased its supply of liquidity through repo operations, increased the amount of securities purchased under the quantitative easing program[9], introduced additional measures to support lending to households and companies[10], conducted coordinated action with several central banks for further improvement in providing liquidity in US dollars, and took measures to maintain the capitalization of the banking system at a high level[11]. Also in August, the FED announced changes in the monetary policy implementation strategy, which leaves room for certain periods of registering a higher inflation rate than the previously set target (2%)[12], in line

[9] In March 2020, the FED decided to increase the purchase of government securities worth at least US dollar 500 billion and by at least US dollar 200 billion the purchase of mortgage-backed securities issued by government agencies in the coming months. Also in December 2020, the FED announced it would continue to buy government securities worth at least US dollar 80 billion a month, as well as mortgage-backed securities issued by government agencies worth at least US dollar 40 billion a month.

[10] One of the measures is the introduction of a Small Business Administration's Paycheck Protection Program (PPP).

[11] It refers to the measure that prohibits large banks (those with total assets higher than US dollar 100 billion) from purchasing shares. It also limited the payment of dividends depending on the current profit, in order to preserve the strong capital positions of the banks.

[12] On 27th August 2020, the FED announced an update of its long-term objectives and monetary policy strategy, with significant changes to: 1) the maximum employment, whereby the changes will be based on the assessments for downward deviations from the maximum level of employment, instead of the practice of deviations from the maximum level in both directions; 2) price stability, whereby the FED adjusted its strategy to achieve the long-term goal - inflation of 2%. With the changes, the FED's goal will be to achieve inflation of an average of 2% for a certain period of time, i.e. after the periods

with the determined average inflation rate of 2% over a longer period of time. In March 2020, **the European Central Bank** 1) adopted a comprehensive package of monetary policy measures aimed at ensuring liquidity in the system and easing the financing conditions of banks, households and companies[13]; 2) introduced a new non-standard measure, the so-called pandemic emergency purchase program (PEPP) worth Euro 750 billion to buy public and private sector bonds, the value of which increased twice during the year (by Euro 600 billion and Euro 500 billion, respectively) and at the end of the year reached a level of Euro 1.850 billion; and 3) issued a recommendation for credit institutions to refrain from paying dividends during the period of economic shock caused by the COVID-19 crisis. In addition, in June the ECB decided to introduce a swap and repo lines (EUREP) for non-ESCB central banks, including a repo line for the NBRNM, the validity of which in December was extended to March 2022 (previously until June 2021)[14]. During 2020, the ECB continued to pursue a relaxed monetary policy, while keeping the key interest rates at the same level. **The Bank of England** has twice reduced its interest rate to 0.1%, introduced measures to facilitate access to finance for small and medium-size enterprises and increased the amount for the purchase of government securities. Many central banks also reacted through macro prudential instruments, mostly by reducing ratios for the countercyclical capital buffers and took measures to increase regulatory flexibility (facilitating and delaying loan repayments by the private sector).

For bridging the adverse effects of the health crisis, fiscal authorities have begun to provide fiscal stimulus to support economies. In the European Union, in order to deal with the economic crisis caused by the pandemic, in July 2020, a European recovery plan was adopted, which established an instrument called "Repair and prepare for the next generation" in the amount of about Euro 800 billion. The European recovery plan through the EU Budget for the next seven years (in the period 2021 - 2027) envisages a total of about Euro 1.850 billion for the member states to be provided. It is envisaged that the instrument "Repair and prepare for the next generation" will be financed by borrowing on the capital markets with a guarantee from the member states. One part (Euro 338 billion) is provided as non-repayable assistance to the most affected member states and sectors, while Euro 386 billion are provided as favorable loans[15].

The measures of the financial authorities of the euro area countries were generally directed towards the most affected sectors of the economies and the most vulnerable groups (companies and households). Usually, they were in the form of providing liquidity support or securing debt guarantees.

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in which inflation was constantly below 2%, the relevant monetary policy will aim at achieving inflation moderately above 2% for a certain period of time.

[13] In March, the ECB approved a temporary additional quantitative easing of Euro 120 billion that was applied until the end of 2020, in addition to the already determined amount of securities purchase of Euro 20 billion per month (APP), and also began with the implementation of the Pandemic Emergency Purchase Programme (PEPP). In addition, the conditions under the third package of targeted long-term repo operations (TLTRO III) were eased three times, a set of security relief measures was adopted, and a new series of seven long-term pandemic-related repo operations was conducted (PELTRO), applied during 2021. The ECB again advised banks to be extremely cautious in paying dividends and buying shares in order to maintain the stability of the financial system in a pandemic.

[14] In August 2020, the European Central Bank (ECB) announced that it had approved a repo line in the amount of Euro 400 million to the National Bank of the Republic of North Macedonia to provide foreign currency liquidity in euro to financial institutions in the Republic of North Macedonia through the central bank, in order to meet possible needs for liquidity in euros in conditions of market disturbances as a result of the shock from COVID -19, where the repo line will be valid until March 2022 (initially until June 2021). However, so far (as of June 2021), the National Bank has not used funds from the approved repo line, given the constant maintenance of both denar and foreign currency liquidity of the banking system at an appropriate level.

[15] For more information please visit https://ec.europa.eu/info/strategy/eu-budget/eu-borrower-investor-relations/nextgenerationeu_en

The fiscal response to the crisis has led to a deepening of budget deficits in all euro area countries, which in turn reflected in higher debt levels. The budget deficit at the level of the euro area in 2020 increased to a level of 7.2% of GDP (0.6% of GDP in 2019), while government debt reached 100% of GDP (86% of GDP in 2019)[16]. The high debt growth as a share of GDP was influenced by both the growth of the debt and the decrease of the gross domestic product. With the economic recovery, some improvement in the debt ratio can be expected, which is important for the sustainability of the debt in the medium run. However, the effects of high debt levels may last longer, reflected in increased budget financing needs in order to settle the liabilities in future. An additional source of vulnerability is the possibility of tightening the funding conditions too quickly, which increases the risks of sustainability of public finances within the euro area in the medium term.

Chart 9
Budget deficit, euro area
in % of GDP

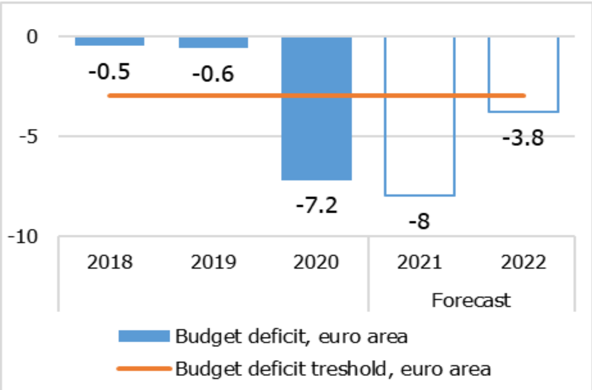
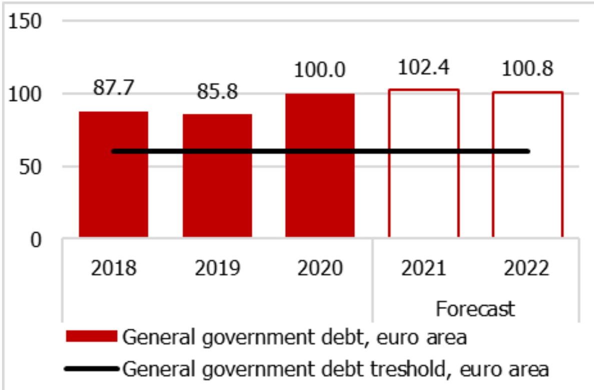


Chart 10
General government debt*, euro area
in % of GDP

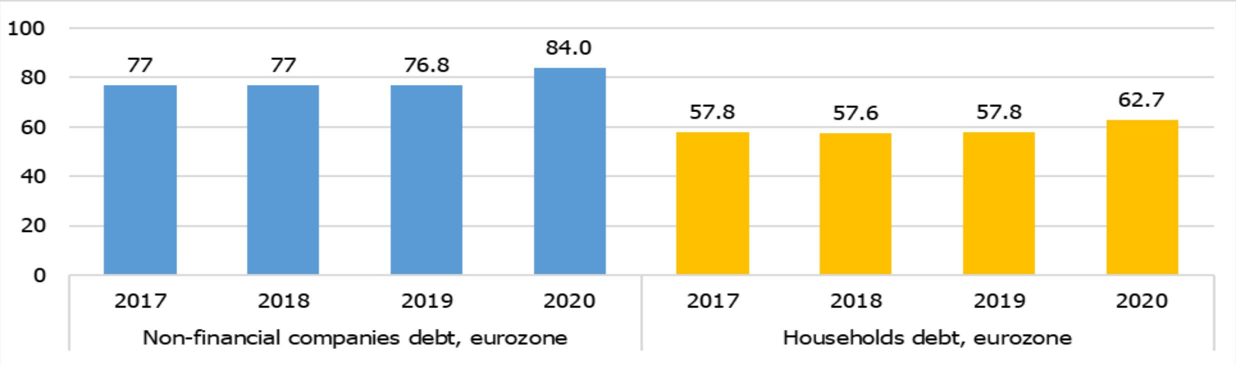


Source: European Commission, Spring 2021 European Forecasts
Note: The 3% threshold for the level of the budget deficit in the GDP and the 60% threshold for government debt to GDP is under the Stability and Growth Pact.
*General government debt.

The pandemic caused by the COVID-19 virus infection particularly hit the corporate sector, which faced a liquidity shock that increased the need for additional financing to maintain activity and it stimulated the debt growth. Within the euro area, corporate debt reached 84% of GDP. The shock particularly affected the small and medium-size enterprises, which are most vulnerable to the risks of a possible sudden tightening of funding conditions and prolonged duration of the health crisis. Measures taken by countries in response to the pandemic have so far limited the risks of insolvency in the corporate sector. However, high indebtedness is a significant source of vulnerability of the sector and is one of the key challenges for financial stability in the coming period, due to the risk of spillover to creditors and households. The possible materialization of the insolvency risk may adversely affect the labor market and disrupt the financial stability of households, whose debt increased as well in the year of the pandemic.

[16] To facilitate the implementation of emergency fiscal measures in crisis situations, on March 23 2020 the ECOFIN Council activated the General escape clause. In the event of a significant downturn in the euro area economy or the EU as a whole, and in conditions where medium-term debt sustainability is not jeopardized, the activation of this clause allows countries to leave fiscal adjustment requirements that are normally applied in line with fiscal EU rules.

Chart 11
Private debt of the non-financial sector (corporate setor and households)*, euro area
in % of GDP



* Private non-financial sector debt.
Source: ECB.

The banking sector in the euro area is ready to respond to the challenges that have arisen from the pandemic. Banks in the euro area continued to smoothly provide support to the real sector throughout 2020. This was primarily a result of their solid capital and liquidity positions, and in part was facilitated by the authorities' measures, which provided some flexibility from a regulatory point of view, in order to mitigate the adverse effects of the crisis on the balance sheets of these institutions. The capital adequacy of the banks in the euro area continued to increase and at the end of 2020 it equaled 19.5%. The Liquidity Coverage Ratio (LCR) for the banks in the euro area also registered an increase and at the end of 2020 it equaled 171.8%. The pandemic eroded the profitability of banks in the euro area (the rates of return on capital and assets in 2020 were reduced to 1.5% and 0.1%, respectively), as a result of lower income and higher corrections in the value of loans.

Expectations for the next period are aimed at a slow recovery of profitability, with an expected rate of return on equity of 3% in 2021 and 6% in 2022[17]. Profitability prospects are largely conditioned by the dynamics of the economic recovery, as well as the degree of materialization of credit risk in banks' balance sheets. The further maintenance of the low interest rate environment is an additional source of vulnerability for the banks' net interest income.

Table 1
Basic indicators for the performance of banks in the euro area

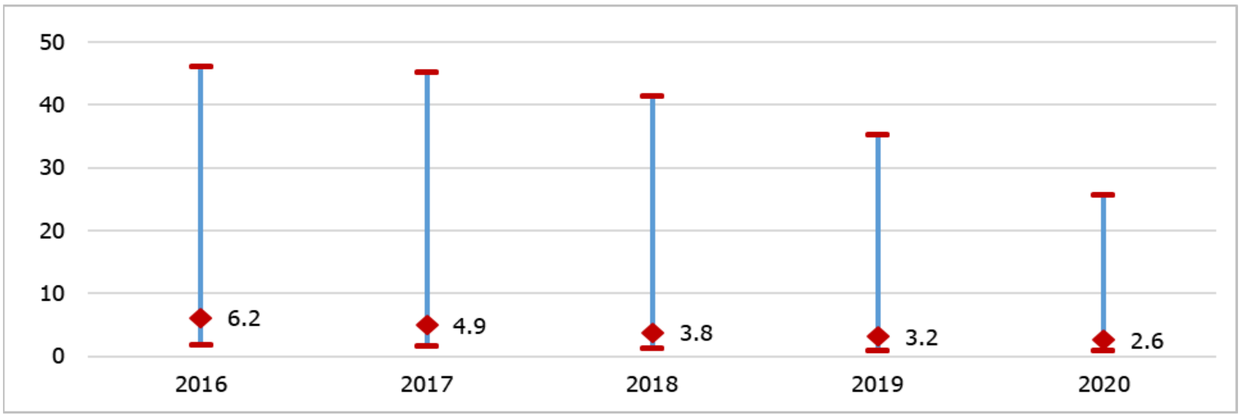
		Q4.2018	Q4.2019	Q4.2020
Profitalbility	Cost efficiency	65.9%	65.8%	66.0%
	ROE	6.2%	5.2%	1.5%
	ROA	0.4%	0.4%	0.1%
Asset quality	Non-performing loans coverage	45.2%	44.5%	43.3%
	Non-performing loans	3.8%	3.2%	2.6%
Capital adequacy and leverage	Total capital ratio	18.0%	18.6%	19.5%
	Tier 1 ratio	15.6%	16.1%	17.0%
	CET 1	14.4%	14.9%	15.6%
	Leverage ratio	5.3%	5.6%	5.8%
Liquidity	Liquidity coverage ratio	145.0%	146.0%	171.8%
Funding	Loan-to-deposit ratio	118.7%	116%	106.7%

* Cost to income
Source: ECB.

[17] ECB Financial Stability Review, May 2021.

The measures taken by policy makers in response to the pandemic through a moratorium on loan repayments and government guarantees, prevented the direct materialization of credit risk under the influence of the decline in economic activity in 2020. The non-performing loans ratio in the euro area in 2020 continued to decline and at the end of the year it equaled 2.6%. However, the risks for the next period are emphasized, especially after the expiration of the adopted measures, which may worsen the outlook for the quality of the loan portfolio in the next period. The future dynamics of non-performing loans will be largely conditioned by the dynamics of the economic recovery, as well as the volume of banks' exposure to the most affected sectors.

Chart 12
Non-performing loan rate of banks in the euro area
in %



Note: The chart shows the lowest and highest value of indicator for all banks in the banking system and average value of the indicator for all the banks in the euro area.
Source: ECB.

1.2. Domestic macroeconomic environment[18]

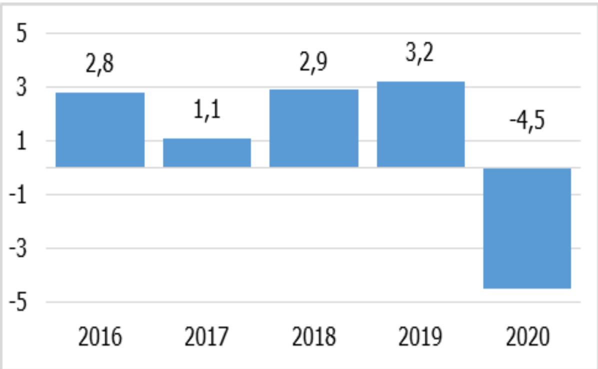
During 2020, similar to the situation globally, the COVID-19 pandemic and the subsequent protection measures taken had a strong impact on the domestic economy. Economic activity dropped by 4.5%, amid a decline in both domestic and export demand. The decrease in economic activity was deepest in the second quarter in conditions of introduced measures for public health protection and deteriorating external environment, which adversely affected almost all economic activities. The service sector, construction and industry were particularly affected, as activities that are most exposed to social distance measures and disrupted production chains globally. In the second half of the year, the decrease in gross domestic product slowed down significantly, amid more favorable movements in export and personal demand and maintained higher public consumption to protect public health and support the economy. With the outbreak of the pandemic, policymakers reacted immediately and took additional measures to support the economy[19]. The measures contributed for mitigating the unfavorable influence on the economy and indirectly on the financial sector, thus for preserving the financial stability. The latest forecasts of the National Bank in the April cycle[20]

[18] Further information on domestic macroeconomic environment are available in National Bank's Annual Report for 2020.
[19]For more information about the measures of the National Bank in response to the COVID-19 crisis visit: https://www.nbrm.mk/kovid-19-odgovor-na-narodnata-banka.nspx .For more information about the adopted fiscal measures visit: https://vlada.mk/ekonomski-merki-covid19
[20]The latest National Bank forecast according to the April cycle are published in the Quarterly Report, May 2021.

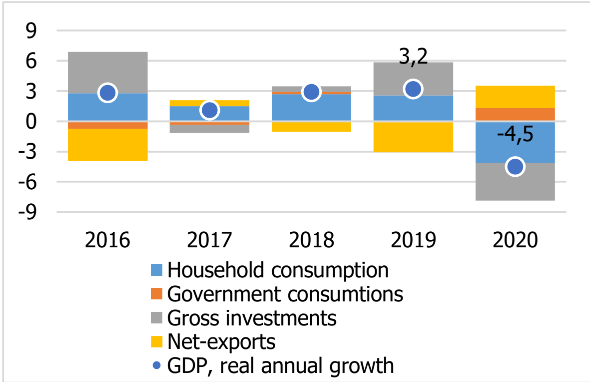
indicate recovery of the economic activity in 2021 (with a growth of 3.9%), which will continue also on a medium-term basis with a growth rate of 3.9% in 2022 and 4% in 2023. The favorable prospects for economic activity mitigates the financial stability risks that may spill over to the financial sector by deteriorating the creditworthiness of households and the corporate sector. However, uncertainty remains high, with pronounced risks to the economic growth path, which imposes the need for prudent risk management in order to maintain the stability of the financial sector.

Chart 13

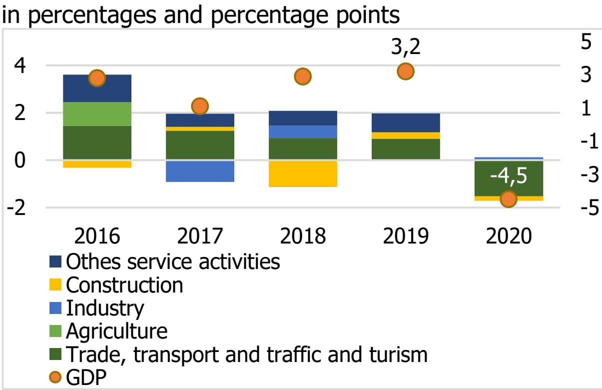
Real GDP growth
in %



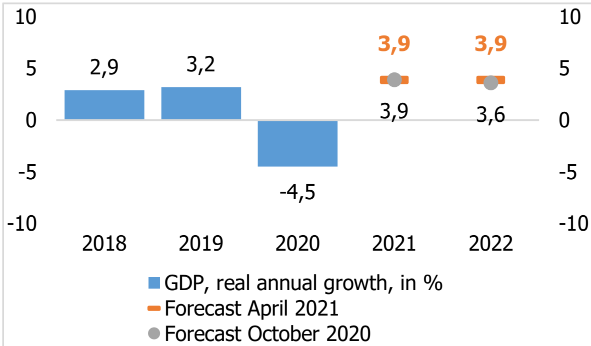
GDP structure, by component
contributions, in percentage points



Contribution of individual activities to: annual GDP growth
in percentages and percentage points



Real GDP growth, actual and forecast
in %

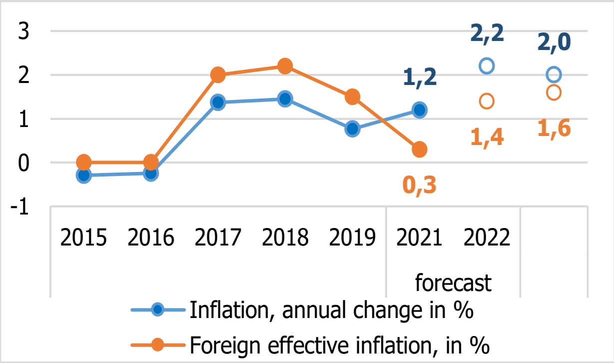


Source: State Statistical Office andthe National Bank for GDP forecast
Note: GDP data for 2019 are preliminary, and data for 2020 are estimated.

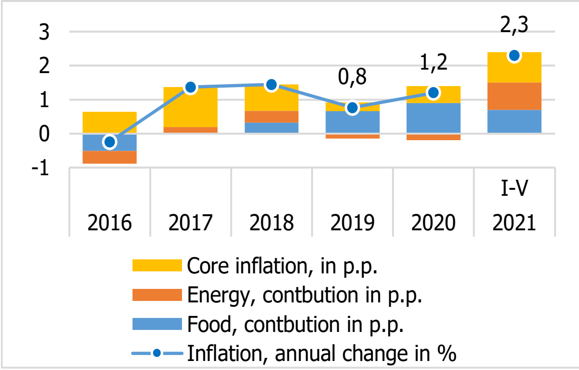
During 2020, the inflation rate accelerated moderately, but remained low and averaged 1.2% (0.8% in 2019). The growth of the general price level in 2020 is primarily due to the growth of food prices and to a lesser extent, core inflation, amid downward pressures from import prices in conditions when the price of oil on world stock markets fell sharply. Current forecasts point to limited risks to financial stability related to medium-term price dynamics. According to the April forecast of the National Bank, in 2021 the inflation rate is expected to accelerate moderately to 2.2%, as a temporary effect of the growth of world prices of primary food products and oil. This would be followed by stabilization with the expected inflation rate for the period 2022 - 2023 of about 2%.

Chart 14

Domestic inflation and foreign effective inflation, annual growth rates and forecast
in %



Volatile (food and energy) and long-term component of inflation
annual contributions, in percentage points



Source: SSO, Eurostat and National Bank assessments.

The uneconomic shock that hit the domestic economy imposed the need for pronounced countercyclical fiscal policy action to support the real sector. As a result, budget expenditures increased, which in conditions of reduced revenue collection due to the reduced economic activity, but also tax relief under anti-crisis measures, caused a significant enlargement of the budget deficit to 8.1% of GDP (2, 0% of GDP in 2019). Primary budget balance[21] registered similar movement, which deepened to the level of 6.9% of GDP, while in 2019 the primary budget deficit was 0.8% of GDP. The increased budget deficit increased the financing needs, which reflected through the growth of the public debt, which reached 60.2% of the GDP at the end of 2020. The growth of public debt was largely driven by increased external borrowing[22], given an increase in the domestic debt, as well[23].

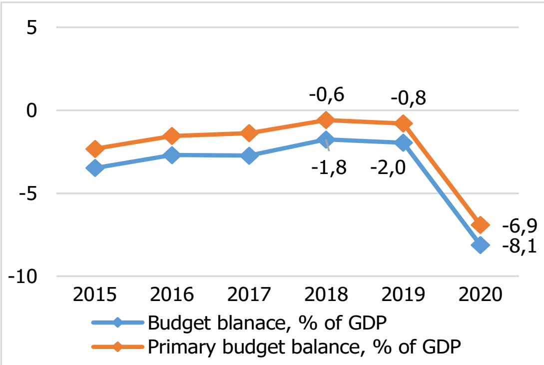
[21]The primary budget balance does not include repayments of current liabilities based on borrowings (interest). This fiscal indicator is considered more appropriate because it does not contain fiscal costs with an effect on public debt related to the implementation of fiscal policy in the past.

[22]At the beginning of April, the International Monetary Fund confirmed financial support forthe domestic economy, through the Rapid Financing Instrument, in the amount of around Euro 176 million. Also, in June, there was an inflow of funds from the seventh Eurobond issued in a nominal amount of Euro 700 million, with an annual interest rate of 3.675% and a maturity of 6 years. In October, an inflow of Euro 83 million was registered on the government account, in the form of a loan within the macro-financial assistance from the European Commission.

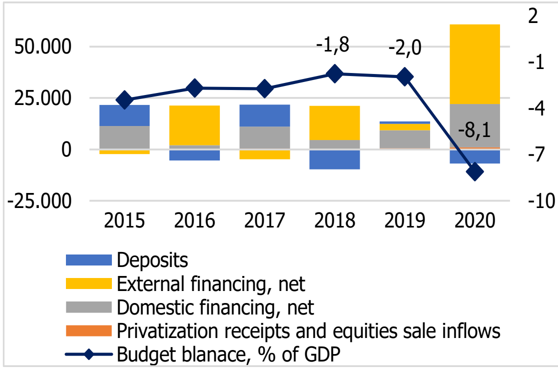
[23] The increased needs for budget financing in 2020 were partly financed through the domestic primary market of government securities, whereby the stock of issued securities increased by Denar 21,511 million and at the end of the year amounted to Denar 127,865 million. The new issues of government securities were with a longer maturity than the maturity of the maturing securities, which contributed to increasing the average maturity of the issued government securities and increasing the share of government bonds in the securities' structure.

Chart 15

Total and primary budget balance
in percent of GDP



Total budget balance funding structure
in millions of denars
in % of GDP

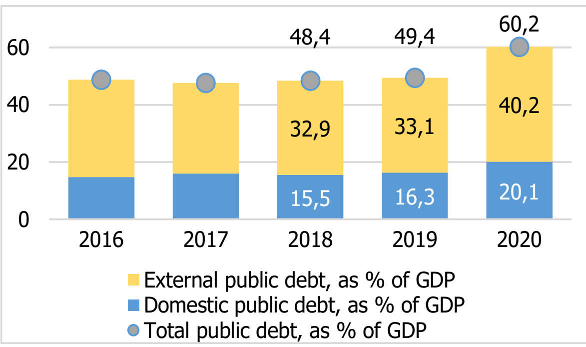


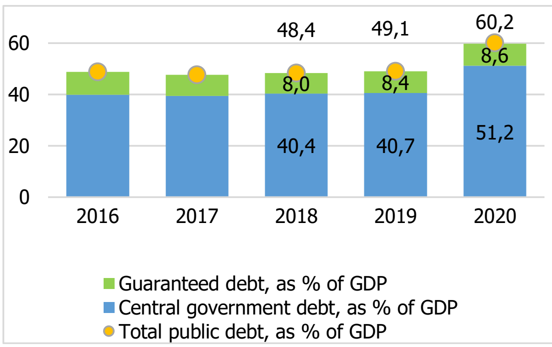
Source: Ministry of Finance and National Bank calculations.

High budget deficits and rising public debt are currently a global phenomenon, as all countries have responded to the pandemic in a similar way, with extensive fiscal and monetary stimulus. Such conditions emphasize the need for fiscal consolidation in the next period, with the economic recovery and gradual exhaustion of the shock, which will allow rebuilding the fiscal space and sustainability of public debt in the medium and long term. The Fiscal Strategy of the Ministry of Finance[24] envisages gradual fiscal consolidation on the medium term, with further support for the economy through fiscal measures to mitigate the pandemic effects. According to the Public Debt Management Strategy[25], the public debt movement will grow moderately by 2024, in line with the projected needs for financing budget deficits in the medium term, the needs for repayment of previous debts, as well as the implementation of projects. Then, in the period after 2025, through fiscal consolidation measures, it is expected to reduce the level of debt below the set limit in the medium and long term by 60% of GDP. Maintenance of fiscal stability and public debt sustainability are important for maintaining financial stability given the high exposure that domestic financial institutions have to the government securities market.

Chart 16

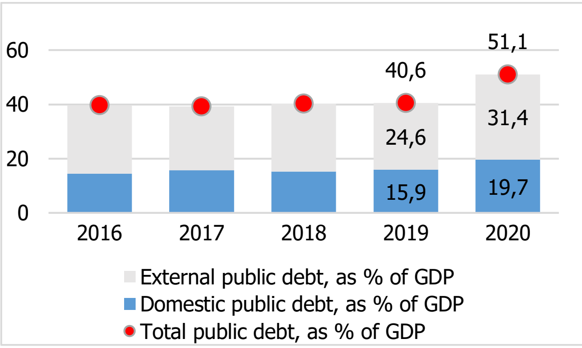
Dynamics and structure of total public debt
in percent of GDP



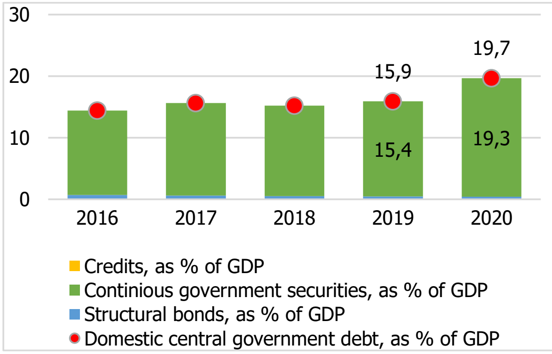


[24] Fiscal Strategy of the Republic of North Macedonia for 2022 - 2024 (with prospects until 2026, May 2021.
[25] Public Debt Management Strategy of the Republic of North Macedonia for 2022 - 2024 (with prospects until 2026), May 2021.

Dynamics and structure of central government debt, by residency
in percent of GDP



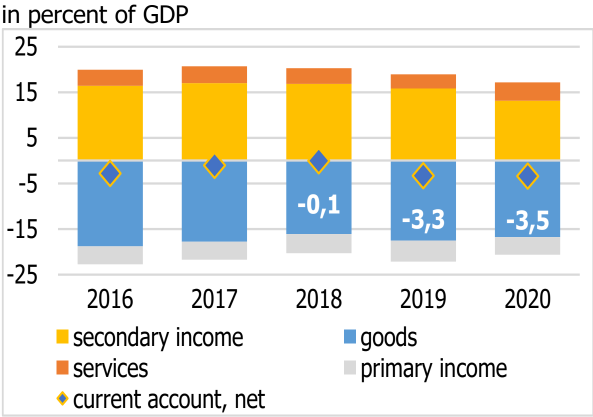
Structure of domestic central government debt
in percent of GDP



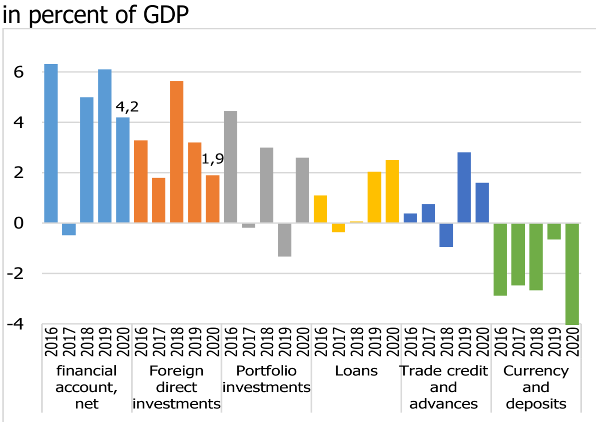
Source: Ministry of Finance and National Bank calculations.

The external position of the economy was stable during the year and enabled further increase in the foreign reserves. The current account deficit on the balance of payments' account widened moderately and in 2020 it equaled 3.5% of the GDP. In conditions of lower trade deficit, the widening of the current deficit is mainly due to the reduced net inflows from the purchased foreign assets on the foreign exchange market, as one of the transmission channels of the crisis. From the aspect of the financial account, the financing of the current transactions in 2020 was largely enabled through the external borrowing of the Government[26], and additional inflows were realized through the borrowing of the private sector, foreign direct investments, as well as trade credits.

Chart 17
Current account and main components
in percent of GDP



Financial account and main components
in percent of GDP



Source: National Bank.

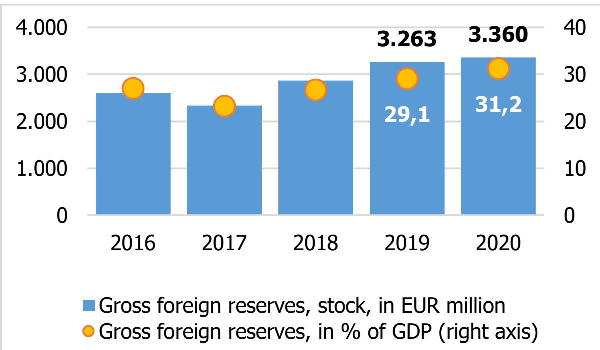
[26] In May 2020, the Ministry of Finance issued the seventh Eurobond in the amount of Euro 700 million, at an interest rate of 3.675%. In April 2020, the Ministry of Finance borrowed from the International Monetary Fund (IMF), withdrawing funds in the amount of Euro 176.8 million on the basis of the Rapid Financing Instrument, while in the last quarter, funds were withdrawn from both, the European Commission in the amount of of about Euro 80 million and from the World Bank in the amount of about Euro 32 million.

The adequate level of foreign reserves ensured stability of the exchange rate, enabling the National Bank to react by loosening the monetary policy. During the year, the National Bank has cut its policy rate on three occasions, reducing it to the historically lowest level of 1.5% and lowered the bid amount of CB bills thus releasing liquidity in the banking sector. Also, regulatory flexibility was provided in the area of credit risk management, which enabled temporary deferral of loan collection and thus easing the debt burden of households and the corporate sector. The companies received support in the activities that are most affected by the pandemic through the undertaken non-standard measures in the part of the reserve requirement. The measures of the National Bank contributed to the maintenance of favorable financial conditions and easier overcoming of the consequences of the pandemic and to further maintenance of the credit cycle as an important factor in supporting economic activity. In the foreign exchange market, the National Bank intervened by net sale of foreign currency through foreign reserves, thus contributing to bridging the gap between supply and demand of foreign currency and maintaining exchange rate stability. Interventions were mainly concentrated during the second quarter, which corresponds to the acute phase of dealing with the pandemic, after which the need for interventions decreased in the second half of the year. Foreign reserves are expected to further be maintained in the safe zone in the next period, which is an important prerequisite for financial stability maintenance.

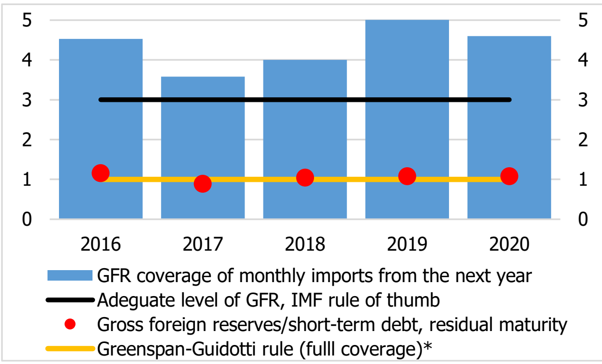
Chart 18

Gross foreign reserves, balance and share in GDP balances,

in millions of euros in %



Foreign reserves adequacy indicators



Source: National Bank.

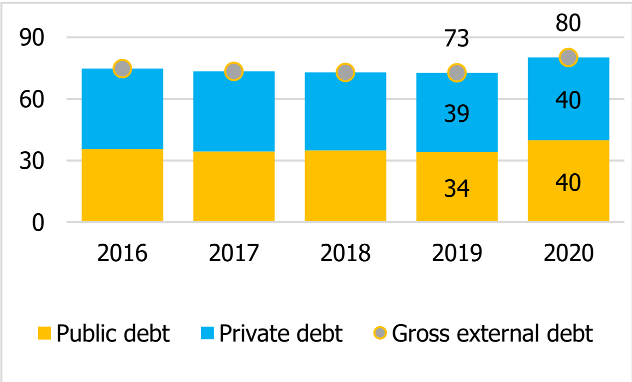
Note: According to the Greenspan-Guidotti rule, the country needs to keep full coverage of short-term debt (residual maturity) with foreign reserves.

The gross external debt[27] in 2020 increased and equaled 80% of the GDP, which was largely contributed by the risen debt in the public sector in concordance with the government borrowings. Growth, although more moderate, was also registered in the debt of the private sector, which mainly stems from the increased indebtedness of the non-banking private sector and the commercial banks, and to a lesser extent the growth of the inter company loans. Inter company borrowing still accounts for about 25% of total gross external debt, and a solid share of trade credit (around 10%) contributes to reducing the economy's vulnerability to the risk of potentially excessive external debt, given that these two categories represent relatively more flexible and less risky forms of debt.

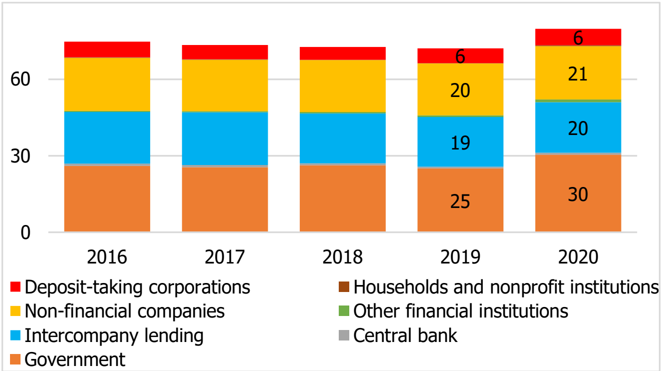
[27] Gross external debt includes: public external debt, publicly guaranteed private sector debt and private non-guaranteed external debt. In the absence of publicly guaranteed private debt, the external private debt actually includes only non-guaranteed debt.

Chart 19
Structure of the gross foreign debt
in percent of GDP

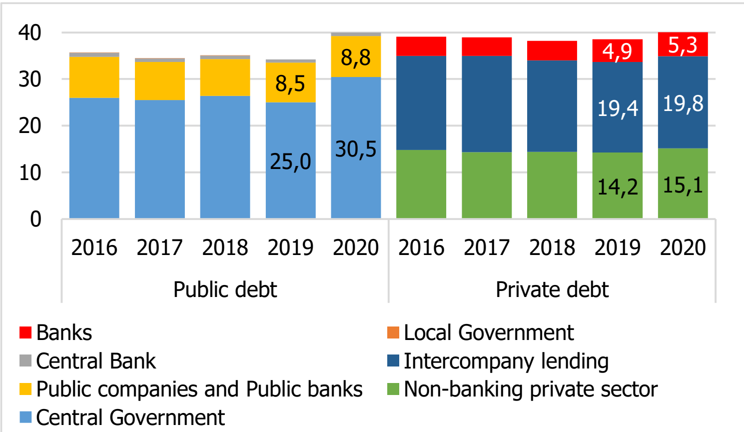
By debtors



By institutional sectors



Structure of public and private debt

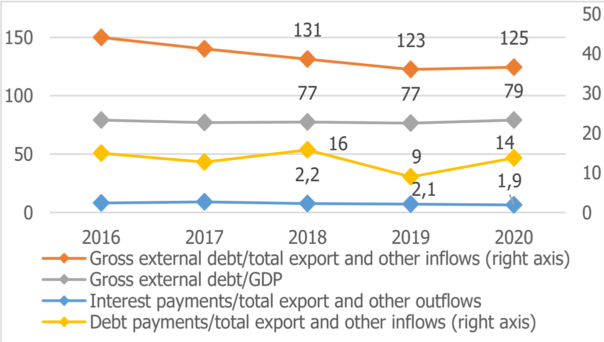


Source: National Bank.
Note: Gross external debt does not include central bank liabilities under repo agreements.

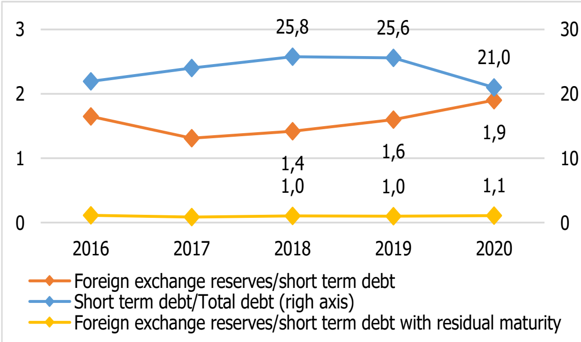
The data on the solvency and **liquidity ratios of the external debt further point to relatively moderate external debt of the domestic economy.** Gross external debt to GDP ratio remains the single indicator that classifies the domestic economy in the group of highly indebted countries, while all other ratios point to low indebtedness.

Chart 20

Solvency, as an indicator of the external indebtedness
in %



Liquidity, as an indicator for the external indebtedness
in %

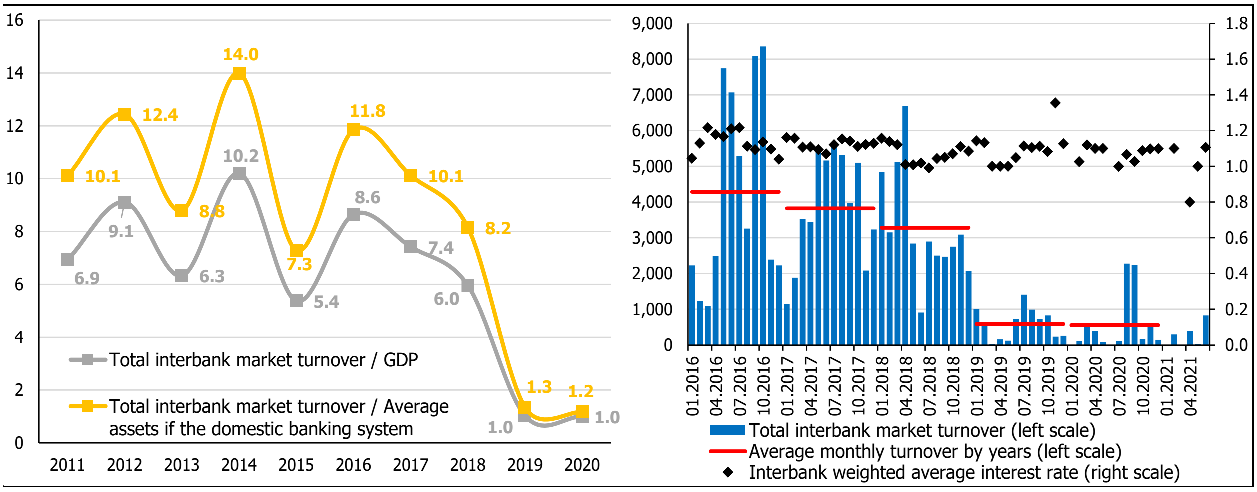


Source: National Bank.
* Moderate debt criterion is taken from the World Bank's debt indicator compilation methodology, which implies using three-year moving averages of GDP and export and other inflows as denominators in the indicator compilation.
Moderate debt criterion:
Interest payments/export and other inflows: 12-20%
Debt payments/export and other inflows: 18-30%
Gross external debt/GDP: 30-50%
Gross external debt/export and other inflows: 165-275%
Foreign reserves/short-term debt with residual maturity 1. The country needs to maintain full coverage of short-term debt (residual maturity) with foreign reserves.

1.1.1. Financial markets

The significance of the domestic financial markets to the financial system remained moderate throughout 2020, thus limiting the risks to their financial stability. In a crisis caused by the COVID-19 pandemic, the interbank market played moderate role in managing the liquidity of domestic banks. Banks remained liquid even in these conditions and used this segment only to compensate for the occasional liquidity shortages. In 2020, the interbank deposit market reported a total turnover of Denar 6.65 billion, which is a decrease of 5.8% compared to the previous year. The share of turnover in the gross domestic product, for the second year in a row, remained very low at the level of about 1%. The relative importance of the turnover for the banks is equally modest with a share of 1.2% of their assets. The interest rate on interbank transactions in 2020 remained relatively low and on a monthly basis ranged from 1.00% to 1.12%. In 2020, these interest rates encompass the average credit risk premium, expressed through the spread over the interest rates on the marginal deposit facilities of the National Bank and up to seven days, from 0.7 and 0.9 percentage points. Thereby, all transactions on the interbank market were with unsecured deposits, and for the second year in a row there were no transactions on the repo market.

