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 2019

August 2020

Contents

Summary

In the course of 2019, the domestic financial sector remained sound and stable, and the risks to financial stability arising from it remained moderate. The banking sector, as its largest segment, continues to be crucial for the stability of the financial sector, where the savings of the non-financial sector as well as the assets of other financial institutions are concentrated, which makes the stability of the banking sector a key link for the overall financial stability. The possibility of risk spillover between individual segments of the financial system in terms of the low degree of cross-sectoral connection, coupled with the absence of more complex financial instruments and services and the generally simpler structure of the system remains limited.

The stable domestic environment provided favorable conditions for the operation of the financial sector in 2019. Economic growth accelerated by supporting income growth, which positively contributes to the solvency of the household and corporate sector, to which the domestic financial sector has the greatest exposure to operational risks. The support for financial stability ensured further maintenance of stable public finances and sustainable level of public debt, and the performances in the external sector, which supported the growth of foreign reserves and their further maintenance to an adequate and safe level, were in the same direction. **Risks from the international environment remained limited despite the deteriorating global environment, which slowed the activity of the domestic export facilities**. The stability and shock resilience of the European banks continued to positively contribute to the stability of the domestic banking sector, which is largely owned by euro area banking groups, and the low exposure of domestic financial institutions to foreign financial instruments reduces the risk of direct vulnerability of changes in the financial markets.

By the end of the year, the world was hit by a health crisis, which since the beginning of 2020 grew into a global pandemic, with serious challenges not only for health systems and human health but also for the overall economic and financial order. Risks to financial stability significantly increased, at a time when the ultimate economic consequences from the crisis are very difficult to assess due to the high uncertainty regarding the duration and strength of the shock. What is certain is that the global economy in 2020 will experience a sharp decline, which is estimated to be the deepest after the period of the global depression, and the outlook of the domestic economy has significantly deteriorated. Such developments highlighted the risks of credit losses in the balance sheets of domestic banks and possible disruption of the credit cycle, which is the reason behind the National Bank reaction with a wide package of measures in response to the pandemic. In line with the measures taken by the central banks globally, the National Bank also acted by lowering the key interest rate, supporting the liquidity of the banking sector, activating non-standard measures and regulatory flexibility aimed at facilitating the settlement of the credit liabilities of the private sector. In addition, the institutional capacity and the level of cooperation between the financial supervisory bodies in monitoring the situation in the financial system, timely identification of systemic risks and taking appropriate measures and activities to prevent and reduce their impact on the financial system were strengthened. This was achieved through the newly formed Financial Stability Committee, which has been in place since 2009[1]. The main goal of the Committee is to contribute to preserving the stability and resilience of the entire financial system, preventing and reducing systemic risks and ensuring a sustainable contribution of the financial sector to economic growth. The measures taken by the National Bank, coupled with the economic measures of the Government, aimed at supporting the liquidity of the real

[1] The new Committee, in addition to the National Bank and the Ministry of Finance, which were members of the previous Committee, includes all financial regulatory and supervisory bodies.

sector and the income of socially vulnerable categories of citizens, are expected to contribute to easier overcoming of the financial burden of the health crisis and mitigating the consequences on the economy. However, the risks remain high, which is mainly related to the uncertainty about the duration of the non-economic shock. The possible risks are related to the possible deterioration of the financial situation of part of the household and corporate sector, which may jeopardize their solvency and lead to the credit risk materialization in the balance sheets of domestic banks.

In this report, we look at the developments in certain segments of the financial system in 2019, analyze the financial situation of households and corporate sector as its main customers and map the possible risks to financial stability associated with the coronavirus pandemic.

Analyzes show that the domestic financial sector is well prepared to deal with the challenges of the coronary crisis. The banking sector is healthy, stable and with stronger resistance[2] to shocks, compared to the global economic crisis of ten years ago. The strengthened regulatory and supervisory requirements in the period after the global economic crisis, in line with the strengthened international and European standards contributed to this, which further strengthened the capital buffers and liquidity of domestic banks as basic pillars of sector stability. The high capitalization and stable solvent position of the banking system, which were maintained during 2019, are accompanied by high quality of own funds and adequate level of capital buffers above the required minimum level, which are especially important in crisis times, when can be used to deal with different shocks. The resilience of the banking sector to shocks is confirmed through the conducted stress tests, which show a generally good capacity of banks to absorb credit losses, even amid extreme and unlikely shocks, which would mean a more pronounced credit risk materialization. Credit risk, as the most common risk in the overall risk profile of the domestic banks, is particularly pronounced in the current pandemic conditions, which increase the likelihood of reducing borrowers' ability settle their credit obligations on regular basis. Such conditions of possible credit losses create risks of credit growth slowdown, which may adversely affect the dynamics of the economic recovery from the crisis, but also the profitability of the banks themselves. However, unlike the period prior the global crisis, which was accompanied by strong credit growth and subsequent credit risk materialization, the current situations do not indicate present imbalances in the credit market. In the years before the pandemic, the domestic banking sector achieved sound and sustainable credit growth, which is seen through the decline of the rate of non-performing loans, which was reduced to a historic low in 2019. The prudent approach of banks in the credit risk management enables high coverage of non-performing loans with impairment and limitation of potential negative effects on banks' solvency from their possible total non-collection. The banking system traditionally maintains a high volume of liquid assets, and in 2019, it further strengthened the already strong liquid positions. The profitability of the domestic banks is solid, despite the decrease in operating profit on an annual basis, which is partially due to the exhaustion of the one-time effects that caused high profit growth in 2018, but also further reduction of the net interest income amid declining interest rates. The maintenance of low interest rates, which is expected to continue in the following period, coupled with the possible deceleration in the demand of various financial services and emergence of credit losses in the balance sheets of domestic banks because of the coronavirus, are important risk factors for profitability of the banks in the next period. Such conditions impose the need to improve the operational efficiency of domestic banks, prudent risk management and appropriate business

[2]The revocation of the founding and operating license of "Eurostandard banka" AD Skopje in August 2020 is due to the insolvency of the bank in accordance to the Banking Law. This is an isolated case of a bank that has an extremely low share in the activities of the overall banking system, which has no impact on the other banks in the system and there is no possibility for a possible spillover of negative effects from the closure of this bank to other banks in the system. On the contrary, the indicators of the banking system, even in time of the corona crisis, are improving.

model adjustment to the emerging conditions to ensure sustainable profitability and stability in the operations in the long run.

Fully funded private pension insurance is the second segment by size of assets in the financial system, although with significantly lower share than the banking sector. The domestic system of mandatory fully funded pension insurance has been operating for fifteen years, thus the private pension funds are still in the process of accumulation, have a relatively young membership without major outflows of funds for the payment of pensions and a long investment horizon, which currently reduces the exposure of the pension funds to liquidity risk. In such conditions, the slowdown in the economic activity due to the effects from the global pandemic of COVID-19 may have short-term temporary effects on the return of investments, which is expected to be compensated in the following period, through further fertilization of assets, amid maintaining investment security. In 2019, pension funds registered an accelerated accumulation of assets at the expense of the members, for which, in addition to the payment of contributions, the favorable market movements in the international capital markets also contributed. The key risks for the performances of pension funds arise from the exposure to credit risk, together with the price risk of foreign equity instruments.