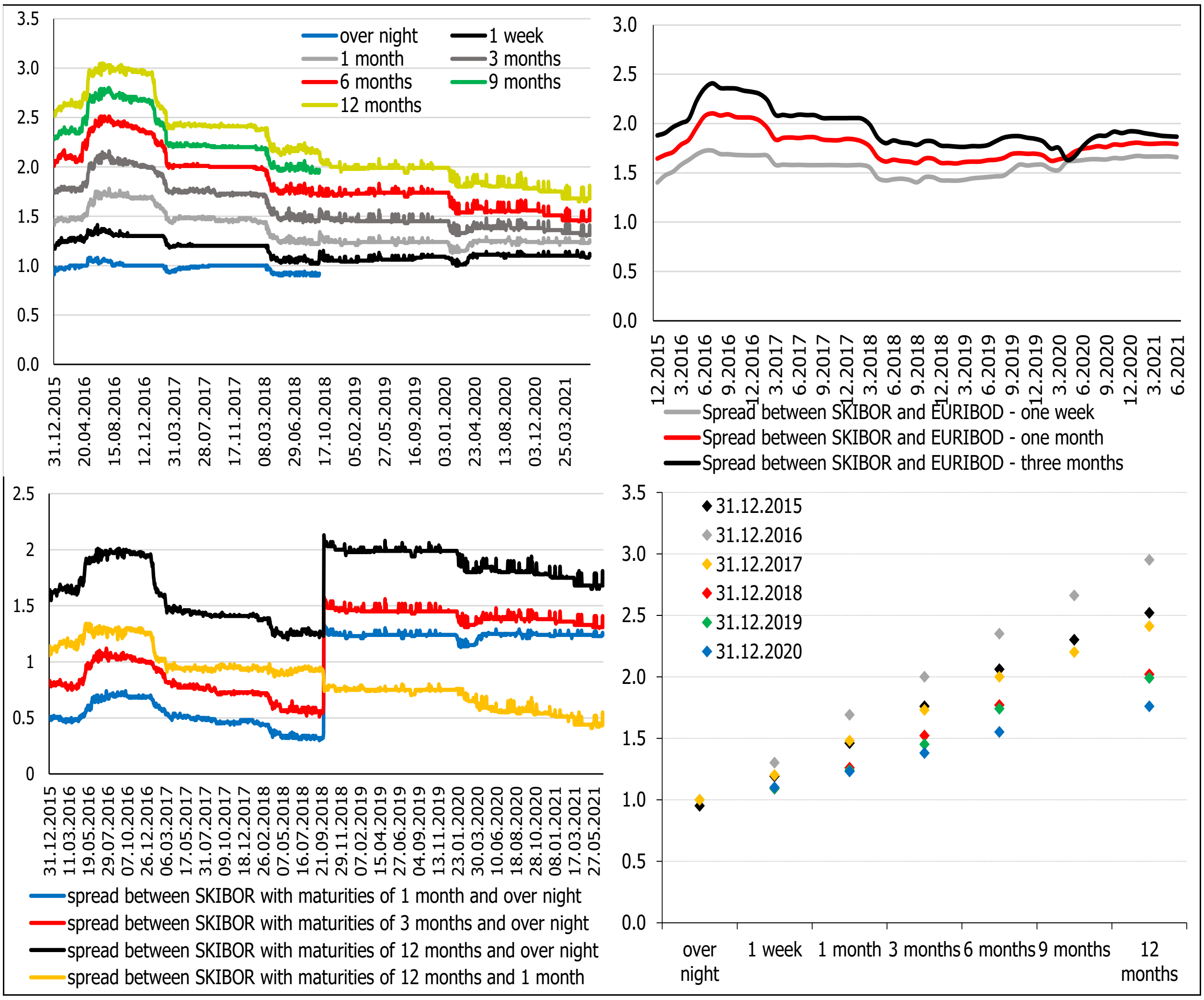
Chart 21
Indicators of the relative importance of the interbank market (left) and total turnover and interest rate of the interbank market (right)
in % and in millions of Denars



Source: National Bank.

Despite the growing uncertainty brought about by the global pandemic, domestic interbank rate quotations in 2020 have generally shown stability, remaining relatively low. At the end of 2020, the one-year SKIBOR was lower compared to the end of 2019, showing a slight narrowing of the implicit maturity premiums. In the first half of 2020, there was some minimal expansion of the spread between the indicative quotations of denar interbank interest rates (SKIBOR) and interbank interest rates in the euro area (EUROBOR), followed by stabilization. Given the global nature of the pandemic, adverse effects have been felt in almost all economies, with effects on risk premiums, thus keeping the domestic interbank interest rate spreads alike those in the euro area, a level similar to that registered in the past few years.

Chart 22
Dynamics of the SKIBOR rates (top, left), dynamics of the spread between the SKIBOR and EUROBOR rates for selected maturities (top, right), derived term premiums from the SKIBOR rates (down, left) and yield curves of the SKIBOR rates (down, right)
in %

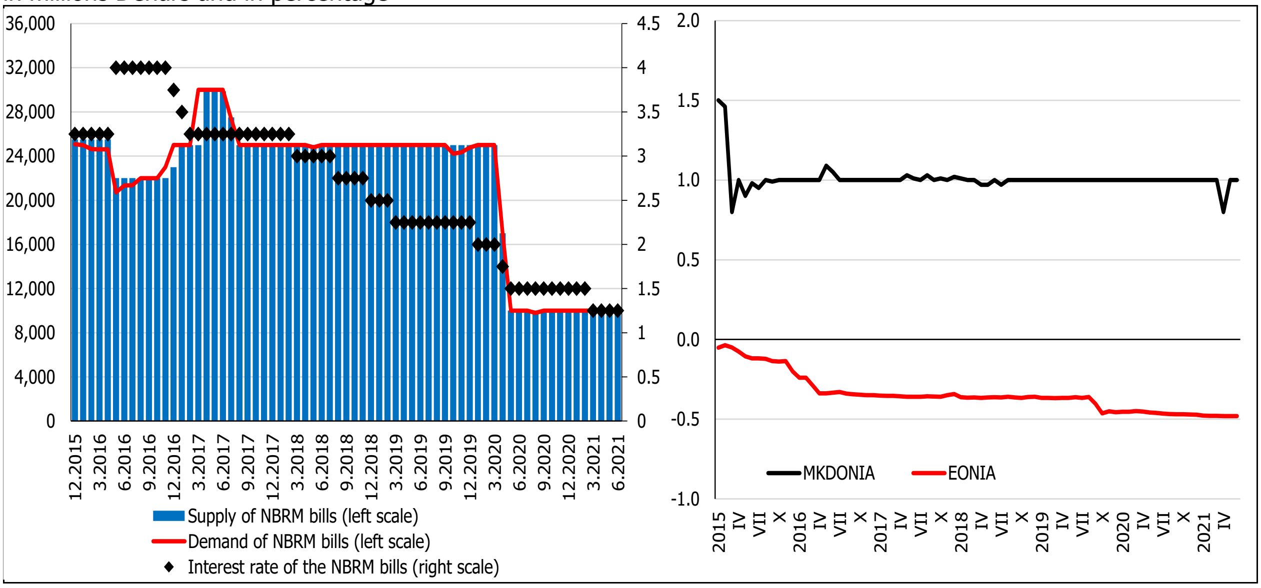


Source: National Bank and the web site of the European Institute for the Money Market for Euribor.

Banks' liquidity was supported by measures taken by the National Bank in response to the pandemic[28], which among other things included reduction in the supply of CB bills in order to provide financial support to the real sector and maintain favorable financing conditions. This reduced the share of CB bills in the total amount of issued short-term securities.

[28]For more information about the measures of the National Bank in response to the COVID-19 crisis visit: https://www.nbrm.mk/kovid-19-odgovor-na-narodnata-banka.nspx

Chart 23
Characteristics of the CB bills primary market (left) and interest rates, overnight on the domestic and interbank market in the EU (right
in millions Denars and in percentage

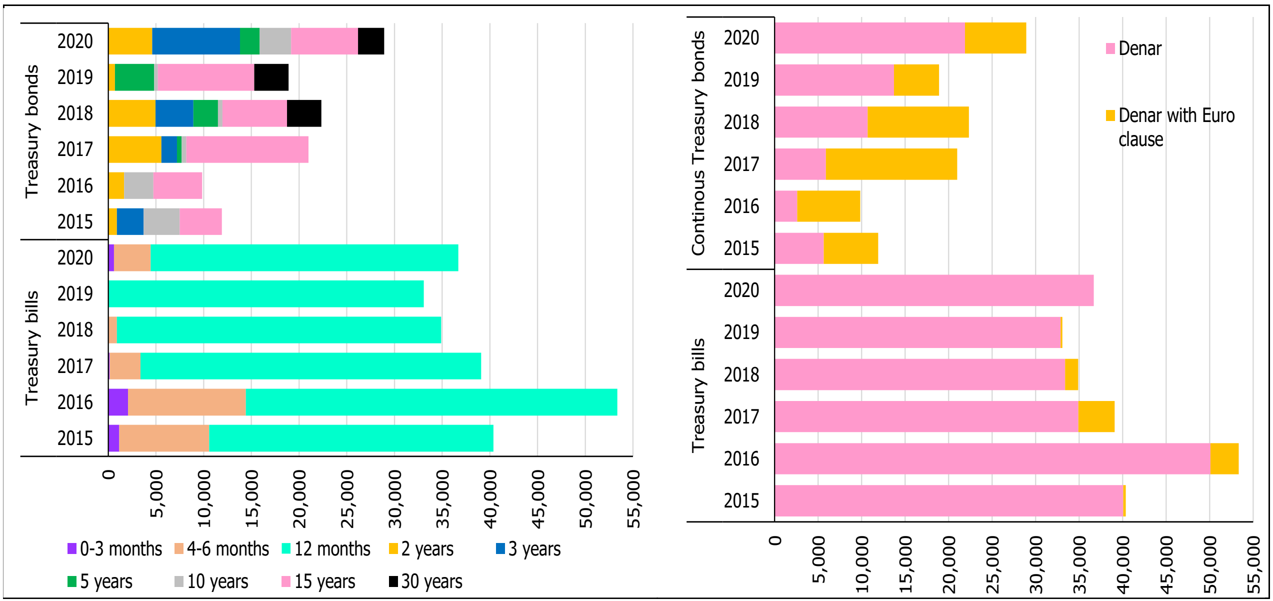


Source: National Bank and the web site of the European Institute for the Money Market for EONIA.

On the other hand, in conditions of increased budgetary needs for financing to support the economy, the state increased the volume of issued government securities, thus strengthening the role of the main issuer in the primary securities market. The total amount of issued government securities[29] in 2020 equaled Denar 65,621 million, which is at the level of 9.9% of the gross domestic product (7.5% in 2019) and registered an annual growth of 26.3%. Considering that in 2020 government securities in the amount of Denar 45,954 million matured, the net issued amount of government securities on the domestic market in 2020 amounted to Denar 19,666 million. The new issues of government securities were concentrated with the government bonds, which accounted for three quarters of the growth, with the largest share of bonds accounting for those with a contractual maturity of three years (share of 31.8% in newly issued bonds) and fifteen years (share of 24,3%). Also, after two years of decrease, in 2020 the amount of newly issued government securities with currency clause increased again (growth of 31.1% on annual basis), thus contributing approximately 12% to the total annual growth of newly issued government securities. At the last auctions on the primary market in 2020, the yield to maturity of the denar twelve-month treasury bills was 0.4% (0.6% at the end of 2019), while the government bonds ranged from 0.9% for the two-year government bonds over 2% for a ten-year government bond to 2.5% for a fifteen-year government bond.

[29] The analysis refers to the total government securities (continuous and structural). In July 2020, there were no new issues of structural securities. During the year, the ninth issue of denationalization bond matured, in a total amount of Euro 30 million.

Chart 24
Structure of the newly issued government securities on the primary market by the effective contractual maturity (left) and by the currency denomination of securities (right)
in millions of denars



Source: National Bank.

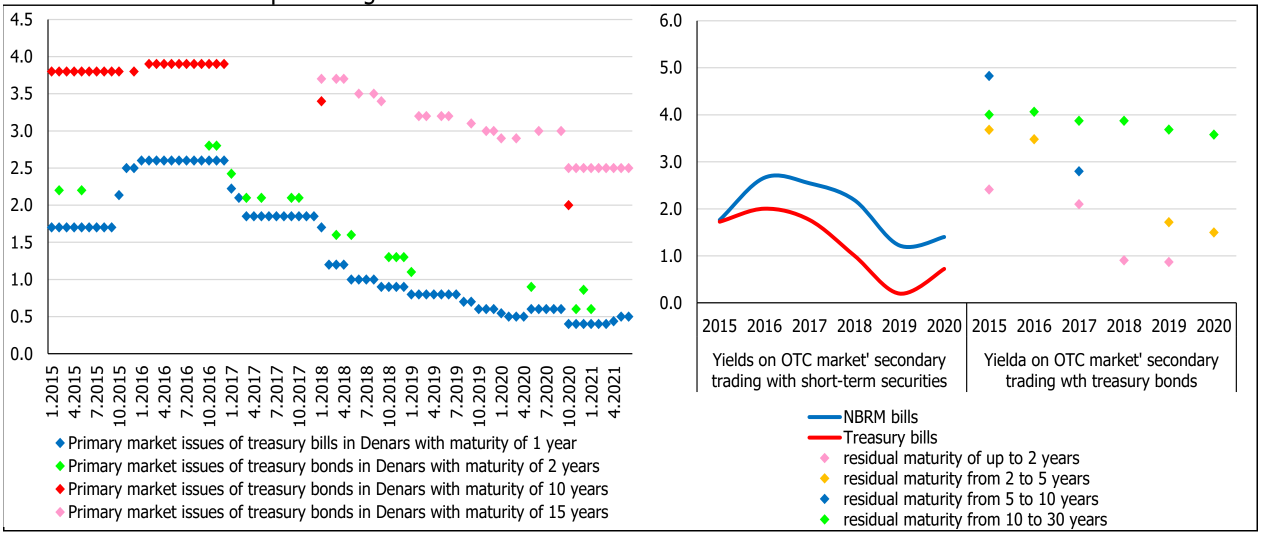
Secondary trading in government securities increased in 2020, but its share of GDP remains very low, indicating weak liquidity of these instruments. The key role in trading on the secondary market accounts for the equity securities issued by domestic joint stock companies, and the trading is concentrated with domestic investors. Although the turnover with government securities in 2020 compared to last year increased by 73%, it still amounts to a moderate Denar 4,365 million, which is at the level of 0.66% of gross domestic product (0.36% in 2019). With a small volume of OTC trading[30], government bond yields are generally higher than the respective bonds on the primary market[31]. It should be emphasized that unlike government securities markets in more developed countries where liquidity in the secondary government bond market is concentrated in the short-term or medium-term segment of the yield curve, for the domestic government over-the-counter government bond market, liquidity in 2020, as in 2019, was concentrated on the long-term segment of the yield curve[32].

[30] Pursuant to Article 72 of the Law on Securities, secondary trading in all securities is performed through a stock exchange authorized by the Securities and Exchange Commission, with the exception of buying and selling short-term securities and government bonds (except denationalization bonds), as well as realization of repo agreements, can be done on the over the counter market. However, most of the turnover (about 94%) of government securities in 2020 is concentrated on the OTC market, partly reflecting the difference in costs of individual market segments.

[31] To illustrate, in the primary market in 2020, bonds with an initial maturity of 15 years were issued with a yield equal to the coupon interest determined by the issuer, in the range of 2.5% (in the last quarter of 2020) to 3% (June 2020). In contrast, in the secondary market, in the block with a residual maturity of 10 years to 15 years, which corresponds to the duration, the yield to maturity of transactions concluded in 2020 was approximately 3.2%.

[32] In 2020, 92% of the total OTC market turnover was concentrated in the segments with residual maturity from 10 years to 30 years (in 2019 68%).

Chart 25
Yields to maturity in the primary market of government securities (left) and weighted yields to maturity in trading in securities on the OTC market (right)
in millions Denars and in percentage



Source: National Bank.
Note: Over-the-counter market returns are obtained as a weighted average of all transactions in this market during the year for the respective maturity segment, with the weight of the amount of individual transactions being used.

Private sector entities rarely use the domestic financial market as a mechanism for securing financing, so in 2020 the amount of new issues of securities was relatively small. The small interest of private entities for alternative financing, as well as the absence of non-resident investors in the domestic financial market, indicate the need for further improvement of the regulatory and institutional framework that is (directly or indirectly) relevant to the functioning of financial markets and will support development of new products and services and provide greater clarity and competitiveness in the process of attracting potential investors. In 2020, partly due to the pandemic and related protective measures, the already small number of new securities issues decreased (from fifteen to eight), as well as the value of the total newly issued securities (from Denar 3,916 million in 2019 to Denar 2,151 million). In contrast to 2019, in 2020 there was no new issue of corporate bond[33], i.e. all newly issued securities were shares.

Secondary trading in non-government securities on the domestic institutionalized capital market in 2020 registered slightly higher turnover compared to 2019. However, its relative volume with regard to gross domestic product is moderate and equals 1.2%. The increase in turnover is mainly due to the larger stock trading, in part due to the sales of investors at the start of the global pandemic. The turnover on the domestic capital market mainly arises from one-way trading transactions with conventional financial instruments. Modern opportunities for trading through the so-called uncovered short sales positions, as well as derivative instruments are not available at the moment. Such conditions indicate a need to improve the range of financial products and services, which will increase investor interest and contribute to the development of the capital market.

[33] The corporate bonds issued in 2019 were corporate bonds with features of capital instrument issued by domestic banks for the needs of capital adequacy.

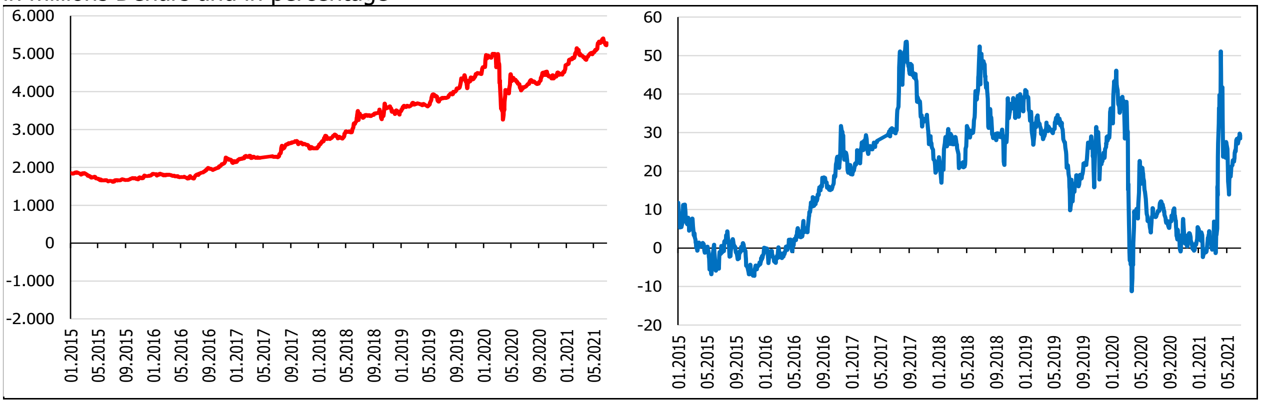
Table 2
Statistical indicators of secondary trading on the domestic institutionalized capital market

Data and indicators	2016	2017	2018	2019	2020
Total turnover - conventional trading and block transactions (inmillions of denars)	3,023	4,739	10,409	7,701	8,196
Total turnover - conventional trading (in milions of denars)	2,332	2,908	4,889	4,178	5,965
Total turnover of conventional trading / GDP (in %)	0.4	0.5	0.7	0.6	0.9
Annual change of total turnover (in %)	13.7	56.8	119.6	-26.0	6.4
Turnover of conventional stock' trading (in millions of denars)	1,824	2,729	2,729	3,819	5,681
Turnover of conventional bond' trading (in millions of denars)	509	179	531	359	284
Turnover of conventional stock' trading / Total turnover (in %)	60.3	57.6	26.2	49.6	69.3
Turnover of conventional bond' trading / Total turnover (in %)	16.8	3.8	5.1	4.7	3.5
average monthly turnover (in milions of denars)	252	395	867	642	683
Average monthly number of transactions	1,078	1,352	1,994	1,573	1,891
MBI - 10 as of last trading day in the year	2,134	2,539	3,469	4,649	4,705
Annual change of MBI 10, in %	16.4	19.0	36.6	34.0	1.2
Market capitalization of qouted stocks, as of year end (in millions of denars)	112,314	132,942	158,773	181,279	179,009
Market capitalization of quoted stocks / GDP (in %)	18.9	21.5	24.0	26.3	27.0
Market capitalization of all stocks (quoted and stocks of compnaies with special reporting obligation) / GDP (in %)	19.5	22.1	24.5	26.9	27.6

Source: Macedonian Stock Exchange AD Skopje

The dynamics of the domestic institutional capital market index (MBI-10) in 2020 was influenced by the circumstances brought by the global pandemic. Market participants, especially in the first half of 2020, mainly created larger pressure on the sales side. The pandemic itself, both in the global and the domestic capital market, was specific because in a very short time it caused a relatively large correction in the price levels of financial instruments. Thus, the index of the domestic institutional capital market, from its peak in February 2020, in only 25 trading days reached a correction of high -35%. In rest of the year, in the global markets and in the domestic capital market, a recovery period followed, mainly due to the improved perceptions of the market participants due to the monetary and fiscal stimulus measures. The index of the domestic institutionalized capital market reached again its highest level in February 2021, precisely one year after the previous peak. Otherwise, the composition of the index itself shows a fairly high level of sectoral concentration, given that five of its ten components are banks, which in a way confirms the limited number of liquid shares that can arouse significant interest among the general investment public.

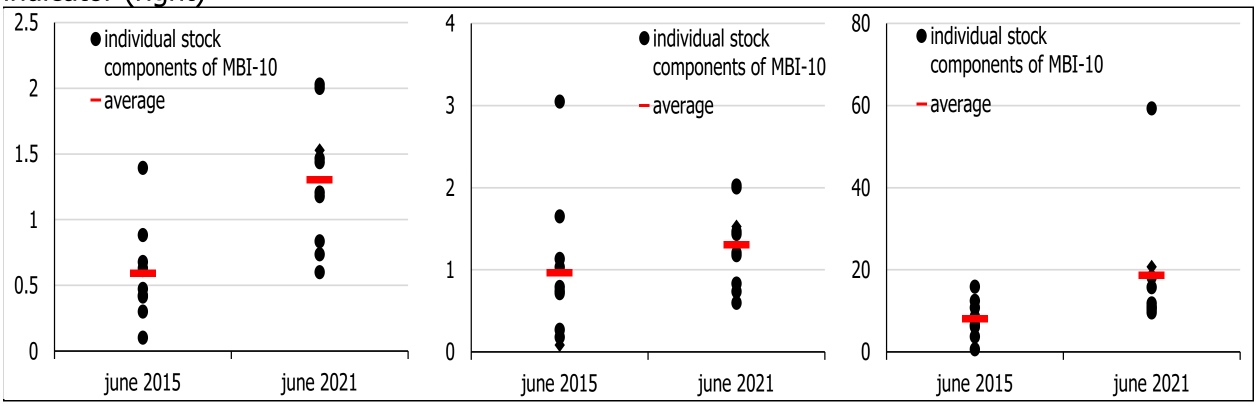
Chart 26
Movement of the domestic capital market index (left) and its annual change (right)
in millions Denars and in percentage



Source: Macedonian Stock Exchange AD Skopje

The market capitalization of listed shares on the official capital market in the last five years has increased and in 2020 is 27% of GDP. Also, the financial indicators for the listed companies that make up the index of the domestic capital market show increased valuations of shares compared to the period several years ago. This is an indicator of the optimism that prevails in the domestic capital market, which encourages the growth of securities prices. This "rich valuation" phenomenon has been present in the global financial markets for a decade in conditions of very low or negative yields on debt securities, which increases the appetite of the global investment public to take risks. Stimulus measures taken due to the 2020 pandemic worldwide have further intensified these processes of "heating up" optimism and further increased the appetite of investors to take risks. However, the expressed optimism, both in the global and the domestic market, if it is not based on economic factors and exceeds certain rational frameworks, can turn into a risk factor, which investors should take into account when making decisions about investing and taking risks.

Chart 27
Selected indicators for the valuation of the components that make up the index of the domestic capital market - price / book value of the share (left) price / sales (middle) and price / earnings indicator (right)



Source: National Bank calculations based on the prices published by the Macedonian Stock Exchange AD Skopje, announced to the individual listed companies and audited financial statements of the listed companies.
Note: for the shares issued by the banks, the total realized incomes are taken as sales revenues.

The domestic institutional capital market is characterized by low international visibility, which is seen through the moderate presence of foreign portfolio investors, both individuals and institutional investors. For foreign investors present in the market, a trend of greater interest in selling than buying securities has been characteristic for a long time, appearing as a net seller in the capital market. This trend continued in 2020[34], when the share of foreign investors was around 14% and 20% in the total purchase and sale turnover on the institutionalized capital market, respectively (in 2019 these shares were 6.4% and 18.6%, respectively) However, almost 91% of this turnover of foreign investors arise from a block transaction from March 2020, with which a foreign entity acquired a dominant share in a domestic insurance company, and as sellers of shares were foreigners. If this transaction is excluded from the turnover, the share of foreign investors in the purchase and sale turnover in 2020 is 1.4% and 7.9%, respectively.

1.1. Household sector

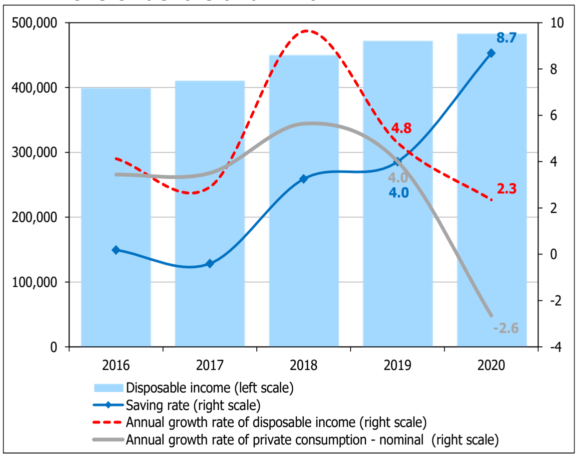
The risks associated with the households sector remained under control, despite the uncertain macroeconomic environment caused by the health crisis. Solvency and liquidity ratios registered minimal deterioration in 2020, still indicating limited sensitivity of the households sector to shocks, and the systemic vulnerability of this sector is also relatively limited, which can be seen from the level of the aggregate indicator for the systemic risk. Disposable income, which is the basis for the sustainability of the level of the debt of the households sector as a whole, but also for the formation of savings, taking financial risks through investments and consequently accumulation of financial funds, continued to grow also in 2020, but at a significantly slower pace. **The accumulated financial funds of the households sector, their savings rate and the general perceptions and expectations of the households for the economic developments and for the personal financial position, have growing importance to the financial stability, especially if one considers that exactly the households sector, except as credit products user, is the most important creditor of the domestic banks, but also of the other domestic financial institutions.** The measures taken by policy makers in response to the pandemic contributed to mitigating the effects of the crisis on the labor market, which affected the dynamics of deposits during the year, as well as the disposable income. Household savings continued to grow, as a result of the greater restraint from spending in conditions of uncertainty (in terms of the strength and the duration of the effects of the pandemic) and reduced social interaction which was reflected through a decline in the personal household consumption, for the first time after the several-year continuous growth. In conditions of increased uncertainty due to the pandemic, households showed greater propensity to keep their funds in the banks in very short terms and in foreign currency, which is common behavior in times of crisis. However, the rate of euroization of household deposits (as measured by the share of foreign currency deposits in total household deposits) in 2020 remained relatively stable and amounted to 47.3% at the end of the year, which was not the case in previous crisis episodes, when euroization generally grew. Such movements are a confirmation of the citizens' confidence in the stability of the banking system and in the stability of the domestic currency.

The level of household debt relative to the gross domestic product is not high, despite the strong growth in recent years. At the end of 2020, the total household debt relative to the gross domestic product amounts to 30.4%, which is higher by 3.2 percentage

[34]Net sales of foreign investors in 2020 amounted to Denar 457 million, while in 2019 amounted to Denar 943 million.

points compared to the end of the previous year. **Debt repayment indicators, determined on the basis of the available data, point to relatively low risks for the household creditors[35]. Thus, despite the pronounced influences of the health crisis, banks continued their solid credit support to households. The quality of debt to banks significantly improved, amid decline in the default rate and in the rate of non-performing loans, which in 2020 reduced to the historically lowest level, of 1.6%.** Of course, such changes were also under the influence of the regulatory easings introduced by the National Bank in the field of credit risk management, that allowed banks to grant a temporary delay in the loan repayment to most of the borrowers, for the purpose of easier dealing with the negative effects of the pandemic. This mitigated the risks of greater materialization of the credit risk, especially in the part of creation of new non-performing loans. However, after the end of the temporary delay (mostly by the end of 2020), households registered no significant deterioration of the debt quality, although in the first months of 2021 there was a small growth in non-performing loans. But, taking into account the unpredictability around the duration of the pandemic and its consequences, there is still present uncertainty about potentially greater materialization of the credit risk and growth of the banks non-performing loans.

Chart 28
Disposable income, private consumption and savings rate of households
in millions of denars and in %



Source: National Bank assessments and calculations based on data from SSO, MF and CSD.

In 2020, the disposable income[36] of the households sector registered a slowdown in the annual growth, registering an almost twice lower growth rate, compared with the previous year (2.3% in 2020, compared to 4.8% in 2019). According to the individual components that form the disposable income of households, the greatest contribution to the growth of the total inflows of households in 2020 is that of the compensations paid to employees. However, some of the inflow items in the formation of disposable income, such as the inflows of private transfers and the income from interests on deposits in domestic banks, registered a decline in 2020. Government expenditures occupy a dominant part (over 80%) of the total outflows that form the disposable income of the

[35] Setting an optimal sustainable level of household debt is complex, and largely depends on the quality and availability of the necessary data (given the lack of data on the income level of the households that borrowed from the domestic financial corporations, and the limited quality of real estate market data, whose movements usually have significant impact on the total wealth of households and consequently on the financial stability. Real estate market data do not have sufficient coverage, they are available from several sources, but all have certain shortcomings).

[36] Due to lack of data on disposable income in the official statistics, since 2007, the National Bank has been preparing an approximative data on the disposable income of households in the country which is updated annually. For some of the components of disposable income for which there is no official data, estimates are made. Disposable income is the difference between the nominal amount of the estimated inflows and the outflows of cash to and from the household sector. Inflow components include: gross amount of compensations of employees, income of individual producers, social transfers (pensions paid by the Pension and Disability Insurance Fund of North Macedonia, social welfare, unemployment benefits, sick pay compensations, etc.), private transfers from abroad, income from interests and from dividends, estimates for taxed income from other grounds (income from royalties and patent rights, income from property and property rights, realized capital gains, revenue from gains from games of chance and other prizes), income from regular repayments of denationalization bonds, interest payments from government securities and compensations of employees residents abroad. Outflows include: interest expenses, wage contributions for the Pension and Disability Insurance Fund of North Macedonia, for the government health insurance, for unemployment insurance, private transfers to abroad and payments for personal income tax.

households sector. Thus, the growth of the outflow components of the disposable income mainly results from the higher amount of the contributions on the burden of the wages, which, in conditions of a reduction of the number of employees in 2020[37], is entirely due to the growth of the average wages paid in 2020 (an effect of the wage increases at the end of 2019[38], the additional increases in 2020[39], as well as the effect of the contributions subsidizing measure due to the wage increase[40]).

Amid slower growth of the disposable income of households, but also amid greater restraint from spending related to the uncertainty about the jobs and the future income due to the pandemic, private consumption decreased in 2020. The fall in household consumption was partially mitigated by the measures for financial support to citizens. On the other hand, the greater restraint from spending enabled most of the disposable income of the sector (on private consumption expenses) to remain available for savings. **This, in turn, contributed to a significant (more than double) increase in the saving rate[41] of households in 2020, which reached 8.7%.** However, the relative size of such determined household savings, expressed as a percentage of the gross domestic product in 2020, although increased by 3.6 percentage points, they were only 6.3%. Also, given that the disposable income is based on an assessment of the National Bank, and its distribution of private consumption and savings, it should be interpreted with caution, especially if it is known that in our country the grey economy usually has a share in the formation of the disposable income[42].

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[37] The unfavorable movements in the economy, caused by the COVID-19 pandemic, also had spillover effects on the labor market. However, the impact of the pandemic on this market segment was relatively moderate. During 2020, several anti-crisis measures were adopted (for more information visit: https://vlada.mk/ekonomski-merki-covid19) in order to mitigate the impact of the crisis on the labor market, and the implementation of the existing active employment measures as a support to the employment growth, also continued. The number of employees decreased by 0.3% in 2020, amid simultaneous reduction in the employment rate of 0.2 percentage points to the level of 47.1%.

[38] In addition to the regular adjustment in April 2019, the minimum wage was extraordinarily increased in December 2019 (by about Denar 2000, net) and amounted to Denar 14,500 in a net amount (Law on Minimum Wage, Official Gazette of the Republic of North Macedonia No. 239/19).

[39] According to the announcement of the Ministry of Labor and Social Policy in the Official Gazette of the Republic of North Macedonia No. 75/20 and the Decree with legal force on the enforcement of the Law on Minimum Wage in the Republic of North Macedonia Official Gazette of the Republic of North Macedonia No. 88/20, the minimum net wage from July 2020 increased by 3%, whereby the minimum net wage is Denar 14,934 (previously Denar 14,500). The regular adjustment for increasing the minimum wage (with the increase for the previous year of the average wage paid in the RNM, the consumer price index and the real GDP growth - one third of the growth of each indicator, respectively) was made even before the crisis caused by the COVID-19 pandemic, but with a Decree, the Government put it under moratorium until the end of the state of emergency (i.e. for the period April - June 2020).

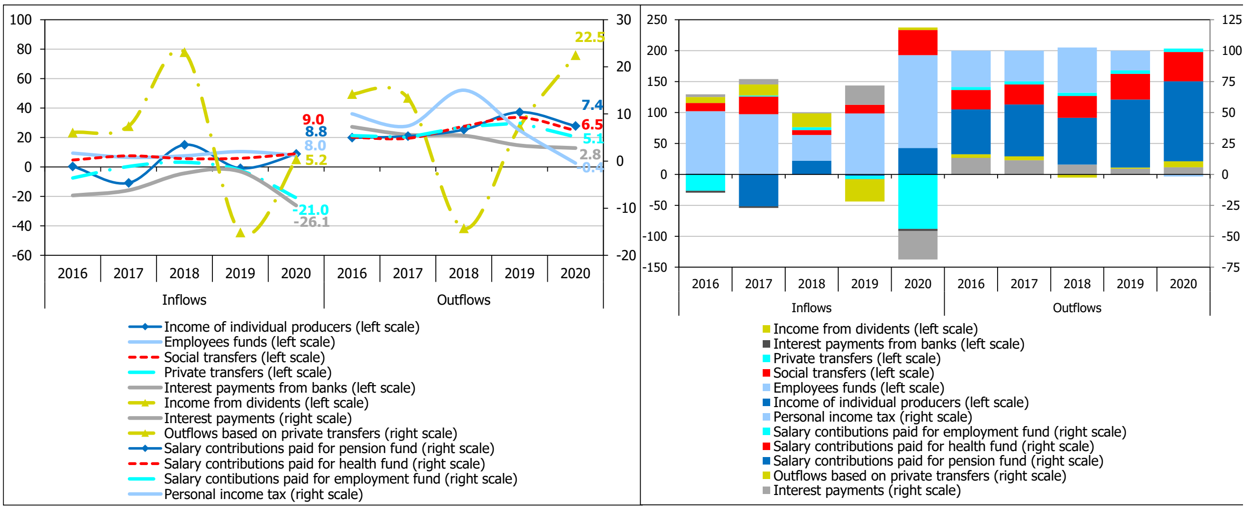
Starting with the September wage in 2019, the wages in the public sector were increased by 5%, and in the first two months of 2020, the wages in education and of medical officers were additionally increased in the amount between 5% and 25%.

[40] According to the Law on subsidizing contributions from compulsory social insurance due to wage increase, which started to be enforced with the payment of the wage from November 2019 (Official Gazette of the Republic of North Macedonia No. 239/19), whereby the subsidizing of contributions is approved if the increase in the net wage is in the amount of at least Denar 600 up to Denar 6,000 per month by insuree (Official Gazette of the Republic of North Macedonia No. 239/19, Articles 2 and 3).

[41] The rate of household saving is the ratio of the savings and the disposable income of households.

[42] Given that there is no officially published data on certain components of disposable income, the National Bank makes an assessment, which creates a possibility that the determined disposable income will not be comprehensive, which consequently affects the calculated savings rate. Thus, in certain years, a negative marginal propensity to save of the households sector is obtained, which can still be considered as an extremely unusual data in circumstances of growth in deposits of this sector with banks.

Chart 29
Annual rate of growth of components of inflows and outflows (left) and contribution of inflow and outflow components (right) to the growth of disposable income
in % and in %

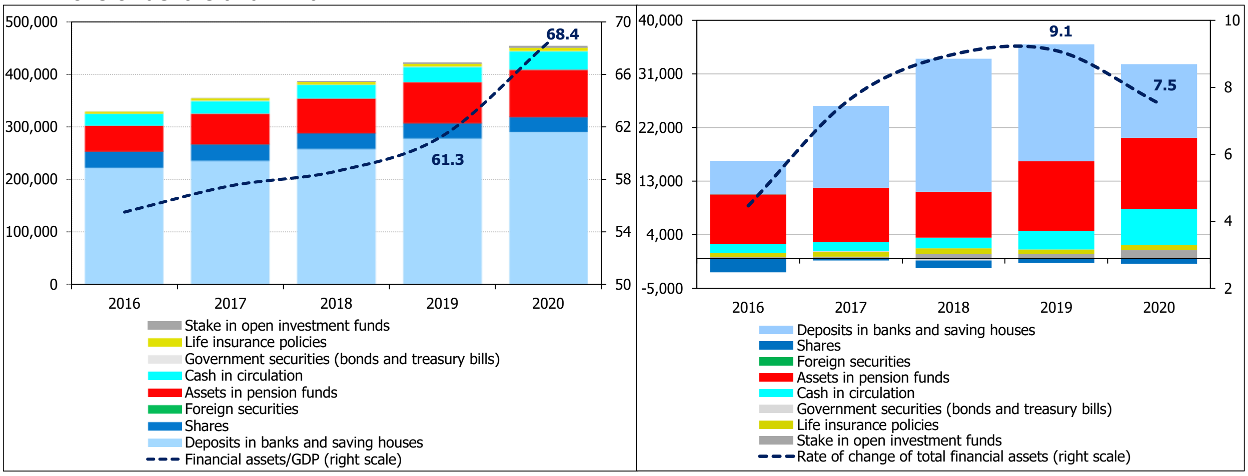


Source: National Bank assessments and calculations based on data from SSO, MF and CSD.

1.1.1. Financial assets of the household sector

In 2020, despite the impact of the health and economic crisis, the financial assets of

Chart 30
Financial assets of households (left) and annual growth of components (right)
in millions of denars and in %



Source: National Bank assessments and calculations based on data submitted by banks and savings houses, MF, MAPAS, CSD, ISA and SEC.

the household sector[43] continued to grow, but at a slightly slower pace compared to 2019 (7.5% growth in 2020, compared to 9.1% growth in 2019). At the same time,

[43] Clarification of some more specific components of financial assets: 1) cash in circulation - on the basis of the assessment that 80% of cash in circulation (outside of banks) is in households and is included in their financial assets; 2) domestic shares - the investments of resident natural persons in domestic shares are the sum of listed and non listed shares from domestic joint stock companies, at nominal value; 3) life insurance policies - the amount of the assets that cover the mathematical reserve on the appropriate cut-off date is taken as approximation for the claims of households on the basis of life insurance policies; 4) foreign

the share of the financial assets of the household sector in the gross domestic product increased by 7.1 percentage point in 2020 and reached its historically highest level of 68.4%. Most of the growth of financial assets was driven by household deposits in domestic banks and savings houses, as well as by investments in private pension funds and currency in circulation. In 2020, household deposits with domestic banks registered an annual growth of 4.5%, but slower compared to 2019 (by 7.6%), as expected, given the deepening of the risks for the domestic economy, caused by the current health crisis. Most of the growth of household deposits results from the increase in demand deposits, amid reduced savings in the short and in the long term. In terms of currency preference, households opted for foreign currency savings, unlike the previous, 2019, when denar deposits prevailed. The growth of foreign exchange savings is usual for crisis periods. However, it is important that in the year of a pandemic, the deposit euroization rate remained relatively stable, unlike previous crisis episodes when it generally grew, which confirms the household confidence in the stability of the domestic currency. The fact that the household savings continued to grow also in conditions of unusually high uncertainty caused by the COVID-19 pandemic and amid revocation of the license for founding and operation of one bank[44] is a confirmation of the household confidence in the banking system. Given that household deposits occupy more than half of the sources of funding for banks (share of 67.1% in the total deposits of non-financial entities in 2020), this sector is the most significant creditor of the domestic banking system. However, in conditions of an extremely unpredictable environment, the contribution of household deposits to the growth of total financial assets is smaller compared to the previous year (38.9% in 2020, compared to 55.8% in 2019), mainly due to the slowing deposit activity, but also the growth of the other components of financial assets, primarily the increased preferences to hold cash (in conditions of a pandemic).

In 2020, the stronger growth of the debt relative to the household deposits led to certain reduction in the financial position[45] of the households to the domestic banks, but they remain a net creditor of the banks. In 2020, household deposits increased (by 4.5%), but at a slower pace compared to 2019 (when the growth was 7.6%). Compared to 2019, a slowdown was also registered in the growth of the total household debt to the domestic banks (8.1% in 2020, compared to 10.7% in 2019). This caused the annual growth rate of the long financial position of the households to the domestic banks in 2020 to be negative and significantly lower, compared to the previous year. Besides the influences of the COVID-crisis, the relatively low yields offered by the deposit products of the domestic banks also encourage households to increase their tolerance to market risks by gradually redirecting their savings to the alternative financial products, such as investments in voluntary pension funds, life insurance policies, stocks in open investment funds or direct investment in financial instruments on the foreign financial markets (the afore-mentioned is enabled from the beginning of 2019 with the commencement of the second phase of the Stabilization and Association Agreement of our country and the EU). However, the share of such investments in the total financial assets of the household sector is still relatively modest compared with the investments in bank deposits.

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securities - the stock of the investments of natural persons in foreign financial instruments is approximated through the difference between the inflows and outflows of the realized transactions, obtained through the notifications from the banks for the international payment operations.

[44] In August 2020, the National Bank revoked the license for founding and operation of Eurostandard Bank AD Skopje, due to failure to fulfill minimum legal conditions for bank's operations.

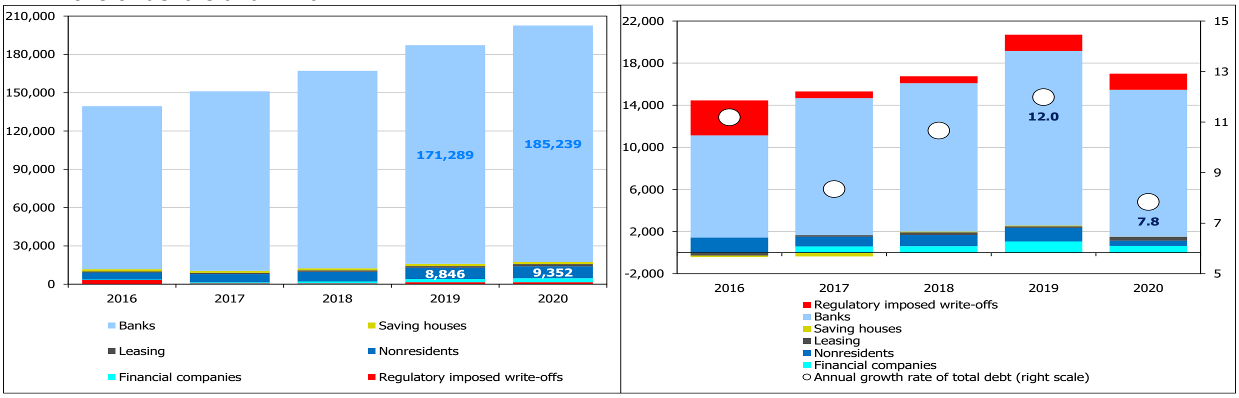
[45] Financial position of households to domestic banks is the difference between claims on domestic banks (deposits) and debt to domestic banks (loans). This analysis of the household debt also includes the loans that were subject to mandatory write-off in accordance with the regulations.

1.1.2. Household debt

The trend of a gradual increase in the level of the household debt continued also in 2020. At the end of 2020, the total household debt relative to the gross domestic product amounts to 30.4%, which is higher by 3.2 percentage points compared to the end of the previous year.

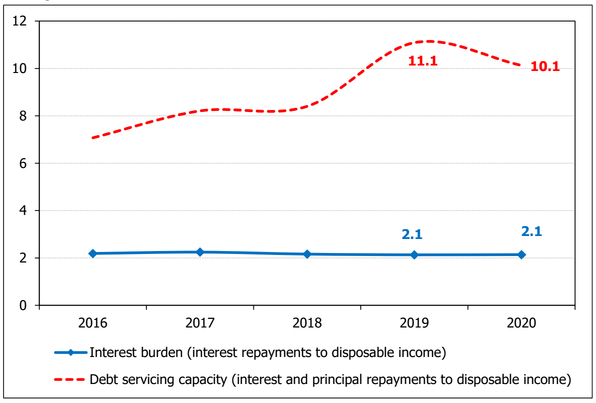
However, compared to 2019, the growth of the household debt slowed down and amounted to 7.8% (compared to 12% in the last year). Growth is registered in the household debt to all creditors[46], but the main driver of the annual growth was the debt to domestic banks[47], as expected, given that the total household debt is mostly formed by the household debt to domestic banks (91.7%), followed by the debt to non-residents (4.6%).

Chart 31
Structure of household debt (left) and of the annual change in household debt (right)
in millions of denars and in %



Source: National Bank's Credit Registry, based on data submitted by banks, savings houses, the MF, the CSD, the MAPAS, the SEC and the ISA, as well as the State Statistical Office for the GDP data from the press release published on 8 June 2020.

Chart 32
Household creditworthiness indicators
in %



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

Despite the numerous challenges from the strong health and economic crisis faced by the banking system in 2020, the solid credit support to households from domestic banks,[48] amid a temporary delay in repayments due to the pandemic, contributed to a further growth of the household debt. The stronger increase of household debt relative to the growth of disposable income and net financial assets led to a slight deterioration of the liquidity and solvency position of households, while the indicators for the households' debt repayment ability registered a moderate improvement. However, despite the moderate deterioration of the indicators used to monitor the household debt, they remained

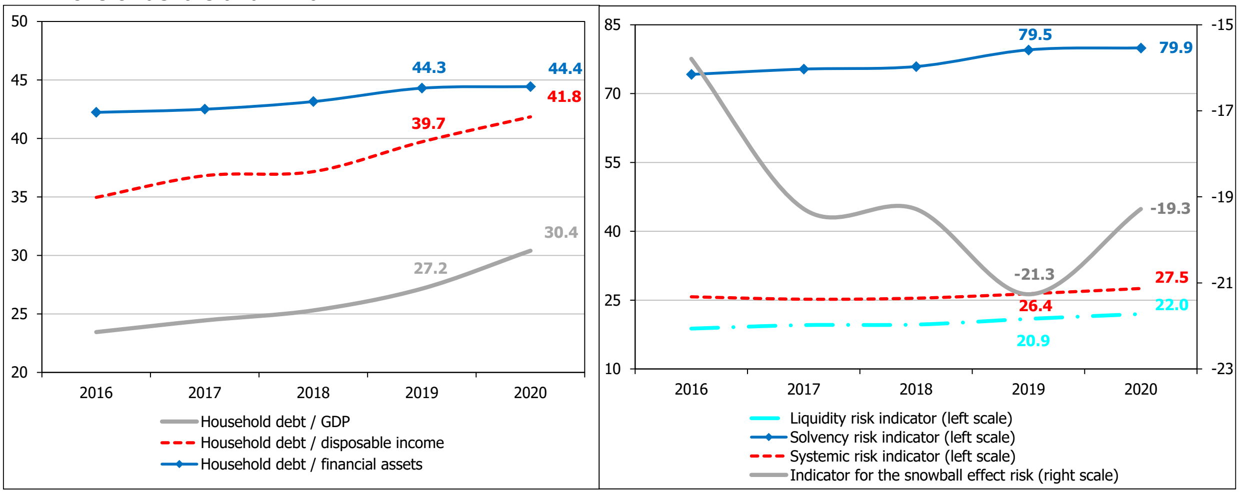
[46] The household debt increased to leasing companies (by 27.1%), to domestic financial companies (by 25.5%) and savings houses (by 0.6%). The debt to non-residents also increased (by 5.7%).

[47] The debt to banks also includes the amounts that were subject to mandatory write-offs in accordance with the regulations.

[48] In 2020, lending to households made the largest contribution of 84.4% to the annual growth of lending to non-financial corporations by domestic banks.

within the level that was characteristic for the previous few years. The level of household debt is still below the derived vulnerability threshold[49]. The household debt should also be analyzed in the context of the volume of financial assets and disposable income, whereby the debt relative to these categories, is also maintained at a relatively stable level. The moderate level of vulnerability of the households in terms of debt, is also confirmed by the aggregate indicator for its systemic risk. The value of this indicator is maintained relatively stable and points to sustainable risks in the households sector.

Chart 33
Indicators of the relative size of household debt (left) and indicators of risks and vulnerability of household debt (right)
in millions of denars and in %



Source: National Bank's Credit Registry, based on data submitted by banks, savings houses, the MF, the CSD, the MAPAS, the SEC and the ISA, as well as the State Statistical Office for the GDP data from the press release published on 8 June 2020.

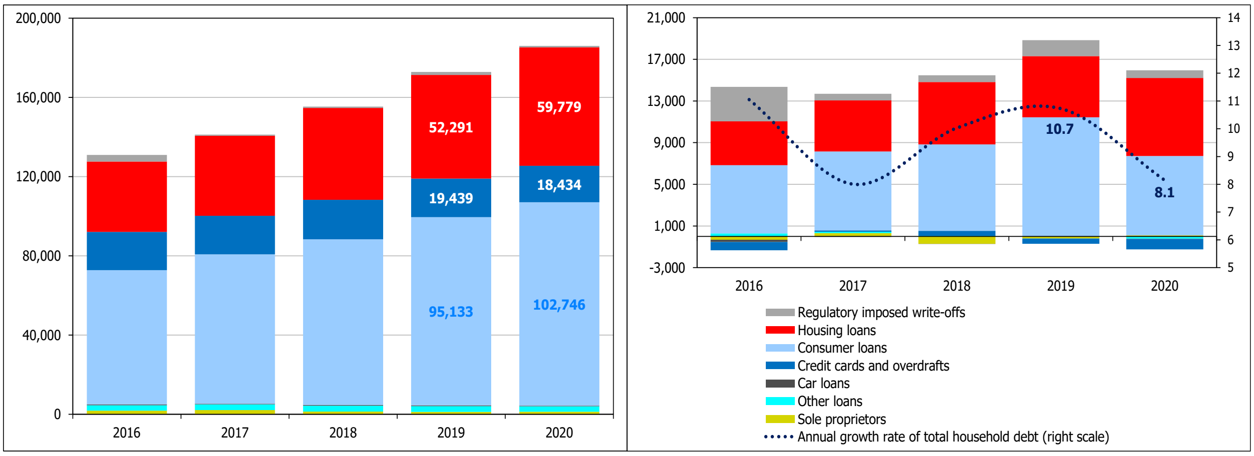
Note: $\boldsymbol{Liquidity\ risk\ indicator_t} = \mathbf{0,5}\frac{\boldsymbol{Debt_t}}{\boldsymbol{Disposable\ income_t}} + \mathbf{0,5}\frac{\boldsymbol{Interest\ payments_t}}{\boldsymbol{Disposable\ income_t}}$. A higher value of this indicator denotes a higher ratio of debt to household disposable income.

Snowball effect risk ratio = $\frac{Interest\ payments_t}{\frac{Debt_t+Debt_{t-1}+Debt_{t-2}+Debt_{t-3}}{4}}$ - $\left(\frac{Disposable\ income_t}{Disposable\ income_{t-4}} - 1\right)$. The snowball effect indicator has a negative value given the fact that the share of the cost of funds received as debt (interest payments) in the average debt for the last four years is lower than the average growth of disposable income for the same period. The insolvency risk indicator is the correlation between the household debt and the net financial assets (the net financial assets represent difference between the financial assets and the household debt).

[49] Vulnerability threshold for household debt is derived from the MIP Scoreboard used by the European Commission to assess potential risks and macroeconomic imbalances in the EU countries. The MIP scoreboard sets a vulnerability threshold for total private sector debt at 133% of GDP. Vulnerability threshold of household debt of 34% of GDP is derived according to the ECB (ECB Financial Stability Report, November 2018), which decomposes the 133% threshold for total private debt into household debt and corporate debt threshold, based on the average share of household and corporate debt in total private sector debt. For the decomposition of vulnerability threshold for the Republic of North Macedonia, we used the average share of household and corporate debt for the period 2006 - 2020.

According to the type of the credit product that the households sector uses from domestic banks[50], the largest annual increase also in 2020 was registered in housing loans (by 13.4%) and consumer loans (by 8.0%), which almost entirely conditioned the growth of the total

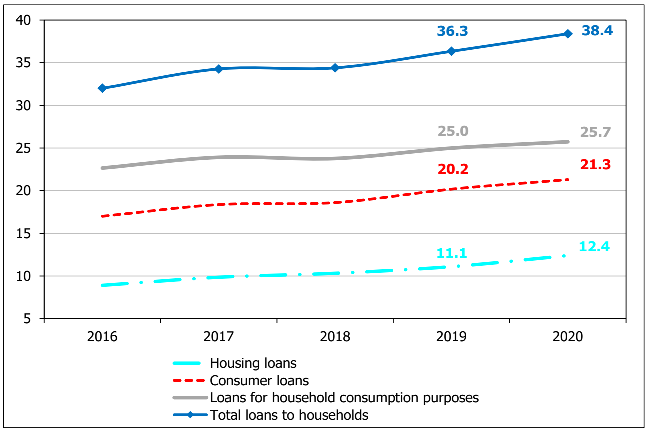
Chart 34
Household debt to domestic banks by type of loan product (left) and annual growth (right)
in millions of denars and in %



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

household debt to banks. Moreover, in the structure of household debt to banks, the debt that serves to finance household consumption, composed of consumer loans, car loans, overdrafts, credit cards and loans for other purposes, accounts for about 70%. Unlike this, in the countries with a higher level of development, and especially in the countries that have an extremely high household debt to gross domestic product ratio, as a rule, a dominant part of household debt is related to the financing of the purchase of real estate. Hence, the changes in the relative level of household debt relative to gross domestic product or disposable income, to a high extent, are also associated with the structure of debt by type of credit product. Namely, the current level of gross domestic product and disposable income per capita directly determines the creditworthiness of households, i.e. at a level of borrower, it determines the maximum volume of debt that they can settle. Accordingly, the current level of disposable income per capita also indirectly appears as a limiting factor for possible faster changes in the structure of household debt in order to reduce the share of the lending for

Chart 35
Household debt to disposable income ratio, on various bases
in %

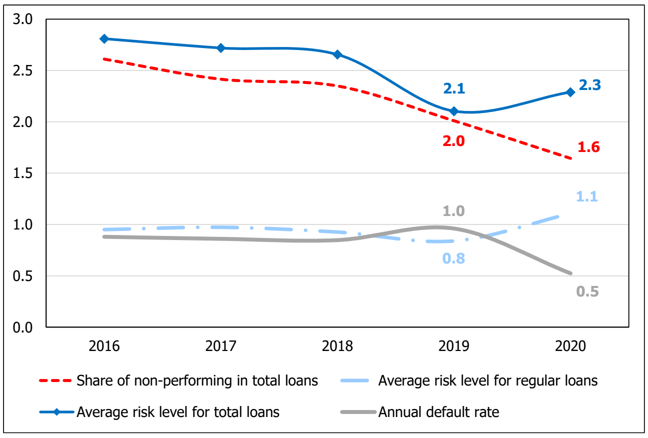


Source: National Bank's Credit Registry, based on data submitted by banks.

[50] The total household debt also includes the amount of mandatory write-offs made by banks due to the requirements in the regulations that refer to credit risk, because the written-off debt remains an obligation of households. The National Bank holds data on mandatory write-offs only by sectors (households and non-financial companies), but not on their currency structure, maturity structure or structure by type of credit product. Because of this, the effect of write-offs is included only in the total household debt, but not in the analyses according to its individual structural features.

consumer purposes at the expense of the growth of the lending for the purchase of real estate.

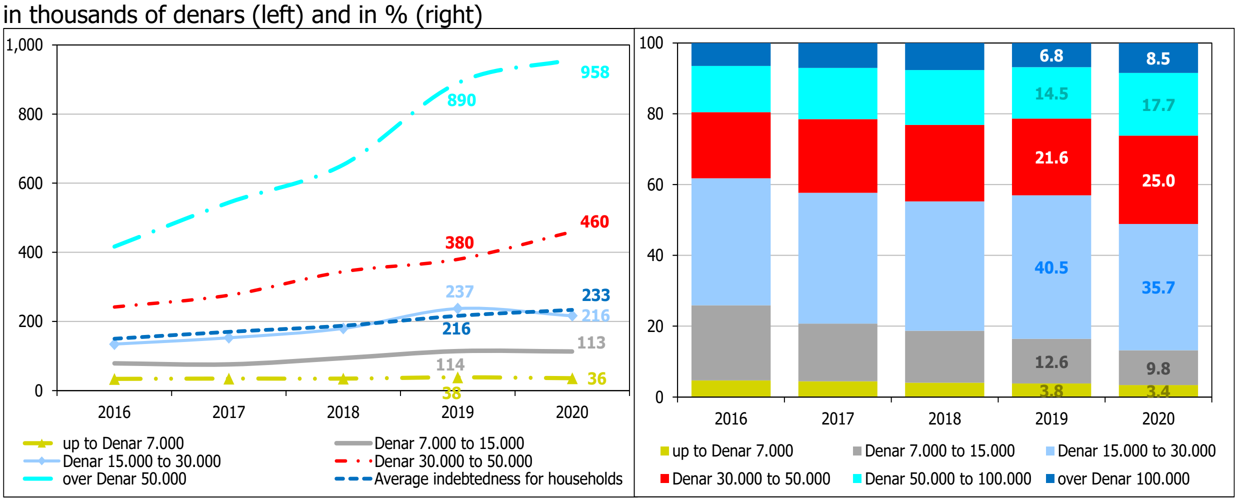
Chart 36
Household loan quality indicators
in %



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

Credit risk arising from households and the ability of this sector for regular servicing of liabilities is one of the most important risks for the domestic financial institutions. In domestic banks, as the most important creditor of the households, the quality of the overall credit portfolio composed of households is good, which is evident from the dynamics of the rate of non-performing loans, which is relatively low for a longer period. In 2020, the rate of non-performing loans to households decreased by 0.4 percentage points and at the end of 2020 it hit a record low of 1.6%. This is due to the reduction of the amount of non-performing loans to households by 12.6%, or by Denar 430 million, mainly due to the mandatory write-offs[51]. On the other hand, the temporary easing of the credit burden of borrowers made by banks due to the pandemic, and in accordance with the regulations, contributed to a slowdown in the materialization of credit risk, i.e. a smaller creation of new non-performing loans[52]. The grace period of more than 80% of the loans that were with eased contractual terms expired as of 31.12.2020, and already in the first quarter of 2021 there is a certain growth of

Chart 37
Average debt by household (left) and structure of household debt (right), by monthly income
in thousands of denars (left) and in % (right)



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

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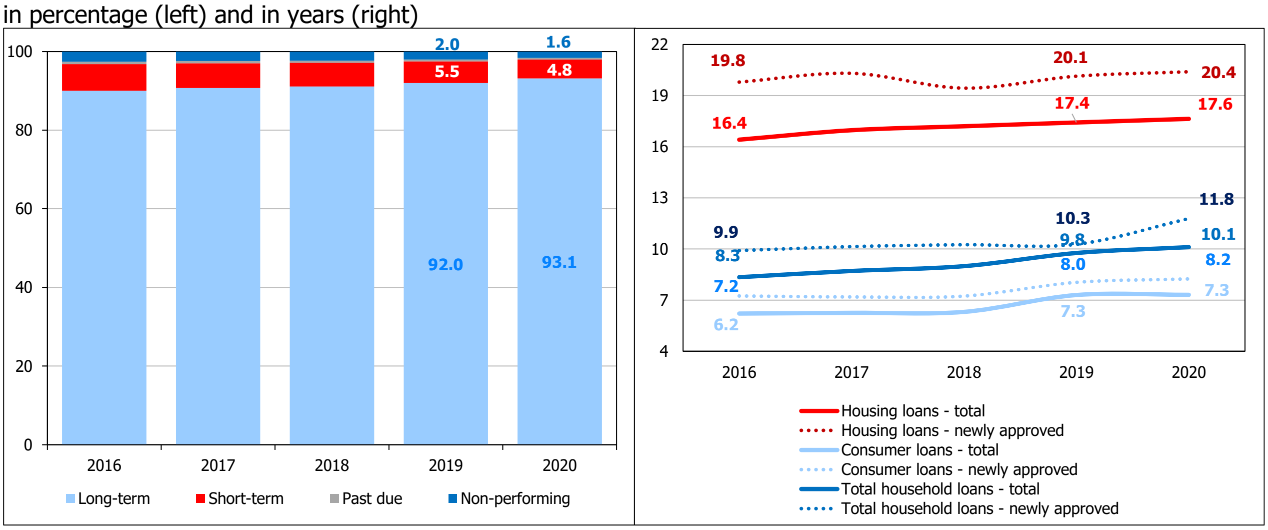
51 If the effect of mandatory net write-offs is excluded, then non-performing loans to households would increase by 3.0%, which is a significant slowdown relative to the growth in 2019 (15.9%).

52 With the regulatory changes, as of March 2020, the banks massively eased the credit burden of borrowers during April and May 2020, mainly by approving a grace period of usually up to six months, when the negative effects of the corona crisis on the corporate sector and households were expected to be more pronounced (the easing covered around 40% of the credit portfolio). Amid prolonged duration of the coronavirus pandemic, in September 2020, banks made a second change to the contractual terms of loans, but this time more directed only for those categories of clients that are most affected by the crisis (persons who have lost their jobs, have a significant reduction in their income, have faced increased medical treatment costs, etc).

non-performing loans to households. But, the growth was concentrated mainly in the first months of the quarter and caused no significant deterioration of the debt quality. However, taking into account the uncertainty about the duration of the consequences of the coronavirus pandemic, there is a need for careful monitoring of the quality of the loan portfolio and timely recognition of the possible credit losses.

Chart 38
Maturity structure of household debt (left) and average weighted maturity of new household loans, and by credit product (right)
in percentage (left) and in years (right)



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

Amid continuous growth of lending to households[53], the quality of this credit portfolio, as well as the possibilities for its further growth, are directly related to the creditworthiness of households. This primarily applies to the ability of the individual households to service liabilities, measured by the ratio of the monthly obligations for repayments to banks and their monthly income. Moreover, the amount of income is an extremely important factor for the assessment of the creditworthiness, since the risks of high indebtedness and occurrence of excessive indebtedness, are usually far more pronounced in natural persons who have a lower amount of monthly income. However, in terms of the structure of the credit exposure to households according to their monthly income, in 2020, there is an increase in the share of the indebtedness of the persons with higher monthly income.

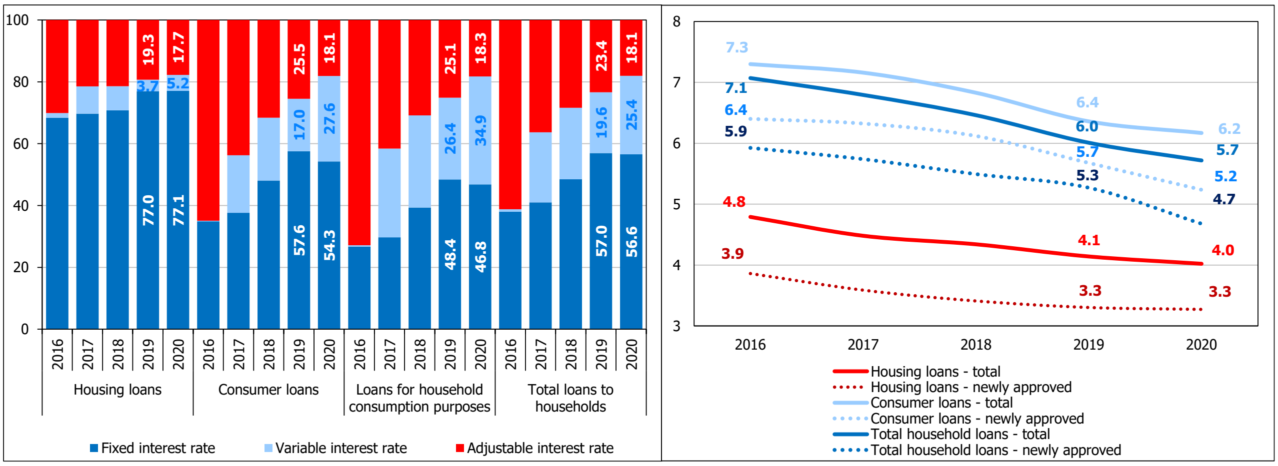
The faster growth of household debt predominantly in longer maturities[54] in which the creditworthiness of the clients is more uncertain, is a risk factor for the quality of this segment of the loan portfolio of banks. The average weighted maturity of newly approved loans to households is around ten years, and if compared to the beginning of the decade there is a significant increase (for example, in 2012 it was about eight years). However, the introduction of a higher capital requirement for consumer loans approved with contractual maturities equal to or longer than eight years (risk weight of 150% instead of 75% or 100%) in 2016, significantly slowed down the growth of long-term household loans.

[53] The share of household loans in total bank loans exceeded the share of corporate loans (these shares, as of 31.12.2020, equal 51.2% and 47.6%, respectively).

[54] As of the end of 2020, long-term household loans accounted for 93.1% of total household loans.

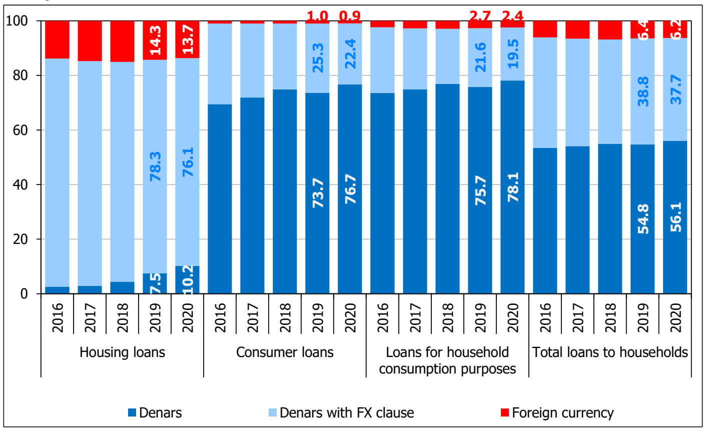
The increase in the maturity of household debt to domestic banks also increases the household exposure to interest rate risk, and accordingly, to indirect credit risk for banks, due to possible excessive debt burden for borrowers amid growth of interest rates. This is based on the significant presence of the interest rates that can be changed (adjustable and variable interest rates) in the credit agreements with the households. In 2020, in the structure of debt and of newly approved loans by type of interest rate, the trend of replacing the adjustable interest rate with greater use of a variable and / or fixed interest rate continued, and the reduction of the average weighted interest rates on newly approved loans[55] and on total loans to households, also continued. The downward movement of the nominal interest rates was equally present in newly approved loans by individual currency features, whereby the spread between denar loans and loans with a currency component was maintained at an almost identical level as in the previous year. However, the pronounced interest difference between denar loans and loans with a currency component underlines the importance of the cost factor (interest rate) when choosing the currency of financing by households, which accordingly acts towards maintaining a strong demand for loans with a currency component.

Chart 39
Structure of household debt by certain credit products, by type of interest rate (left) and average interest rate on total and newly approved loans to households, by type of credit product (right)
in %



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

Chart 40
Currency structure of household debt to banks, by credit product
in %



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

The currency component is still quite present in household debt, which highlights the household exposure to currency risk. In 2020,

[55] Average interest rates are weighted for the share of each type of loans in total household loans.

there are no significant changes in the currency structure of household loans, whereby around 44% of household loans are with a currency component, predominantly in denars with a currency clause. On the other hand, about 48% of household deposits are with a currency component (almost entirely foreign currency). However, although the households sector as a whole is close to a matched currency position, it is very likely that most of the depositors are not simultaneously borrowers with banks. Hence, the different categories of households may have individually high short currency positions, i.e. high exposure to currency risk. In circumstances when the sources for repayment of this debt, i.e. most of the households' income is generated in denars, the stability of the Denar exchange rate, which has been successfully maintained for years, is important for maintaining the level of the households’ debt and their ability for repayment of the debt to the financial sector.

1.1. Corporate sector[56]

During 2020, the operation of the domestic corporate sector was under the strong influence of the coronavirus pandemic. This unexpected double shock, which had an effect on both the side of the demand for and the side of the supply of goods and services, hit almost all activities of the sector. The effects were felt through a decline in revenues, which, in conditions of structurally weak liquidity position of the domestic corporate sector, increased the corporate sector's default risk. The National Bank responded in a timely manner with a set of regulatory and monetary measures[57], aimed at temporary easing of the financial burden of the borrowers from the domestic banks and prolonged maintenance of favorable financial conditions and the credit cycle. These measures, together with the adopted anti-crisis fiscal packages[58], contributed to easier overcoming of the initial liquidity shock due to the pandemic and limitation on the risks for the solvency of the corporate sector, thereby reducing the possibility for materialization of the credit risk in the balance sheets of domestic creditors (mainly banks). The corporate sector ended the year with a stable liquidity (although traditionally low) and solvency position, which, together with the still moderate level of indebtedness, contributes to the relative resilience of the sector to shocks. However, delayed effects are possible, especially if one takes into account the deteriorated financial result with consequences on the ability of the sector for regular servicing of liabilities. An additional risk is the expiration of the anti-crisis measures, which contributed to the financial sustainability of the corporate sector in the previous period, as well as the possible prolonged duration of the health crisis, which would

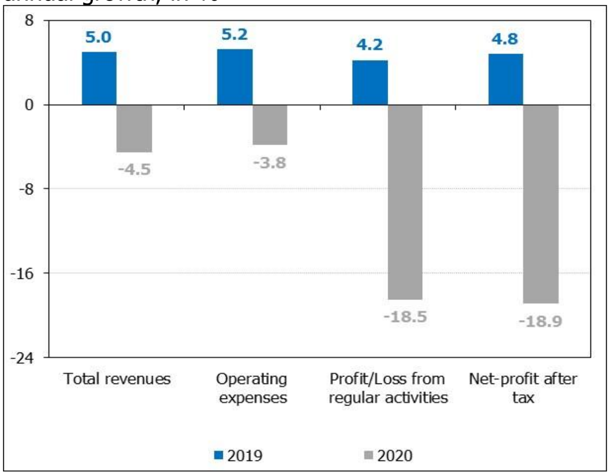
[56] Corporate sector includes companies and sole proprietors whose main activity, according to the National Classification of Activities (NCA), is industry (which includes entities with main activities of mining and quarrying, supply of electricity, gas, steam and air conditioning and water supply, sewerage, waste management and environmental recovery activities), wholesale and retail trade, and repair of motor vehicles and motorcycles, construction, agriculture, forestry and fishing, transport and storage, information and communications, accommodation and food services, real estate activities, professional, scientific and technical activities and administrative and ancillary services. The corporate sector does not cover legal entities that have registered prevailing activity in: financial and insurance activities; public administration and defense, compulsory social security; education; health and social care activities; arts, entertainment and recreation; other services; activities of households as employers; activities of households that produce different goods and perform various services for their own needs; and extraterritorial organizations and bodies.
The analysis of the performance indicators of the corporate sector is made on the basis of data from the Central Registry of the Republic of North Macedonia. According to these data, at the end of 2020, the total number of registered non-financial legal entities in the Central Registry of the Republic of North Macedonia was 113,306 (112,437 entities in 2019). Of these legally and formally existing entities, less than half, or 61,864 entities (57,136 entities in 2019) submitted annual accounts to the Central Registry of the Republic of North Macedonia in 2020, where 55,041 entities (50,623 entities in 2019) are included in the corporate sector activities.

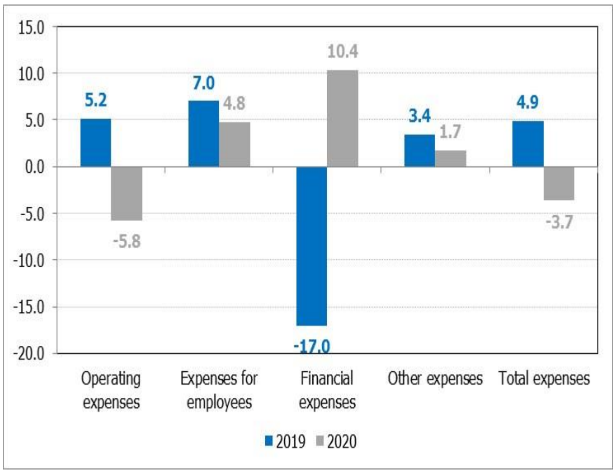
[57] For more information about the measures of the National Bank in response to the COVID-19 crisis visit: https://www.nbrm.mk/kovid-19-odgovor-na-narodnata-banka.nspx

[58] For more information about the adopted fiscal measures visit: https://vlada.mk/ekonomski-merki-covid19

slow down the dynamics of the economic recovery. Such conditions emphasize the corporate sector vulnerability for the coming period, whose possible materialization could increase the risks for the financial stability.

Chart 41
Revenues, expenditures and profit of the corporate sector
annual growth, in %





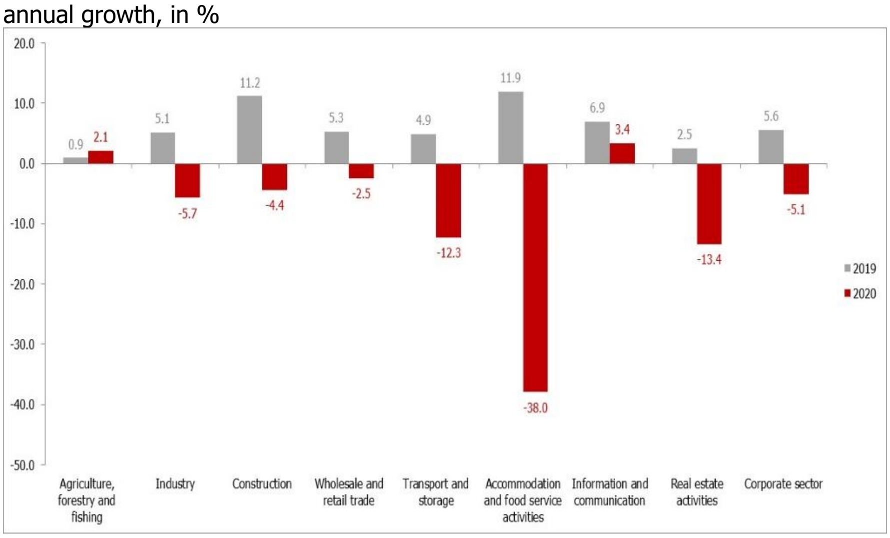
Source: Central Registry of the Republic of North Macedonia.

The risks are especially pronounced with respect to the service industry, whose activity was affected the most by the introduced protective measures and special work protocols in conditions of a pandemic. This is visible through the decline in the revenues from sales, which is the largest in the catering industry and caused a net loss from the operation of the activity. A more significant deterioration of sales was also registered in the administrative and professional and scientific services and transport and storage. Industry, trade activity and construction, as leading activities within the domestic corporate sector[59], were also affected by the pandemic, although the effects on them were relatively more moderate. Under such developments, the **total revenues of the corporate sector decreased in 2020, which follows after the several-year continuous growth**. The fall in the activity also resulted in a decline in the expenditures, mainly in the part of the costs for raw materials and input materials and for purchases of products. Within the financial expenditures, interest costs decreased in conditions of low interest rates and temporary delay in loan repayments by domestic banks. On the other hand, the expenses for employees continued to grow, amid further growth of the wages[60] in the corporate sector, in circumstances when the number of employees moderately decreased, due to the adopted anti-crisis measures.

[59] Industry has the largest share within the total assets of the corporate sector which is 31.7% in 2020, followed by the activity "wholesale and retail trade" with a share of 23.9% and construction with a share of 16.7%.

[60] The wage growth partly reflects the increase in minimum net wage (at the end of 2019 and in July 2020), as well as the effect of the contributions subsidizing measure due to the wage increase. For more details about the labor market developments in 2020 see the Annual Report for 2020 of the National Bank, section Labor market.

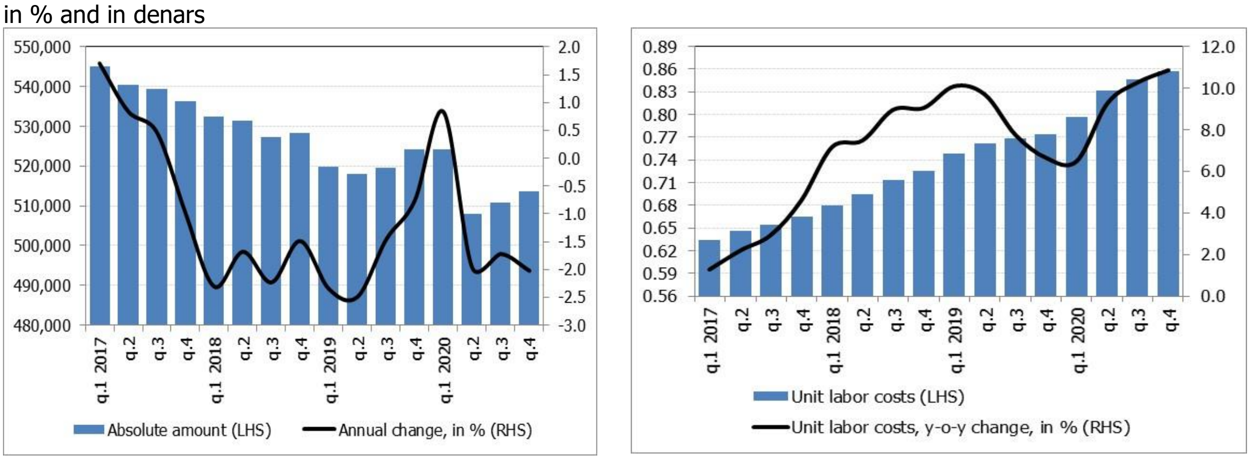
Chart 42
Income from sales by activity
annual growth, in %



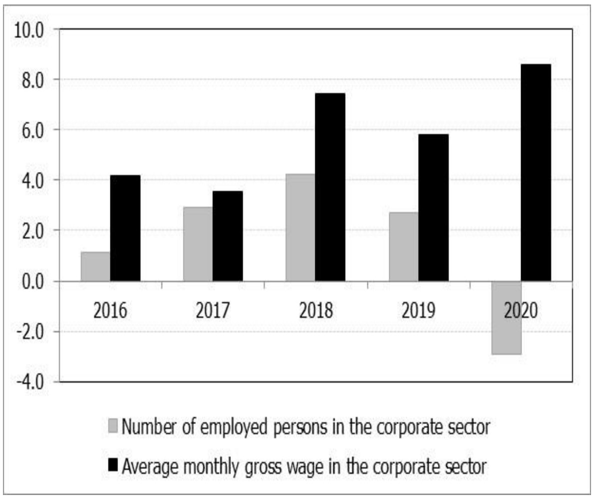
Source: Central Registry of the Republic of North Macedonia.

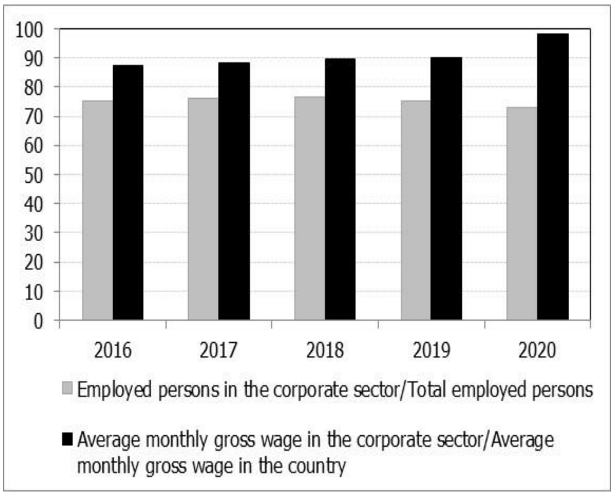
The wage growth continues to put pressure on the competitiveness of the corporate sector, in circumstances when the sector's labor productivity[61] has been declining for the third consecutive year. The pandemic may undermine the capacity of the corporate sector for investments that will support technological development and will improve the quality of processes and of human resources, and are necessary for the improvement of productivity and the strengthening of cost competitiveness. This poses risks to the sector's profitability in the medium and long run, which is already deteriorated under the influence of the pandemic.

Chart 43
Movement of added value by employee (up, left), movement of unit labor costs of the corporate sector (up, right), annual growth of the number of employees and wages (down, left) and indicators for the importance of the corporate sector for the domestic labor market (down, right)
in % and in denars



[61] The productivity of the corporate sector is calculated as the ratio between the value added and the number of employees in the sector. Unit labor costs are calculated as the ratio of the average monthly gross wage and the value added per employee in the sector.

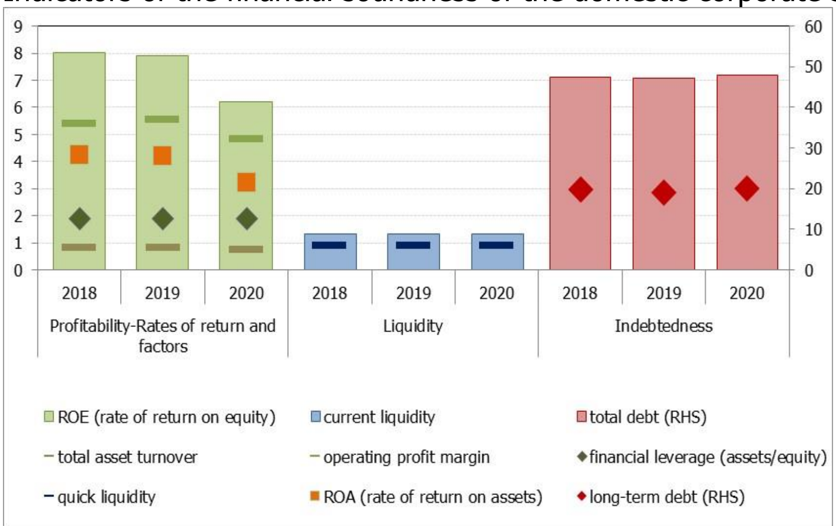




Source: State Statistical Office of the Republic of North Macedonia and National Bank calculations.

In 2020, the net profit from the operations of the corporate sector decreased (by 18.9%), which deteriorated the indicators for the profitability of the sector. The return on assets (ROA) in 2020 was 3.2%, while the return on equity and reserves (ROE) was 6.2%, which is below the historical average of the previous ten years[62]. Despite the achieved positive financial result at a level of the corporate sector, there is a significant increase in the number of entities that have operated at a loss, which in 2020 is 45.6% of the total number of corporate entities (30% in the previous year). The loss in the operations is mainly concentrated in micro entities, as the most numerous group within the corporate sector[63], which emphasizes their vulnerability to financial risks from the operations.

Chart 44
Indicators of the financial soundness of the domestic corporate sector



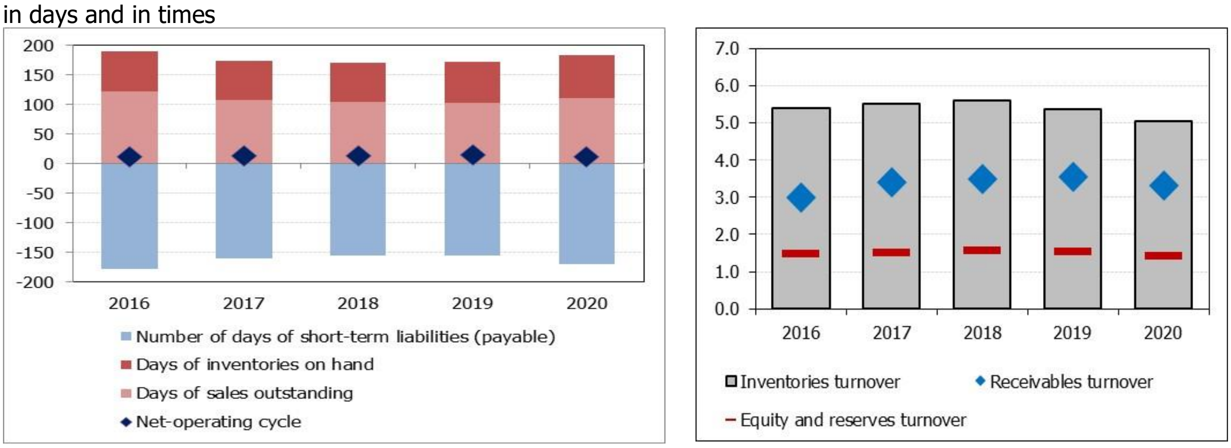
Source: Central Registry of the Republic of North Macedonia.

[62] The return on assets (ROA) for the previous ten years averaged 3.4%, while the return on equity and reserves (ROE) averaged 6.6%.

[63] Micro entities in 2020 account for 64.4% of the total number of corporate entities, followed by small entities with a share of 33.2%, medium-size entities (1.5%) and large entities (0.9%).

The corporate sector ended the year with a stable liquidity position. This was due to the measures adopted by the National Bank and the Government in response to the crisis and mitigated the initial liquidity shock of the pandemic. However, the liquidity of the corporate sector remains modest and is below the level that is theoretically considered satisfactory[64], and is also unevenly distributed among individual entities. Liquidity risk exposure is the largest for micro entities, which have the lowest level of moment and current liquidity, visible below the average of the corporate sector. 2020 was marked by an increased delay in the collection of claims and payment of liabilities, which if maintained also in the next period may deteriorate the liquidity position of the corporate sector, especially after the expiration of anti-crisis measures. The possible deterioration of the liquidity of the corporate sector may affect its ability to service liabilities and deteriorate the prospects for the sustainability of the corporate sector debt in the medium and long run.

Chart 45
Selected indicators of operational efficiency of the corporate sector
in days and in times



Source: Central Registry of the Republic of North Macedonia.