The insurance sector, as the third largest segment in the domestic financial sector, maintained stability and reliability in operations, thus contributing to maintaining financial stability. At the core of its stability are an appropriate solvent position, which several fold exceeds the prescribed regulatory minimum and proper asset management, which are mainly invested in liquid, and less risky instruments, which limits exposure to price risk on the financial markets. The insurance sector continued to grow in 2019, with the contribution of both segments of the insurance. However, the domestic insurance sector is still small, which leaves room for its further growth and development, especially in terms of greater representation of life insurance and optional non-life insurance segments. During 2019, there were qualitative changes in the ownership and management structure in two insurance companies, followed by recapitalization, which positively contributes for the stability of the companies in the medium and long term. However, for a sustainable profitability of the sector in the long run, it is necessary to improve the operational efficiency and control of insurance impairment costs, which are maintained at a high level, significantly above the average of EU countries.

Other financial institutions (savings houses, leasing companies, investment funds and financial companies), with their limited scope of activities, do not pose a risk to the financial stability for the time being. In some of these institutions (savings houses and investment funds) funds are placed by the household and corporate sector, but their share in the total financial assets of these sectors is quite small, which currently limits their importance as a possible source of risks to the financial stability of the non-financial sector.

Financial markets are an important component of the financial system, whose uninterrupted operations is of a particular importance for maintaining financial stability. Unlike the developed countries, where the capital market as a source of long-term capital financing plays a role in the development of the financial sector and the economy as a whole, the domestic capital market has a modest importance, with a modest supply of securities and very small volume of stock trading. The most important issuer of long-term securities is the government (continuous bonds), and in the secondary capital market, domestic legal entities are the largest investor, while the share of non-residents is small. The situation on the money and short-term securities market is similar, which has a modest impact on the domestic financial flows, and hence on the stability of the overall financial system of the country. The foreign exchange market is the most active segment in the domestic financial markets with a share of 88% in the GDP, whose movements are related on the external position of the domestic economy, stability of the expectations of economic agents and stability of inflation rate. In conditions of a strategy of de facto fixed exchange rate of the denar against the euro, the National bank is constantly present in the foreign exchange market with interventions aimed at purchasing or selling foreign currencies, which balances the supply and demand of foreign currencies and maintains the stability of the foreign exchange rate. The exchange rate stability has been successfully maintained since the beginning of 2020, amid short-term deterioration of the expectations of domestic entities due to the corona crisis and significantly reduced supply of foreign currency on the foreign exchange market, amid restrictions to prevent the spread of the virus. This further confirms the National Bank’s determined readiness to maintain exchange rate stability, as one of the pillars of financial stability.

In conditions when the Macedonian banking system mainly operates on the domestic market through financial intermediation with the non-financial sector, the performance and the level of corporate and household debt are crucial for maintaining its stability and the stability of the other financial sector segments.

During 2019, the domestic corporate sector increased its value added and mainly retained the financial stability benefits and risks arising from it. The corporate sector as a whole is operating at a profit, which is of great importance to large companies (although they registered lower operating profits in 2019), but also the improved profitability of small and medium-sized enterprises. Such developments positively contribute to credit risk exposure of the domestic financial sector, given that the group of small and medium-sized enterprises is the largest group of borrowers from domestic banks, to which banks plan to expand its lending activities in 2020[3]. The group of micro-entities continues to operate at a loss and is most vulnerable to risks in all segments of the operations, which contributes to their limited approach to financing from the banking sector. For the sustainable profitability of the corporate sector in the next period, it is important to improve productivity and competitions in operations, which are deteriorating and are a potential source of risk for the financial soundness of the sector. The solvency of the domestic corporate sector is stable or improving according to certain indicators, mainly in terms of the ability to settle liabilities, to which, the further maintenance of the environment of low interest rates has contributed. The main challenge for the corporate sector remains liquidity management, partially due to the irregularity in performing debt-creditor relations, which emphasizes the risk of "contagion” within the sector in case of shock, but also the transfer of problems to creditors in the financial sector.

The debt of the domestic corporate sector increased in 2019, but its indebtedness, measured through the share of debt in GDP, was reduced and is below the derived vulnerability threshold and below the average for the past ten years. Domestic companies do not use market financing. The main creditors are non-residents, which have contributed the most to the growth of the total debt of the corporate sector in 2019. The borrowing from domestic banks also increased. However, the level of financial debt relief of the corporate sector has been maintained at a stable level and is among the lowest compared to the EU countries, which mitigates the risk of over-indebtedness. In terms of the creditors of domestic companies, the corporate sector exposure to currency and market risks is especially significant, due to the significant share of debt with a currency component and floating interest rates. The possible materialization of these risks may affect the ability to repay debts, and hence the performance of financial institutions, primarily domestic banks. The main challenge for the operation of the domestic corporate sector in the next period and possible source of risk to financial stability will be the ability of the corporate sector to overcome the initial liquidity shock due to the pandemic so it will not be transferred into a solvency shock, which would lead to the credit risk materialization

[3] Source: Survey on banks’ perceptions for the risks coming from the environment and planned business activities in 2020.

in the balance sheets of domestic banks. It is expected that, measures taken by the National Bank in response to the pandemic, coupled with the Government economic measures, to contribute to easier overcome the financial difficulties of the companies and thus mitigating these risks.

The risks to the financial stability from the household sector are limited, but may become significant in the current context of the corona crisis. During 2019, the growth of disposable income contributed to the sustainability of the debt level of the household sector as a whole, and further growth of financial assets, which for the most part remains placed in deposits with the domestic banks. This is especially important for the financial stability, because the household sector, except as a consumer of credit products, is also the most important creditor of the domestic banks, increasing the deposits during 2019.

Household sector debt is still largely concentrated in domestic banks, but the debt to financial companies is also growing. The debt to financial companies, although currently with a small share in the total household debt, should be closely monitored, since it is a relatively more expensive debt, with insufficiently transparent lending terms, which increase the risk of over-indebtedness of some natural persons. Banks' loan portfolio to households is of good quality, which is seen through the low rate of non-performing loans, which was reduced to a historic low of 2.0% in 2019. However, there are certain structural features of household lending, which might act as a potential risk factor in the event of unfavorable shocks to disposable income. This primarily refers to the part of the loan portfolio of domestic banks aimed at people with lower monthly income, who are below or equal to the average wage, and who jointly account for almost half of the total credit exposure of domestic banks to natural persons. The possible shock of the disposable income might significantly impair the creditworthiness of these people, which is especially evident in the current crisis conditions. In fact, the exposure to risks is increased for the overall household sector, and is especially pronounced for people employed in the sectors most affected by the crisis. Consumer loans granted for extremely long maturities are also a possible source of risk, due to the uncertainty brought by the long time horizon. The volume of credit risk materialization associated with this type of lending is not high at the moment, although banks expect increased credit losses on this basis in 2020, which primarily refers to unsecured loans. Therefore, banks expect to focus their lending activities in 2020 to consumer loans with shorter maturities (about five years), as well as housing lending[4]. In conditions when risks to financial stability related to the household sector are generally increased due to the current corona crisis, the good solvency of the sector as a whole is a positive indicator, which increases the resilience to shocks. The indebtedness level of the household sector in terms of GDP, in addition to the intensified growth in the previous year, is not low, and the systematic vulnerability of the sector reflected through the level of the aggregate indicator of systematic risk is relatively low. However, for a more comprehensive analysis of the indebtedness and sustainability of household debt, it is necessary to improve the volume of data, primarily in the area of individual household income indebted to the domestic financial institutions and real estate market movements, which are currently with limited scope and quality, and usually have a major impact on the household wealth and subsequently to the financial stability.

In general, the risks to financial stability as a result of the corona crisis are increasing. Nevertheless, the analysis presented in this report show that the domestic financial sector is well prepared to deal with the challenges it poses. The sound balance sheets of banks, together with the built-in capital buffers and liquidity in the previous period, indicate sufficient capacity of the banks to absorb losses and further maintain the credit cycle, as a significant support to the

[4] Source: Survey on banks' perceptions for the risks coming from the environment and planned business activities in 2020.

process of economic recovery from the crisis. The situation of other financial institutions is also good, and the low cross-sectoral connection reduces the likelihood of possible spillover of risks between certain segments of the financial system. The National Bank, as before, will continue to closely monitor the developments in the banking sector, and beyond in the financial sector through the Financial Stability Committee, and is prepared to take appropriate measures if it deems necessary to maintain the stability of the banking sector, as well the overall financial stability.

I. INTERNATIONAL AND DOMESTIC ENVIRONMENT

1. International macroeconomic environment

During 2019, the risks arising from the international environment increased, but had a limited impact on the domestic economy and the stability of the financial sector. Trade tension between the USA and China, Brexit uncertainty and geopolitical risks have been a major factor of uncertainty for most of the year, deteriorating the expectations and distorting the outlooks for the global economy. This was the reason for the globally influential central banks to continue pursuing expansive monetary policies, which was transmitted through the yields of safe debt instruments and strengthened expectations for continued maintenance of low interest rates. Such developments positively contribute to mitigating risks to economic growth and sustainability of public finances in the short run, but are a potential source of vulnerability to financial stability in the medium and long term. The eased financial conditions encourage the tendency of investors to take risks, which contributes to the accumulation of financial weaknesses in the balance sheets of economic entities. It is estimated[5] that the trend of these risks is already a growing trend in many countries, especially in the field of corporate and non-banking financial sector.

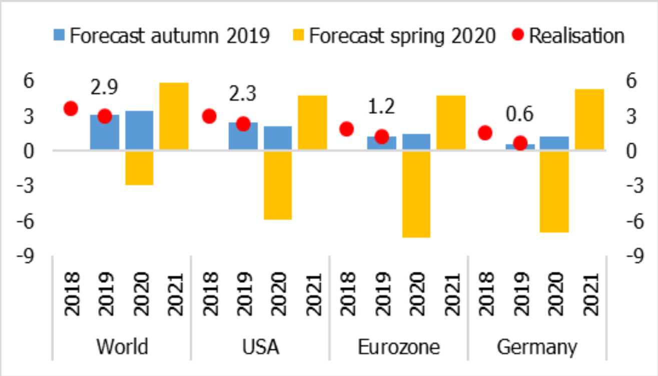
The banking sector in the euro area in 2019 remained sound, stable and resistant to shocks, with improved credit risk exposure ratios. This is particularly important for the domestic banking sector stability given the prevalent share of euro area banks in the ownership structure of the domestic banks. Domestic financial institutions have a very limited direct exposure to developments in international financial markets, due to their low referral for financing and investing abroad. On the other hand, the high trade and financial openness of the domestic economy emphasizes the risks of the spillover of external shocks on the domestic economic activity and thus indirectly to the activity of the financial sector. In 2019, the effects from these risks were limited and mainly felt through the channel of weakened foreign demand, which slowed the growth of domestic exports. Financial flows remained solid, allowing foreign reserves to grow.

Since the beginning of 2020, the risks to financial stability related to the external environment significantly increased, caused by the COVID-19 pandemic, which left serious economic consequences globally. As a consequence of the crisis, the global economy is expected to decline in 2020, making it the sharpest decline after the global depression period. Risks to the global financial stability are even more pronounced if we consider the previously accumulated weaknesses in several sectors, represented by high debt and present liquidity, maturity and currency inconsistencies in the balance sheets of economic entities. Banks are more resilient to shocks compared to the global economic crisis, but they are also exposed to risks to profitability due to the possible credit losses from the crisis. The high uncertainty emphasizes the risk of capital flows volatility and difficult financing conditions for developing countries, which is a negative risk factor for public and private debt sustainability, and thus for the total financial stability.

[5] IMF Global Financial Stability Report, October 2019.

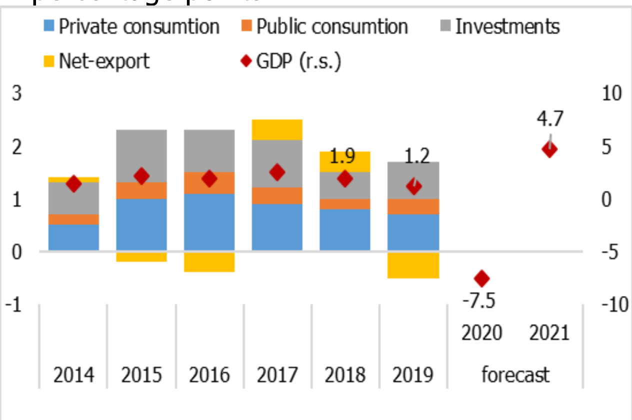
During 2019, the growth of the global economy decelerated to 2.9% (3.6% in 2018), which is lower than the initial expectations[6] **and is the lowest growth after the global crisis period of 2008-2009.** The trade tensions between the USA and China, the uncertainty regarding Brexit and geopolitical tensions in the Middle East were the main reasons for the deteriorating global environment in 2019. Their impact waned down by the end of the year, with the signing of the first phase of the agreement between the USA and china in December and the reduced uncertainty over Brexit without an agreement. The easing of the monetary policies of developed countries was expected to further stimulate global economic growth. However, risks remained high, and now threats to the global economic growth related to the outbreak of COVID-19 virus infection in China emerged.

Chart 1
Economic growth
real annual GDP growth
in %



Source: IMF, World Economic Outlook, April and October 2019 and April 2020

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

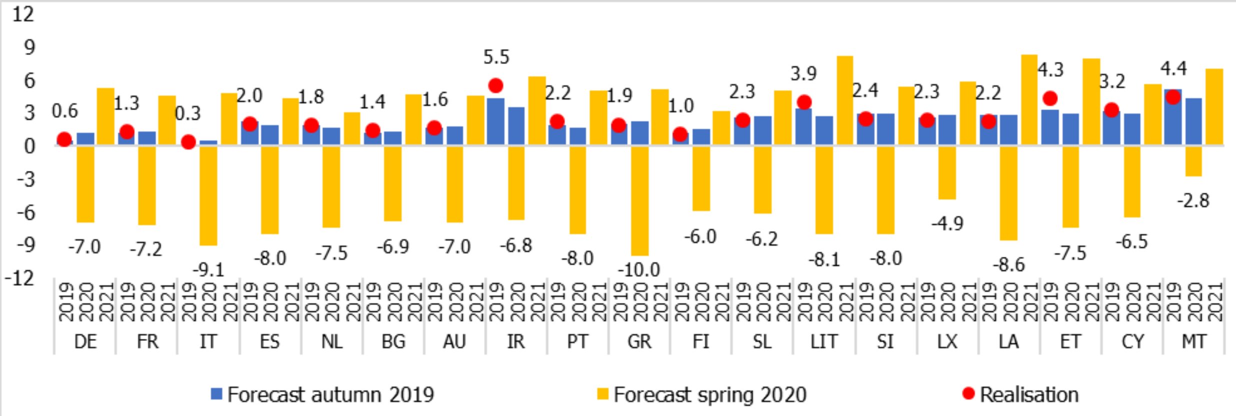


Source: Eurostat, the Oesterreichische Nationalbank, June 2020 and IMF World Economic Outlook, April 2020.

[6]Global growth in 2019 was expected to be 3.3% according to the forecasts in April 2019, and 3% according to forecasts in October 2019. Source: World Economic Outlook, IMF.

The deteriorating global environment slowed the growth of the economic activity in the euro area, which was 1.2% in 2019 (1.9% in 2018)[7]. Such developments are a reflection of weaker exports, amid solid domestic demand.