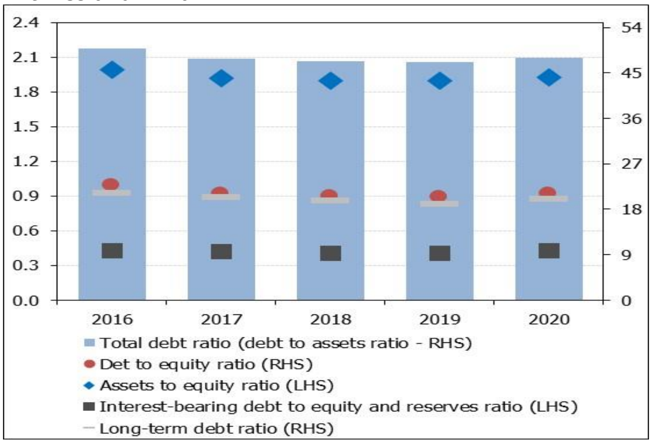
Corporate debt ratios, as a whole, currently do not indicate high risks in this segment. The total indebtedness[65] of the corporate sector in 2020 remained relatively stable and amounted to 48% (47.2% in the previous year), while the interest-bearing debt is low and amounts to 20%. It is important that also in the year of a pandemic, the corporate sector increased its level of capital, which supported the growth of debt financing without increasing the level of indebtedness (financial leverage). In conditions of a deteriorated financial result, the indicators for the ability to service liabilities of the corporate sector moderately worsened, but they are still maintained at an acceptable level, above the ten-year average. The reduction of the uncertainty and the commencement of the process of economic recovery may give positive impulse for deleveraging of the financially sound companies, with positive effects on the overall financial soundness of the corporate sector. On the other hand, the possible prolonged duration of the crisis may be reflected through a significant deterioration of the financial result, especially in the financially most vulnerable and high indebted entities. The risks are especially pronounced with respect to the group of micro entities that register the highest growth of debt

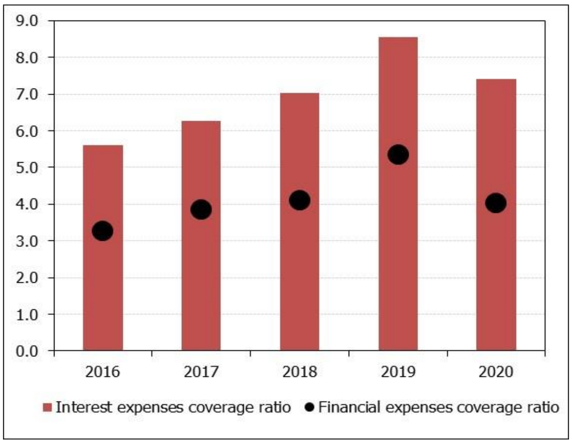
[64] For a level that is usually considered satisfactory, 1 is used for moment liquidity, i.e. 2 for current liquidity. The indicator for the moment liquidity of the domestic corporate sector in 2020 was 0.9, while the current liquidity indicator was 1.3.

[65] The indicator for the total indebtedness of the corporate sector is calculated as a ratio of total assets reduced by principal and reserves and total assets of the corporate sector. The manner of calculating the performance indicators of the corporate sector is given in the annexes to this report.

in 2020 from the already existing higher level, amid deteriorated liquidity ratios and a negative financial result.

Chart 46
Selected corporate debt indicators
in times and in %





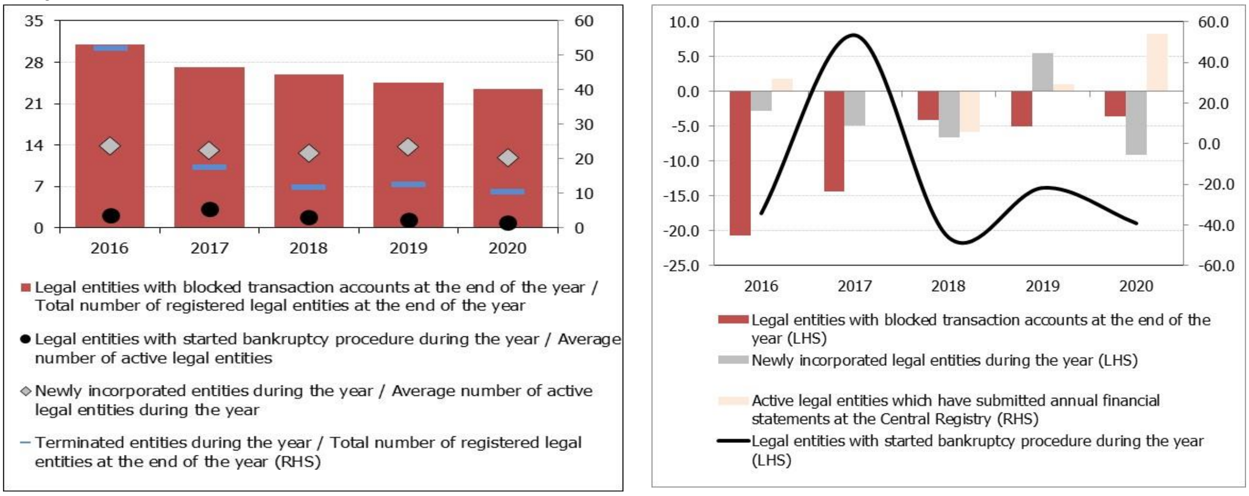
Source: Central Registry of the Republic of North Macedonia.

The possible materialization of these risks will mean increased vulnerability of the corporate sector to insolvency risk, with negative consequences on the materialization of credit risk assumed by domestic banks. In conditions of voluminous anti-crisis measures, in 2020, the corporate sector's insolvency risks remained limited. The bankruptcy rate[66] on an annual basis decreased and amounted to 0.8%[67] (1.4% in the previous year), amid further decline in the number of entities with blocked transaction account. However, delayed effects are possible, especially after the withdrawal of the anti-crisis measures and in case of a slower economic recovery than expected, which emphasizes the risks to the financial stability which arise from the corporate sector in the period ahead.

[66] The rate of bankrupted legal entities (so-called bankruptcy rate) is the ratio between the number of legal entities that entered into bankruptcy during the year (which is data from the Central Registry of the Republic of North Macedonia) and the average annual number of active legal entities, which is the average of the number of active legal entities (registered entities that submitted an annual account to the Central Registry of the Republic of North Macedonia) at the end and the beginning of the respective calendar year.

[67] The reduced number of bankrupted legal entities in 2020 can in part be associated with the decrees with legal force for the enforcement of the Bankruptcy Law during a state of emergency adopted by the Government as part of the anti-crisis measures. These decrees postponed the bankruptcy proceedings (and the instigation of new and the already initiated proceedings) for the duration of the state of emergency, as well as after the cessation of the state of emergency until 30 June 2020. The state of emergency was declared on 18 March 2020 and ended with 22 June 2020.

Chart 47
Relative importance (left) and annual growth (right) of newly incorporated, bankrupted, ceased and legal entities with blocked accounts[68]
in %



Source: Central Registry of the Republic of North Macedonia and National Bank of the Republic of North Macedonia for the number of blocked accounts.

1.1.1. Corporate debt

The total debt[69] of the domestic corporate sector is almost unchanged in 2020 on an annual basis (growth of 0.1%). However, amid a decline in the gross domestic product, the leverage ratio[70] of the corporate sector increased and amounted to 68.7%, compared to 66.1% in the previous year. The debt[71] of the corporate sector (as measured by the share in GDP) remains below the derived vulnerability threshold[72], but exceeded the average of the indebtedness in the past ten years. If the debt of the domestic

[68] The number of ceased legal entities is a derived data on the basis of the data on the total number of registered legal entities from the end of the previous and the number of newly established legal entities in the current year. Moreover, the reason for the closure of the legal entity is not taken into account, having in mind that the Law on Trade Companies prescribes the procedure for determining the status of an inactive entity and the possibility of deregistration of such entities from the records of the Central Registry of the Republic of North Macedonia, including in case of failure to submit annual accounts. The rate of newly established companies is calculated as the ratio of the number of newly established legal entities during the year and the average number of active legal entities in the year. Active legal entities in the year are considered those who submitted annual accounts to the Central Registry of the Republic of North Macedonia. The Law on Trade Companies prescribes the procedure for determining the status of an inactive entity and the possibility of deregistration of such entities from the records of the Central Registry, including in case of failure to submit annual accounts.

[69] For the needs of this analysis, the total corporate debt includes: liabilities to banks based on loans, interest and other claims, including the cumulative amount of written-off debt, in accordance with the banks' regulatory obligation for write-off of the exposures that have been fully provisioned for more than two years (for more than one year from July 2019), external liabilities (non-residents), value of active lease contracts and liabilities based on active contracts with financial companies.

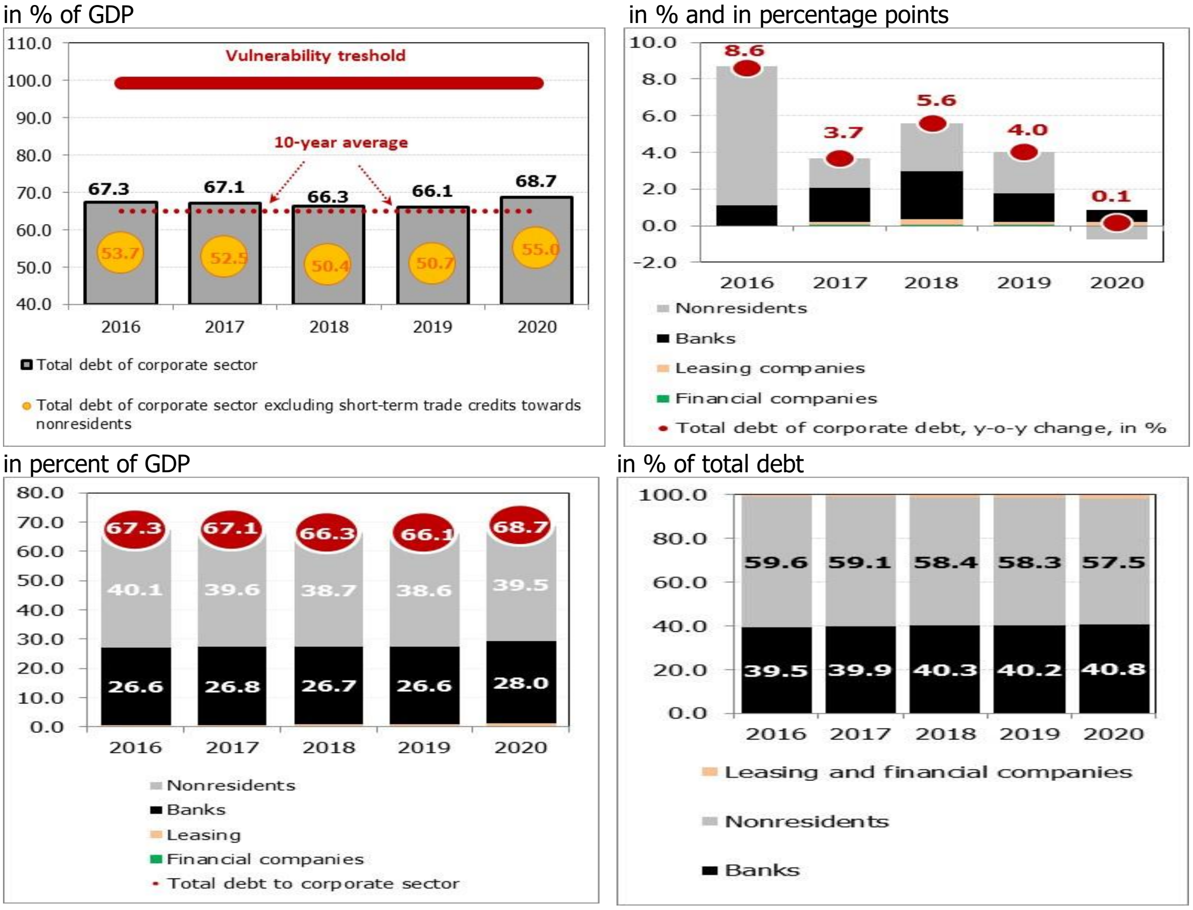
[70] Measured through debt to GDP ratio.

[71] At the end of 2020, the total debt of the corporate sector was Denar 456,232 million, compared to Denar 455,649 million, as it was at the end of the previous year.

[72] Vulnerability threshold for corporate debt is derived from the MIP Scoreboard used by the European Commission to assess potential risks and macroeconomic imbalances in the EU countries. The MIP scoreboard sets a vulnerability threshold for total private sector debt at 133% of GDP. Vulnerability threshold for corporate debt of 99% of GDP is derived according to the ECB (ECB Financial Stability Report, November 2018), which decomposes the 133% threshold for total private debt into household debt and corporate debt threshold, based on the average share of household and corporate debt in total private sector debt. For the decomposition of vulnerability threshold for the Republic of North Macedonia, we used the average share of household and corporate debt for the period 2006 - 2020.

corporate sector is presented without short-term trade credits[73], as an instrument for deferred interest-free financing of foreign trade, then the share of the total debt of the domestic corporate sector in GDP is lower and amounts to 55%. In 2020, the main driver of the growth of the total indebtedness of the corporate sector was the debt to domestic banks, while the external debt decreased, for the first time in the last ten years. Non-bank financial institutions continue to have a modest role in the financing of the domestic corporate sector, and the debt financing through the domestic capital market is also absent.

Chart 48
Debt of the corporate sector (up left), contribution to the annual growth of the total debt of the corporate sector, by type of creditor (up right) and structure of corporate debt, by type of creditor (down left and right)



Source: National Bank, Ministry of Finance and State Statistical Office.

The largest contribution to the fall in the external indebtedness of the domestic corporate sector in 2020 was made by the lower level of short-term trade credits[74], in conditions of reduced foreign trade under the influence of the pandemic. **On the other hand, the foreign parent companies continued to provide financial support to the daughter domestic companies, which is perceived through the growth of the long-**

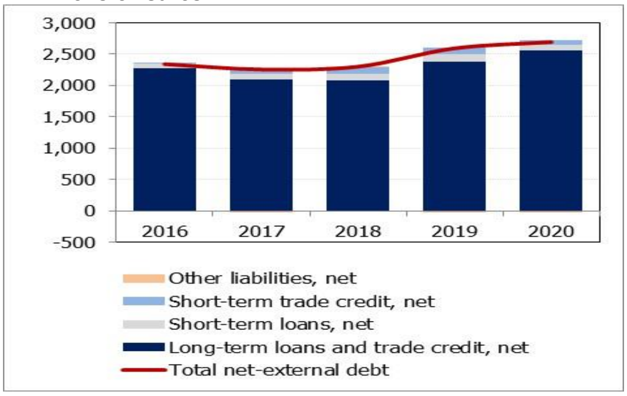
[73] At the end of 2020, short-term trade credits represent 20% of the total debt of the corporate sector and 34.8% of the debt of the corporate sector to non-residents.

[74] Trade (commercial) credits denote relations between residents and non-residents (claims or liabilities) arising from direct loan approval from the supplier (supplier) to the buyer (receiver) on the basis of trade in goods and services, advance payments for trade in goods and services or for performing works.

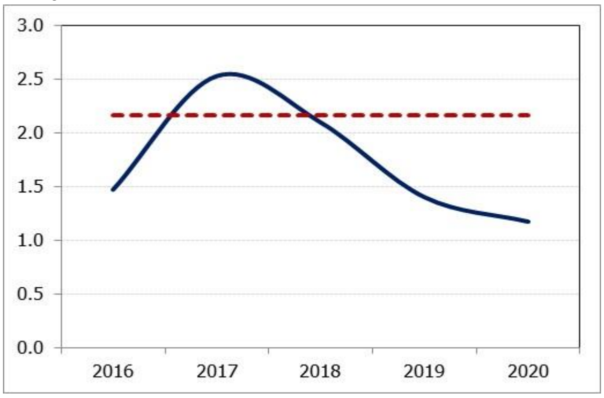
term debt, which is mainly in the form of intercompany loans. Such movements contributed to the extension of the maturity of the external debt (with a share of the long-term debt of 62.4%), which contributes to maintaining a favorable profile of external debt repayment. Almost half of the external debt refers to intercompany loans, which further reduces the exposure to the risk of refinancing of the external debt of the corporate sector. Despite the decrease, the external debt still occupies most of the total debt of the corporate sector with a share of 57.5% in the structure of the total debt in 2020, i.e. 39.5% of GDP.

Chart 49
Net external debt of the corporate sector (up left), derived interest rate of the external debt (up right) and contribution to the annual growth of the debt of the corporate sector to non-residents, by maturity (down left) and creditors (down right)

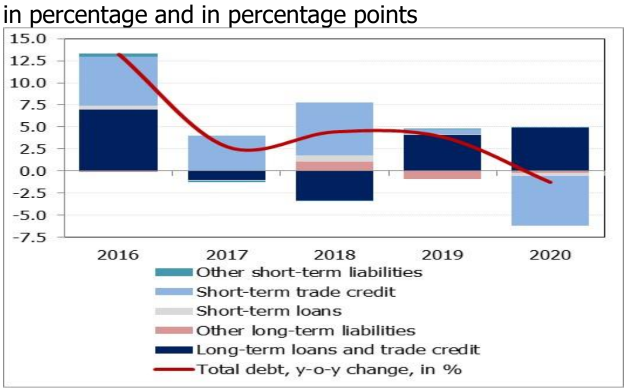
in millions of euros



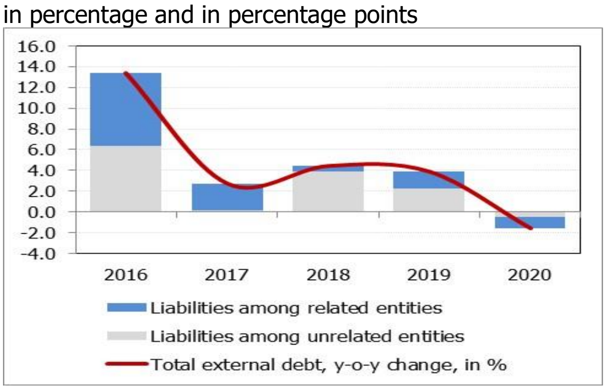
in %



in percentage and in percentage points



in percentage and in percentage points



Source: National Bank of the Republic of North Macedonia.
Note: Net external debt is calculated as the difference between the gross external debt and gross external claims of the corporate sector.
The derived interest rate of the external debt is calculated as the ratio of paid interest on used loans from non-residents by the corporate sector and total liabilities on used loans from non-residents by the corporate sector. The red dashed line represents the ten-year average of the derived interest rate of the external debt.

During 2020, the domestic banks continued to provide credit support to the domestic corporate sector, thereby contributing to the easier overcoming of the economic consequences of the pandemic. The largest volume of loans were placed during the second quarter, which corresponds to the acute phase of the pandemic, when the companies had the greatest need for additional financing. During the third quarter, the total loans to the corporate sector decreased on a quarterly basis, but the support from the banking sector continued, where the companies could use easing of the loan repayments. This was enabled by the regulatory flexibility in the part of the credit risk management that the National Bank adopted in response to the corona-crisis. In the fourth quarter, after the expiration of the first offer for amending the contractual terms of loans, banks again provided credit support to the corporate sector in accordance with the pandemic conditions, and they also (by the end of September) enabled a second offer for amending the contractual terms for the most affected clients. In such circumstances, the **total indebtedness of the companies to the banking sector on an annual basis increased by 1.7% and amounted to 28% of GDP (26.6% of GDP in the previous year).** The growth of the debt to the domestic banks was due to the long-term lending, which is favorable for the debt sustainability, as it reduces the risk of urgent refinancing needs. According to the data from the submitted annual accounts of the corporate sector, in 2020 the banks have credit exposure to 37.1% of the total number of active entities, whereby the largest coverage with financing is still that of large entities[75]. Large entities show generally better operating results compared to the total corporate sector, which primarily refers to the indebtedness indicators (which is the lowest) and profitability of operations, which positively contributes to the credit risk exposure of domestic banks. Small and medium-size enterprises remain the most numerous group of borrowers[76], whereby almost 60% of the total number of active small and medium-size enterprises have access to financing from domestic banks. Small and medium-size enterprises have a slightly higher level of indebtedness compared to the corporate sector as a whole, but solid liquidity and profitability of operations. Coverage with financing from domestic banks is the lowest with respect to micro entities[77], which show the highest risks of operations and were most affected by the pandemic[78].

Table 3
Structure and changes to components of the domestic corporate debt

	Type of debt	Structure (in %)			Absolute change (in Denar millions)			Relative change (in %)		
		2018	2019	2020	2018	2019	2020	2018	2019	2020
Currency	Denar debt	23.0	22.0	21.8	7,119	-385	-542	7.6	-0.4	-0.5
	FX debt	67.2	66.9	66.3	9,896	10,699	-2,706	3.5	3.6	-0.9
	Denar debt with FX clause	6.1	6.8	7.4	3,164	4,217	2,740	13.4	15.8	8.9
	Cummulative of regulatory imposed write-offs to domestic banks	3.8	4.3	4.5	2,932	3,119	1,092	21.7	18.9	5.6
Maturity	Short-term debt	37.3	35.8	31.8	19,162	-214	-17,949	13.3	-0.1	-11.0
	Long-term debt	55.6	56.9	61.6	2,854	15,712	21,935	1.2	6.5	8.5
	Other debt (past due and non-performing)	3.4	3.0	2.1	-1,837	-967	-4,494	-11.0	-6.5	-32.5
	Cummulative of regulatory imposed write-offs to domestic banks	3.8	4.3	4.5	2,932	3,119	1,092	21.7	18.9	5.6
Type of interest rate	Debt with fixed interest rate	37.1	41.7	41.8	15,232	21,955	6,921	14.6	18.3	4.9
	Debt with variable interest rate	36.3	40.2	43.8	22,824	19,564	19,121	24.2	16.7	14.0
	Debt with administratively adjustable interest rate	17.8	7.8	3.6	-33,831	-30,920	-13,621	-37.1	-53.9	-51.5
	Other - interest free debt towards nonresidents	4.0	4.8	5.1	-2,239	3,646	1,808	-14.9	28.6	11.0
	Cummulative of regulatory imposed write-offs to domestic banks	4.9	5.5	5.6	2,864	2,992	1,040	22.3	19.0	5.6

Source: The National Bank of the Republic of North Macedonia on the corporate debt to banks and nonresidents, the Ministry of Finance of the Republic of North Macedonia on the corporate debt to leasing companies and financial entities.
Note: In the maturity structure of the debt, the share of other (past due and non-performing) debt is obtained based on the data for the indebtedness of the corporate sector to banks, due to unavailability of data on the non-performing debt to other creditors. The structure of the debt by type of interest rate is obtained according to the debt to the banking system and debt on the basis of the principal of loans to nonresidents. The item for the written off indebtedness by the domestic banks presents that part of the indebtedness of the domestic corporate sector which was written off by banks in the course of 2016 - 2020, in accordance with the regulatory obligation for write-off of exposure that has been fully covered by impairment for more than two years (more than one year as of July 2019).

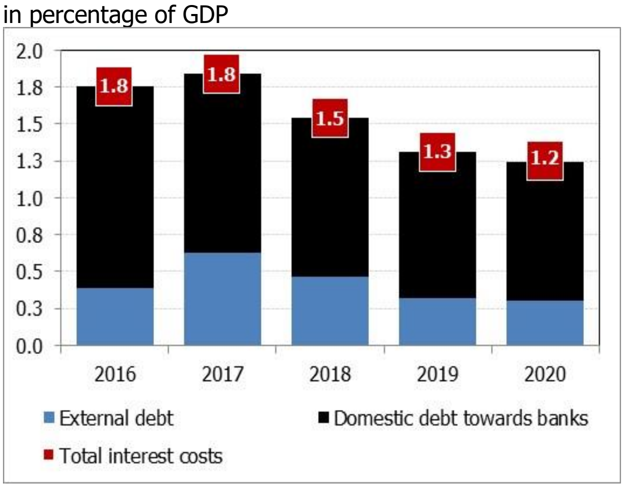
[75] Banks have credit exposure to 78.8% of the total number of active large entities.
[76] The group of small and medium-size enterprises accounts for 54.7% of the total number of entities to which banks have credit exposure.
[77] Banks have credit exposure to 24.9% of the total number of active micro entities.
[78] Performance indicators of the total corporate sector and by groups of entities by size are given in the annexes to this report.

During 2020, there were no significant changes in the structure and risk profile of the total debt of the corporate sector. The maturity structure of the total debt remains favorable with a predominant share of the long-term debt (61.6%) which contributes to a greater evenness of maturity of liabilities in a longer time period and reduces the risks of refinancing. **The corporate sector remains exposed to the interest rate risk**, taking into account that almost half of the total debt refers to the portfolio with variable interest rates[79]. The voluminous monetary stimulus that central banks provided globally in response to the pandemic, contributes to the prolonged maintenance of the environment of low interest rates, which currently limits the interest rate risk. Interest costs for servicing corporate debt[80] also during 2020 continued to reduce and amounted to 1.2% of GDP. However, the vulnerability of the corporate sector to unfavorable future movements of the interest rates remains pronounced for the coming period, especially amid possible faster tightening of the global financial conditions, which could increase the burden for debt repayment and undermine the ability for regular servicing of liabilities. **In terms of currency, the foreign debt remains a component with a leading share in the structure of the total debt of the corporate sector** (share of 73.6%)[81], which underlines the importance of the currency risk for the debt sustainability and the overall stability of the corporate sector. However, the possibility for materialization of the currency risk is limited due to the implementation of the strategy of maintaining a stable exchange rate of the denar against the euro, in circumstances when the euro represents a leading currency in the structure of the foreign debt of the corporate sector.

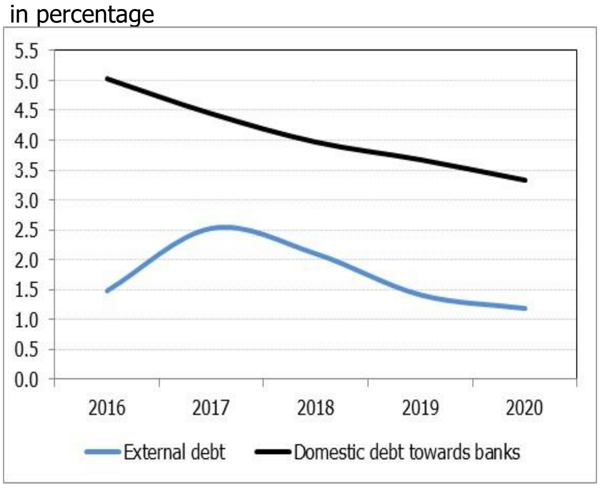
Chart 50

Interest costs of the corporate sector (left) and derived interest rate of the debt of the corporate sector (right)

in percentage of GDP



in percentage



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

Note: Interest costs are based on the data submitted by banks and external debt data. Interest costs for the external debt include the paid interest on the basis of loans used by the corporate sector during the year, while for the domestic debt, the income that banks have earned from non-financial companies during the year is taken.

The derived interest rate of the domestic debt is calculated as the ratio of the banks' interest income from non-financial companies and the total bank loans to the corporate sector. The derived interest rate of the external debt is calculated as the ratio of paid interest based on used loans from non-residents by the corporate sector and total liabilities based on used loans from non-residents by the corporate sector.

79 Refers to the debt with variable and the debt with adjustable interest rates, which account for 47.5% of the total debt, with the largest share of the debt with variable interest rates (43.8%).

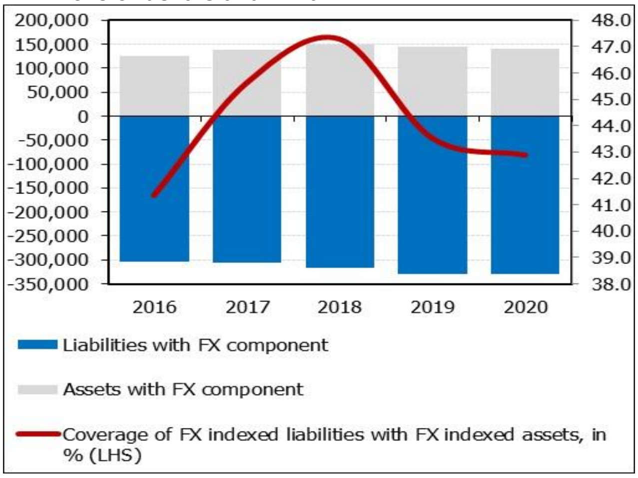
80 Refers to derived interest costs which for the external debt include the paid interest on the basis of loans used by the corporate sector during the year, while for the domestic debt, the income that banks have earned from non-financial entities during the year is taken.

81 Refers to the total debt with currency component, i.e. foreign debt and denar debt with currency clause.

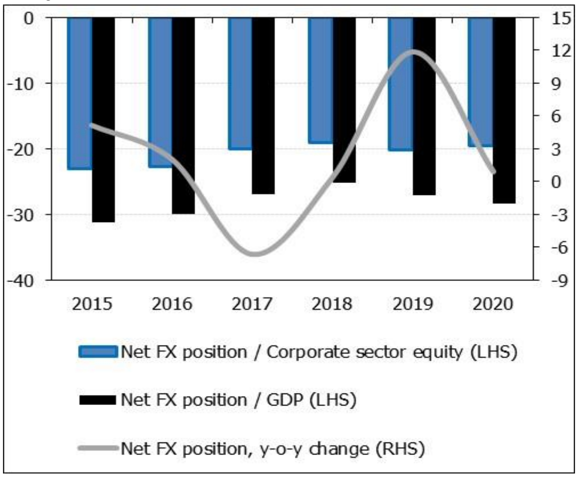
The exposure to possible unfavorable changes in the exchange rate is evident in the short (negative) net currency position[82] of the domestic corporate sector, which in 2020 amounted to 28.3% of GDP and 19.6% of the capital and reserves of the corporate sector. Coverage of liabilities with currency component with assets with currency component of the corporate sector in 2020 amounted to 42.9% and is moderately deteriorated compared to the previous year (43.5%) in conditions of a faster decrease in assets compared to the fall in liabilities with currency component. Such movements additionally emphasize the importance of maintaining a stable exchange rate of the denar against the euro, but also the prudent currency risk management in the balance sheets of the corporate sector in order to ensure long-term sustainability of the debt of the corporate sector.

Chart 51
Net currency position of the corporate sector

in millions of denars and in %



in %



Source: National Bank of the Republic of North Macedonia, State Statistical Office of the Republic of North Macedonia and Central Registry of the Republic of North Macedonia.

[82] Net currency position is calculated as the difference between assets and liabilities with currency component (in foreign currency and in denars with FX clause) of the corporate sector, which is positive, i.e. long, when the assets are greater than liabilities, and negative, i.e. short, when the liabilities with currency component exceed assets. Assets with currency component include deposits with currency component, total claims on non-residents including cash on accounts abroad and investments abroad. Liabilities with currency component include: credits with a currency component from domestic banks and total liabilities to nonresidents. The stock of investments abroad as of 31.12.2020 is based on data as of 31.12.2019, since the data for 2019 becomes available in the second half of 2021.

II. DOMESTIC FINANCIAL SYSTEM

2.1. Structural features and concentration of the financial system

The growth of the assets of the financial system and of its individual segments slowed down in 2020, in conditions of health and economic crisis. The banking system, and then the mandatory private pension funds and the insurance companies, have the highest share in the assets of the financial system and almost continuously contribute the most to its absolute growth. The other segments of the financial system, individually and together, still occupy a very small portion of the total assets of the financial sector, although some of them almost constantly register a relatively dynamic growth. Despite the continuous growth of the financial system, the comparative analysis of the levels of financial intermediation with other countries of Central and Southeastern Europe indicates a modest size of the domestic financial sector. The largest and most important segments of the financial system are predominantly owned by foreign shareholders. The ownership structure and the concentration in the individual segments of the financial system registered no significant changes in 2020.

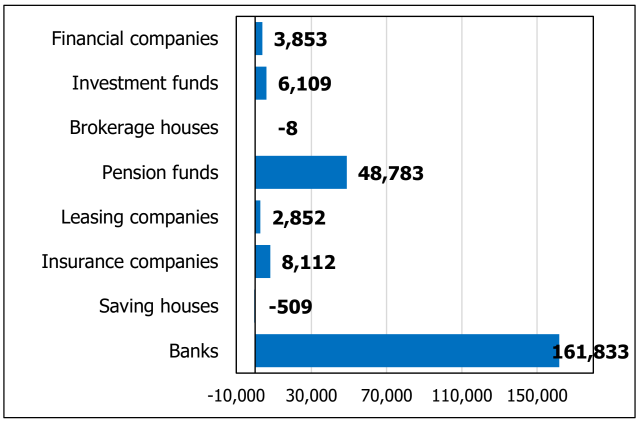
Table 4
Structure of total assets of the financial sector in the Republic of North Macedonia

Type of financial institutions	Total assets (in millions of Denars)		Structure (in %)		Change 31.12.2020 / 31.12.2019		Number of institutions		Share in GDP (in %)	
	2019	2020	2019	2020	in millions of Denars	in %	2019	2020	2019	2020
Deposit takers	**552,095**	**587,638**	**81.7**	**80.8**	**35,543**	**6.4**	**17**	**16**	**80.1**	**88.5**
Banks	549,969	585,501	81.4	80.5	35,531	6.5	15	14	79.8	88.2
Saving houses	2,125	2,137	0.3	0.3	12	0.6	2	2	0.3	0.3
Non-deposit takers	**123,606**	**139,376**	**18.3**	**19.2**	**15,770**	**12.8**	**130**	**137**	**17.9**	**21.0**
Insurance companies	23,918	25,674	3.5	3.5	1,756	7.3	16	16	3.5	3.9
- Non-life insurance companies	15,651	16,410	2.3	2.3	759	4.9	11	11	2.3	2.5
- Life insurance companies	8,267	9,264	1.2	1.3	997	12.1	5	5	1.2	1.4
Insurance brokers	1,774	2,024	0.3	0.3	250	14.1	35	39	0.3	0.3
Insurance agents	170	183	0.03	0.03	13	7.4	10	10	0.02	0.03
Leasing companies	5,626	6,260	0.8	0.9	634	11.3	7	7	0.8	0.9
Pension funds*	77,620	89,585	11.5	12.3	11,965	15.4	6	6	11.3	13.5
- Mandatory pension funds	75,623	87,289	11.2	12.0	11,666	15.4	3	3	11.0	13.1
- Voluntary pension funds	1,997	2,296	0.3	0.3	300	15.0	3	3	0.3	0.3
Pension funds management companies	1,382	1,544	0.2	0.2	162	11.7	3	3	0.2	0.2
Brokerage houses	147	145	0.02	0.02	-2	-1.6	5	5	0.02	0.02
Investment funds*	8,650	8,991	1.3	1.2	341	3.9	16	16	1.3	1.4
Investment funds management companies	198	245	0.0	0.0	48	24.0	5	5	0.03	0.04
Private funds management companies	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Financial companies	4,120	4,724	0.6	0.6	604	14.7	27	30	0.6	0.7
Total	**675,700**	**727,014**	**100.0**	**100.0**	**51,314**	**7.6**	**147**	**153**	**98.0**	**109.5**

Source: For each institutional segment, the competent supervisory authority (the NBRNM, the SEC, the MAPAS, the ISA and the Ministry of Finance) and the SSO (GDP data).
* Development Bank of North Macedonia AD Skopje operates on the basis of a license issued by the Governor of the National Bank, but performs specific activities as a bank, but does not collect deposits from the public.

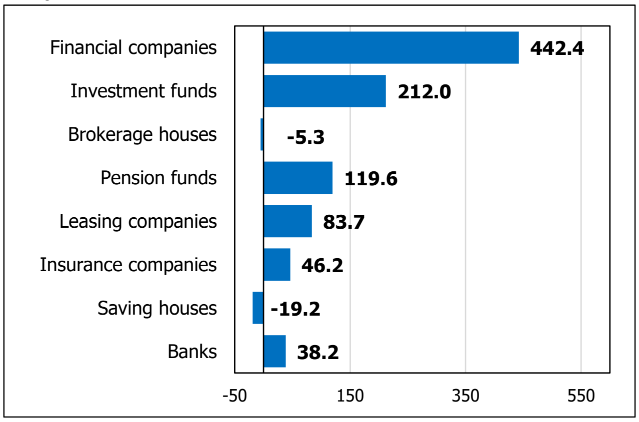
In 2020, in conditions of health and economic crisis, the assets of the financial system continued to grow, although at a slower pace. The assets of the financial system increased by Denar 51,314 million or by 7.6%, which is a slowdown compared to the growth registered

Chart 52
Cumulative absolute growth of the assets of the individual segments of the financial system, for the last five years
in millions of denars



Source: National Bank calculations based on data submitted by banks, savings houses, SEC, MAPAS, ISA and the Ministry of Finance.
*In the last five years, the total assets of the financial system increased by Denar 233,423 million.

Chart 53
Cumulative percentage growth of the assets of the individual segments of the financial system, for the last five years
in %

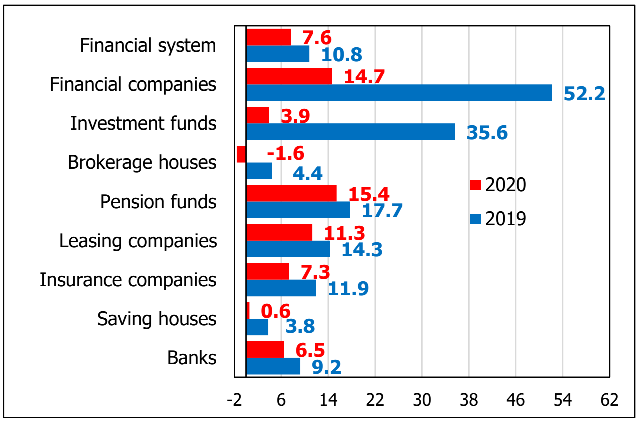


Source: National Bank calculations based on data submitted by banks, savings houses, SEC, MAPAS, ISA and the Ministry of Finance.
*In the last five years, the total assets of the financial system increased by 47.3%.

in 2019 (growth of 10.8% or by Denar 65,788 million). The annual changes in the assets of the banking system and the mandatory private pension funds, made the greatest contribution to the total growth of the assets of the financial system, of 69.2% and 22.7%, respectively. They are followed by the insurance companies, which made a moderate contribution to the absolute change in the assets of the financial system of 3.4%. Analyzing the annual growth rate, the assets of the open-end investment funds management companies and the assets of the mandatory private pension funds registered the highest annual growth rates, of 24% and 15.4%, respectively. The health and economic crisis had an obvious, but limited impact on the scope of activities of the individual segments of the financial system. Namely, none of the segments of the financial system, with the exception of the brokerage companies which also in the previous years did not manifest some more significant growth, reduced the scope of activities in 2020. However, all segments registered a slower growth, which was most pronounced in the financial companies (from 52.2% in 2019, to 14.7% in 2020), the open-end investment funds (from 35.6% in 2019, to 3.9% in 2020), and in the voluntary private pension funds (from 28.4% in 2019, to 15% in 2020).

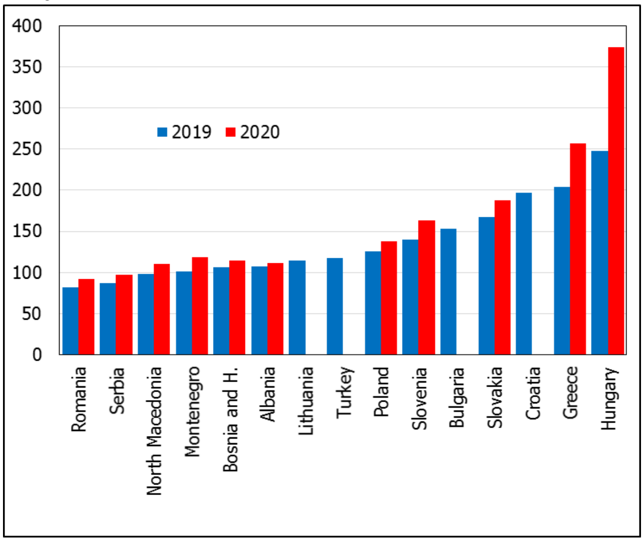
The annual fall in GDP in 2020 in conditions of a pandemic, amid further solid growth of the assets of the financial system, contributed to increasing the financial system assets to GDP ratio, by 11.5 percentage points. **Moreover, for the first time, the assets of the financial system exceeded the GDP and reached a level of 109.5%, for 2020.** However, the comparative analysis with the countries of Central and Southeast Europe indicates a still modest level of financial intermediation in our country. The lower levels of financial intermediation, coupled with the simple structure of the financial system, show that **there is room for greater support from the financial sector for the economic**

Chart 54
Comparison between the growth rates of the assets of the financial system in 2019 and 2020
in %



Source: National Bank calculations based on data submitted by banks, savings houses, SEC, MAPAS, ISA and the Ministry of Finance.

Chart 55
Financial system assets to GDP ratio, by country
in %



Source: For North Macedonia, National Bank calculations based on data submitted by banks, savings houses, SEC, MAPAS, ISA, SSO, Ministry of Finance and the SSO. For the other countries, the websites of Eurostat (https://ec.europa.eu/eurostat) and the central banks from the individual countries. Given that the data for 2020 is not available for all countries, for the purpose of better comparability between the countries, the data for 2019 is also presented.

growth and development of the country. In contrast, the simple structure of the financial sector, the small interdependence of its segments and the small integration with the international flows make it more resistant to external shocks, and its modest size additionally limits the potential returning negative effects from the financial system to the economy.

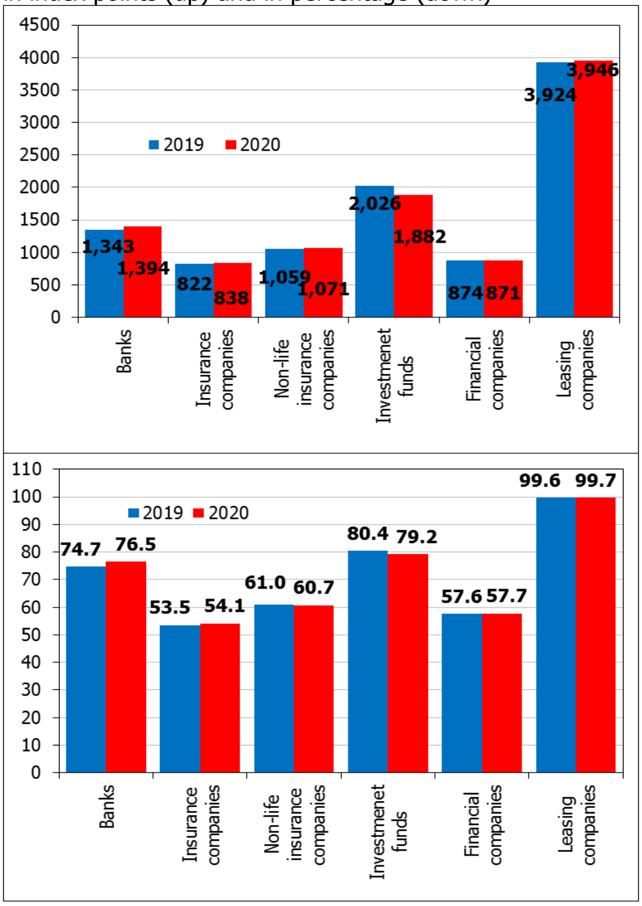
The concentration in the individual segments of the financial system registers no significant annual changes[83]. The Herfindahl index mainly shows an acceptable level of concentration in the segments of the financial system, with the exception of the leasing sector.

In 2020, the number of banks in the banking system of the Republic of North Macedonia decreased by one bank[84]. During the year, the number of financial companies and insurance-brokerage companies increased, while in other financial institutions, the number of institutions remained unchanged.