Chart 3
Economic growth in the euro area, by country
in %

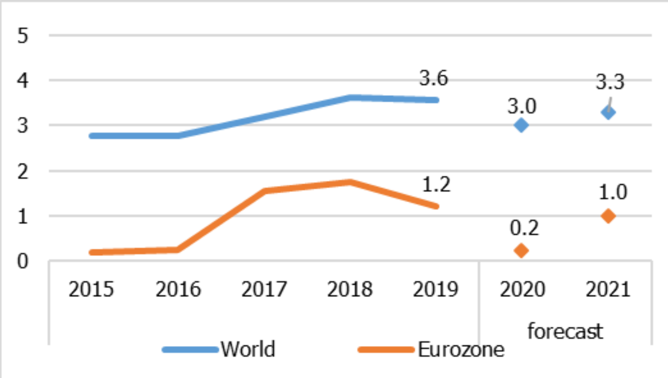


Source: World Economic Outlook, October 2019 and World Economic Outlook, April 2020

Within the euro area, Germany, as the biggest economy in the EU and the country with the largest share in the international trade of the Republic of North Macedonia, registered a growth of 0.6% in 2019 (1.5% in 2018). The deceleration of the growth of the German economy is largely due to the decline in the automotive industry, which was due to trade tensions, but also the specific factors related to the need to gradually adapt the automotive industry to the higher demands related to environmental standards. Given the importance of Germany, as one of the drivers of the European economy, such developments, although assessed as temporary, have increased the uncertainty about economic growth and vulnerability of countries with significant trade with Germany, including the Macedonian economy. With the exception of Germany, almost all members of the euro area registered a lower rate of economic growth in 2019.

[7] The forecast for GDP growth in the euro area in 2019 in April was revised upwards by 0.1 percentage points i.e. to 1.3%, while the autumn forecast predicted a growth of 1.2%. Source: World Economic Outlook, IMF.

Chart 4
Inflation
in %

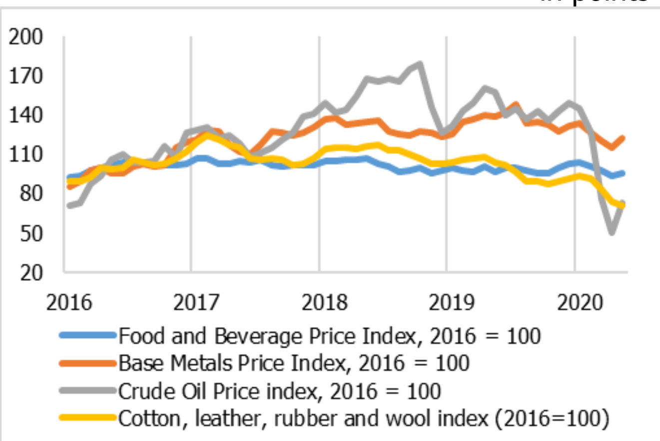


Source: World Economic Outlook, IMF, April 2020.

The inflation rate in the euro area slowed down to 1.2% in 2019 (1.8% in 2018), which was influenced by the decelerated growth of food and energy prices, amid a stable growth of core inflation. Amid expectations for economic decline in 2020 and lower level of oil prices, it is expected that inflation in the euro are will amount to 0.2% in 2020. For 2021, with the normalization of the situation in the economies, and under the influence of the stimulus measures taken by the policy makers, the inflation in the euro are is expected to accelerate moderately to 1%.

Chart 5
World prices of oil, metals, food and beverages, and clothing raw materials

in points



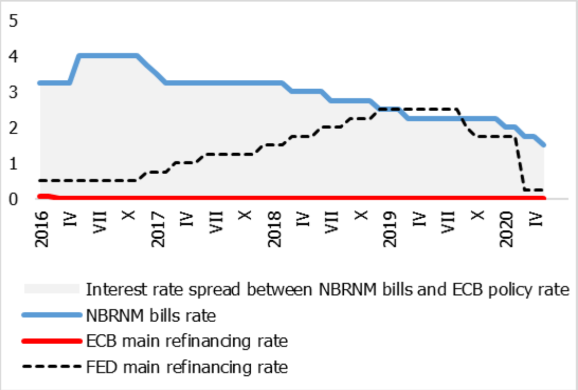
Source: IMF's database on primary commodity prices.

World primary commodity markets during 2019 were marked by volatile movements in the price of crude oil (euro/barrel), which on an annual basis decreased by an average of 5%. In terms of dynamics, the price of crude oil increased almost until the end of the first half of the year under the influence of geopolitical tensions between the USA and China and Iran and reduced supply in accordance with the agreement between OPEC+ countries. As trade tensions between the USA and China escalated and global oil demand slowed, US oil production rose in the second half of the year, followed by a downward adjustment in oil prices. By the end of the year, the changes once again were in the direction of the growth driven by the favorable developments in the trade relations between the USA and China which led to the signing of the trade agreement, market views on increased oil demand, as well as the decision of OPEC+ member countries for additional reduction for daily oil production[8]. The prices of other primary commodities (metal and food) were relatively stable during the year and on an average registered moderate changes, on an annual level (seen through price indices), while the prices of the raw materials for clothing continued the downward trend.

[8]OPEC+ member countries, at the meeting held on 6 December 2019, decided that starting from 1 January 2020 and ending in March 2020, the daily oil production shall be reduced for an additional 500,000 barrels per day, compared to the agreed 1.200,000 barrels per day in December 2018.

The uncertain global environment, which worsened the outlook for the economic activity and inflation, was the reason why leading central banks continued to pursue an expansive monetary policy in 2019. In 2019, the FED reduced the key interest rates on three occasions (July, September and October) by a total of 0.75 percentage points, in order to support economic growth and stimulate upward inflation movements. The ECB, at its September meeting on monetary policy, adopted a package of expansive measures that included the reduction of the deposit interest rate by 10 basis points to -0.50%, the resumption of the securities purchase program from November 2019 (with an amount of Euro 20 billion per month) and implementation of a two-tier system of reserve remuneration of banks' excess funds over the required reserve. In addition, in this meeting, the ECB emphasized that the interest rates will be maintained at the current or lower level until inflation comes close to, yet below 2% for the forecast horizon. In 2019, with the reduction of the key interest rate of the National Bank by 0.25 percentage points and unchanged level of the ECB interest rate for basic refinancing operations, the interest rate spread between these interest rates narrowed to 2.3 in 2019. At the beginning of 2020, with the reduction of the key interest rate of the National Bank, the interest rate spread between these interest rates was further reduced to 1.5. Bank of England and Bank of Japan did not shift the monetary policy setup, keeping the policy rates at 0.75% and -0.1, respectively.

Chart 6
ECB, FED and NBRNM interest rates
in %



Source: National Bank, FED and ECB.

The easing of monetary policy by major central banks, coupled with deteriorating economic growth prospects, has boosted demand for safe instruments, which has contributed to declining yields on US and euro area government bonds.

Chart 7
Yields on government bonds issued in the euro area
in %

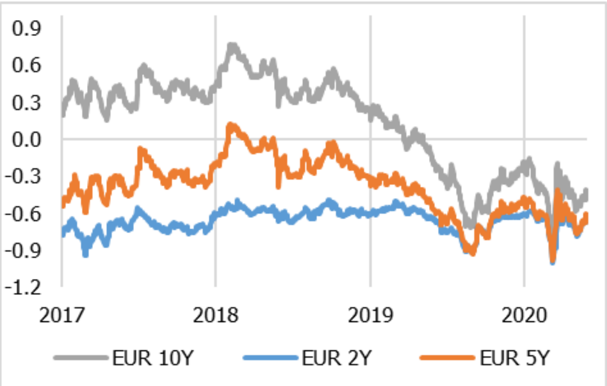
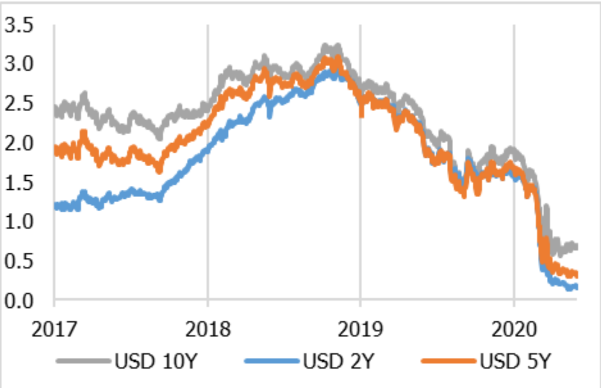


Chart 8
Yields on government bonds issued in the United States
in %



Source: Online publishing service.

Yields on government securities had a downward trend until the last quarter of 2019, when opposite growth trends of safe instrument yields occurred. Such movements are linked to increased investor optimism about resolving the trade dispute and reaching an agreement between the United States and China on the "first phase" of the trade agreement and improved perceptions of the implementation of the Brexit agreement, without the possibility of the so-called "Neutral" exit from the euro area.

Chart 9
Yield curves of government bonds issued in the euro area and the United States
in %

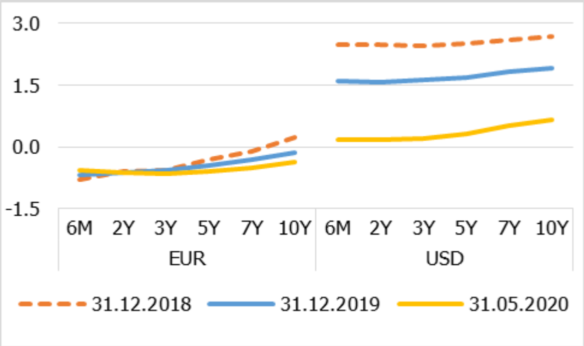
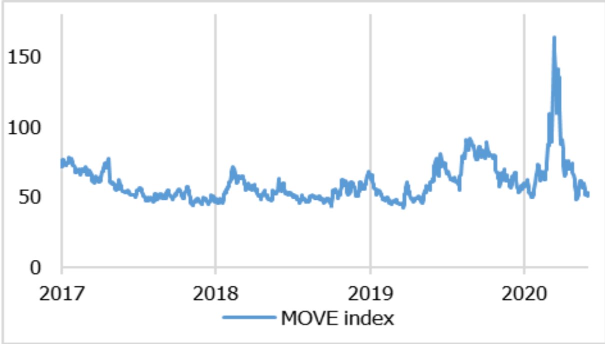
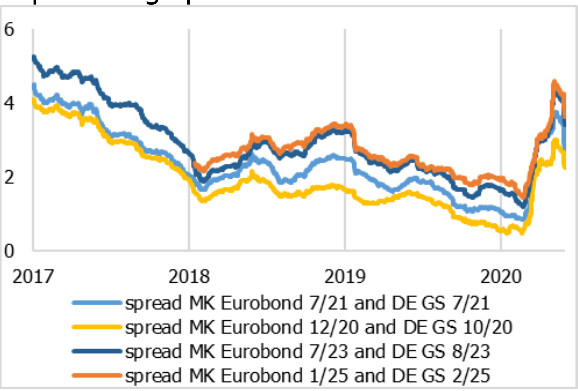


Chart 10
Bond market volatility index
in points



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. Downward index path indicates a decrease in volatility of trading terms.

Chart 11
Spreads between the Macedonian Eurobonds yields and German government bond yields with a similar maturity
in percentage points



Source: Bloomberg

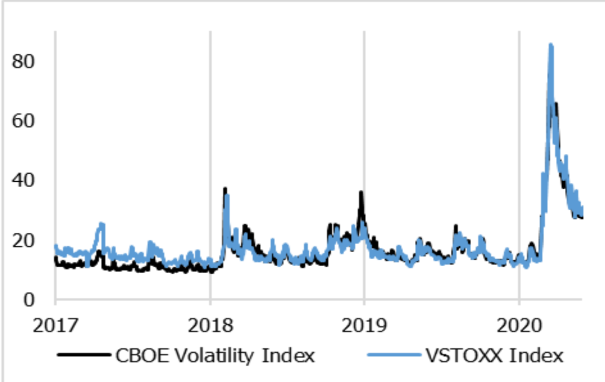
The spread between Macedonian Eurobonds and German government bond with a similar maturity was continuously narrowing in 2019. During 2019, the yields of Macedonian Eurobonds had a downward trend and decreased by an average of 1.5 percentage points. Such change, with almost insignificant changes in the yields of German government bonds with similar maturity (average decline of 0.1 percentage points) caused a narrowing of the spread between the two bond types.

In conditions of an easing tone by the leading central banks, stock exchange indices had a growing trend in 2019. Changes in the prices of corporate bonds issued in the European and American markets were in the same direction, amid growth of the amount of long-term debt securities issued on the non-financial corporate sector by 4.2%, on an annual basis. Price movements on the world stock markets influence the domestic pension fund assets, where the investments in foreign shares, and in units and shares in foreign investment funds to total pension funds' assets ratio was

20.8% (in mandatory pension funds) and 20.3% (in voluntary pension funds)[9]. Analyzing other financial corporations in North Macedonia, the share of foreign equity instruments in total assets is lower and equals 15.7% in investment funds[10], 0.9%, in insurance companies and merely 0.03% in banks.

Chart 12
Movement of share indices
in index points

Chart 13
Implied volatility index of share prices
in index points



Source: Online publishing service.
Note: VIX (CBOE Volatility Index) is constructed based on the implied volatility of S&P500 index options. Downward index path indicates a decrease in volatility of trading terms.

Chart 14
Long-term debt securities issued by non-financial corporate sector, by region
in billions of euros

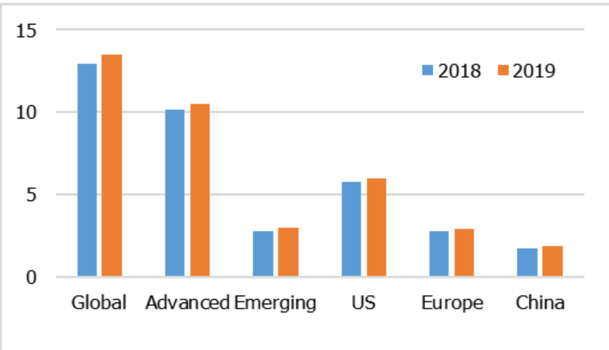
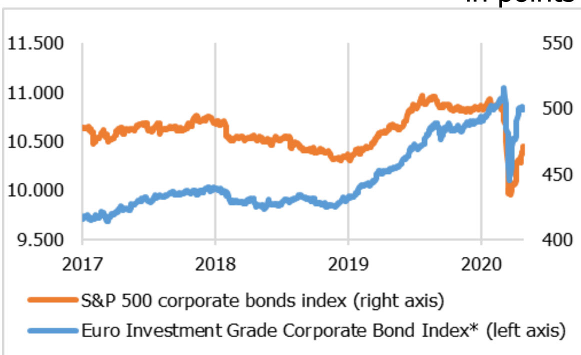


Chart 15
Price indices of corporate bonds in the United States and the euro area
in euros

in points

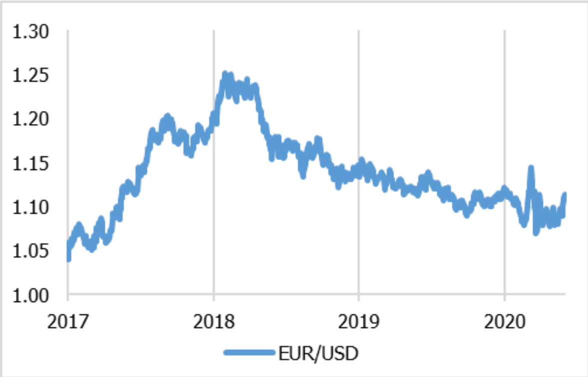


Source: OECD, blackrock.com, us.spindices.com.
Note: The presented euro Corporate Bond Index with investment rating measures the performance of BlackRock's iShare Euro Investment Grade Corporate Bond Index Fund (NAV per share), whose investment strategy is to closely monitor and replicate the movements of the Barclays Euro Aggregate Corporate Index.