In 2020, there are no major changes in the ownership structure of the individual segments of the financial system. **The largest and most important segments of the financial system are predominantly owned by foreign financial institutions** (the banking system, the pension funds management companies, the insurance companies and the open-end investment funds management companies). Hence, these segments of the domestic financial system, through their foreign owners, are more exposed to risks arising from the developments in the international environment, although in a small and open economy, the transmission and materialization of the negative effects of the external shocks mainly occur relatively quickly and easily and by different channels

[83] The analysis takes into account those segments of the financial system where at least six institutions actively operate and where there are available data on the amount of assets by individual institution.
[84] In August 2020, the National Bank revoked the license for founding and operation of Eurostandard Bank AD Skopje, due to failure to fulfill minimum legal conditions for bank's operations.

Chart 56
Herfindahl index (up) and CR5 index (down) for the total assets, by segment of the financial system
in index points (up) and in percentage (down)



Source: National Bank calculations, based on data from banks, the ISA, the SEC and the CR.

(and not only through the owners of legal entities).

Table 5
Ownership structure of financial institutions
in %

Owners	Banks	Saving houses	Insurance companies	Brokerage houses	Leasing companies	Pension funds management companies	Investment funds management companies	Financial companies
Domestic owners	***24.0***	***100.0***	***19.9***	***86.7***	***81.8***	***12.7***	***31.0***	***64.9***
Non-financial legal entities (including civic associations)	9.8	100.0	0.6	52.4	1.3	0.0	0.0	38.0
Banks	0.1	0.0	12.9	0.0	3.5	12.7	21.7	0.0
Other financial institutions	0.5	0.0	1.5	0.0	0.0	0.0	4.7	0.0
Natural persons	8.5	0.0	4.9	34.3	77.0	0.0	4.6	26.9
Public sector	5.1	0.0	0.03	0.0	0.0	0.0	0.0	0.0
Foreign owners	***75.7***	***0.0***	***80.1***	***13.3***	***18.2***	***87.3***	***69.0***	***35.1***
Natural persons	1.9	0.0	0.33	8.2	0.0	0.0	0.3	11.2
Non-financial legal entities	5.5	0.0	0.0	0.0	7.4	0.0	13.0	0.0
Banks	64.9	0.0	0.0	2.6	9.5	0.0	0.0	0.0
Other financial institutions	3.4	0.0	79.8	2.5	1.3	87.3	55.7	24.0
Undefined status	**0.3**	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
Total	***100.00***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***

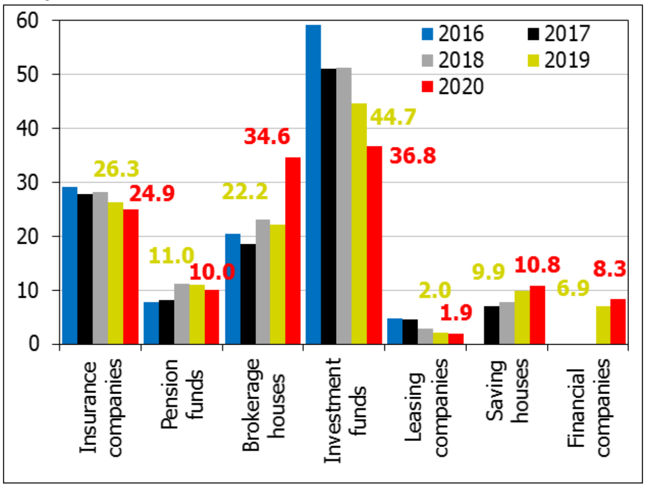
Source: National Bank calculations based on data submitted by banks, savings houses, SEC, websites of pension funds management companies, ISA, CSD and the Ministry of Finance.
Note: The share by type of owner in the ownership structure refers to shareholder capital / core capital of the financial institutions.

2.2. Cross-sector relation, "contagion" channels and their impact on financial stability

Cross-sector relation of institutional segments in the financial system of the Republic of North Macedonia and the possibilities of risk spillover are low. The reason behind is the simple financial system structure, small interdependence of the activities of the individual segments and absence of complex financial instruments and services. Stability of the financial system is determined by the stability of the banking sector as its dominant segment, where savings of both non-financial sector and other financial institutions are concentrated. The ownership relation between individual institutions of the financial system is moderate and it is not a contagion channel between individual segments.

Amid still underdeveloped financial markets and limited alternatives to investment and fertilization of the assets of economic agents, a significant portion of the assets of non-banking financial institutions are invested in bank deposits[85], whose amount (denar 20,827 million) is almost unchanged compared to the previous year. Deposits placed with banks are an important part of the assets of non-bank financial institutions, especially with the investment funds, the brokerage companies, the insurance companies, and the private pension funds and savings houses, where more than 10% of the assets are invested in deposits in the domestic banks. Relatively high placements in deposits with domestic banks is in line with the nature of the activities of the non-banking segments of the financial system, but also of the regulatory opportunities / limits and the facilities for investing in other financial instruments. Hence, the solvency and liquidity of the banking system are important factors for the stable operations of the non-bank financial institutions and a significant potential channel for spillover of risks from banks to these financial institutions.

Chart 57
Deposits of non-banking financial segments in banks to total assets
in %

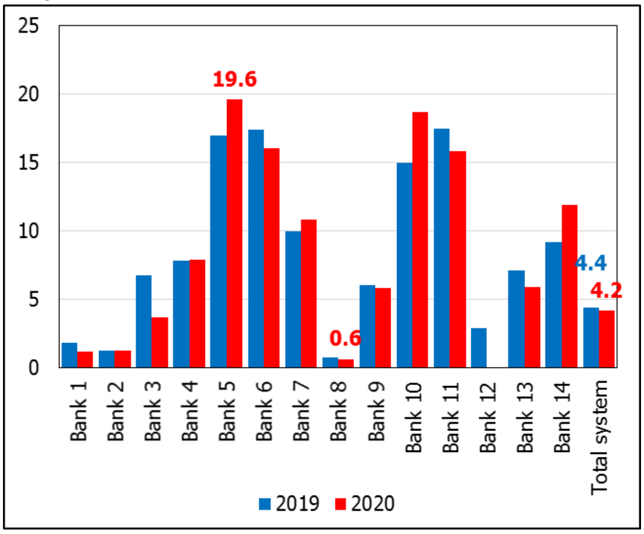


Source: National Bank calculations, based on data from banks, savings houses, IAS, MAPAS and CSD.
Note: Data on deposits of financial companies before 2019 is not available.

In contrast, at the aggregate level, the

[85] Deposits also include transaction accounts of other institutional segments in the banks. As of 31.12.2019, 7.7% of the total deposits of the non-bank financial institutions are funds on a transaction account with a bank or are in the form of sight deposits. As a rule, these are funds that are kept for transaction purposes and are not expected to be withdrawn even amid crisis episodes.

Chart 58
Shares of the total deposits from the non-banking financial segments in the total liabilities of the banks and the banking system
in %



Source: National Bank calculations based on data from banks.
Note: The analysis does not include the DBNM AD Skopje, because it does not accept deposits.

deposits of the domestic non-bank financial institutions do not represent a significant source of funds for the banking system, nor their assumed withdrawal would have a significant influence on the liquidity and stability of the banking system. Analyzed by individual bank, with six banks in the system (with a total joint market share in the total assets of 10.9%), the deposits of the non-bank financial institutions represent a relatively significant source of financing and account for at least 10% of the total liabilities of these banks. Such deposits, with banks in which they have more significant share, are potential channel for liquidity consequences in case they are simultaneously withdrawn, given that deposits of financial institutions are treated as less stable source.

Bank loans approved to non-bank financial institutions are yet another potential contagion channel in the financial system. However, its importance is still quite small. As of 31.12.2020, bank loans approved to domestic non-bank financial institutions equaled modest Denar 641 million or 0.2% of the total bank loans (analyzed by individual bank this share does not exceed 1.6%). Bank loans do not represent a significant source of financing of the activities of the individual non-bank financial segments. The share of the bank loans is the highest in the liabilities of leasing companies (4.9%) and savings houses (4.6%)[86].

Interbank claims and liabilities are yet another possible contagion channel in the banking system, although it is still with a relatively small importance. Namely, the total claims on the basis of interbank loans and deposits (including the interbank transaction accounts) amount to Denar 11,840 million or 2% of the total assets of the banking system. Moreover, 88.9% of the total amount of the interbank claims account for one bank (DBNM AD Skopje), whose core activity is to place the loans received from the international financial institutions and from the government to the ultimate beneficiaries through the domestic banks. Thus, in this bank, claims on other banks account for as much as 87.8% of its assets. However, the contagion risk in this bank would materialize only in case of an extreme scenario of default by all banks through which the DBNM AD Skopje places the foreign loans. Regarding the other banks, the interbank claims do not exceed 1.9% of the total assets of the individual banks. On the liabilities side, analyzed by individual bank, the highest share of the interbank liabilities in the total liabilities amounts to 6.9%. The analysis of the turnover on the interbank market for collateralized and non-collateralized deposits confirms the relatively low exposure of the banks

[86] Bank loans are also used by the brokerage companies (2.5% of the liabilities), financial institutions (1.6% of the liabilities) and the insurance companies (0.8% of the liabilities). A very small amount of loans is registered in the liabilities of the open-end investment funds management companies (0.02% of liabilities).

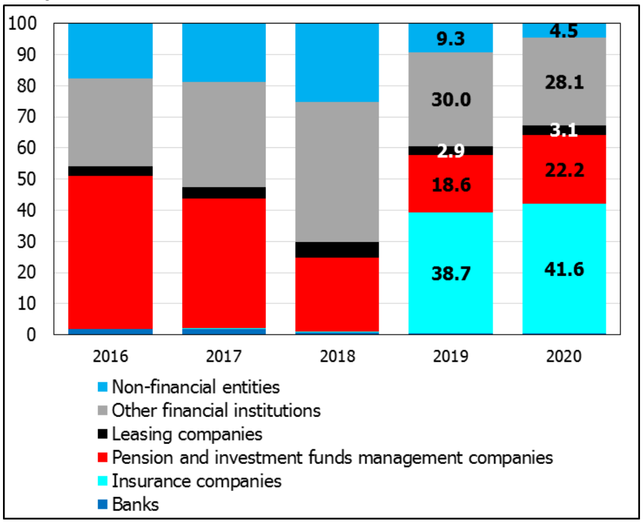
to the risk of spillover of possible problems, from one bank to another. Namely, in 2020, the banks traded only in non-collateralized deposits (no repo transaction was concluded, for the second consecutive year), in a total amount of Denar 6,652 million, which is only 1.2% of the total assets of the banking system, at the end of 2019[87].

Banking insurance, i.e. cooperation between banks and insurance companies based on an agreement for representation in insurance, was applied by seven banks in 2020 (same as in the previous year). However, in 2020, gross written premiums charged through banks represented only 3.9% of total premiums of insurance companies. At the same time, a very small part of the banks' claims (only Denar 32 million) are insured against default with some insurance company. Also, the banks' exposure secured by a life insurance policy is still moderate (11.8% of the total credit exposure to natural persons[88] or 14.4% of the exposure to natural persons excluding credit cards and overdrafts on current accounts), without more significant changes compared to previous year (in 2019, these shares amounted to 11.9% and 14.8%, respectively). Moreover, the potential damage to loan collateral, protected by property insurance policy (as of 31.12.2020, 73.1% of the banks' total credit exposure to non-financial entities collateralized with property is additionally protected by property insurance policy[89]) is yet another potential channel for connection between the insurance and banking sectors). The risk that a single event can cause great damages that could not be paid by an insurance company, thereby jeopardizing the collection of claims of some bank can be materialized in possible natural disasters (which even though possible, it is still an extreme scenario).

There is an inherent connection between the leasing and the insurance sectors due to the regulatory obligation to insure the leased asset with some insurance company (unless stated otherwise in the leasing contract). Also, the **offer of the so-called unit-linked products, which are a combination of life insurance with corporate investment**, i.e. life insurance in which the investment risk is on the burden of the insuree, point to a connection of this type of insurance with the movements on the financial markets, i.e. the performances of the investment funds (gross written premiums on the basis of unit-linked products account for 17.3% of the total gross written premiums of life insurance companies in 2020[90]). In other words, the investment component of returns from these insurance products is strictly determined by the return from instruments in which the

[87] In 2019, the turnover on the interbank market for non-collateralized deposits was slightly higher and amounted to Denar 7,064 million, which is 1.4% of the assets of the banking system as of 31.12.2018.
[88] In 2020, risk event covered with life insurance policy occurred in 0.2% of life policy collateral loans (and banks collected damages from insurance companies, according to the insured amount).
[89] Source: data submitted by banks
[90] This share was 12.4% for 2019.

Chart 59
Structure of banks' investments in equity instruments, in subsidiaries and associates, by the type of domestic legal entity
in %



Source: National Bank calculations based on data from banks.

investment funds invest. In this context, the insured need to be appropriately informed on the features and possible risks of these non-traditional insurance products, and all the costs related to them (certain steps for this purpose have already been taken by ISA)

Ownership relations between individual financial institutions are yet another potential channel of interdependence and possible spillover of risks from one segment of the financial system to another. The capital investments of the banks in domestic financial and non-financial legal entities (investments in equity instruments, subsidiaries and associates) equal modest Denar 1.515 million or 0.3% of the total assets of the banking system (by individual bank, this share does not exceed 1%)[91].

[91]One bank is the predominant owner of an insurance company in the country, other bank is the predominant owner of an open-end investment funds management company, and also has a significant capital stake in a pension funds management company. In addition, one bank has a significant capital investment in a leasing company and is also the sole owner of a domestic non-financial company which deals with purchase and sale of own real estate. The banks also have (corporate) investments in other domestic financial institutions (such as the Macedonian Stock Exchange, the CSD, KIBS, CaSys), and the domestic banks are also custodians of the property of the pension and investment funds, which can be a potential channel for cross-sector spillover of risks, solely due to the reputational risk.

2.3. Deposit-taking institutions

2.3.1 Banks[92]

In 2020, the banking sector faced numerous challenges, yet showed appropriate readiness to respond to the risks. In conditions of a strong health and economic crisis, the banking system maintained its stability and contributed to mitigating the consequences of the corona crisis, registering solid growth of activities. This, on the one hand is due to the public confidence in the banking system, in conditions of strong capital and liquidity positions with banks, but on the other hand, arises from the rapid reaction of policy makers to release liquidity in the system and support the Macedonian economy. At the same time, measures for regulatory flexibility were taken in the area of credit risk management, which enabled banks to implement temporary delay in the loan repayment. This eased the financial burden of a large number of borrowers in the banking sector, so they could easily deal with the negative effects of the health and economic crisis.

The banking system solvency is stable and registered further improvement. At the end of 2020 all banks have high quality own funds with a certain level of "free" own funds over the necessary regulatory and supervisory requirement. National Bank's measures undertaken in response to the pandemic aimed at banks to refrain from paying dividends, also contributed to improved solvency and sent a clear signal to banks on the need for building further capital potential. Most of the indicators for monitoring and assessment of liquidity improved in 2020, amid further growth of liquid assets. Thus, for a longer period, the liquid assets maintained at a level of one third of total assets and cover around 55% of short-term liabilities and around 65% of household deposits. The stress testing of the banking system resilience to simulated shocks indicates that the resilience of its solvency and liquidity positions is satisfactory.

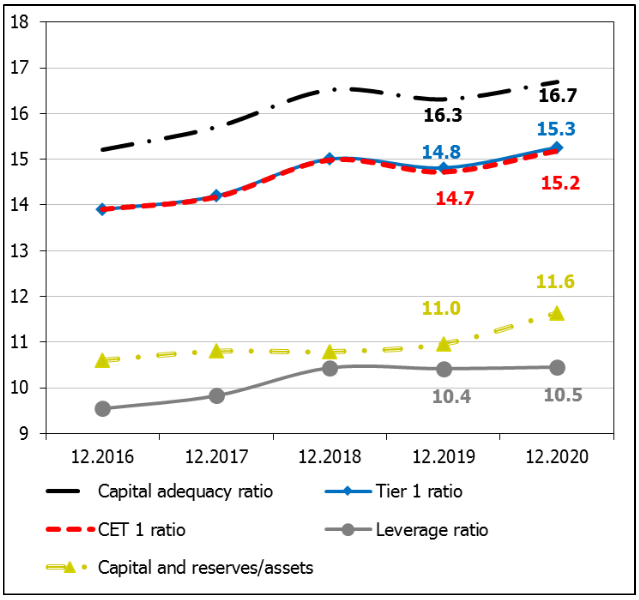
In 2020, the indicators of the credit risk realization improved. The decrease of non-performing loans mostly stems from mandatory write-offs of fully booked non-performing loans, and in certain cases it is a result of collections. Decreased creation of new non-performing loans in 2020, is mostly due to regulatory measures undertaken by the National Bank, in the area of credit risk management. Given that these are temporary measures, amid still present uncertainty by the pandemic, growth of non-functional loans is expected in the following period.

Amid further growth of profit in 2020, the profitability indicators of the banking system remained solid. Possible materialization of the credit risk in the following period will increase the impairment costs in the banks' balance sheets, which may affect their financial result.

In 2020, solvency and capitalization ratios of the banking system improved, maintaining the high capitalization and

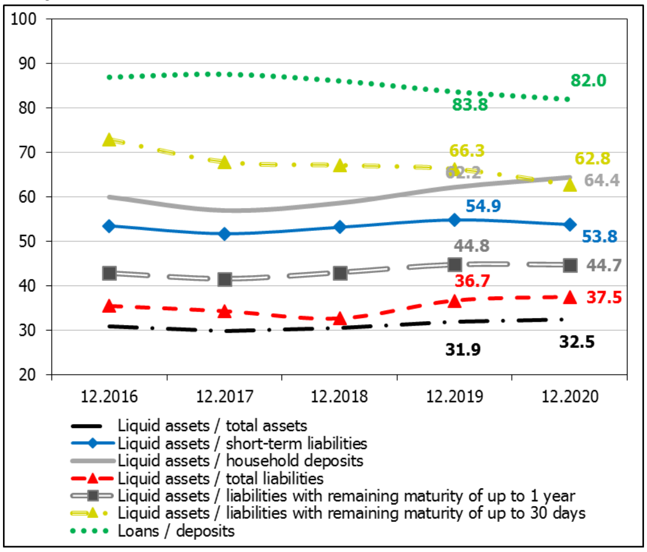
[92] For more details on the developments in the banking system in 2020 see the Report on the risks in the banking system in 2020 (https://www.nbrm.mk/content/Godisen_BS_31_12_2020.pdf)

Chart 60
Indicators of solvency and capitalization of the banking system*
in %



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

Chart 61
Indicators of solvency of the banking system
in %



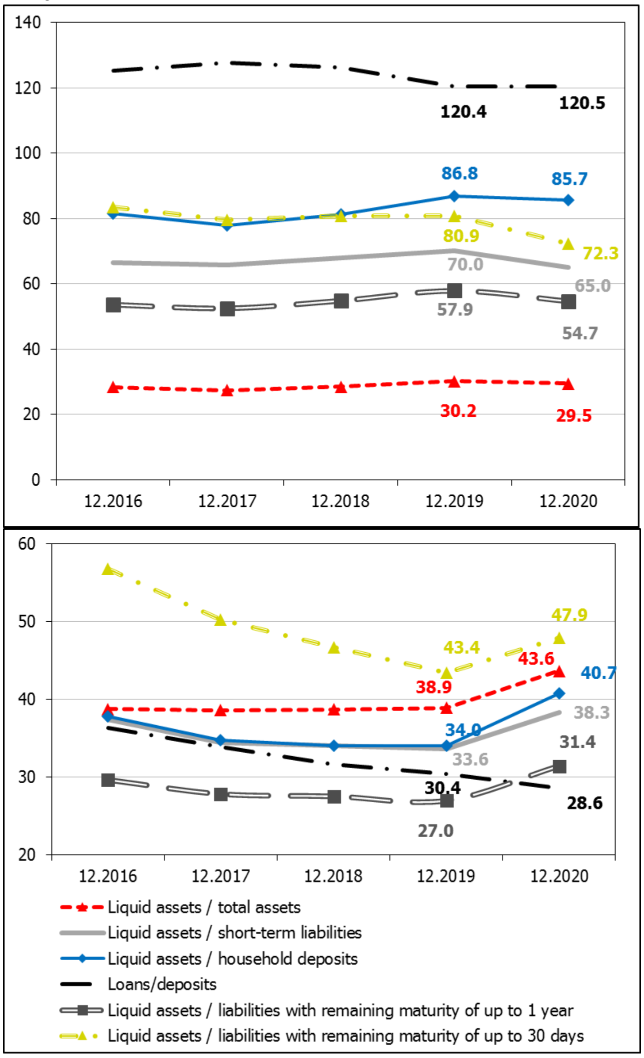
Source: National Bank, based on data submitted by banks.

stable solvency position. The improved solvency indicators arise from the high capital positions, due to reinvestment of profits[93] and new share issues[94] in 2020, amid simultaneous decelerated growth of the activities of the banking system. At the end of 2020, the capital adequacy ratio of the banking system was higher than the minimum regulatory and supervisory requirements by 1.5 percentage points, determined for this rate. Thus, after covering the overall capital requirements (regulatory requirements, supervisory requirements and the currently activated capital buffers, to conserve capital and domestic systemically important banks), excess own funds of 9.1% of the total own funds remains. The free own funds, besides for covering unexpected losses from the undertaken activities (which is the primary role of capital positions), could be used for even more dynamic credit activity of the banking system. 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. However, given that the uncertainty surrounding the COVID-19 pandemic remains, banks should continue to carefully design their capital needs and primarily to preserve and further strengthen their capital positions, in line with the operating risks taken.

Banks have a high volume of liquid assets, which even in conditions of pandemic additionally grew. Hence, most of the liquidity risk indicators improved, and at the end of 2020 were at a satisfactory level. Analyzing the currency, the improvement of the liquidity indicators was concentrated in the indicators of external liquidity of the banking system, which despite the increase remain at a significantly

[93]In the beginning of 2020, in conditions of pandemic, the National Bank issued recommendation to banks not to pay dividends to shareholders, but reinvest the profits from 2019, in order to additionally strengthen their solvency. In February 2021, the National Bank Council adopted a decision on temporary restriction of dividend distribution to bank shareholders, valid until the end of 2021, with a possibility to analyze and assess the circumstances related to the pandemic as of 30.09.2021 and temporary repeal this restriction. In August 2021, the National Bank Council adopted a decision to repeal the restriction, on the grounds of the assessments for reduced risks and appropriate banking system resilience.
[94]In 2020, two banks issued new shares.

Chart 62
Liquidity ratios by currency - Denars (up) and FX (down)
in %



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

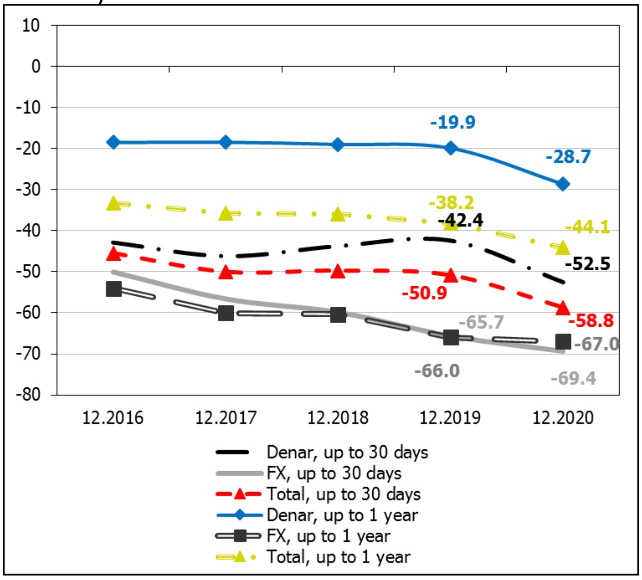
lower level compared to Denar liquidity indicators. Hence the great importance of the adequate volume of the foreign reserves and the presence of the National Bank in the foreign exchange market (in order to maintain a stable exchange rate) for covering the possibly increased demand for foreign currency cash[95].

An important requirement for smooth management of banks' liquidity is to ensure adequate maturity matching of assets and liabilities according to their residual maturity. There is a trend of continuous widening of the maturity mismatch (negative gap) between assets and liabilities, and the risk thereof did not materialize thanks to the stable percentage of demand deposits with banks. Given the fact that around 60% of deposits in banks are demand deposits, and 67% of total deposits are household (economic agents, which by rule, are relatively easily susceptible to various negative news, information and speculation), the public confidence in banks is of key importance for liquidity and stability of the system.

According to the banks' business model, the credit risk is the most common risk in their operations. Hence, every shock on the creditworthiness of the banks' clients (especially if it is a systemic shock) has a negative impact on the credit risk exposure and may potentially cause losses in the bank's operations. The materialization of more significant credit losses usually affects the changes in the banks' behavior, in terms of tightening the credit supply and reduction of the credit activity, pushing the credit cycle of the economy downwards. The absence of credit support for the economy, amid severe shocks, with already reduced economic

[95]In this context it should be taken into account that in conditions of pandemic, the ECB approved the National Bank a repo line in the amount of Euro 400 million, intended for providing foreign currency liquidity, if needed. The repo line maturity date is until March 2022, and so far the National Bank had no need to use it.

Chart 63
Gap between banks' assets and liabilities that mature in the next 30 days and one year
Percentage of liabilities that mature in the next 30 days and one year



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

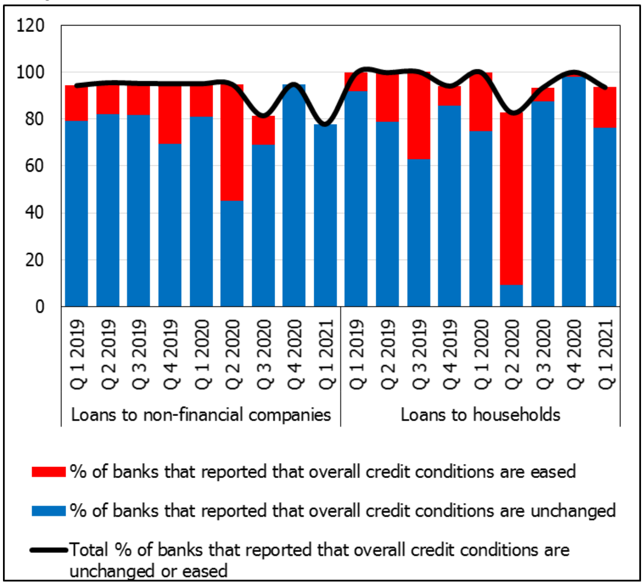
activity, delays the recovery of the real sector and overall economy, which has negative recurrent effects on the banking system. In order to avoid such scenario, amid strong external shock, such as the COVID-19 pandemic, the National Bank's rapid and decisive response was necessary. Thus, the National Bank took a series of monetary measures[96] to release liquidity in the system, with the ultimate goal to provide credit support, especially for companies coming from sectors that are mostly affected by the pandemic. At the same time, measures based on regulatory flexibility in the area of credit risk management were taken[97], in order to temporarily reduce the clients' credit burden and delay the materialization of the credit risk in bank's balance sheets. Influenced by the regulatory flexibility, the banks enabled temporary delay in regular loans repayment, on two occasions, in May and in September 2020. Banks and clients were able to use the regulatory flexibility not later than September 2020, after which every change in credit terms due to financial difficulties in clients' operations has a restructuring treatment, according to the regular prudent criteria, which at the same time is a subject to banks' more strict regulatory requirements. At the end of 2020, around 7.5% of regular loans are still subject to deferred payment of loan liabilities (agreed between banks and clients as of September 2020), which mostly expired in the first half of 2021.

The credit activity of banks was

[96]Specifically, the National Bank took the following monetary measures: Cut the core interest rate to its historic lowest level, reduced the supply of the basic monetary instrument, expanded the list of securities it uses as collateral in conducting monetary operations, reinforced the non-standard reserve requirement measure(the denar reserve requirement base decreased for the amount of loans approved and restructured after 1 March 2020, to companies coming from sectors that are mostly affected by the pandemic) and reactivated the auctions for placements of foreign currency deposits by banks. For more details see the last year's Financial Stability Report

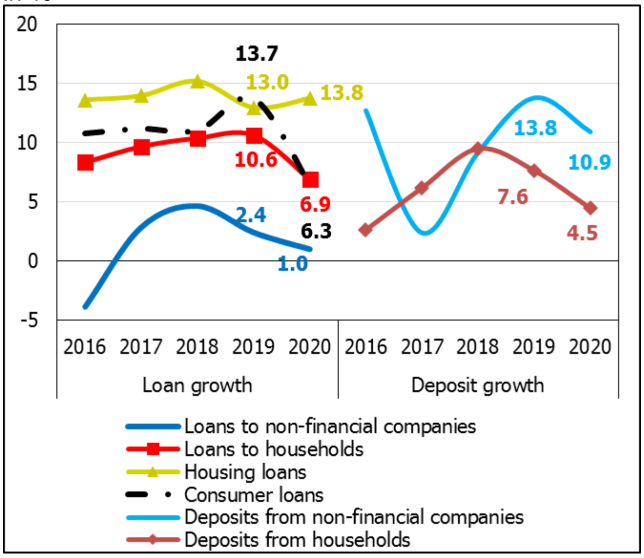
[97]Besides the possibility for changing the contractual terms of loans, without having a restructuring treatment, the regulatory flexibility also covered changes (easing) in the definition of non-performing loans. Namely, the common criteria for a loan to receive a non-performing status was changed, from default longer than 90 days to default longer than 150 days, and banks were not required to use the criteria "default". The change in the definition of non-performing loans was applicable as of the end of September 2020, and by the end of December, the banks were required to fully apply the prudent criteria in determining the status of non-performing loans. Given the relatively large volume of regular loans which were granted deferred payment (grace period or moratorium), the changes in the definition of non-performing loans affected a relatively small part of the credit portfolio, of 0.1-0.2%. For more details on the regulatory flexibility measures see the last year's Financial Stability Report

Chart 64
Percentage of banks that reported that overall credit conditions are unchanged or eased
in %



Source: National Bank, based on data from the conducted Bank Lending Surveys

Chart 65
Annual growth rates of loans and deposits
in %



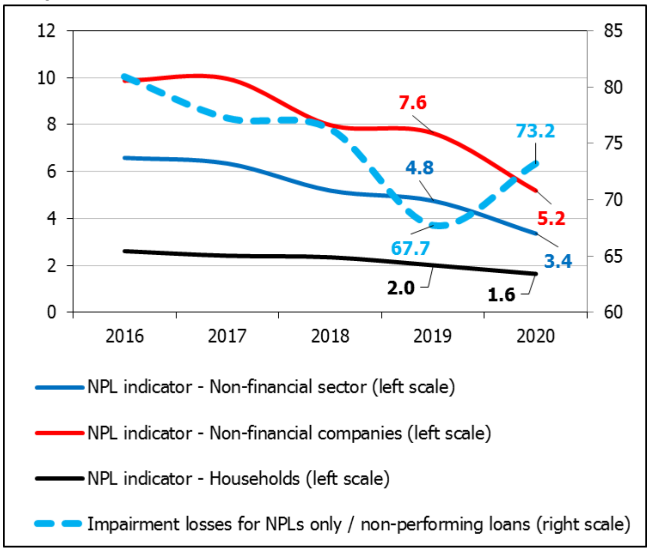
Source: National Bank, based on data submitted by banks.

maintained even in the most acute phases of the pandemic. Total loans increased by 4.1% annually, which is a slowdown compared to the previous year (6.1%). However, if we exclude the effect from the bank in bankruptcy, the credit growth in 2020 is the same as in the previous year. The largest percentage of banks (over 80% of the corporate loans, i.e. over 90% of the household loans) eased or kept the credit terms[98] (after a long period of easing, to the historically lowest levels), which is a significant positive signal and confirmation of the efficiency of the National Bank's undertaken measures. At the same time, the credit activity was appropriately supported on the deposits side, which registered solid, yet decelerated annual growth rates, confirming the public confidence in the stability of the banking system, even amid external shocks, which as such, occur rarely.

The materialization of the credit risk in 2020, measured through the movement of non-performing loans and their share in total loans, decreased. Namely, the non-performing loans reported high double-digit decline of 26.5%, while their share in total loans reached the historic low. Such developments are mostly a result of the regulatory measure for mandatory write-offs of fully provisioned non-performing loans, introduced in 2016. The decrease of non-performing loans, to a certain extent, was a result of collections, often thorough takeover of pledge or takeover of other person's debt. The regulatory easing provided by the National Bank in the area of credit risk management, also contributed to mitigating the risk of possible significant concentration of credit risk in the short term. In conditions of still present uncertainty by the pandemic, given that the regulatory flexibility measures were temporary, namely by the beginning of October 2020, growth of non-performing loans could be expected in the following

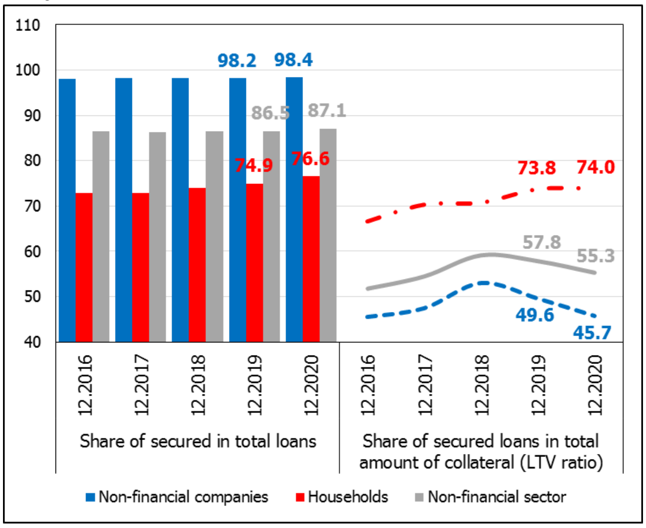
[98] Source: National Bank, based on data from the conducted Bank Lending Surveys

Chart 66
NPL indicator for share of non-performing loans in total loans and NPL coverage with impairment
in %



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

Chart 67
Shares of collateralized loans in total loans and indicator for the ratio between the amount of collateralized loans and the estimated value of the collateral
in %



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

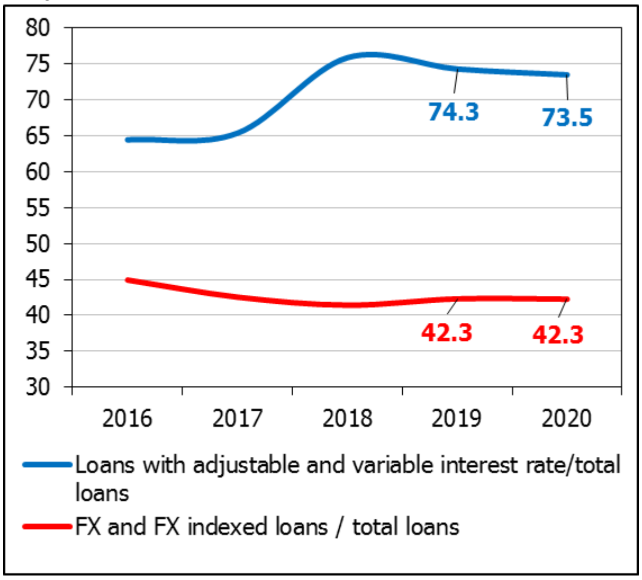
period, which was practically registered in the first quarter of 2021. The coverage of non-performing loans with impairment remained above 70%, despite the significant amount of written-off non-performing loans with impairment of 100%[99]. Hence, the negative effects of possible complete default on non-performing loans on capital positions are potentially low and at worst they would "spend" 4.5% of banks' total own funds.

Possible intensive transition of regular, functional loans to -non-performing loans is greater threat against banks' solvency than the materialization of credit risks. However, the analysis explain the need for rather extreme transition of 15.5% of regular non-performing credit exposure to non-financial sector, to reduce the capital adequacy ratio to 8%[100]. For illustration, the average rate of transfer from regular to non-performing credit exposure (for a period of 1 year), calculated for the last 12 months, amounted to 2.2%, while its maximum realized amount was 4.4% (registered for the period from 30.06.2008 to 30.06.2009). Besides that, a significant part of the banks' credit portfolio is backed with certain type of collateral, whose average value significantly surpasses the amount of loans which are backed. Thus, in case of default on loans, the collateral could be used as a secondary source of repayment. On the other hand, household loans are usually approved to clients with a regular monthly income, who receive their salary through the payment accounts opened in the banks from where they use the loans. Thus, borrower's wage can be considered a relatively high-quality "collateral" for the bank. Moreover, according to the banks' internal acts, the maximum allowed ratio between the liabilities based on the loans of the client and their monthly income ranges from 50% to

[99]As of 31.12.2020, 27.6 billion non-performing loans to non-financial entities were written-off, which account for 9.9% of total loans, i.e. 91.8% of non-performing loans, as of 31.12.2015, before the measure for mandatory write-off of non-performing loans was introduced. The overall written-off credit exposure based on this, amounted to denar 29.4 billion, which is 8.9% of total credit exposure of non-financial sector, as of 31.12.2015.

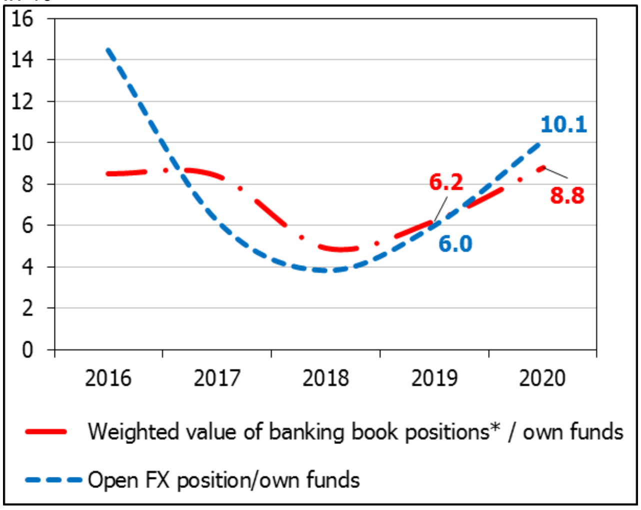
[100] In this simulation, the new impairments are assumed to have a treatment of unrecognized impairment, which is a rather conservative assumption, the use of which contributes to further reduction of the capital adequacy ratio.

Chart 68
Banking system exposure to indirect credit risk, from loans with currency component and loans with variable and adjustable interest rate
in %



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

Chart 69
Banking system exposure to currency risk and interest rate risk in the banking book.
in %



Source: National Bank, based on data submitted by banks.
The currency risk exposure is measured through open foreign exchange position, which is a gap between on- balance and off-balance sheet assets and liabilities with currency component
*Exposure to interest rate risk is measured through weighted value of banking book, which denotes potential loss of economic value of this portfolio, amid assumed unfavorable interest shock of ±2 percentage points.

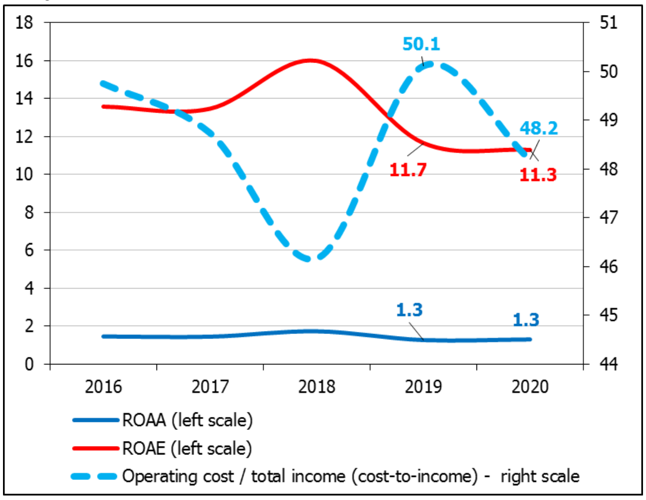
60%. As of 31.12.2020, the ratio between liabilities based on loans of clients and their monthly income, averaged 37.1%, with differences between individual banks.

The banks' indirect exposure to credit risk which arises from the presence of loans with currency component and loans with adjustable and variable interest rate is significant. However, the currency risk is limited due to implementation of the strategy for stable exchange rate.

Banking system exposures to currency risk and interest rate risk in the banking book increased in 2020, but remained moderate, which is acceptable and far below the specified limits.

The profitability indicators of the banking system remained solid. In 2020, the banks increased the profit mostly from non-recurring items, i.e. from the growth of the capital gain from sales of foreclosed collateral and income from collected written-off claims. Amid low and declining interest rates, the room for more significant growth of net interest income tightened. Thus, the net interest income which is the largest item in the banks' total revenues (with a share of 63%, moderately increased by only 0.4%, which led to further decline of the net interest margin, of 3.4% for 2019, to a level of 3.1% for 2020. On the other hand, the costs of impairment grew by 11%, due to increased vigilance of banks given the expected higher credit losses in conditions of pandemic. Uncertainty about the duration and intensity of coronavirus developments will undoubtedly affect the banks' profitability in the coming period.

Chart 70
Selected profitability indicators
in %



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

Determining a derived indicator on the share of non-performing loans in total credit exposure by using transition matrices and examining its forecasting power for a period ahead[101]

This text frame presents one of the possible applications of the transition matrices for the banking system credit exposure. Specifically, this analysis aims to show that the only way to derive the amount of non-performing loans and their share in the total credit exposure is by using the transition matrices, for a period forward (i.e. in advance). The use of these matrices for short-term assessment of the future amount of non-performing loans is based on the usual theoretical setting for gradual development of the credit risk materialization in the banks' portfolios. Moreover, the usually high self-sustainability of levels and trends of non-performing loans, typical for the banking systems with underdeveloped non-performing loan management systems, additionally enables the use of transition matrices in forecasting the future short-term movements in these loans. On the other hand, the use of transition matrices for the developments of the banking system credit exposure, will investigate whether the previously noted assumptions related to non-performing loans in the Macedonian banking system are relatively accurate (gradual development of the credit risk materialization and high self-sustainability level of non-performing loans), thus enabling the use of these matrices as forecasting tools for the future movements of non-performing loans.

The transition matrices summarize the migration of banks' credit exposure among individual risk categories, in certain time period, usually one year. An example of a transition matrix is given below:

[101]The Financial Stability Report of the Central Bank of Turkey from March, pages 79-84 was used in the preparation of the text frame.

Table 6
Illustrated transition matrix on the banking system credit exposure for a one-year period, from 31.12.20XX to 31.12.20YY
% of credit exposure as of 31.12.20XX

31.12.20XX \ 31.12.20YY		Regular credit exposure			Non-performing loans			Credit exposure that exit from the portfolio (from 31.12.20XX to 31.12.20YY)
		Risk category 1 (A)	Risk category 2 (B)	Risk category 3 (C reg.)	Risk category 4 (C non-perf.)	Risk category 5 (D)	Risk category 6 (E)	
Regular credit exposure	Risk category 1 (A)	54.7	6.1	0.4	0.2	0.1	0.0	38.4
	Risk category 2 (B)	10.4	39.5	5.7	1.5	0.9	0.1	41.8
	Risk category 3 (C reg.)	1.4	2.2	45.1	9.5	2.5	4.4	35.0
Non-performing loans	Risk category 4 (C non-perf.)	0.0	0.0	0.0	6.8	3.2	27.6	62.5
	Risk category 5 (D)	0.0	0.7	0.0	1.2	23.9	22.3	51.8
	Risk category 6 (E)	0.0	0.0	0.0	0.1	0.1	39.9	59.9

Source: National Bank calculations.