[9] The financial result of the pension funds from the possession and management of equity instruments for 2018 is positive. For more details, see the pension funds section of this report.
[10] Returns of domestic investment funds, whose investment strategy is to invest in equity instruments increased in 2019, which also affected the total weighted return rate calculated for the overall segment of domestic equity funds.

The euro continued to depreciate against the US dollar (by 1.9% on an annual basis) and at the end of 2019 stood at 1.1234 US dollars per euro. The depreciation of the euro against the US dollar during the year was due to the trade and geopolitical tensions, which increased the demand for the US dollar as a safe currency, as well as weaker performances in the euro area. The movements of the euro/US dollar pair had no significant impact on the currency structure of the Macedonian banks' balance sheets considering the policy of fixed nominal denar exchange rate against the euro, amid euro dominance in the balance sheets of the domestic banks.

Chart 16
Euro/US dollar



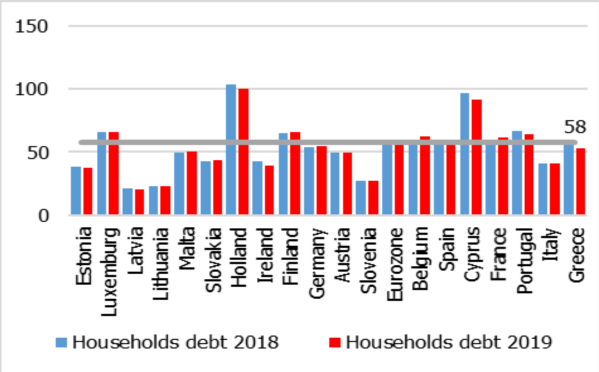
Source: Eurostat.

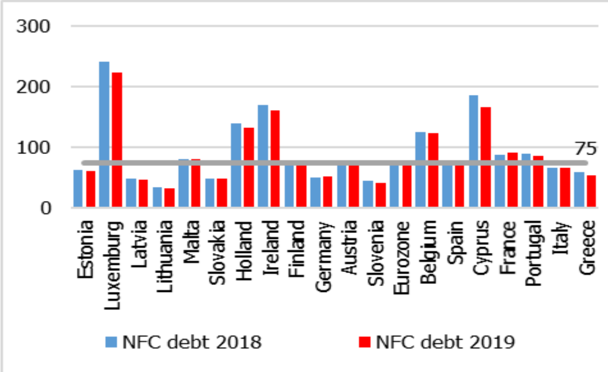
The further maintenance of low interest rates mitigates the risks to the sustainability of public finances within the euro area, which amid still high levels of public debt emphasizes the fiscal vulnerability in the event of an unforeseen shock. In 2019, in line with the slow economic growth, the budget deficit at the level of the euro area moderately widened and amounted to 0.6% of GDP, compared to 0.5% in 2019. The level of government debt has moderately decreased and reached 86% of GDP at the level of the euro area (87.8% of GDP in 2018), while it remains high in many countries. By the end of 2019, 10 of the 19-euro area member states have a government debt level that is above 60%. The government debt level is the highest in Greece and Italy, and the lowest in Estonia and Luxembourg.

The favorable financing conditions also support the growth of private debt, especially in the corporate sector, which is an additional risk factor for financial stability in the medium term. High indebtedness risks are especially pronounced in China and the United States, amid indebtedness growth to riskier clients, which increases credit risk exposure. The debt of the corporate sector has recently stabilized at level of the euro area, although in many countries the level exceeds the vulnerability threshold of 75% of GDP[11]. In addition to the corporate sector, the vulnerability of non-banking financial institutions has increased, which is associated with the increased investments of institutional investors in riskier and less liquid instruments as a result of the search for returns at low interest rates.

[11] Household and corporate debt thresholds (58% and 75% of GDP, respectively) are set by the ECB by decomposing the private non-financial sector debt with a threshold of 133% set by the European Commission (MIP Scoreboard). The decomposition is based on the average share of household and corporate debt to total private non-financial sector debt in the euro area. Source: Financial Stability Report, November 2019, ECB.

Chart 17
Private non-financial sector debt (household and corporate sector)*
in % of GDP

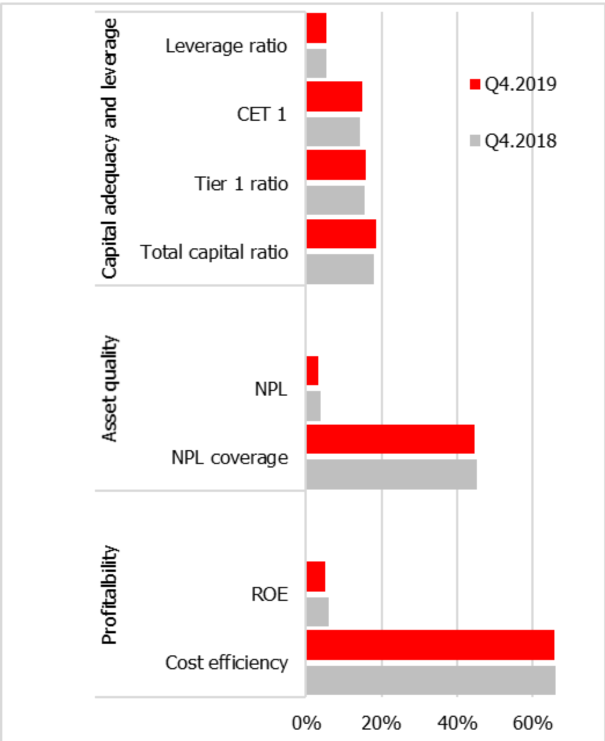




Source: ECB.
Note: Ireland corporate debt is presented with the last available data (Q3 2019) in the absence of data as of the end of 2018.
* Private non-financial sector debt.

The euro area banking system remains stable and well capitalized. The capitalization rate of banks in the euro area at the end of 2019 is 16% and is almost twice as high compared to the period prior the global financial crisis (8.8% in 2018). The ECB macroprudential stress tests show resilience of the European banking sector to shocks and adequate capacity to absorb losses in the event credit risk materialization and risk of weaker economic activity[12]. On the other hand, profitability remains the key challenge for the operation of the European banks in the next period. The rate of return on equity, at the end of 2019 is 5.2%, at the level of the euro area, which is a moderate deterioration compared to the previous year (6.2%). Low profitability is a product of cyclical factors, such as the weaker economic growth, but also structural factors related to low cost efficiency in of the European banks. Banks in the countries hit hard by the European debt crisis continue to achieve weaker financial result of operations compared to other banks. Liquidity Coverage Ratio (LCR) in 2019 was 146%, which is slightly higher compared to the previous year (145%).