The transitional matrix above shows that for a period of one year, for instance (from 31.12.20XX to 31.12.20YY), 54% of credit exposure classified in the highest-quality risk category (A or 1) remained in the same category of risk, 6.1% migrated towards risk category B (category 2), 0.4% migrated towards risk category C (category 3), which keeps the regular status, while a total of 0.3% of credit exposure in the risk category A acquired non-performing status. Similar, for the same period, 39.9% of the exposure classified in the lowest-quality risk category (E or6) remained in the same risk category, and only 0.1% of this credit exposure migrated towards higher quality risk categories, i.e. C (category 4) and D (category 5), respectively. Finally, in the last column, the transition matrix shows the percentage of credit exposure in each category of risk, which for a period of one year, left the banking system credit portfolio, due to collection, write-off or similar.

The percentages in the transitional matrix above, may be sorted in the following mathematical matrix:

$$
\begin{array}{ll}
 & \begin{array}{ccccccc} \text{A} & \text{B} & \text{C reg.} & \text{C non-perf.} & \text{D} & \text{E} & \text{Exit} \\ 1 & 2 & 3 & 4 & 5 & 6 & \text{E} \end{array} \\
\begin{array}{ll} \text{A} & 1 \\ \text{B} & 2 \\ \text{C reg.} & 3 \\ \text{C non-perf.} & 4 \\ \text{D} & 5 \\ \text{E} & 6 \end{array} &
\begin{bmatrix}
P_{1,1} & P_{1,2} & P_{1,3} & P_{1,4} & P_{1,5} & P_{1,6} & P_{1,E} \\
P_{2,1} & P_{2,2} & P_{2,3} & P_{2,4} & P_{2,5} & P_{2,6} & P_{2,E} \\
P_{3,1} & P_{3,2} & P_{3,3} & P_{3,4} & P_{3,5} & P_{3,6} & P_{3,E} \\
P_{4,1} & P_{4,2} & P_{4,3} & P_{4,4} & P_{4,5} & P_{4,6} & P_{4,E} \\
P_{5,1} & P_{5,2} & P_{5,3} & P_{5,4} & P_{5,5} & P_{5,6} & P_{5,E} \\
P_{6,1} & P_{6,2} & P_{6,3} & P_{6,4} & P_{6,5} & P_{6,6} & P_{6,E}
\end{bmatrix}
\end{array}
$$

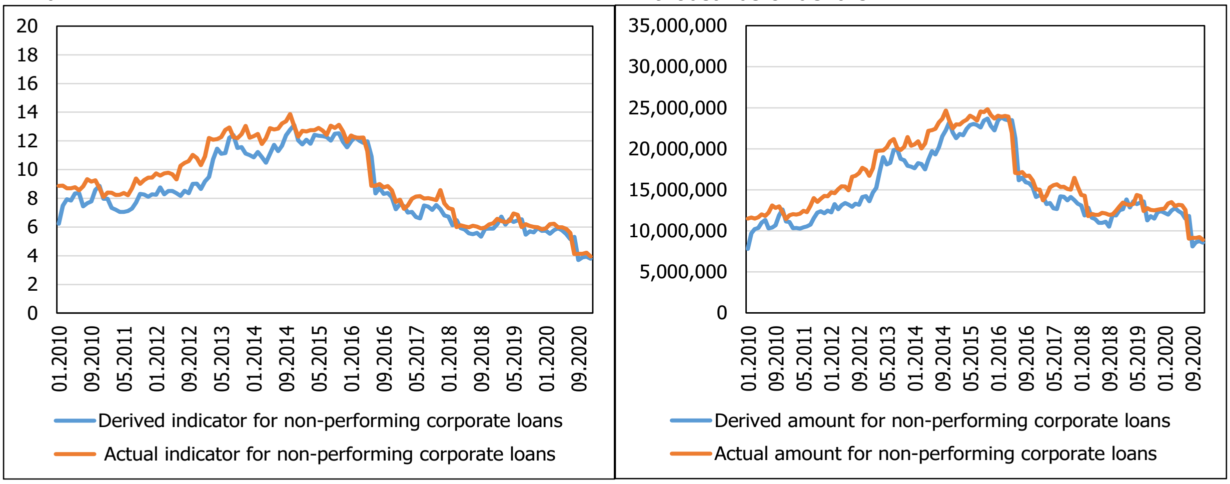
Starting from this matrix, the amount of non-performing loans for a period forward may be derived in a very simple way, taking into account the previously realized percentages of credit exposure migration, to and from non-performing loans. Specifically, assuming that the migration rates of credit exposure for the following period will stay in line with previous period, the derived (estimated) amount of non-performing loans, for a period in advance, may be calculated by using the following formula:

$$NPL\ amount\ (t) = NPL\ amount\ (t-1) + \sum_{j=4}^{6} P_{1,j} * exposure\ in\ A\ (t-1) + \sum_{j=4}^{6} P_{2,j} * exposure\ in\ B\ (t-1) + \sum_{j=4}^{6} P_{3,j} * exposure\ in\ C\ reg.(t-1) - \sum_{i=4}^{6}\sum_{j=1}^{3} P_{i,j} * NPL\ amount\ (t-1)_i - \sum_{i=4}^{6} P_{i,E} * NPL\ amount\ (t-1)_i$$

According to this formula, the derived amount of non-performing corporate loans[102]is calculated by using one-year transition matrices for credit exposure for the period January 2010-December 2020, by using the migration rates of credit exposure to and from non-performing loans. The indicator for the share of non-performing loans in total credit exposure of the corporate sector was derived under the assumption that the credit growth for the period in advance is similar to the already realized.

Chart 71
Actual and derived levels of non-performing corporate loans (right) and their share in credit exposure to corporate sector (left), for the period from January 2010 to December 2020

In %   in thousands of denars



Source: National Bank calculations.

The charts show relatively similar movements of the realized and derived levels of non-performing corporate loans and their share in total credit exposure. The level of correlation between the actual and derived non-performing corporate loans amounted to high 97%, for the overall analyzed period (from January 2010, to December 2020). At the same time, the deviation between the derived and actual level of the indicator for the share of non-performing corporate loans in total credit exposure of the corporate sector averaged -0.7 percentage points, which is 8% of the average actual level of this indicator for the analyzed period. Analyzed for the last five years, the average deviation between the derived and actual level of NPL values is still low at -0.3 percentage points, i.e. 4.3% of this indicator's average level for the last five years. This confirms the assumption of high level of self-sustainability of the trends and levels of non-performing loans, when the movements of these loans in the period behind are strictly in line with their movement in the following period. The difference between actual and derived

[102]Usually, higher self-sustainability of the levels and trends of non-performing loans are typical in corporate loans portfolios, given that the average higher amounts in these portfolios (greater concentration), various and specific nature of these loans' collateral (which may be used as a secondary source of collection), etc., compared to the household loans, where a number of so called behavioristic factors additionally affect the levels and trends of non-performing loans. Hence, for the purposes of this analysis, the use of the transition matrices for assessment of the amount of non-performing loans for a period in advance follows the example of corporate loans.

levels of non-performing loans and their share in total credit exposure is a logical consequence of factors related to individual performances of companies-borrowers, quality of banks' decisions regarding the approval and management of granted loans, as well as factors of the wider macroeconomic environment over which the banks' management and companies have no, or only limited influence. However, even if we disregard all previously mentioned factors, which have a certain influence on the credit risk materialization in the banks' loan portfolio and only by using transition matrices for the migration of credit exposure between individual risk categories, we can have a relatively accurate forecast on the movement of non-performing corporate loans for a period in advance.

Stress testing of the banking system of the Republic of North Macedonia using scenario analysis

The National Bank expanded the frame for stress testing of the banking system in order to assess the risk and the readiness of the banking sector to deal with shocks in specific conditions of pandemic. Besides the regular macro-stress test (so called top-down stress-test) a comprehensive and consistent individual stress test (so called bottom-up stress-test) of each bank was conducted for the first time. These stress tests incorporate the specifics of each bank and its clients, while the macro-stress test is more focused on the overall banking system, thereby enabling a more comprehensive macro- and micro-prudential risk assessment. The results from both stress tests show adequate capital buffers set up by banks in the previous period, for further appropriate credit support for both household and corporate sector.

Stress-test of the banking system was conducted in May 2021 using scenario analysis by simulating extreme but theoretically feasible shocks in the macroeconomic environment, in order to assess the capacity for management and resilience of the banking system to shocks. Usually, two scenarios are developed, a baseline and an adverse macroeconomic scenario. The baseline macroeconomic scenario includes the forecasts for the future expected developments in the economy that the National Bank conducts on a regular basis. The adverse, or macroeconomic stress scenario is hypothetical and assumes significant negative deviations of the economic activity of the country from the regular forecasts, i.e. it assumes extreme, slightly plausible, but still theoretically feasible events. Both scenarios are assumed to have time horizon of two years, for 2021 and 2022.

Table 7

Baseline and adverse macroeconomic scenario for the conduct of the stress test

in %

Macroeconomic variables	Past dynamics									Baseline macroeconomic scenario		Adverse macroeconomic scenario	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2021	2022
Real GDP growth	-0.5	2.9	3.6	3.9	2.8	1.1	2.9	3.2	-4.5	3.9	3.6	-4.5	3.5
Real personal consumption growth	1.2	1.9	2.2	4.4	3.9	2.1	3.7	3.5	-5.6	3.4	3.3	-4.0	3.3
Real gross-investments growth	10.2	0.5	10.7	8.3	12.5	-2.2	1.7	9.5	-10.2	8.1	9.1	-9.7	8.5
Real exports growth (products and services)	2.0	6.1	16.5	8.5	9.1	8.3	12.8	7.2	-10.9	4.1	6.1	-5.8	4.5
Real imports growth (products and services)	8.2	2.2	14.1	9.9	11.1	5.2	10.7	8.9	-10.5	4.5	5.7	-6.3	4.9
Unemployment rate	31.0	29.0	28.0	26.1	23.7	22.4	20.7	17.3	16.4	15.6	14.1	17.9	18.4
CPI - annual cumulative change	3.3	2.8	-0.3	-0.3	-0.2	1.4	1.5	0.8	1.2	1.5	2.0	2.0	2.1
Real disposable income growth	5.6	-0.3	2.6	4.3	3.0	4.5	5.8	5.4	-2.0	7.5	4.5	-0.5	4.7
Employment rate	38.9	40.6	41.2	42.1	43.1	44.1	45.1	47.3	47.1	47.4	48.2	46.1	45.8
Annual growth of loans to private sector	5.6	6.6	10.0	9.6	-0.1	5.4	7.3	6.0	4.7	6.0	6.6	0.0	6.6

Source: National Bank calculations.

The pandemic of the new virus has the role of the most important risk factor around which the forecasts in both macroeconomic scenarios are built. The baseline macroeconomic scenario assumes prolonged health and economic crisis by mid-2021, followed by normalization and gradual economic recovery, especially of domestic demand, which will be the main factor of economic growth, with a forecast of 3.9% for 2021 and 3.6% for 2022. Given the assessments for growth in import prices and moderate positive output gap in the following period, gradual acceleration of the inflation rate is expected and will amount to 1.5% in 2021 and 2% in 2022. Moderate recovery and growth of foreign effective demand is expected for 2021 and 2022, after its decline in 2020.

Chart 72
Achieved and forecasted levels of the share of non-performing loans in total loans to non-financial entities (left) and rate of return on average assets (right)

in % in %

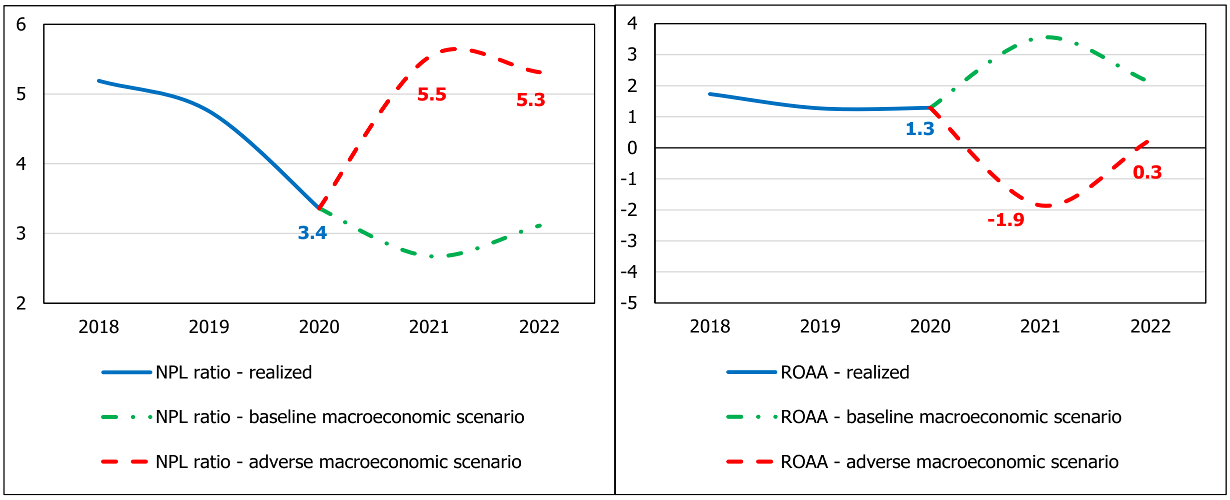
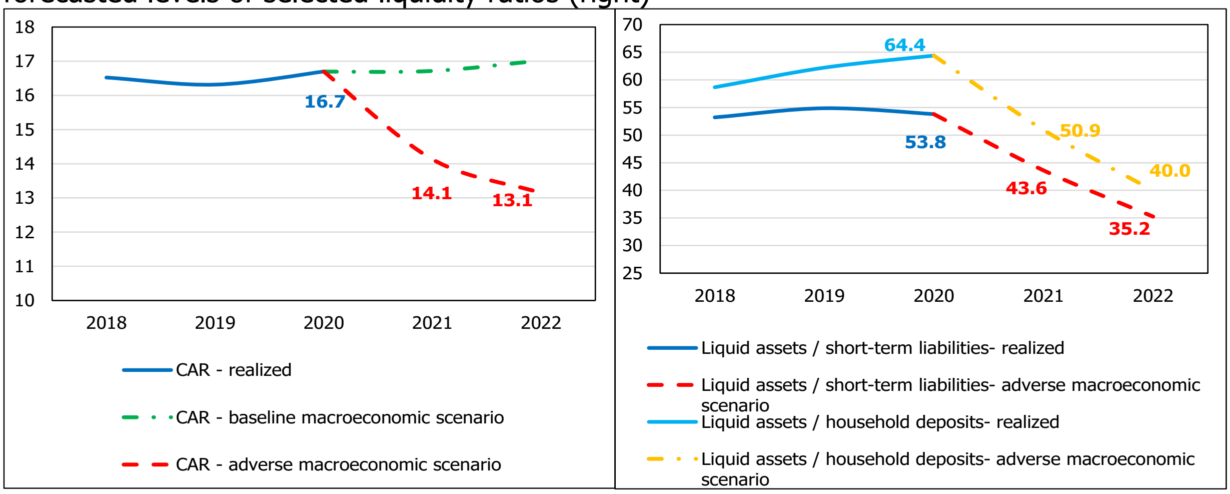


Chart 73
Achieved and forecasted levels of the capital adequacy ratio (left) and achieved and forecasted levels of selected liquidity ratios (right)



Source: National Bank calculations

The prolonged health and economic crisis throughout 2021, which is stronger compared to 2020 is the main assumption in adverse macroeconomic scenario. The difficulties in dealing with the viral infection domestically and internationally will cause further decline in domestic and foreign demand in 2020 and 2021. Consequently, the GDP fall of 4.5% last year, will be followed by a decline of 4.5% in 2021. The assessments for growth of import prices in the baseline macroeconomic scenario are preserved even in case of adverse scenario, so the inflation rate would be higher than in 2020 and reach a moderate level of 2%. The labor market conditions deteriorated, which is shown through the growth of the employment rate, i.e. decline in employment. Regarding the assumptions in adverse macroeconomic scenario, the overcoming of the health and consequently, economic crisis, is expected in 2022. After the fall for two consecutive years, in 2022 the economic activity would moderately increase by 3.5%, mainly due to the recovery of the factors related to domestic demand. The prices in 2022 would be similar to 2021 (2.1%), while the labor market registered prolonged transmission of negative effects, so the unemployment rate would continue to increase.

The results of the conducted stress test[103] indicate a generally satisfactory resilience of the banking system to macroeconomic shocks. Thus, in conditions of unfavorable movements in the macroeconomic environment, non-performing loans to the banking system grow by 64.7% in 2021 and by additional 2.2% in 2022 (cumulatively, for both years, these loans increase by 68.3%). Moreover, at the end of 2021, the share of non-performing to total loans reached 5.5%, while in 2022 , amid forecasts of more favorable movements in the macroeconomic environment, it moderately decreased to 5.3%[104]. In 2021, the banking system operates at a loss, which accounts for 1.9% of the average assets, while in 2022 the financial result is positive and accounts for 0.3% of the average assets. The capital adequacy ratio in 2021 decreases to a level of 14.1%, and in 2022 it falls to 13.1%. Finally, in conditions of adverse macroeconomic scenario, the liquid assets ratio to short-term liabilities went down to a level of 35.2%, while the coverage of household deposits with liquidity assets of the banking system decreased to 40%

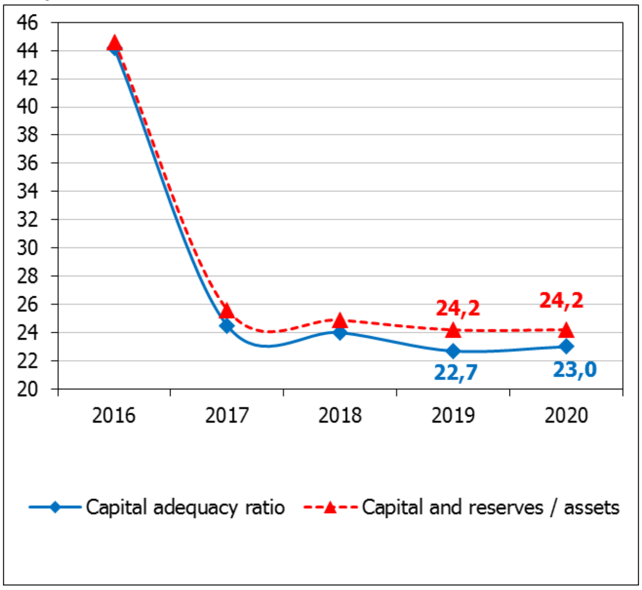
[103] More details about the methodology of preparation of the stress tests applied by the National Bank can be found on the following website: http://www.nbrm.mk/WBStorage/Files/WebBuilder_FSR_MKD_2015_Prilog1.pdf.

[104] The determination of the amount of non-performing loans and their shares in total loans does not take into account the possible mandatory write-offs of non-performing loans, which would be conducted in 2021 and 2022.

2.3.2 Savings houses

Savings houses are deposit-taking institutions, whose share in the financial system of the Republic of North Macedonia, according to the scope of activities they perform, is very small[105]. They cover a certain segment of the credit market that has more difficult access to financing from banks, thus enabling a higher level of financial inclusion in the economy. Savings houses collect deposits from individuals, which makes their performance and, above all, reputation important for overall financial stability. The risk of possible risks spillover is low, primarily due to the small volume of savings houses' activities, also due to their satisfactory solvency and liquidity, as well as the appropriate prudential supervisory and regulatory framework. The measures taken on regulatory flexibility in the area of credit risk management were respectively applied to savings houses, which similar to banks, implemented a temporary delay in the repayment of a significant part of the credit portfolio. However, after the expiry of the grace periods approved for the purpose of easier dealing with the negative effects of the pandemic, part of the borrowers were not able to continue with regular repayment, which led to certain increase in non-performing loans in 2020.

Chart 74
Solvency indicators of savings houses
in %



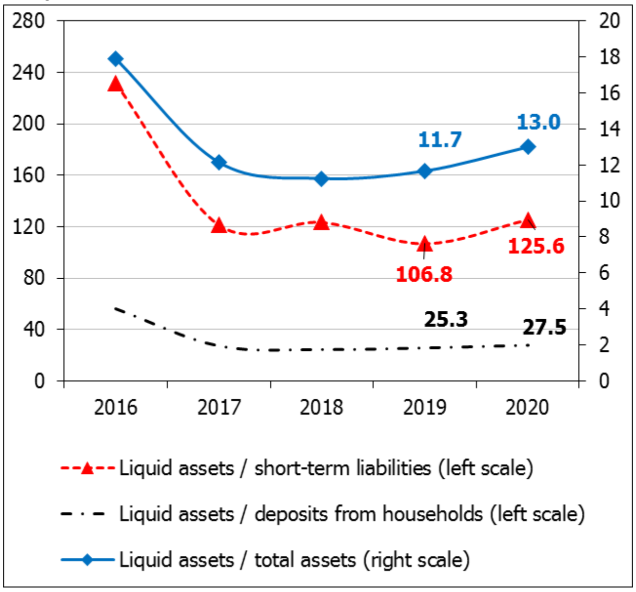
Source: National Bank, based on data submitted by the savings houses.
In 2017, the number of savings houses decreased by one, which had a significant appropriate impact on the levels of solvency indicators.

In 2020 the solvency of savings houses remained high. The capital adequacy ratio slightly improved compared to the previous year, mainly due to the growth of own funds (primarily due to reinvestment of profits from 2019), amid almost unchanged amount of risk weighted assets. The capital adequacy ratio of savings houses is above the regulatory requirement of 20%.

The liquidity indicators improved further amid growth of liquid assets in 2020 These indicators are mainly lower in savings houses compared to banks, which results from the specificities in savings houses' operations (for example, collecting deposit from natural persons, limited selection of liquid financial instruments investments, etc.). In contrast, the coverage of short-term liabilities with liquid assets is complete, which stems from the predominant orientation of savings houses' depositors to save on longer run. The loan quality and regular generating of cash inflows on repayment basis is a significant prerequisite for maintaining adequate liquidity in savings houses, given the relatively high share of the

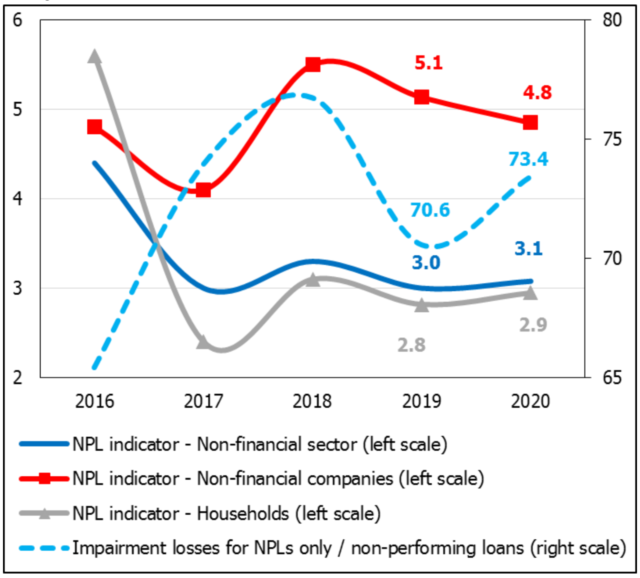
[105] More details in the section concerning the Financial System Structure of this Report.

Chart 75
Liquidity indicators for saving houses
in %



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

Chart 76
NPL indicator for share of non-performing loans in total loans and NPL coverage with impairment
in %



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

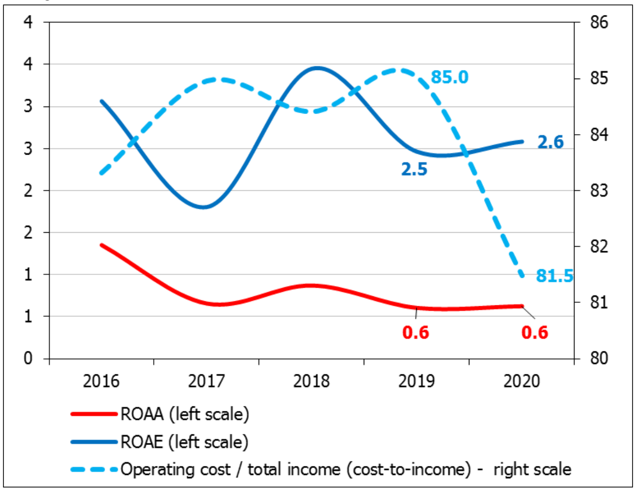
credit portfolio in savings houses' assets (82% in savings houses, as opposed to 59% in banks).

Credit risk is the most significant risk savings houses are exposed to. Given that lending to savings houses is mostly aimed at natural persons[106] (93% of loans to savings houses), consequently the credit risk due to default on the claims is dispersed among many users and at smaller amounts. However, savings houses cover a certain segment of the credit market that has more difficult access to financing from banks, possibly due to slightly lower creditworthiness. Moreover, the savings houses are not carriers of the payment operations, so they have no insight into the payment accounts of the borrowers, nor can they track the salary inflows of their (potential) clients. The level of credit risk materialization, calculated through the share of non-performing loans in total loans to non-financial entities remains low, although compared to 2019 it registers minimal deterioration, which is entirely due to the growth of non-performing loans to households. Similar to banks, the coverage of non-performing loans with impairment is relatively high and at worst, the possible complete default on these loans would absorb 2.8% of savings houses' own funds.

Regular flexibility measures introduced by the National Bank in the field of credit risk management for the purpose of easier dealing with the negative effects of the pandemic, were properly applied to the savings houses. Similar to banks, the savings houses enabled delayed repayment (or some other form of easing in clients' loan repayment) in April 2020, to around 32% of regular loans. Moreover, around 8% of total regular loans received second offer for amending the contractual terms of loans (for the period June-September 2020). Moreover, at the end of

[106] In 2020, total loans to households increased by 0.4% (4.6% in 2019).

Chart 77
Selected profitability indicators
in %



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

2020, around 5% of regular loans were still subject to deferred payment of loan liabilities (agreed between savings houses and clients as of September, 2020), which mostly expired in the first quarter of 2021. Hence, similar to banks, amid uncertainty about the duration of the consequences caused by the COVID-19 pandemic and the subsequent uncertainty over the clients' regular repayment of loans, we could expect possible credit risk realization and growth in non-performing loans with savings houses in the next period, especially after the expiry of the grace periods approved for the second time. Namely, even in 2020, the growth of non-performing household loans derives from loans with approved grace period, or some other form of easing in repayment during 2020, due to coronavirus.

Profitability indicators of savings houses remained at the similar level as in 2019. The savings houses increased their profit in 2020, which mostly stems from cutting operating expenses in their operations (representation expenses, marketing and propaganda, business trips and services, as well as expenses for employees), and partly results from the increased non-recurring income. The impairment costs registered a significant growth of 30.2%, while the net interest income decreased by 1.8%. The ratio between net interest income and average assets of the savings houses (8.5% for 2020) is more than three times higher than the banking system (where it equals 2.7%), which is important in the profit creation process, but the wider net interest spreads are signal for significantly lower competitiveness of the savings houses compared to banks, which restricts the possibilities for stronger growth of their activities. Savings houses have relatively low operating efficiency, reflected through relatively low ratio between operating expenses and total income (81.5% as of 31 December 2020).

2.4 Fully funded pension insurance

The growth of accumulated funds of domestic private pension funds continued in 2020 despite the turbulent developments on the financial markets in the first half of the year under the influence of the pandemic. The payments of contributions in the pension funds by their members were the main driver of the growth of assets in 2020. Mandatory pension funds still dominate in the assets structure. The public interest for voluntary pension insurance is very low. Rates of return in 2020 were influenced by the developments and price corrections on financial markets, registering significant decrease and yet remained positive. The strategic allocation of pension funds by asset class has not undergone significant changes in 2020.

The credit risk and its closely connected concentration risk, particularly present in debt financial instruments portfolio, are most common among risks to which domestic pension funds are exposed when investing assets. Equity financial instruments mainly carry the risk of price correction on global markets, and are partly the main driver of pension funds exposure to currency risk. The challenges for pension funds in the following period are related to the duration of the health crisis and its effects on the financial markets, particularly in conditions of historic low interest rates which affect the investment return.

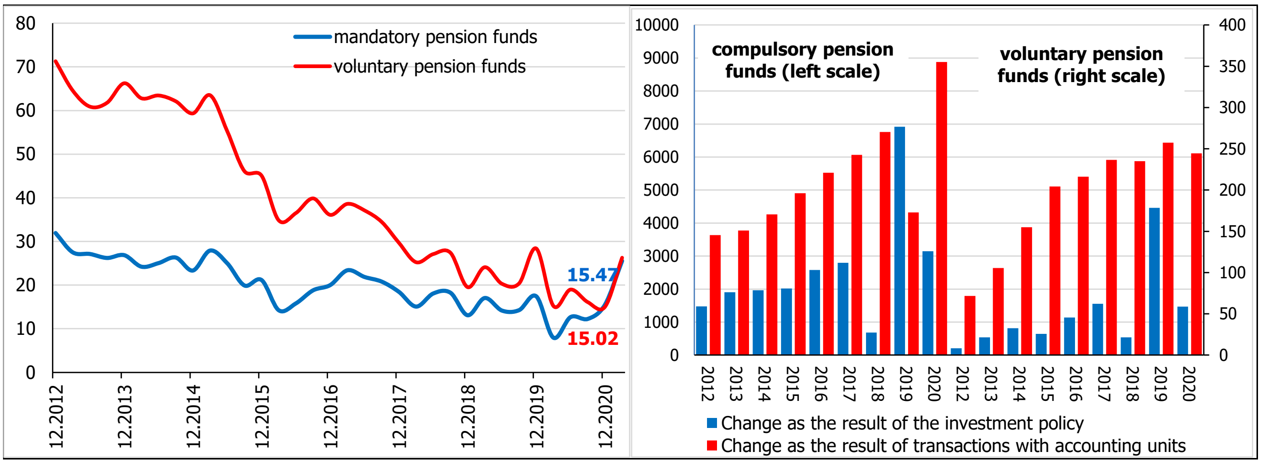
At the end of 2020, total assets in the system of private Fully Funded Pension Insurance reached Denar 89.6 billion, which is 13.5% of the GDP (11.3% at the end of 2019). Moreover, the growth of assets is still higher in mandatory pension funds. Thus, the increase of total assets of private Fully Funded Pension Funds of 15.5% in 2020, mainly stems from the growth of assets of mandatory pension funds[107]. However, the trend of gradual decrease of the annual growth of funds in the system of private fully funded pension insurance continued in 2020[108]. **The structure of assets in the system of private fully funded pension insurance by the end of 2020 is similar to previous years, with predominant share of assets in mandatory pension funds** (97.4% of total assets), as opposed to the modest share of assets in voluntary pension funds (2.6% of total assets). Given that domestic pension funds are still in the phase of accumulation of assets, the amount of their liabilities is insignificant, hence, the net assets of private pension funds are almost equal to their total funds. Moreover, the contributions paid in mandatory pension funds dominate in the contribution structure of private pension funds[109], with a share of 96.7%.

[107]The assets in mandatory pension funds participate with about 97% of total growth of assets in the system of private fully funded pension insurance.

[108]In 2020, the growth rate of mandatory pension funds was 15.5% (17.4% in 2019), and of voluntary pension funds 15.0% (28.4% in 2019).

[109]Total contributions collected by private pension funds in 2020 equal Denar 9,565 million, or 1.4% of GDP.

Chart 78
The annual growth rate of assets of private pension funds (left) and structure of absolute growth of net assets of private pension funds (right)
in % and in millions of Denars



Source: internal National Bank calculations based on MAPAS data.

In 2020, the inflows from new contributions significantly contributed to the increase of net assets of mandatory pension funds.[110] On the other hand, the results of the management and investment of the assets reduced its contribution in the annual growth of private pension fund's net assets[111].

The smaller importance of voluntary pension funds is also perceived through significantly minor membership of voluntary funds. The number of members in mandatory pension funds (with an annual growth of 4.4%) at the end of 2020, covers 31.4% of total employable population[112], while the voluntary pension funds have significantly modest membership of slightly more than 26 thousand people (around 1.5% of the employable population). This means that domestic households show quite small interest in voluntary fully funded pension insurance, also there is a lack of more significant measures to motivate the domestic population to participate in voluntary pension funds.

In 2020, there are no significant changes regarding the structure of the assets of private pension funds and its allocation by individual asset class. Led by the legally prescribed restrictions in investments, the investment policy of private pension funds is primarily directed towards investments in two common asset classes - portfolio of equity financial instruments and portfolio of debt financial instruments (claims from pension funds and cash with depository banks form a special "residual" category). In 2020, the mandatory pension funds basically continued to follow the introduced strategic allocation between equity and debt financial instruments ratio 30%:70%, while the voluntary pension funds ratio is 35%: 65%.

[110]Accounting units are used in recording the mandatory pension funds' assets. One accounting unit is an equitable share of total net assets of the mandatory pension fund. The value of the accounting unit is equal to the value of net assets divided by the total number of accounting units of all individual accounts and sub accounts.

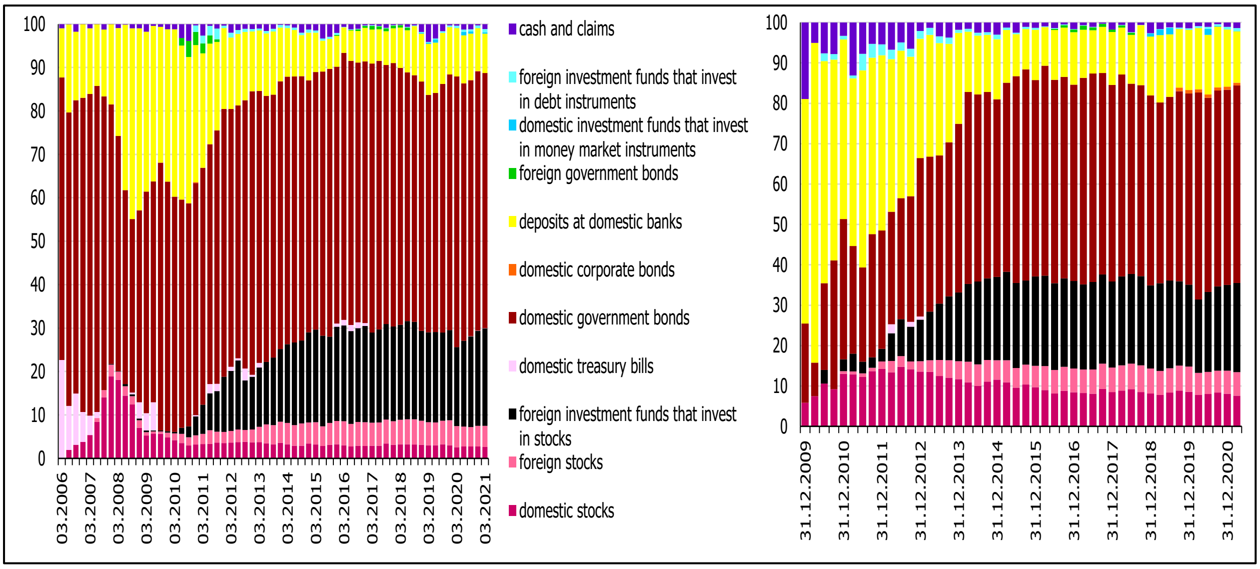
[111] In 2020, investment of assets contributed with 26.2% in total annual change in mandatory pension funds (61.6% in 2019), i.e. 19.4% in voluntary pension funds (40.9% in 2019). Such change in mandatory pension funds compared to 2019, arises from the exhaustion of the effects from the implemented legal amendments of the system of mandatory fully funded pension insurance in 2019, which referred to membership criteria of some insure categories, because of which a significant transfer of assets from the mandatory pension funds to the Pension and Disability Insurance Fund of North Macedonia was made during 2019.

[112]For more detailed information on the structural features of pension funds in terms of population, see Annex "Indicators of membership in private pension funds", of this report.

The strategic allocation by asset class is of key importance in determining the type of investment risks to which the pension funds are exposed. Equity financial instruments mainly carry the risk exposure to price correction on stock markets, while the debt financial instruments carry the risk exposure to credit risk and interest rate risk. Moreover, in certain degree, both asset classes also carry exposure to currency risk.

Foreign investment funds investing in stocks kept the dominant role in the portfolio of equity financial instruments of pension funds, within individual asset class, followed by direct investments in foreign and domestic stocks. Foreign investment funds investing in stocks are in the form of ETF (exchange traded funds) and at the end of 2020 they account for 74.5% and 60.7% of total portfolio of equity financial instruments of mandatory and voluntary pension funds, respectively[113]. However, we should take into account that this is a diversified segment of the outstanding amount of assets of pension funds, in several different shares of investment funds, and that by its design and features, the exchange traded funds represent a basket in which series of different equity instruments are included, according to the investment fund mandate, given by the manager.

Chart 79
The structure of assets by financial instrument in mandatory (left) and voluntary (right) pension funds
% of total assets



Source: Internal National Bank calculations based on MAPAS data.

On the other hand, although the portfolio of debt financial instruments and pension funds includes a number of different instruments, it still creates a significantly higher rate of concentration of investment risks for pension funds. Most of the debt financial instruments portfolio is allocated in domestic government bonds[114], followed by deposits in domestic

[113] The share of investments in foreign investment funds that invest in shares to outstanding amount of assets in 2020 is 21.9% in mandatory and 21.3% in voluntary pension funds, while compared to 2019, these shares are higher by 1.1 and 1.0 percentage points, respectively.

[114]The share of domestic government bonds in total portfolio of debt financial instruments at the end of 2020 was 84.9% in mandatory pension funds and 75.6% in voluntary pension funds, whereby the share of domestic government bonds in total assets as of 31.12.2020 was 59.7% in mandatory pension funds (growth of 0.8 percentage points compared to 2019) and 48.3% in voluntary pension funds (growth of 0.9 percentage points compared to 2019).

banks[115]. The other debt instruments[116] have a minor share in the structure of debt financial instruments portfolio. **This shows that almost the entire debt instruments portfolio is affected by identical risk factors, primarily the credit risk of the country and the movements of the interest rates in domestic economy.**

The developments on global financial markets in 2020, especially in the first half of the year, were highly influenced by the increased uncertainty from the global pandemic and subsequent expectations for decelerated economic activity, due to different undertaken measures worldwide to reduce the spread of coronavirus. On the other hand, the measures undertaken by the monetary authorities from countries with more developed financial markets, as well as the response of fiscal policies in series of countries worldwide, contributed to the recovery of price levels on financial markets, especially in the second half of 2020, after the announcement of the first positive news on finding an effective vaccine. Such developments on global financial markets inevitably reflected on the performances of the domestic pension funds, primarily on the movements of their rates of return[117]. Namely, the annual rates of return of the pension funds significantly decelerated in 2020. The annual weighted nominal rate of return of the mandatory pension funds at the end of 2020 equaled to 3.30% which is by 7.26 percentage points lower compared to 2019. This rate of return is lower than the absolute benchmark for the nominal rate of return (of 5% or 4%) specified by the pension companies. The decrease was more visible in the real annual rate of return of the mandatory pension funds in 2020, which equaled to 1.05% and is by 9.11 percentage points higher compared to 2019, primarily due to gradual acceleration of inflation in the second half of 2020 (which was significantly higher compared to 2019, 2.3% versus 0.4%). The voluntary pension funds have identical dynamic of rates of return in 2020[118].

However, given that the pension funds are long-term oriented investors, with relatively long investment horizons and relatively young membership structure, a more relevant assessment of the effects of the pandemic year on their performances, i.e. on the rates of return can be made if we analyze **the dynamics of seven-year rates of return** on an annual basis. Calculated for a period of seven years on an annual basis, **the nominal rate of return** equaled to 5.59% for the mandatory and 5.57% for the voluntary pension funds at the end of 2020, and compared to the end of 2019 are lower by 0.69 and 0.92 percentage points, respectively. Calculated for a period of seven years on an annual basis, **the real rate of return** equaled to 4.92% and 4.89% for the mandatory and voluntary pension funds, respectively, with an annual decrease of 0.81 and 1.06 percentage points, respectively. The decrease of the rates of return calculated for seven years clearly shows that the global pandemic and its effects on the financial markets in 2020, had an adequate effect on the performances of the domestic pension funds. The size of these effects is primarily dimensioned by the structure of the outstanding amount of assets of pension funds and the changes made by pension companies within individual asset class.

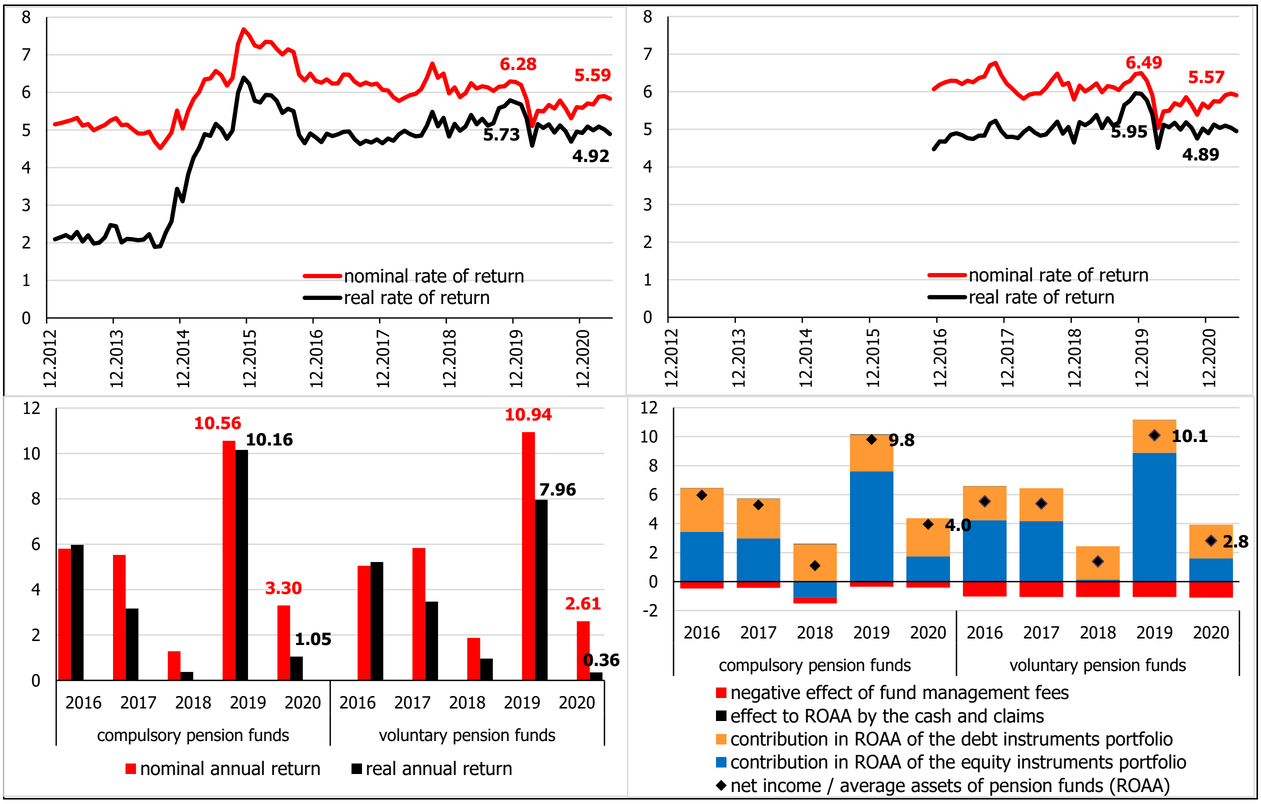
[115]The share of deposits in domestic banks in total portfolio of debt financial instruments of pension funds at the end of 2020 was 14.1% in mandatory pension funds (decline of 1.5 percentage points) and 22.2% (decline of 1.4 percentage points) in voluntary pension funds, respectively.

[116]Other types of debt instruments are consisted of domestic corporate bond, foreign investment funds investing in bonds, domestic investment funds investing in instruments on the money and government bills market, and participate with less than 1% in the structure of debt financial instruments portfolio.

For more detailed data on the rates of return of the mandatory and voluntary pension funds, see the Annex "Rates of return of private pension funds, on annual basis and on various time ranges", of this report.

[118]The nominal rate of return in 2020 of the voluntary pension funds was 2.61% (lower by 8.33 percentage points compared to 2019), while the real rate of return amounted to 0.36% (lower by 7.6 percentage points compared to 2019).

Chart 80
Dynamics of nominal and real rates of return for a period of seven years, on an annual basis, for mandatory pension funds (up, left) and voluntary pension funds (up, right), annual nominal and real rates of return (down, left) and allocation of return rate of private pension fund assets, by asset class (down, left)
in %



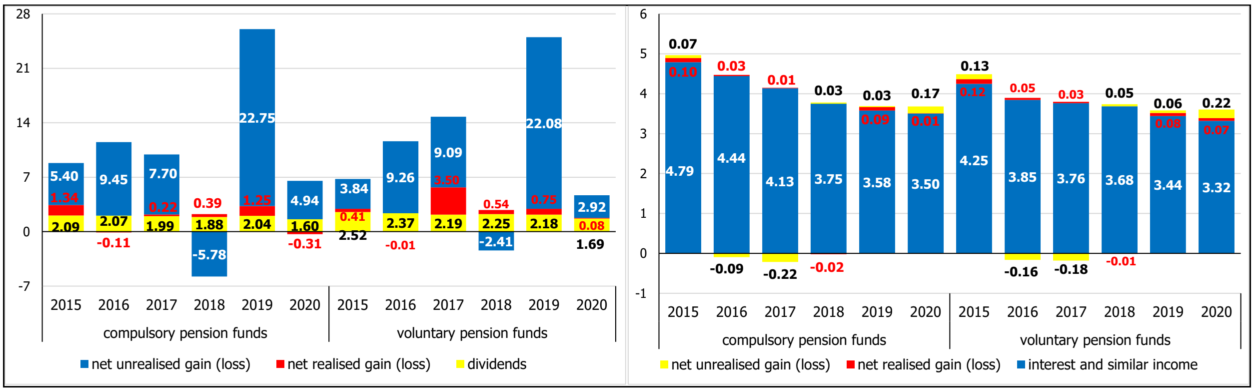
Source: Source: Internal National Bank calculations based on MAPAS data and data from audited financial statements on mandatory and voluntary pension funds.
Note: The contribution to the formation of the return (in the figure down, right) is calculated on the basis of average pension fund assets, calculated as a trailing twelve months (TTM) average, by using series of quarterly data. The effect of the revaluation of financial instruments, recognized by fair value through the other comprehensive income, is not included in the calculation of the rate of return.

Usually, the interest income from the portfolio of the debt financial instruments has the largest share in the annual net profit of the pension funds, given the dominant position of this asset class in the structure of pension funds' assets[119]. However, the lower rate of return of average assets in 2020, primarily stems from the effects caused by the equity portfolio. Namely, the market developments in 2020 significantly reduced the share of unrealized capital gains in net profits of pension funds in 2020. The return rates of equity portfolio in 2020 equaled 6.2% in mandatory and 4.7% in voluntary pension funds, which is significantly lower compared to the previous year when they exceeded 20%. The dividend return from equity financial instruments also decreased. With a rate of return of 3.68% in mandatory and 3.60% in voluntary pension funds in 2020, the portfolio of debt financial instruments registered lower return compared to the portfolio of equity financial instruments. The interest, primarily from government securities, and to a moderate extent from deposits, have the largest share in the formation of the return of

[119]For detailed data on the structure of the financial result of pension funds by year, see the Annex "Aggregate income statement and report on change in assets of private pension funds" of this report.

this portfolio given the downward trend in the interest rate in the country, the rate of return in the portfolio of equity instruments of pension funds continued to decrease.

Chart 81
The allocation of return of individual asset class by components which contribute to its formation, the portfolio of the equity financial instruments (left) and portfolio of debt financial instruments (right)
in %



Source: Internal calculations of the National Bank, based on data published by MAPAS and data from audited financial statements of individual pension funds

Analyzed by types of financial instruments in which most of the pension funds' assets are allocated, in 2020 the investments in domestic stocks of mandatory pension funds had a slightly higher return compared to the investments in foreign equity instruments, while the return on domestic stocks in voluntary pension funds in 2020 was modest. Rates of return on domestic government securities and deposits in domestic banks are usually lower compared to equity financial instruments, on average.

Table 8
Rates of return of more important types of financial instruments in which the private pension funds invest
in %

Rate of return	Mandatory pension funds						Voluntary pension funds					
	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020
domestic government securities	5.02	4.47	4.12	3.95	3.84	3.88	4.43	3.90	3.84	3.97	3.74	3.87
deposits at domestic banks	4.56	3.45	3.04	3.00	2.81	2.78	4.41	3.08	3.06	3.11	3.34	3.14
domestic stocks	5.10	9.33	27.36	18.34	27.04	7.17	3.97	9.50	22.61	21.49	21.87	0.36
foreign equities	9.29	11.63	7.95	-6.03	25.92	6.13	7.86	12.29	8.14	-6.15	25.98	6.07

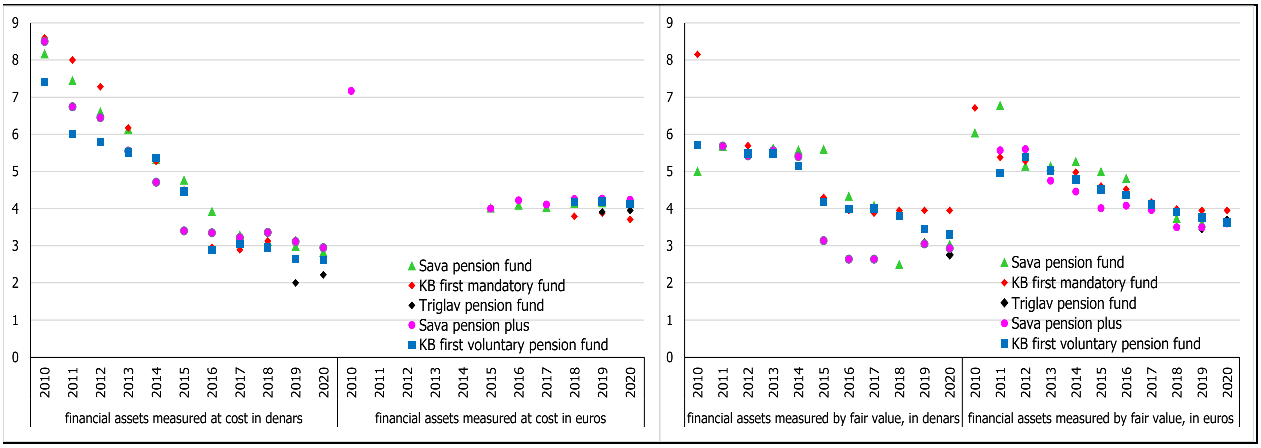
Source: Internal National Bank calculations based on MAPAS data and data from audited financial statements of individual pension funds

Largest portion of the portfolio of debt financial instruments[120] of private pension funds is with fixed rate of return (over 98%) which practically means that the largest part of the return from debt portfolio in the future is predetermined. Hence, amid current strategic allocation of pension

[120]Instruments measured to amortized cost, with a share of 58.9% dominate in the structure of the portfolio of debt financial instruments of the mandatory pension funds. Most of the portfolio of debt financial instruments in voluntary pension funds is composed of instruments measured at fair value (around 46%). Changes in the market interest rates or other risk factors affect these two components of the portfolio of debt financial instruments differently.

funds' assets (which means allocation of around 70% of assets in debt financial instruments), low interest rates that prevail in the financial markets and their downward trend in the last decade, are a significant limiting factor for higher expected returns, as well as for higher realized returns. This is also perceived from the trend for gradual reduction of the effective rates of return of the portfolio of debt financial instruments, which in comparison are slightly higher in those instruments measured at amortized cost and instruments denominated in euros. The fact that the largest part of government securities in denars with euro clause have higher coupon interest rates in comparison to other debt instruments amid longer maturity, explains higher effective rates of return on debt instruments in euros compared to denars.

Chart 82
The effective rates of return of debt financial instruments, by currency and by individual pension fund, measured at amortized cost (left) and measured at fair value (right)
in %

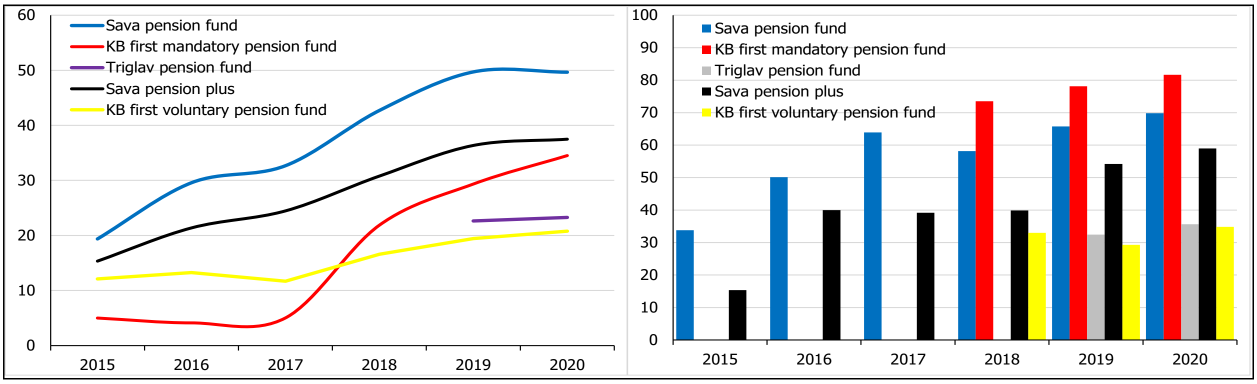


Source: Disclosures in audited financial statements of private pension funds.

The relatively young membership of domestic pension funds, in combination with continuous inflows from collected contributions, **marginalizes the exposure of pension funds to liquidity risk, which is related to providing sources of financing.** Hence, amid current restrictions in investment of assets, the pension funds continuously increase the residual maturity of their debt portfolio, in search for higher returns, i.e. they take increasing interest rate risk. Moreover, the maturity increased primarily through investments in domestic treasury bonds with original contractual maturity of 10 years and above 10 years, mostly in mandatory pension funds. **Market liquidity risk** becomes important due to the structure of the portfolio of debt instruments, since the domestic secondary market of these securities is underdeveloped, with modest number of transactions, which is an immediate limiting factor for major rebalance of the existing allocation of pension funds' assets by asset class. This is even more pronounced if we take into account that domestic pension funds are the major investor in the ownership structure of government securities[121].

[121]At the end of 2020, domestic pension funds own 41.1% of the total amount of issued domestic government securities, followed by domestic banks with 39.7%, insurance companies with 7.5%, while other investors own 11.7%.

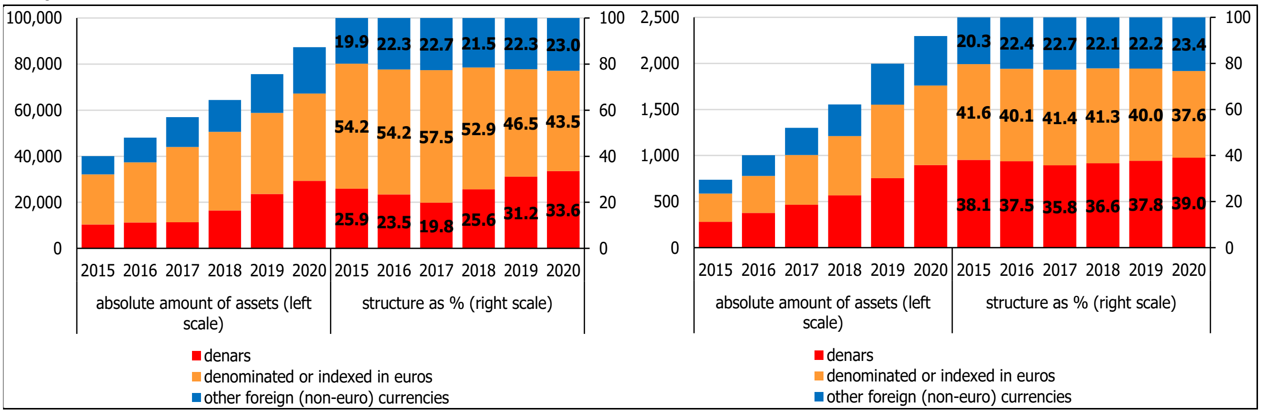
Chart 83
Assets measured at amortized cost / total pension fund assets (left) and pension fund assets measured at amortized cost with residual maturity over 5 years / total assets measured at amortized cost (right)
in %



Source: Internal National Bank calculations based on regular periodic data disclosures by pension companies.

In 2020, the exposure of the domestic pension funds to currency risk reduced, while the share of denar assets in total pension fund assets at the end of 2020 (around one-third) reached its highest level in six years. The largest portion of domestic pension funds exposure to currency risk stems from assets denominated or indexed in euros. Moreover, the exposure of the euro is slightly higher in mandatory pension funds, compared to voluntary pension funds. Largest portion of the funds in euro are domestic treasury bonds, primarily due to the fact that bonds with relatively greater contractual maturity are usually issued in denars with euro clause. It should be noted that the currency risk that arises from the funds in euro is limited, due to the national Bank's policy of fixed denar exchange rate against the euro. Hence, the essential exposure of pension funds to currency risk arises from their exposure to other foreign currencies, which recorded an increase of its share in 2020, but still remained under a quarter of the pension funds' assets. This exposure mainly consists assets denominated in US dollars, and primarily stems from the equity financial instruments.

Chart 84
Exposure of domestic mandatory (left) and voluntary (right) pension funds to currency risk.
in %



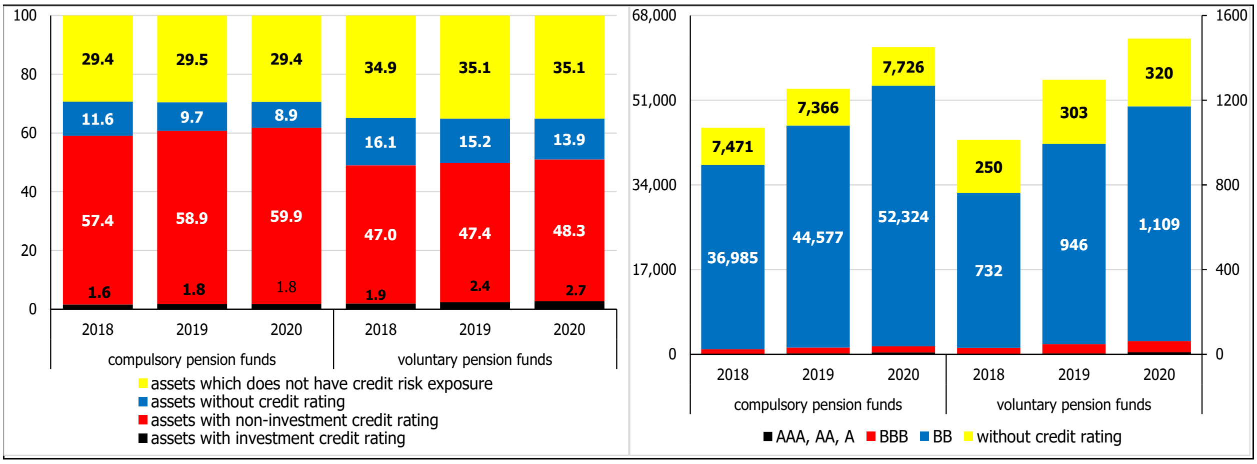
Source: Internal National Bank calculations based on regular periodic data disclosures by pension companies.

Credit risk is the most important risk for the domestic pension funds. The credit risk is somewhat more important for the mandatory pension funds, having in mind the higher share (about 70%) of their credit risk exposed assets. At the end of 2020, assets with investment credit rating account for only 2.6% and 4.2% of total credit risk exposed assets of the mandatory and voluntary pension funds, respectively. Most of the credit risk exposure with non-investment credit rating was given BB credit rating[122], which occupies 84.9% and 74.4% of this portfolio of mandatory and voluntary pension funds, respectively. Most of this exposure with a BB credit rating stems from investment in domestic government bonds[123]. The exposure based on deposits in domestic banks is generally without credit rating, considering that only one domestic bank was given a credit rating from international credit rating agencies.

Chart 85

Structure of pension fund assets by credit risk (left) and allocation of pension fund assets that bring credit risk exposure according to the credit rating of the assets issuer (right)

in millions and in %



Source: National Bank calculations based on MAPAS disclosures, audited financial statements of the funds and publicly available data on the credit rating of financial assets issuers.

Note: Equities are assets that do not represent credit risk exposure. All instruments that imply credit risk exposure are classified according to the credit rating of their issuer or creditor obtained by the international credit rating agency Fitch. The credit rating of investments in foreign investment funds that invest in debt instruments was determined using a look-through approach.

The importance of credit risk for the domestic pension funds is seen through the relatively high concentration of their portfolio of debt financial instruments, both in terms of individual issuer (due to the dominance of domestic government securities) and in terms of geographical concentration of exposure (due to the dominance of investments in the country within this portfolio)[124]. Exposure to the government in the form of domestic government securities constitutes 85.0% and 75.6% of the total portfolio of debt financial instruments of the mandatory and voluntary pension funds, respectively, which indicates an extremely high concentration of credit risk. The geographical concentration of the portfolio of debt financial instruments is even more pronounced, given that 99% of this portfolio consists of debt instruments issued by resident borrowers. Given that the pension funds exposure to the government is allocated in different bonds, the debt securities portfolio shows a relatively moderate concentration, by instrument.

In contrast, **the concentration by issuer in the portfolio of equity financial instruments**

[122] According to the credit rating categorizations of the international credit rating agencies S&P and Fitch.

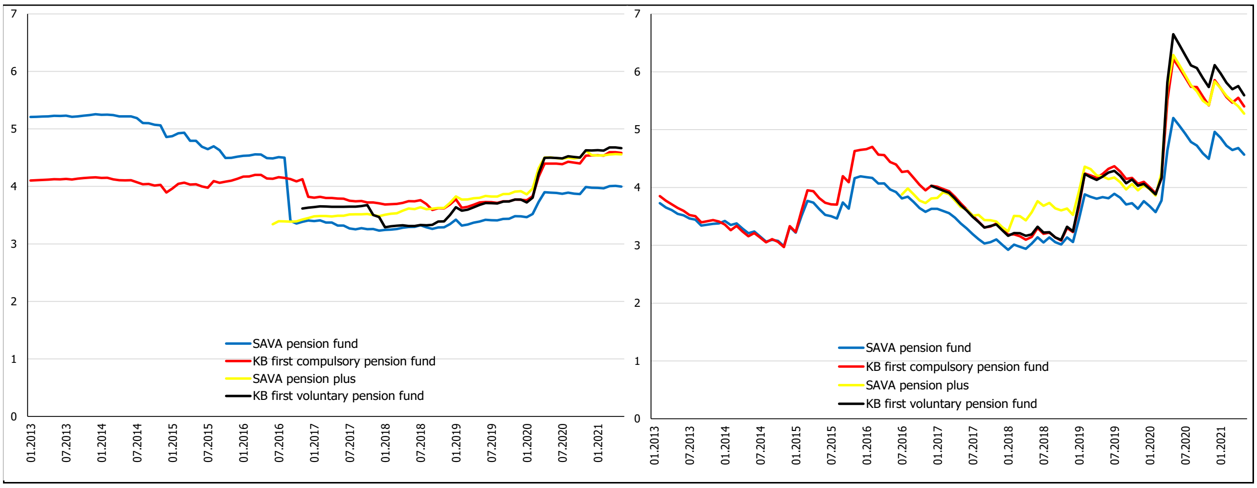
[123] S&P awarded our country a non-investment credit rating of BB- with a stable outlook, and Fitch, BB+ with a negative outlook).

[124] For more details about the assets concentration by pension fund, see Indicators of the Concentration of Assets of Private Pension Funds, below.

is much more moderate. However, given that investments in equity financial instruments are mainly made through foreign investment funds traded on the stock market, there is a high geographical concentration in this portfolio. Moreover, the concentration by instrument is slightly higher in equity financial instruments compared to debt instruments.

The risk level of domestic pension funds can be assessed through the dynamics of the historical volatility of their rates of return[125]. Last year, the financial market developments enhanced historical volatility of pension funds' rates of return, which was more pronounced in voluntary pension funds, primarily due to the higher allocation of these funds in equity financial instruments. The relatively modest historical volatility of the pension funds' return rate largely stems from the market structure of debt financial instruments owned by domestic pension funds.

Chart 86
Dynamics of historical volatility of the returns of domestic private pension funds calculated by applying an ordinary average for 84 months (left) and by applying an exponential weighted moving average for 84 months (right), annually
in %



Source: internal National Bank calculations based on MAPAS data. For one of the mandatory pension funds, the historical volatility of the return has not been calculated because it has not been operating for 84 months.

Namely, the absence of a liquid secondary market, and consequently the impossibility for regular market valuation of the domestic government securities owned by the pension funds, coupled with the relatively high share of bank deposits in the investment structure as assets that have no price changes, directly lead to low calculated volatility of the pension funds return rate[126]. The ultimate effect of the constraints on instrument valuation is in fact, an underestimation of historical volatility as a measure of their risk. Therefore, the relatively low level of calculated historical volatility of the pension fund return rates should be interpreted and monitored with due caution.

[125] For the purposes of this analysis, the historical volatility of the return of domestic pension funds is estimated using stochastic models, based on a series of monthly returns expressed in logarithmic form, using a simple average of changes in the value of the accounting unit of pension funds and using an exponentially weighted moving average where recent observations have a larger weight in the calculation process, where the calculation for domestic pension funds uses a weight of 0.94 following the example of JP Morgan's RiskMetric .

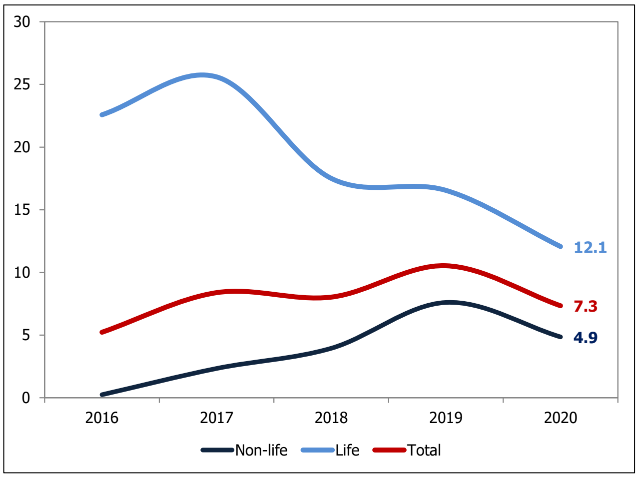
[126] The consequence is not covering the potential deviations of the values of instruments from their fair value (if measured at fair value) or inadequate to measure expected credit risk losses (if the instruments are measured at amortized cost).

2.5 Insurance sector[127]

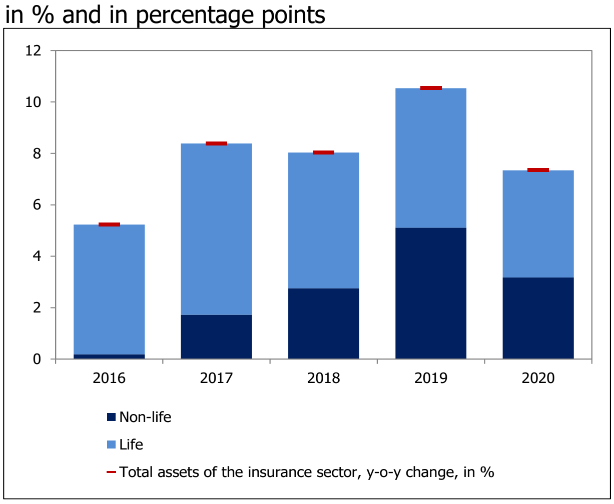
During 2020, despite the challenges posed by the pandemic, the domestic insurance sector maintained a sound liquidity and solvency position and achieved a positive financial result. It thus showed preparedness for dealing with shocks, which was contributed by the good condition of the sector before the pandemic, but also the measures adopted by the Insurance Supervision Agency (ISA), as a competent supervisor and regulator, in response to the crisis. The pandemic affected the operation of the sector mainly through reduced demand for insurance policies, which applied to both insurance segments[128]. Investment loss risks remained limited due to the conservative investment policies of insurance companies in less risky and liquid instruments and low exposure to international financial markets. Consequently, ISA measures were mainly aimed at mitigating the effects of reduced sales on the liquidity of insurance companies and on the financial result and maintaining an appropriate solvency position. These included regulatory relief in the area of valuation of claims on premiums, permitted categories of assets covering technical provisions, claims processing, and the ISA recommendation to insurance companies to refrain from paying dividends to shareholders and from unproductive spending during the crisis[129]. The measures contributed to easier coping with the challenges posed by the crisis and maintaining the insurance sector stability, which also contributes to maintaining financial stability.

Chart 87
Annual growth rates and contribution to the annual growth of assets (up) and GWP (down) of the insurance sector

in %



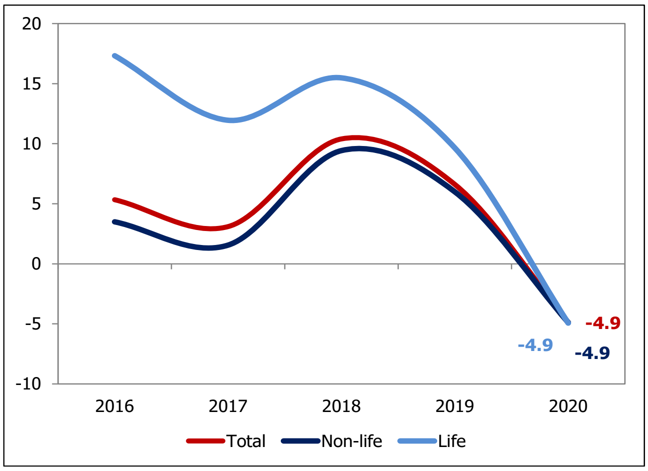
in % and in percentage points

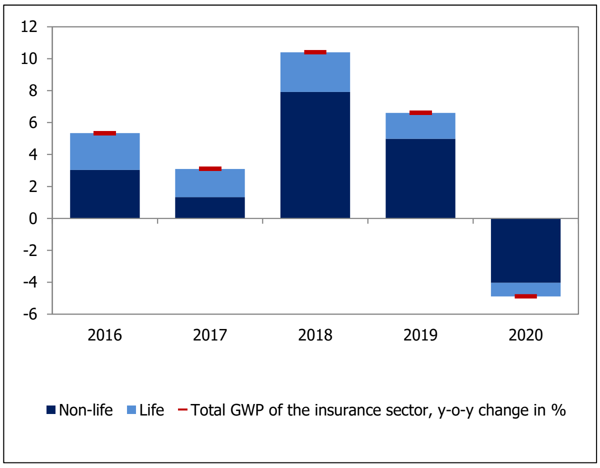


[127] The analysis uses data submitted by the Insurance Supervision Agency of the RNM (ISA).

[128] The domestic insurance sector consists of two segments - life and non-life insurance. This sector is traditionally dominated by non-life insurance with a share in total assets and total GDP of the sector of 63.9% and 82.7%, respectively in 2020. Under the influence of the pandemic, the total GDP of non-life and life insurance in 2020 decreased by 4.9%. As a result, the annual growth of non-life insurance assets slowed down to 4.9% (7.6% in the previous year) and to 12.1% in life insurance (compared to 16.5% in the previous year). The basic indicators that measure the level of insurance sector development include insurance penetration (gross written premium to GDP) and insurance density (gross written premium to whole population of a given country), and in 2020 it remained low, pointing to room for further development of the sector. Data on the level of insurance penetration in 2020 show that the total GWP in the country accounts for 1.5% in GDP, which is at the same level as the previous year, while the level of density in 2020 was Denar 4,848 per capita. which is a decrease of 4.8% compared to the previous year.

[129] For more details on ISA measures see the Financial Stability Report for the Republic of North Macedonia in 2019, under Insurance Sector, Box - Measures and activities of the Insurance Supervision Agency aimed to mitigate the effects of the COVID-19 pandemic on the insurance sector operations.





Source: National Bank, based on data from the Insurance Supervision Agency

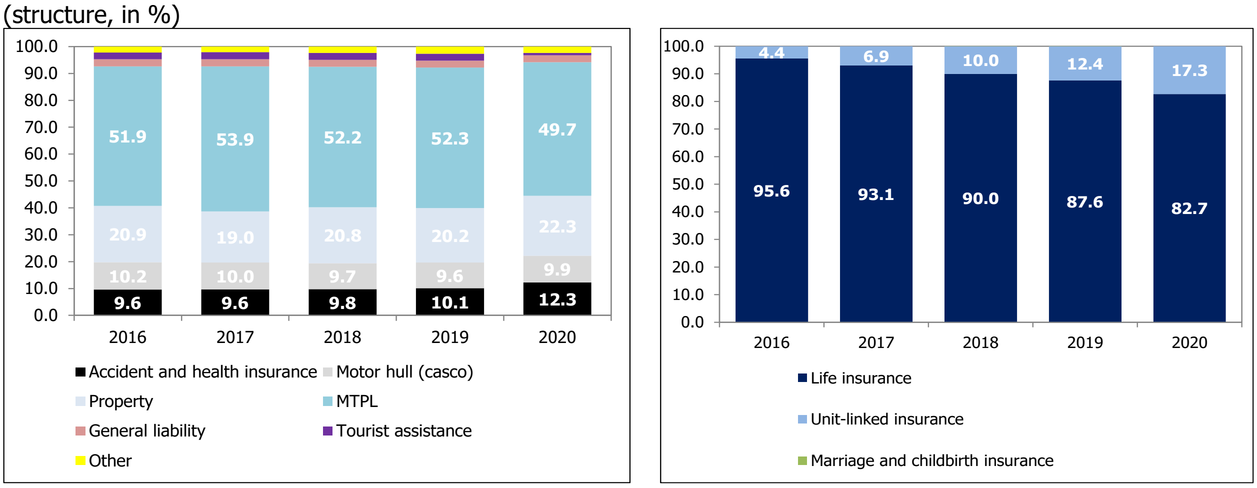
Having containment measures with movement restrictions introduced in and out of the country, the crisis has mostly affected the insurance classes that are mostly intended or related to travel. Thus, within non-life insurance, the largest decline in gross written premium (GWP) was observed in motor third party liability insurance[130], as the leading class of non-life insurance, followed by travel insurance and casco insurance. On the other hand, **the pandemic seems to have highlighted the benefits of being financially protected against adverse risks and raised the awareness of households and the corporate sector about the need for insurance as seen through the growth of optional insurance classes**. Thus, for example, in the year of the pandemic, health insurance reported an increase which is the highest in the last four years. The growth of property insurance accelerated on an annual basis, amid the growth of credit insurance, which still has a negligible share in the total GWP (of 0.3%). If such trends continue in the next period, they would be a good basis for further development of the sector, which currently relies mostly on compulsory insurance classes. In the life insurance segment, the traditional life insurance reported a decrease in GWP, while the growth of life insurance with investment component[131] continued in 2020. The last five years have been marked by high growth of life insurance with investment component, which contributed to increasing its share in the total GWP of life insurance from 4.4% in 2016 to 17.3% in 2020. The reason behind such movements may be the search for return by the insured, which in turn increases the exposure of the insured to market risk and the possibility of losses due to investment risk. The share of these products in household financial assets is currently low[132]. However, given the higher risk associated with life insurance with an investment component, it is necessary to closely monitor the movements of these insurance products, especially if the trend of high growth continues in the period ahead. In that regard, the intention of the Insurance Supervision Agency for 2021 is to adopt a new Life Insurance Regulation related to shares in investment funds when the insured takes the investment risk in order to raise the awareness of policyholders about the so-called unit-link products and the accountability of life insurance companies when selling and monitoring these insurance products. In 2020, non-life insurance companies transferred 21.4% of GWP to reinsurance companies, while in life insurance the transferred risk was 4.6%.

[130] The decline is primarily due to the reduced sales of car insurance green cards that cover risks of using the motor vehicle abroad.

[131] Refers to life insurance when the investment risk is borne by the insured, which usually includes life insurance in relation to shares in investment funds, when the insured assumes the investment risk in relation to the change in the value of investment coupons or other investment funds securities.

[132] Life insurance accounts for 1.5% of the total household financial assets and is mostly associated with traditional life insurance.

Chart 88
Gross written premiums, by non-life (left) and life (right) insurance classes
(structure, in %)

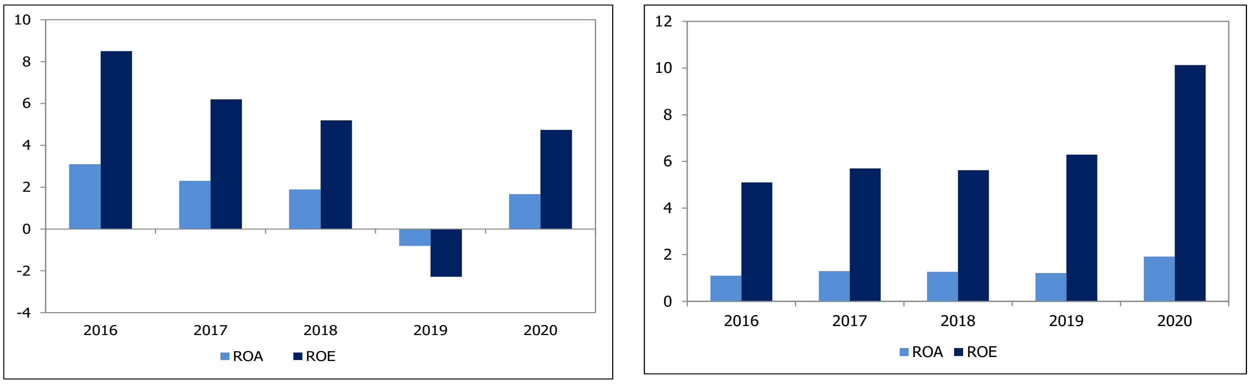


Source: National Bank, based on data from the Insurance Supervision Agency

The reduced activity in 2020 is accompanied by an improvement in profitability in both insurance segments[133]. The improvement was especially pronounced in the non-life insurance sector, due to the consolidation of two insurance companies, which in 2019 reported significant operating losses[134]. Thus, the non-life insurance segment in 2020 reported positive rates of return on assets and equity of 1.7% and 4.7%, respectively, compared to the negative rates of return in the previous year. **The life insurance segment continued to operate at a profit** and improved the rates of return on assets and equity, which in 2020 were 1.9% and 10.1%, respectively.

Chart 89
Profitability indicators of the domestic insurance sector
in %

Non-life Life



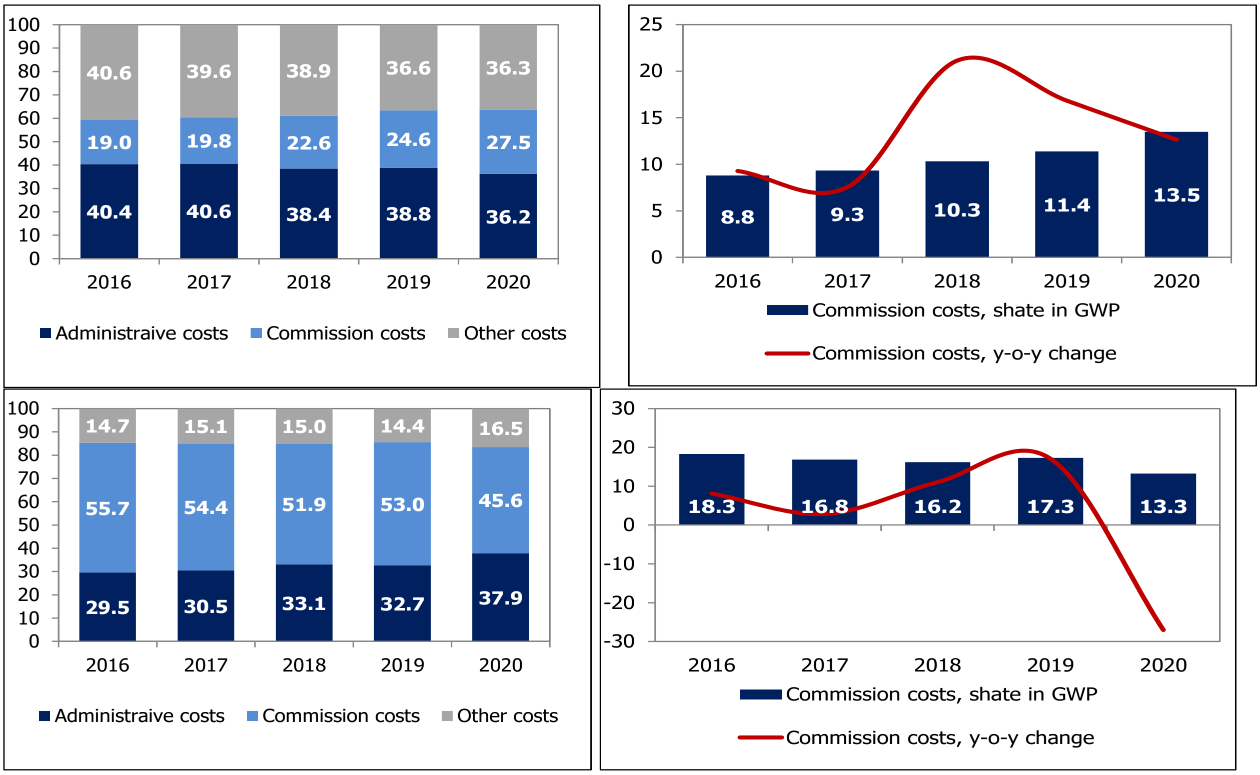
Source: National Bank, based on data from the Insurance Supervision Agency

[133] The reduction of newly concluded insurance contracts significantly lowered the growth of provisions for transferable non-life insurance premiums in 2020 compared to 2019, i.e. significantly lowered the growth of mathematical provisions of life insurance companies in 2020 compared to 2019, which contributed to improving the financial result.

[134] The operating losses of these companies in 2019 were due to the measures to harmonize with the prudential supervisory standards, as well as with the regulatory amendments in the area of real estate valuation in the balance sheets of insurance companies. These measures included increase in technical provisions and adjusting the real estate values to the amended rules, which influenced the financial result. The companies were recapitalized in 2019, which strengthened the capital positions and largely offset the effects of the losses on equity.

However, low operating efficiency, as a long-term insurance sector trait, remains a limiting factor for the growth of the sector's profitability. Such conditions arise from the high costs of implementing insurance, amid high costs for commissions charged by indirect sales channels. These non-life insurance expenses continued to grow in 2020 and reached 27.4% of the total GWP obtained through insurance intermediaries (insurance brokerage companies, insurance representation companies and banks). Thus, they contributed to maintaining a quite high non-life insurance cost[135] ratio, which in 2020 equaled 51.4%. In life insurance, commission costs decreased in 2020, which improved the cost ratio from 32.7% to 29%. However, their share in total administrative costs and insurance implementing costs is still high and in 2020, it was 45.6%. **This requires more rational cost management and improved cost-efficiency, especially in the current context of pronounced profitability risks for the sector.** At the end of 2020, the regulatory relief brought by the ISA in response to the crisis, which supported the profitability in the previous period, ceased to apply. An additional risk factor is the uncertain pace of economic recovery, which may continue to affect the scope of activities of the sector. Also, the crisis can cause structural changes, such as permanent changes in the customer habits and needs, which can increase the need for investment and adjustment of business models aimed to greater digitalization and development of new insurance products and services.

Chart 90
Structure of administrative costs and insurance implementation costs (left) and commission costs (right) of non-life insurance (up) and life insurance (down)
in % | in %



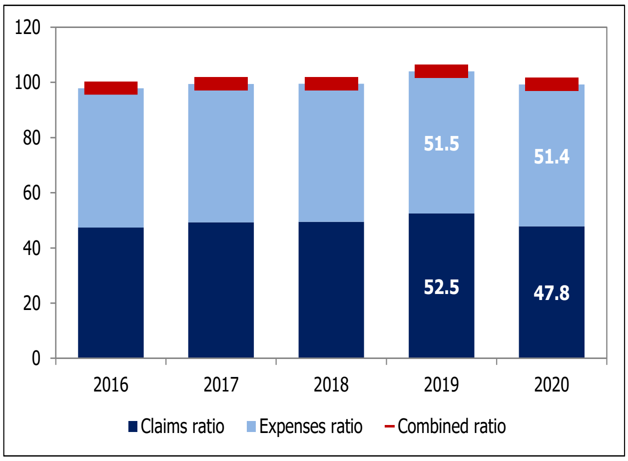
Source: National Bank, based on data from the Insurance Supervision Agency

[135]The cost ratio is the ratio between insurance implementation cost and net premium.

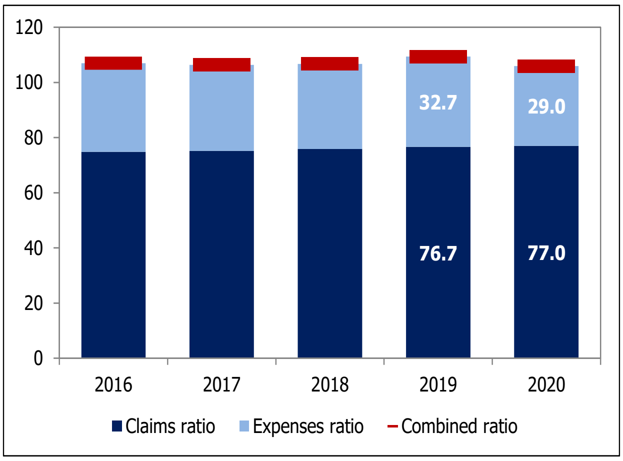
In the next period, insurance companies may face challenges related to damage claims, as a result of the growth of the activity and the climate risks. The pandemic has temporarily reduced non-life insurance claim costs, which can be explained by the containment measures with movement restrictions and contracted economic activity[136]. However, as the economy recovers, the number of risky events is expected to grow, especially if the growth of optional insurance classes continues at an accelerated pace. In the medium term, the potential threat are the frequent natural disasters that emphasizes the insurance sector exposure to climate risks.

Chart 91
Technical ratios of the domestic insurance sector
in %

Non-life



Life



Source: National Bank, based on data from the Insurance Supervision Agency

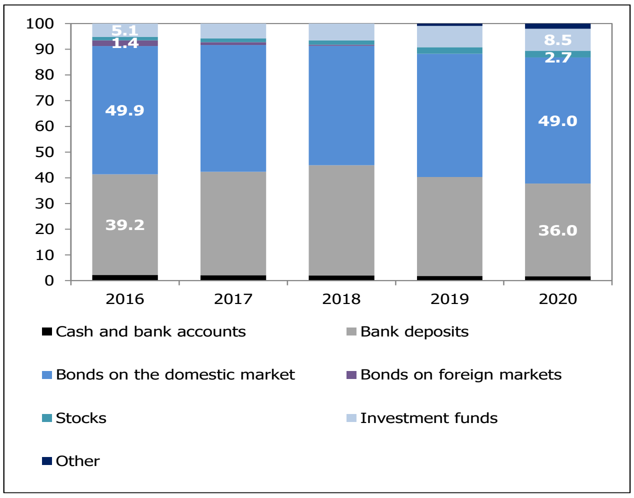
There is also a possibility of pressures on profitability from low interest rates, which affect returns on financial investments. The domestic insurance sector traditionally applies a conservative investment strategy with a leading share of investments in domestic government securities and bank deposits. These two categories of assets together account for 85% of the total non-life insurance investments, i.e. 98.2% of the life insurance investments. Exposure to international financial markets is very low with a 2.5% share of investments in foreign financial instruments in non-life insurance. There are almost no investments in foreign financial instruments in life insurance. This investment structure contributes to the sector stability as it provides protection against risks arising from financial market volatility. This was the case in the current corona crisis, when due to the structure of investments, insurance companies did not generate any investment loss. On the other hand, investing in low-risk instruments limits the opportunities for generating return on investment, which is especially important in the current environment of low interest rates. Hence, in the next period, it is possible insurance companies to increase the search for returns and revise portfolios aimed at greater risk taking, especially if the era of low interest rates persists for a longer period. Certain shifts in this direction have already been witnessed in the last few years through increased participation of investments in units and shares of investment funds registered in the Republic of North Macedonia and in equity securities, which is more a tendency of non-life insurance. The share of these riskier

[136] The number of damages in non-life insurance in 2020 decreased, which reduced the damage ratio from 52.5% in 2019 to 47.8% in 2020. Life insurance reported an increase in the gross liquidated damages, mounting the damage ratio to 77% (76.7% in the previous year). The claims ratio is the ratio between damages inflicted in the period and net - premium written.