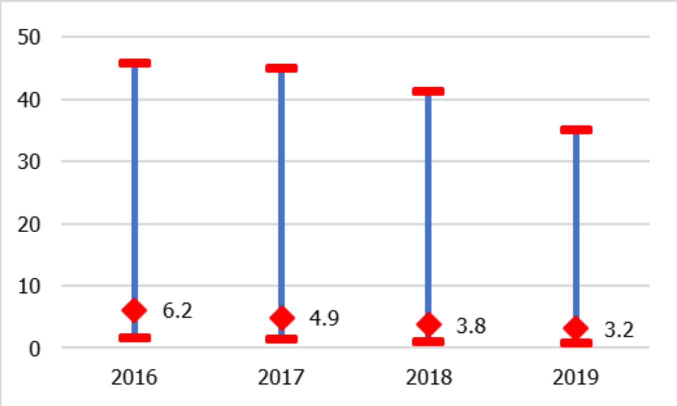
Chart 18
Performance ratios of banks in the euro area
in %



Source: ECB.

[12] ECB, Financial Stability Review, November 2019

Chart 19
Non-performing loan rate of banks in the euro area in %



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

The quality of assets of euro area banks continued to improve, but at a slower pace. The non-performing loan rate in 2019 amounts to 3.2% compared to 3.8% in 2018 and 4.9% in 2017. The lower decline in the non-performing loan rate is due to the lower sales of write-offs of non-performing loans by banks, amid moderate growth of new bad loans at the end of 2019. Despite the decline, the level of non-performing loans is still high in some euro area banks, which adversely affects the financing conditions and the profitability prospects of these banks.

Risks to financial stability associated with the COVID-19 viral infection pandemic.

Since the beginning of 2020, the global economy has faced one of the largest and most server crisis, caused by the COVID-19 pandemic, which has serious economic consequences and increases risks to financial stability globally. The strength and extend of the shock is best illustrated by the fact that in just three months, global economic expectations changed completely, from expecting growth of just over 3% to a sharp decline of 3%[13], which is the deepest since the Great Depression. The more pronounced negative effect of the pandemic on economic activity in the first half of the year compared to initial expectations, was the reason IMF, in June, re-revised downwards the expectations for global economic growth, which is now expected to decrease by 4.9%[14] in 2020. The decline in economic activity is expected to be widespread in all regions, amid expectations of a deeper recession in developed countries. The IMF's June forecasts predict that the euro area economy will shrink by 10.2% in 2020, with the German economy, shrinking by 7.8%, and the downturn in Italy and Spain, as countries hardest hit by the pandemic, expected to be deeper and is estimated at 12.8%. Forecasts for 2021 are aimed at recovery, with a forecasted growth of 5.4%, and within that, growth of 6% of the euro area economy. However, negative risks remain high, linked to the high uncertainty regarding the duration and severity of the shock, the onset of the autumn wave of the virus and the prolonged maintenance of protective measures that could worsen the outlook of economic growth. The decline in the economic activity is a negative risk factor for the financial condition of the household and corporate sector, impairing the ability for regular debt repayment, which may adversely affect the stability of the financial sector. The deteriorating economic outlook reflects on the expectations and confidence of economic agents, with possible negative consequences on the operations of the real and financial sector through this channel also.

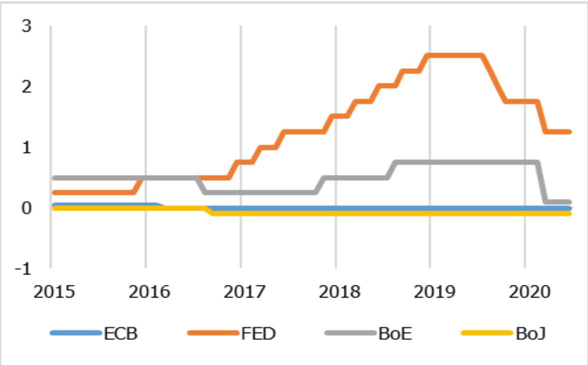
[13] In the January issue of the World Economic Outlook, the IMF forecasted global economic growth of 3.3% in 2020, so it will revise the expectations for a decline of 3% in April 2020.
[14] IMF World Economic Outlook Update, June 2020.

The global financial sector is exposed to financial market risks, which registered extremely high volatility in the first wave of the pandemic, which corresponded to, and at times even exceeded, the downward performances from the period of the global economic crisis from 2008-2009. Investors' orientation towards safe investments has led to a fall in stock prices and increase in the prices of safe instruments to historically highest levels. Some developing countries have faced capital outflows, and there has been a general tightening of financial market conditions.

Such developments led policy makers globally to decisively respond to the crisis, with extensive and comprehensive measures in the field of monetary, fiscal and macro and microprudential policies, which contributed to calming the financial markets and mitigating the risks to economic growth. The reactions of the central banks were mainly aimed at reducing the key interest rates and reactivating the securities purchase programs, as well as easing the supervisory and macroprudential standards so the banking and private sector can easily overcome the consequences of the crisis. In March, the FED significantly reduced the target level of interest rates (by 1.5 percentage points), and in the following period took additional measures to ensure sufficient liquidity in the system and mitigate the adverse effects on the economy. ECB measures included conducting additional long-term refinancing operations, increasing redemption within the existing securities purchase programs and introducing new securities purchase programs issued by the private and public sector. The measures were aimed at providing urgent liquidity support to the financial system, maintaining the credit activity of the banks to entities most affected by the crisis, primarily small and medium-sized corporations and ensuring normal functioning of the monetary transmission. Along with the easing of the monetary conditions, the supervisory standards were also facilitated; enabling banks to temporary fully use the capital and liquidity capital buffers.

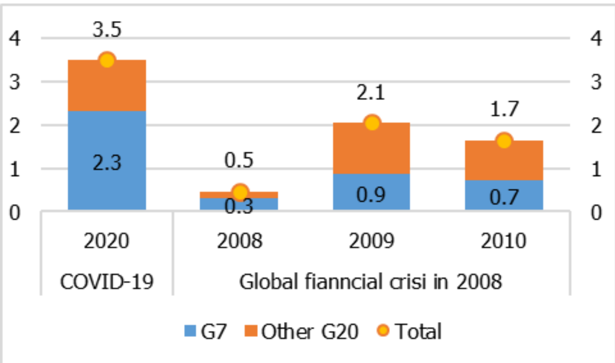
Chart 20
Interest rates of central banks

in %



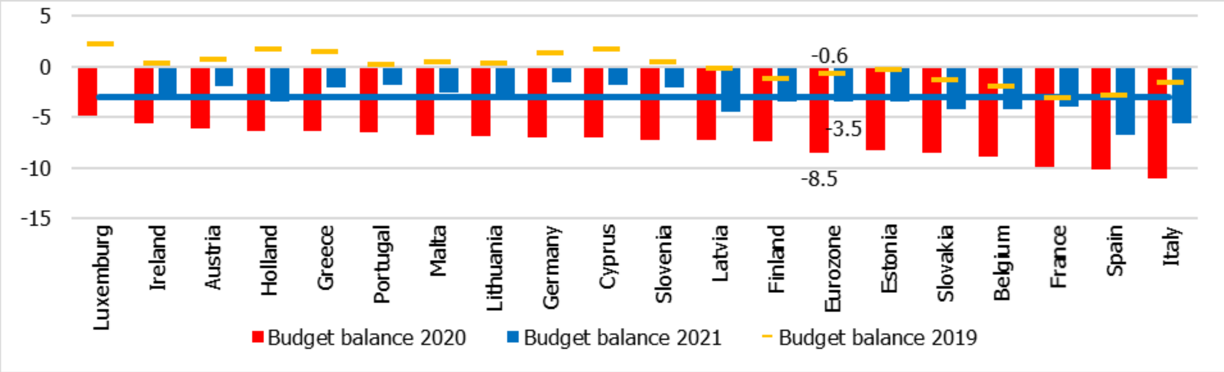
Source: Internet sites of central banks.