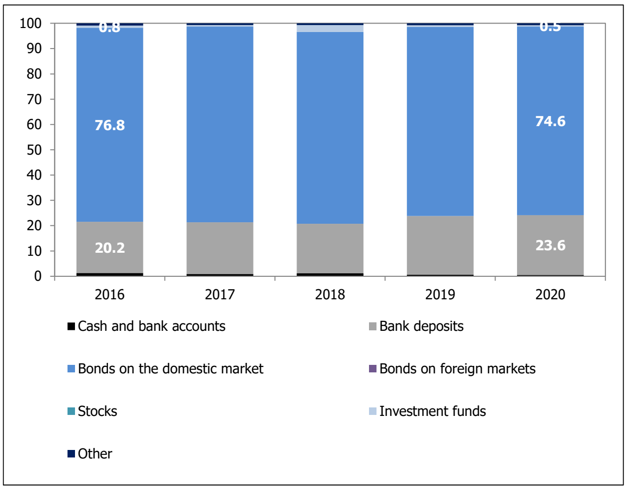
classes of instruments is not high so far and amounts to 11.2% of the total non-life insurance investments. However, if such trends continue in the next period, it is possible to increase the exposure of insurance companies to market and liquidity risk, which emphasizes the importance of proper risk management and control In this context, it is especially important to harmonize the domestic legislation with the European Solvency Directive as soon as possible, which will contribute to improving the risk management and further strengthening of the solvency of the domestic insurance sector.

Chart 92
Investment of technical and mathematical provisions
(structure in %)

Non-life



Life

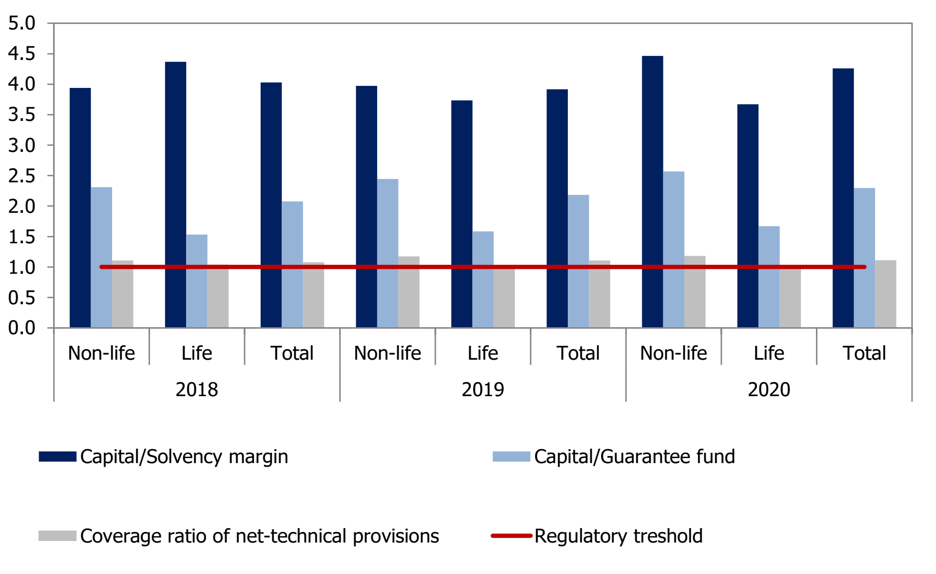


Source: National Bank, based on data from the Insurance Supervision Agency

The insurance sector solvency remains stable and at an appropriate level, exceeding by multiple times the minimum requirement. By the end of 2020, the insurance sector capital exceeded the level of the solvency margin by 4.5 times in non-life insurance and by 3.7 times in life insurance. Insurance companies also maintain adequate coverage of the guarantee fund[137] with capital and net technical provisions by investing in permitted asset categories. The insurance sector capitalization and solvency levels underlie its stability and shock resistance, emphasizing the importance of maintaining a sound solvent position in the period ahead. This is supported by the ISA recommendation to the insurance companies to refrain from paying dividends in 2021, and to transfer profits to equity and reserves in order to support solvency and liquidity.

[137] Pursuant to Article 77 of the Law on Insurance Supervision, the guarantee fund consists of items included in the calculation of the insurance company capital which consists of core and additional capital, calculated in accordance with the Law. The guarantee fund must not be lower than one third of the solvency margin requirement, calculated in accordance with the Law. In addition to this provision, the insurance company guarantee fund minimum requirement is set between Euro 2 and Euro 4.5 million, depending on the class of insurance and the scope of activities performed by the company.

Chart 93
Coverage ratios of the insurance companies solvency margin and technical provisions requirements
(in times)



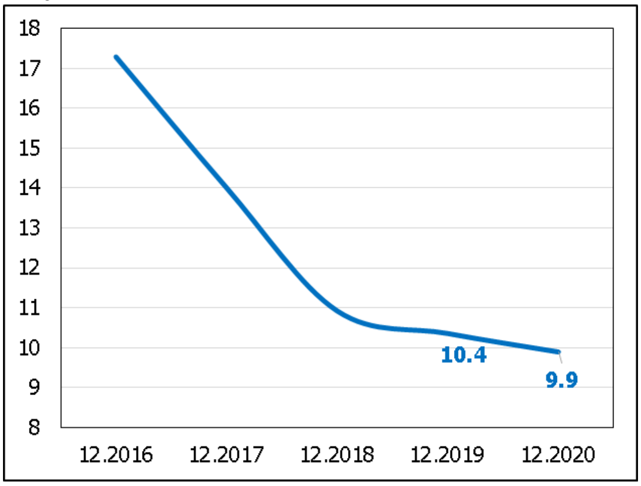
Source: National Bank, based on data from the Insurance Supervision Agency

2.6 Financial leasing

The leasing sector is a relatively small segment of the overall financial system[138] and has no significant impact on financial stability, nor is it a significant risk channel to other financial system segments. Its small impact on financial stability is also seen in the low share of household and corporate debt based on leasing in the total debt of these two sectors[139]. In 2020, leasing companies' liquidity ratios improved, while the capitalization rate decreased due to the faster growth of their activities. Leasing companies maintain a high short currency position, and almost all lease agreements are in denars with a foreign exchange clause, which underlines the importance of the policy of de facto peg of the denar to the euro for the stability of these institutions, which has been successfully implemented over the years. Amid pandemic and economic crisis, the indicators of exposure to credit risk, as the most significant risk for the leasing companies deteriorated in 2020. Despite the significant increase in impairment costs of lease agreements, leasing companies have improved their profitability.

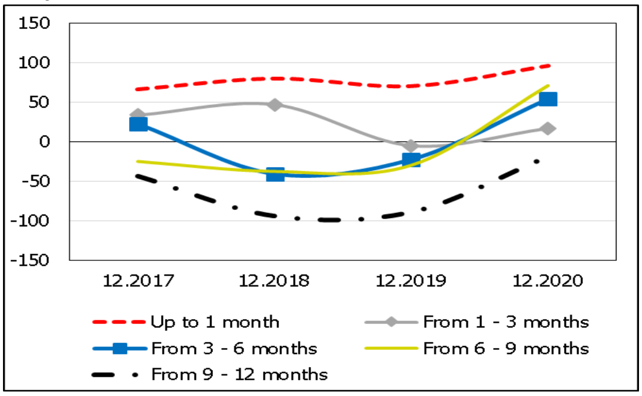
[138] More details in the Financial System Structure of this Report.
[139] The corporate debt based on lease agreements accounts for 1.4% of total debt, while the household debt based on lease agreements makes up 0.8% of the total household debt.

Chart 94
Equity and reserves to total assets ratio
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

Chart 95
Financial asset/liability gap to total financial assets, by maturity bucket, according to the contractual residual maturity
in %



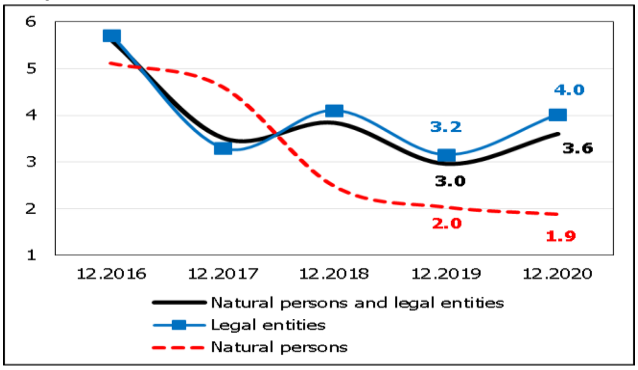
Source: National Bank calculations, based on data submitted by the Ministry of Finance

The capitalization ratio[140] of leasing companies, as equity and reserves to total assets ratio, decreases (by half a percentage point), compared to 2019, mainly due to the faster growth of assets (11.3%), compared to growth of equity and reserves (6.3%). In 2020, about 45% of the 2019 profit was retained in equity and reserves of the leasing companies, where, although higher compared to the previous year (when about 30% of the profit was retained in equity and reserves), the capitalization rate of the leasing sector is declining, even at this level of reinvestment of profits.

Liquidity risk exposure ratios improved in 2020. Analyzed by original contractual maturity, assets with original maturity up to one year are 3.1 times higher than liabilities with original maturity up to one year (this ratio was 2.6 times at the end of 2019). The most liquid part of the assets of the leasing companies (cash and cash equivalents) cover 34% of the total short-term liabilities (25.7% as of 31.12.2019). Analyzed by residual contractual maturity, gap between assets and liabilities in almost all maturity buckets[141] is positive, which is favorable in terms of liquidity risk exposure. Given that about 74% of the assets of leasing companies accounts for claims on customers, the liquidity of these companies is largely conditioned by the success of debt collection. Analyzing the structure of leasing companies liabilities, liabilities to foreign banks dominate with 43%, followed by liabilities to connected parties (39.9%). Liabilities to domestic banks are less represented with a share of 5.9% in total liabilities. The derived interest rate[142] on loan liabilities was 1.8% for 2020, which indicates a use of relatively cheap sources of funds (at least with respect of interest

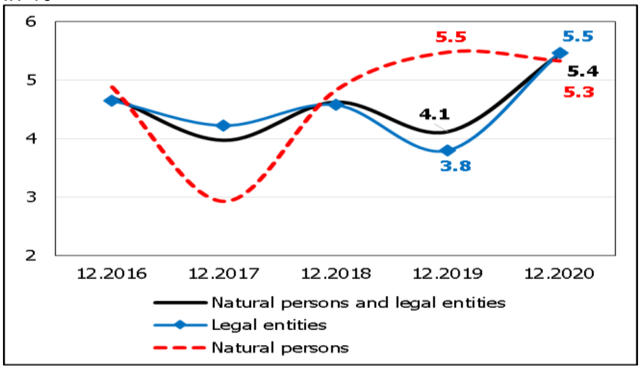
[140] There is no special regulations for leasing companies to maintain a certain capitalization or solvency rate, but only a regulatory requirement for a minimum amount of share capital for incorporation of a financial lease provider, of Denar 6 million (the share capital of a leasing company may not fall below this amount).
[141] The exception is the asset/liability gap with residual maturity of 9-12 months, which remained negative in 2020, but is significantly smaller compared to the previous year.
[142] Ratio between interest expenses in 2020 and the average stock of loan liabilities of leasing companies.

Chart 96
Value of active lease agreements with clients uncollected for longer than 90 days from the due date to total value of active lease agreements
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

Chart 97
Value of canceled lease agreements in the current year to value of active lease agreements at the end of the previous year
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

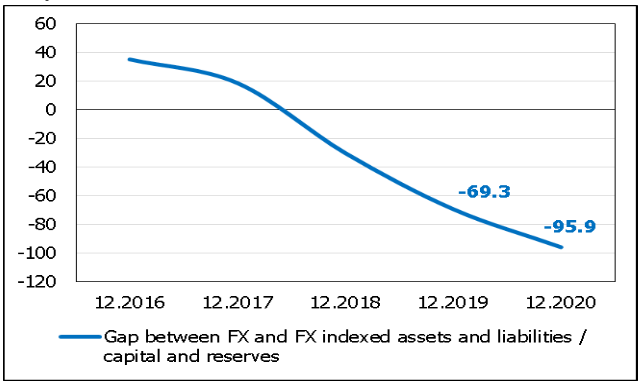
rate[143]). On the other hand, the derived interest rate[144] earned by leasing companies from the concluded lease agreements was 4.9% for 2020.

Despite the easing of lease liabilities repayment standards amid health and economic crisis[145], the indicators for the leasing sector exposure to credit risk are deteriorating. The share of value of active lease agreements that are charged with a delay of more than 90 days in total value of all active lease agreements [146] has increased, which is mostly due to the growth of non-collectable lease claims on legal entities (annual growth of 28.4%). The indicator for the share of canceled[147] lease agreements in the current year in the value of active lease agreements at the end of the previous year somewhat deteriorated, which is again mostly due to the deterioration of this indicator among legal entities - lessees. Finally, the impairment cost of lease agreements in the income statements of leasing companies is more than triple compared to 2019, and accounts for almost 25% of total profit of the companies (only 9.4 % for 2019).

Leasing companies' exposure to currency risk is significant. On an aggregate basis, leasing companies segment has a short currency position almost equal to the total equity and reserves, which exposes these companies to currency risk and emphasizes the importance of the policy of de facto peg of the denar to the euro. The additional expansion of the short currency position of leasing companies in 2020 was

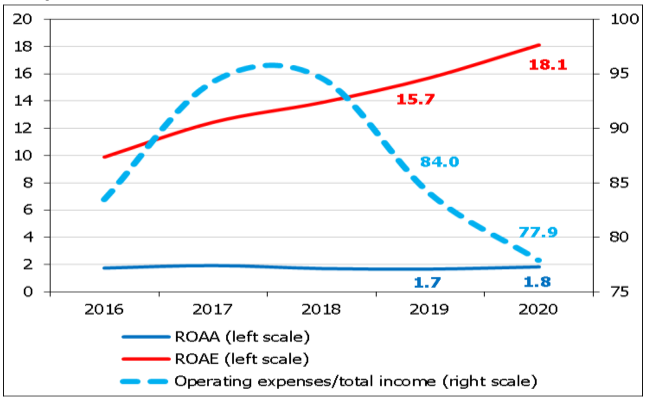
[143] There are no data on commission and fee expenses incurred on loan liabilities, which could raise the accrued cost rate for funding sources significantly above the set interest rate expense.
[144] Ratio between interest income for 2020 and the average amount of claims on lease agreements.
[145] Pursuant to the Regulation with legal force on enforcement of the Law on Lease in State of Emergency (Official Gazette of the Republic of North Macedonia No. 90/20 since early April 2020), the leasing companies loosened the repayment liabilities for lessees, for a period of up to six months, from 1 April to 30 September 2020. Thereby, the lease agreement conditions were eased by about 60% of the natural persons - lessees and by about 28% of the legal entities - lessees. The period of eased repayment of lease agreement liabilities expired on 30.9.2020.
[146] In 2020, the number of active lease agreements increased by 17.4% (12.7% in 2019). The structure of active lease agreements is dominated by agreements concluded with legal entities (79.3% as of 31.12.2020).
[147] Note that lease agreements are not always canceled due to default by the lessees, but also due to non-fulfillment of obligations under the agreements by the lessor (leasing company).

Chart 98
Financial asset/liability gap with a currency component to equity and reserves
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

Chart 99
Selected profitability indicators
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

caused by the growth of liabilities with currency component, which mostly results from the increase of liabilities to non-residents (from foreign parent entities and foreign financial institutions). The portfolio of active lease agreements is dominated by denar agreements with foreign exchange clause (over 99%), exposing leasing companies to indirect credit risk.

The leasing companies' profitability ratios improved in 2020. The sharper decline in operating costs of leasing companies, compared to the decrease in total income and the growth of impairment costs generated higher profits for 2020 and subsequently improved profitability ratios.

2.7 Financial corporations

Financial companies are the youngest and one of the most dynamic segments of the financial system, which with their lending activity provide higher levels of financial inclusion of some categories of unbanked natural persons and legal entities. Although in 2020, against a backdrop of health and economic crisis, the growth of financial companies' assets slowed down significantly, this financial system segment still registers one of the highest growth rates, with increasing interest in incorporating new financial companies. Despite the rapid growth, they are still at the financial system margins, and the debt they claim on households and the corporate sector, aggregately, is still of small relative importance, as measured by the share in total debt or total assets of both non-financial sectors. However, their target to customers with lower creditworthiness, who often do not qualify for loans from deposit financial institutions, as well as the high prices (especially high other fees) that some financial companies charge on approved loans, creates a risk of over-indebtedness and even unsustainable indebtedness of some households or legal entities. The financial companies' solvency is solid and more than three times higher than required. The financial companies' exposure to liquidity risk is under control, but it largely depends on the success in claim collection according to the agreed volume and dynamics. Amid health and economic crisis, the indicators for financial companies' exposure to credit risk deteriorated, as a relatively large part of the loan portfolio is non-performing or collected with a certain time delay. This creates significant costs for financial companies, which in turn may be the reason for embedding high risk premiums in loan product prices. The financial companies report a short currency position, the level of which is significant in terms of equity and reserves, and underlines the importance of the policy of de facto peg of the denar to the euro for the stability of these institutions, which has been successfully implemented over the years. The financial companies' profitability ratios somewhat decreased in 2020, mostly due to the high growth of impairment cost in the income statements of these companies.

Financial companies are one of the most dynamic segments of the financial system, as shown by the constant increase in the number of companies and the continuously high growth rates of their activities[148]. The relatively high services prices charged by financial companies, and perhaps the expectation of high profit margins[149] are one of the most important reasons for the high interest in this market segment, which is one of the largest by number of financial institutions (right after the insurance-brokerage companies segment). Financial companies are mainly focused on the unbanked credit market segments[150] and do not meet the credit standards of banks and savings houses. Some financial companies apply a strong marketing approach in finding new customers, operate on-line and take advantage of new digital technology developments, offering customers easy, simple and fast loan approval procedures. Financial companies incorporate high risk premiums in the prices of their products

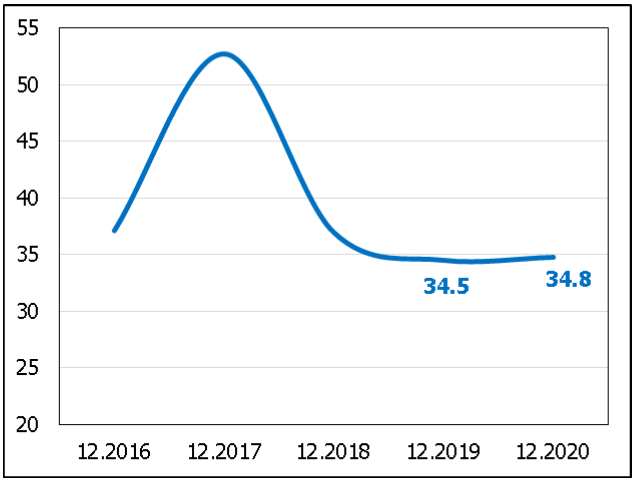
[148] In 2020, the assets of financial companies increased by 14.7% (52.2% in 2019), while the number of companies increased by three (in 2019, the number of companies increased by five).

[149] In 2020, the profit margin of financial companies was 14.6%, which is much higher compared to the profit margin of savings houses (6.2%), but is slightly below the profit margin of leasing companies (15.5%) and far below the profit margin of the banking system, which was 30.1%.

[150] As of 31.12.2020, 76% of claims based on active contracts of financial companies are on natural persons (72.3% as of 31.12.2019). The corporate debt to financial companies accounts for 0.2% of total debt, while the household debt to this sector of the financial system constitutes 1.5% of the total household debt.

(mostly loans), due to the risks arising from the fast service to customers with weaker creditworthiness and without conducting due diligence, which significantly raises the total price they charge from the borrowers. Regulating the interest rate ceiling and the total loan cost rate ensures better customer information and protection, although there is room for improving transparency in this area. Although aggregately, loans granted by financial companies constitute a minor part of the total household debt, financial assets[151] and property, there is still a risk of over-indebtedness of certain household segments and legal entities. The latter is especially important, given the fact that a fair part of the loans to financial companies are aimed at segments with poorer creditworthiness, including natural persons who do not qualify for a loan from a bank or savings house, or their indebtedness to deposit financial institutions reached the maximum allowed level according to the prudent standards of these institutions.

Chart 100
Equity and reserves to total assets ratio
in %



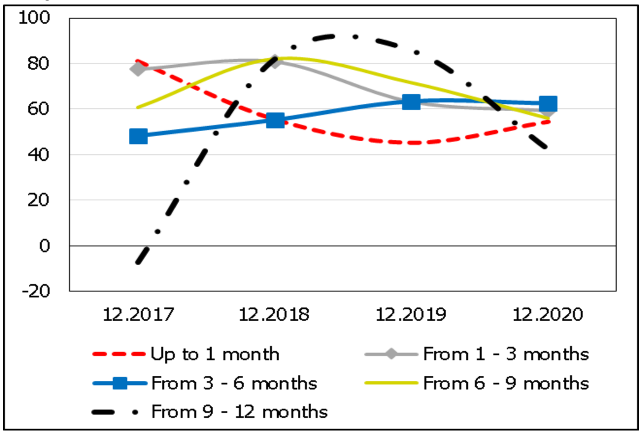
Source: National Bank calculations, based on data submitted by the Ministry of Finance

The capitalization ratio of financial companies, measured as equity to total assets ratio remained almost the same as in 2019. Financial companies claims on loans, guarantees, factoring and credit cards are 2.7 times higher than equity and reserves (2.6 times in 2019), while the requirement for this ratio is 10 times (in other words, the capitalization rate of financial companies is almost four times higher than required).

The liquidity risk exposure of financial companies is within a controlled range. Analyzed by original contractual maturity, assets with original maturity up to one year are 2.3 times higher than the liabilities with original maturity up to one year (this ratio was 1.7 times at the end of 2019). Thereby, the most liquid part of the financial companies assets (cash and cash equivalents) covers 14.3% of total short-term liabilities. Analyzed by the contractual residual maturity, in all analyzed maturity buckets up to one year, the assets/liabilities gaps are positive, which indicates solid liquidity of the financial companies, assuming that claim collection and liabilities payment follows the agreed dynamics and scope. Having in mind that 92.5% of the financial companies assets are claims on customers, the liquidity of these companies is largely conditioned by the success in claim collection as agreed. Most of the liabilities or 42.2% are liabilities to connected entities, followed

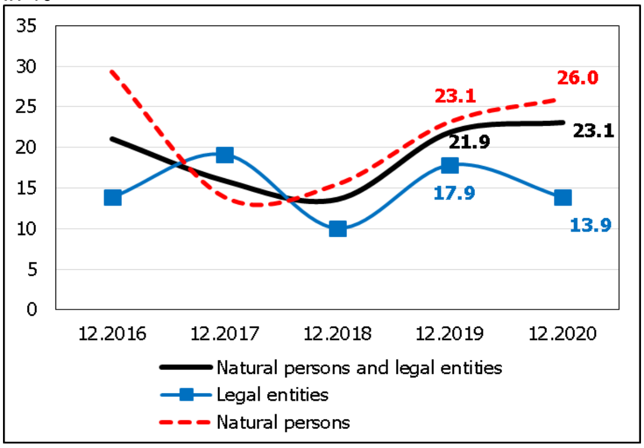
[151] The household debt to the financial companies accounts for 0.7% of their financial assets.

Chart 101
Financial asset/liability gap to total financial assets, by maturity bucket, according to the contractual residual maturity
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

Chart 102
Claims based on active contracts with customers not collected for more than 90 days on any basis, from the due date, to total claims
in %



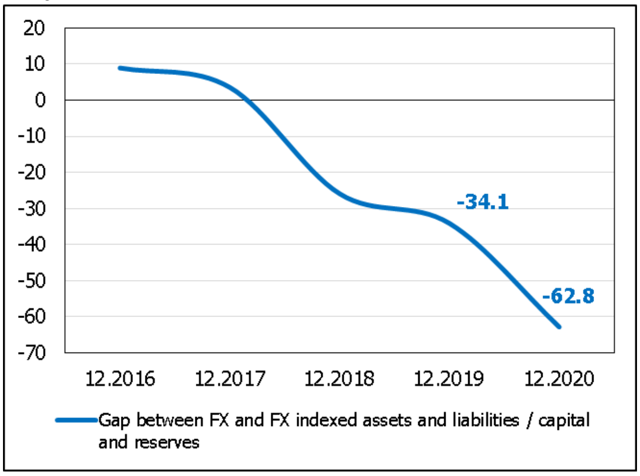
Source: National Bank calculations, based on data submitted by the Ministry of Finance

by the liabilities to foreign banks, with a share of 23.9% (liabilities to domestic banks accounted for 2.5% of total liabilities). The rate of interest expenses made to settle liabilities is 5.8% for 2020[152], which, given the historically low interest rates seems relatively high and probably reflects the significant risks that financial companies take in their activities, but the income generating motive within the related entities is not excluded. In contrast, the rate of interest income[153] earned by financial companies is 12.5% for 2020 (or the above mentioned 42.4% if commissions and fees income is added).

Amid health and economic crisis[154], the indicators for the financial companies exposure to credit risk are deteriorating. In 2020, the share of claims on active contracts with customers charged with a delay of more than 90 days in total claims[155] increased, which is mostly due to the growth of non-collectible claims on natural persons (annual growth of 46.9%). Despite the high diversification of the loan portfolio, given the predominant approval of retail loans, the share of overdue loans is relatively high. The overall analysis shows that almost 80% of the claims of the financial companies are collected with a certain time delay, and the highest is the share of claims collected with a delay of up to 30 days (45.2% as of 31.12.2020). Hence, not only are financial companies inherently exposed to credit risk, but also the level of risk materialization is quite high, which may be the reason for embedding high risk premiums in the price of their services as

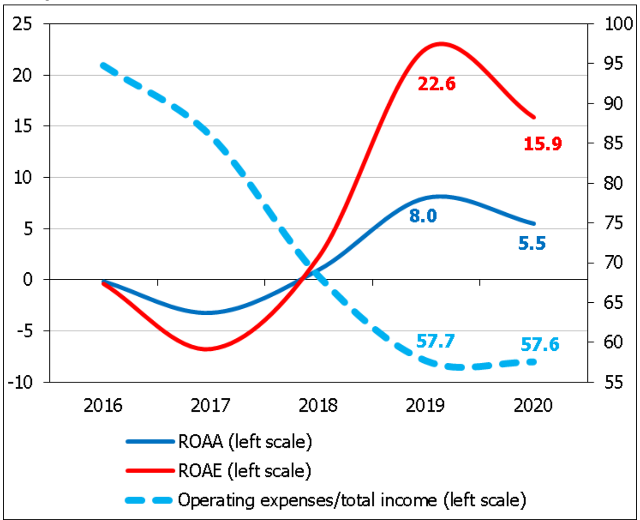
[152] The rate of interest expenses on liabilities settlement is the ratio between the interest expenses in 2020 and the average stock of financial companies liabilities.
[153] Calculated as the ratio between interest income for 2020 and the average amount of claims on active contracts of financial companies.
[154] In order to alleviate the debt burden of natural persons and legal entities that are users of financial companies services, amid pandemic, in early April 2020, a Decree was adopted with the force of law for the application of the Law on Financial Companies in State of Emergency (Official Gazette of RNM No. 90/20). Pursuant to this Decree, the financial companies loosened the repayment obligations for borrowers, for a period of up to six months, from 1 April to 30 September 2020. The terms and conditions for the loan agreements were eased by about 60% of the borrowing natural persons and by about 7% of the borrowing legal entities. As of 30.9.2020, the period of eased repayment of loan liabilities expired and starting from 1.10.2020, borrowers have an obligation to repay their loan liabilities under the agreement.
[155] In 2020, total claims based on active lease agreements of financial companies increased by 19.4% (63.6% in 2019).

Chart 103
Financial asset/liability gap with a currency component to equity and reserves
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

Chart 104
Selected profitability indicators
in %



Source: National Bank calculations, based on data submitted by the Ministry of Finance

compensation for the high costs caused by the materialization of risks. Thus, in 2020, with annual growth of 56.3%, the impairment cost exceeded the amount of profit in the income statements of financial companies and reached about 160% of the profit of this segment (about 90% from the profit for 2019).

Financial companies' exposure to currency risk is significant. The segment of financial companies has a short currency position, in an amount of about two thirds of this segment's equity and reserves, which exposes it to currency risk and emphasizes the importance of the policy of de facto peg of the denar to the euro. The expansion of the short currency position of financial companies in 2020 was caused by the growth of liabilities with currency component, which mostly results from the increase of liabilities to non-residents (mainly foreign connected parties). Indirect exposure to credit risk, which arises from the presence of loans with currency component is relatively low, given the fact that 87.5% of the claims of financial companies on customers are in denars.

The profitability ratios of the financial companies somewhat decreased in 2020. The profit of this segment of the financial system decreased on an annual basis (by 11.1%), which is mostly due to the growth of impairment costs (56.3%), amid similar growth of operating income (20.5 %) and operating costs (20.2%). As previously underlined, the large impairment is a consequence of the higher credit risk materialization in the operations of financial companies, amid health and economic crisis.

2.8 Open-end funds[156]

Open-end investment funds still constitute a relatively small segment of the overall financial system[157] and do not pose a significant threat to financial stability. Investments of certain types of domestic investors in these funds (primarily non-financial legal entities and natural persons) are quite small compared to the total assets at their disposal on an aggregate basis. Hence, any problem in investment funds operations (insolvency of funds, high downward correction of property value, etc.) would not have significant knock-on adverse effects on domestic entities (on an aggregate basis), which are investors in these funds. Amid global pandemic and consequently, increased uncertainty and insecurity, the return rates of investment funds recorded increased volatility and, in general, a strong downward trend in 2020. Particularly affected were equity funds, which ended 2020 with negative annual rates of return. Most funds' assets are invested in deposits in domestic banks and (mostly domestic) debt securities, which as instruments with fixed income usually carry lower risks, but also lower rates of return, on average. Hence, the domestic banks stability and liquidity, the interest rates movement primarily in the domestic economy, as well as the sustainability and efficiency of public finance and debt management of our country are key factors for stability, liquidity and performance of open-end investment funds. The growth trend of the share of placements in equity assets in investment funds' total assets continued in 2020, due to the increase in investments in foreign equity assets, which increases the investment funds exposure to volatility risk in the world securities markets.

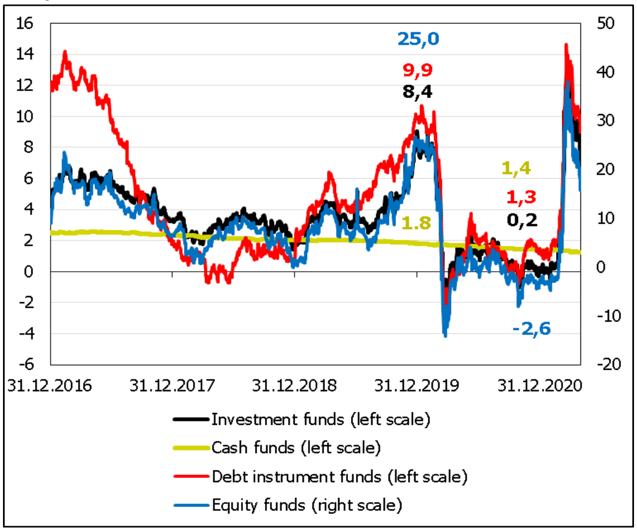
Given the increased uncertainty from the adverse pandemic effects, the annual investment funds' return rates[158] recorded increased volatility and generally strong downward trend in 2020. The largest decline in annual rates of return was observed in funds that invest in equity assets, where the cyclical movement of rates of return was most pronounced. Thus, the annual rate of return of these funds as of 31.12.2020 was deep in the negative zone, decreasing from a high 25% at the end of 2019, to -2.6% as of 31.12.2020. The annual rate of return of the debt funds registered a less pronounced decline of 9.9% (as of 31.12.2019) to 1.3%

[156] In our country, there are also private investment funds and fund management companies. Pursuant to the Law on Investment Funds (Official Gazette of the Republic of Macedonia No. 12/2009, 67/2010, 24/2011, 188/2013, 145/2015, 23/2016 and 31/2020), these financial institutions in the Republic of North Macedonia are exempted from reporting to the Securities and Exchange Commission. In addition, these financial institutions are not subject to any control or supervision by the Securities and Exchange Commission. Hence, given the lack of data on private investment funds, this report addresses only open-end investment funds which in the text below are referred to as investment funds or only funds.

[157] For more details see Financial System Structure of this Report.

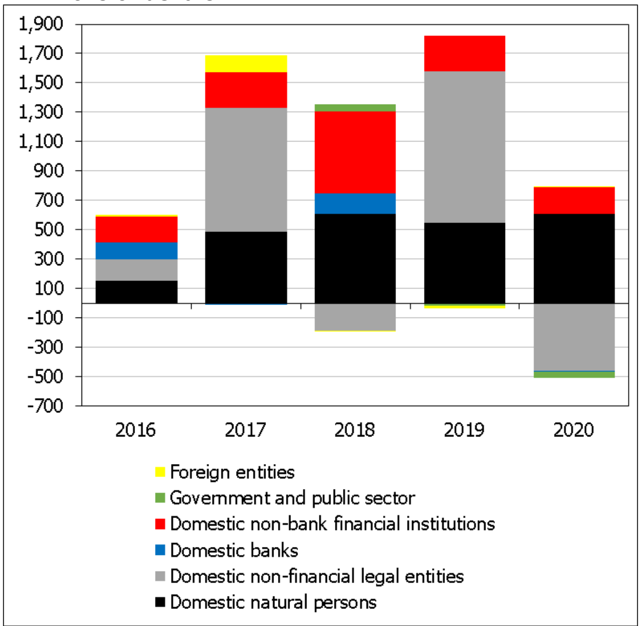
[158] The annual rate of return of investment funds (for all or certain types) is calculated as a weighted average of the annual rates of growth in the price of unit certificates of the funds. The share of net assets of each fund in the total net assets of all funds is used as a weight.

Chart 105
Annual rates of return on investment funds
in %



Source: National Bank calculations, based on data from the website of the Macedonian Stock Exchange.

Chart 106
Structure of net inflows from transactions with unit documents
in millions of denars



Source: National Bank calculations, based on data submitted by SEC.

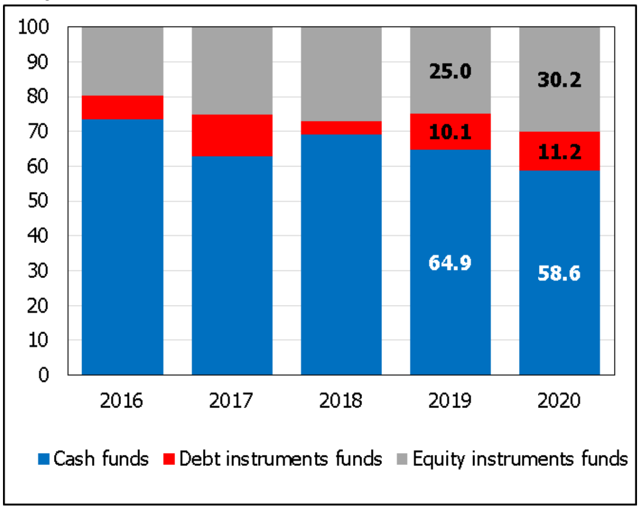
at the end of 2020. Amid declining interest rates, the annual rate of return on cash funds decreased, but far more moderately compared to other investment funds, so that at the end of 2020 this rate dropped to 1.4%. Aggregately, the annual rate of return of all investment funds was reduced to a only 0.2% at the end of 2020 (from 8.4% as of 31.12.2019). As stated below, placements in units of open-end funds constitute a relatively small portion of resident investor assets (household, corporate sector or non-bank financial institutions) in these funds, and aggregately, the reduced return do not have a significant impact on total value of investors' financial assets. Besides, as a rule, this investment alternative (primarily investments in equity and debt funds) is intended for entities with a longer-term investment horizon, which would certainly combine periods of weak or negative returns on investments in investment funds and periods of solid upward movements in returns (such as in 2019). The pandemic is probably the most dominant risk factor that conditioned the market movements during the year and, accordingly, the annual rates of return of investment funds, although the movements in the international financial markets were influenced by other events and developments around the world (e.g. the US presidential election, the Brexit, etc.).

Most of the net assets of investment funds (99.8%) are owned by domestic entities, mostly natural persons, followed by non-financial legal entities and non-banking financial institutions. In 2020, on a net basis[159], only domestic natural funds and non-banking financial institutions made investments in the funds and fully conditioned the net inflows in these funds[160]. The other types of entities reported net sales of unit certificates in 2020, in which domestic non-financial legal entities had the highest

[159] It refers to the value of the purchased unit certificates in the investment funds less the value of sold unit certificates in the investment funds.

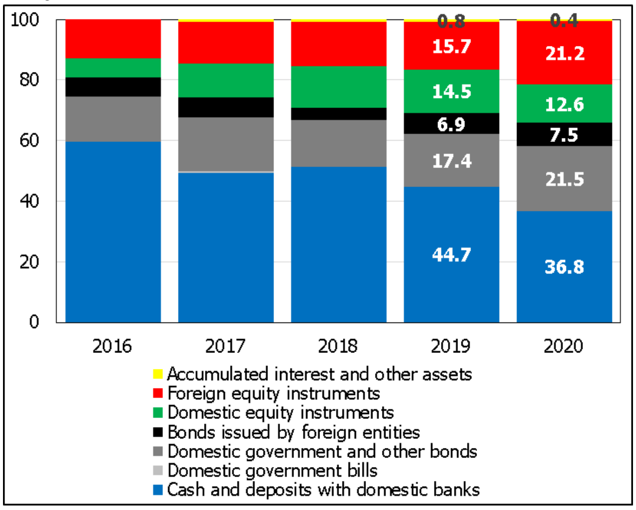
[160] In 2020, the net assets of investment funds increased by Denar 321 million or by 3.7% (36.5% in 2019). Thus, 88.3% of the net asset growth (or Denar 283 million) are net inflows from unit certificates, and the remaining 11.7% (or Denar 38 million) are a result of management and (returns on) investments in assets.

Chart 107
Structure of open-end investment funds property, by their investment strategy
in %



Source: National Bank calculations, based on data submitted by SEC.

Chart 108
Structure of open-end investment funds property, by type of instrument
in %



Source: National Bank calculations, based on data submitted by SEC.

share (91%). Such movements contributed to a significant change in the ownership structure of the unit certificates in the investment funds. Thus, the share of domestic natural persons increased by 14.6 percentage points on an annual basis, making this sector the largest investor in open-end funds (45% of total net assets). In contrast, the share of domestic non-financial legal entities in the ownership structure of the unit certificates decreased by 9.7 percentage points (to 32.8%). A certain decrease of 2.5 percentage points was also registered in the share of non-banking financial institutions in the issued unit certificates, to 18.1%. Other investors in funds registered no significant change in the shares in the total net assets. On an aggregate basis, investments of certain types of domestic investors in funds are quite small, compared to the total assets at their disposal[161]. Hence, aggregately, any problem in investment funds operations (insolvency of funds, high downward correction of property value, etc.) would not have significant knock-on adverse effects on domestic entities that invest in these funds.

According to the investment strategy and policy of each fund, most of the assets are monetary funds. Hence, the majority of investors in mutual funds prefer to invest in low risk and highly liquid assets. This indicates lower propensity of domestic investors to take risks and their preference for efficient management of free cash in order to maintain their value and achieve optimal and stable rates of return on investments in highly liquid assets. However, analyzed in the long run, there is a trend of gradual reduction of the shares of monetary funds and increasing relative importance of the debt funds and the funds that invest in equity assets. This trend continued, and even intensified, in 2020, when the monetary

[161] Investments of domestic non-financial legal entities and domestic natural persons in mutual funds account for less than 1% of the assets of the domestic corporate sector and of the financial assets of the households, respectively. Investments of non-banking financial institutions in investment funds made up less than 1.5% of the assets of non-banking financial institutions.

funds' assets declined, due to the "exit"[162] of some investors, amid growth[163] of the assets of the equity and debt funds[164].

Investments in fixed-income instruments still dominate the total assets of investment funds, despite the declining trend. Thus, in 2020, the share of fixed-income instruments decreased by 3.2 percentage points, thus continuing the trend of steady decline in the share of these instruments in the assets of investment funds (decline of 15.1 percentage points in the last five years). However, the investment funds property is predominated by fixed-income instruments with predetermined dynamics of payment (65.8%), which primarily enable maintenance of the value of invested assets and efficient management of the investors' cash (in terms of achieving an optimal rate of return on high liquid investment assets). Such an investment strategy corresponds to lower risk levels taken by such investments and subsequent generation, on average, of lower rates of return (compared, for example, to the potential rates of return on investments in equity instruments). Among the fixed-income instruments, the largest was the share of cash and deposits with domestic banks (demand and short-term deposits), which are also the instrument with the highest individual share in the total assets of investment funds (36.8%). Hence, apparently, domestic banks' stability and liquidity and interest rates on deposit products are a key factor for the stability, liquidity and performance of the open-end funds, given the high share of investment in bank deposits. However, in the past, the relative importance of cash and deposits with domestic banks was steadily declining, which, on the one hand, is due to the growth of assets of equity and debt funds, and on the other hand, arises from changes in investments of monetary funds, which in search for higher returns are reoriented to placements in bonds, primarily domestic government bonds (as of 31.12.2020, 21.1% of the investment funds' assets were invested in domestic government bonds). The high individual share of investments in domestic government bonds emphasizes the importance of sustainability and efficiency in the public finance and debt management in our country.

Amid falling interest rates, some investors are determined to take greater risks and invest in funds whose investments, by rule, carry a higher risk (which materialized in 2020), as well as opportunity for higher rates of return (present in 2019). Thus, **in 2020, the growth trend of the share of placements in equity instruments in the total assets of investment funds continued.** At the end of the year, investments in equity instruments reached 33.8% in the total funds' assets, which is more by 3.6 percentage points compared to 31.12.2019. Thus, placements in foreign equity instruments fully conditioned the growth of the share of equity instruments in the total investment funds' assets.

[162] The outflows from the monetary funds result from the sale of unit certificates by domestic non-financial legal entities and non-banking financial institutions, but also by foreign financial institutions.
[163] Debt and equity funds were mostly "entered" by domestic natural persons and non-bank financial institutions.
[164] Monetary funds' assets registered annual fall of Denar 338 million, or 6%. On the other hand, the equity funds' assets increased by Denar 550 million or by 25.4%, while the debt funds' assets increased by Denar 129 million, or by 14.7%.