Chart 21
Fiscal costs from COVID-19 measures
(above the line, % of GDP of G20)
in %



Source: IMF Fiscal Monitor, April 2020

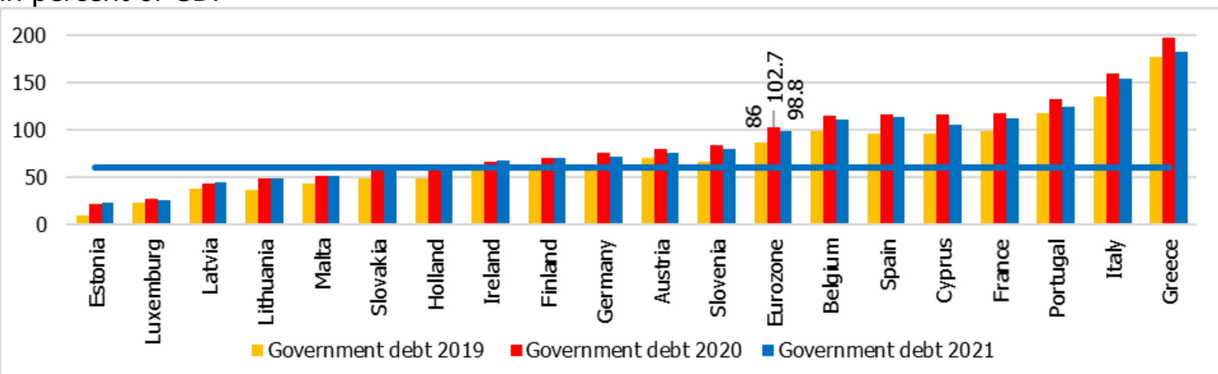
Chart 22
Budget deficit, total and by euro area countries
in % of GDP



Source: European Commission, Spring 2020 European Forecasts
Note: 3% threshold for budget deficit to GDP is under the Stability and Growth Pact.

In the area of fiscal policy, governments have focused on supporting health systems and providing fiscal stimulus to the economy through discretionary measures to support affected sectors, the unemployed and vulnerable groups. The fiscal measures taken in response to the crisis at the level of the euro area are estimated at 3.25% of GDP, which will be reflected in a significant increase in the budget deficit to 8.5% of GDP in 2020[15]. Consequently, high growth of government debt is expected, which at the level of the euro area is expected to reach 102.7% of GDP in 2020. The largest debt growth is expected in the countries that had the highest indebtedness before the crisis, which increases fiscal vulnerability and public finance exposure to shocks and narrows the fiscal space for the next period. **Further maintenance of favorable financing conditions contributes to the sustainability of public debt in the medium term, but the risks remain high, given the high level of debt in some countries amid high uncertainty about the global economic environment in the coming period.**

Chart 23
Government debt*, total and by euro area countries
in percent of GDP



Source: European Commission, Spring 2020 European Forecasts
Note: 60% threshold for government debt to GDP is under the Stability and Growth Pact. *General government debt.

The accumulated pre-crisis vulnerabilities, related to the high indebtedness of the corporate sector and the growing risk exposure of the non-banking financial sector,

[15] European Commission, Spring 2020 European Forecasts

are further highlighted in the current crisis and are a significant risk factor for economic activity and stability of the global financial sector in the future. The debt of the corporate sector has had a growing trend for many years and in many countries, it has risen to historically high levels. Growth was also registered in household debt, especially in countries on which the global economic crisis of 2008-2009 had moderate effects. Such developments led to high indebtedness of the private sector in many countries, which is a significant source of vulnerability amid an economic shock of this scale caused by the pandemic. In the corporate bond market, reassessments of the solvency risk are already visible, to levels corresponding to the period of the global crisis, and the risks of further negative impact of the crisis on the solvency of households and the corporate sector are still emphasized.

The possible insolvency risk materialization may have a negative impact on banks and disrupt their resilience to shocks, which is currently at a higher level compared to the period of the global economic crisis. Banks faced the corona crisis with an increased level of liquidity and capitalization as a result of the post-crisis regulatory reforms, with some of the capital buffers built in the previous period that can be used to support lending and cover credit losses. Some banks are already increasing the loan impairments in anticipation of credit losses in the next period, and such trends are likely to continue, given the weakened ability of borrowers to repay debt regularly. Such movements, together with the further maintenance a low interest rates environment, are a significant risk factor for the profitability of banks in the next period.

In such a global context, given the high trade openness of the domestic economy and the involvement of domestic companies in the German supply chain, the foreign trade channel is an important channel for risks spillover from the external environment, which may affect the activity of domestic capacities and thus indirectly the activity of the financial sector. Risks through the financial channel are also pronounced, given that the deteriorating global environment can disrupt the dynamics of capital flows, and the possible tightening of conditions in the financial markets creates risks for the sustainability of public and private debt. The low exposure of domestic financial institutions to foreign financial instruments reduces the risk of direct vulnerability to changes in financial markets, and the strengthened shock resistance of European banks positively contributes to the stability of domestic banks, which are mostly owned by banking groups from the euro area.

2. Domestic environment[16]

2.1. Domestic macroeconomic environment

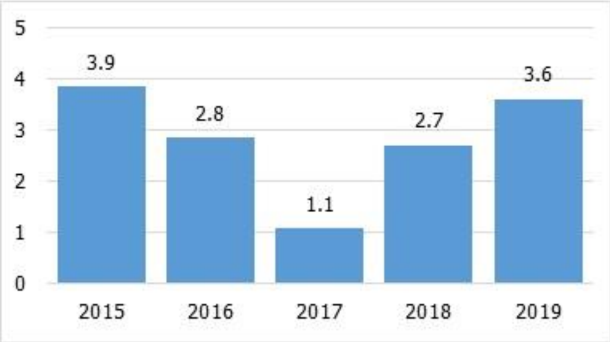
In 2019, the domestic macroeconomic environment created favorable conditions for the financial sector thus contributing to the maintenance of financial stability. In conditions of a stable domestic environment and absence of inflationary pressures, economic growth accelerated and amounted to 3.6% (2.7% in 2018), and the structure of the achieved growth improved, with a positive contribution of investments after a period of a two-year reduction. The growth of economic activity positively contributes to the financial situation of the household and the corporate sector, to which the domestic financial sector has the greatest exposure to operational risks. The financial stability was supported by the maintained stability of public finances and the sustainable level of public debt, and the performances in the external sector in the same direction, which contributed to the growth of foreign reserves and their further maintenance at an adequate and safe level.

However, the emergency and spread of the COVID-19 viral infection in the beginning of 2020 has worsened the outlook of the domestic economy and has increased the risks to financial stability. As a consequence of the pandemic, economic activity is expected to decline in 2020, and initial indicators indicate a strong impact in almost all economic segments. Spillover effects on the domestic economy are also expected from the deteriorated global environment and disruption of global production chains, which will be reflected in declining exports and narrowing flows based on private transfer, as a traditional source of additional financing for part of the population. Such conditions emphasize the risks to the financial sector that can be materialized by deteriorating the creditworthiness of households and the corporate sector and the credit risk materialization in the balance sheets of financial institutions. Measures taken by the National Bank in response to the pandemic, coupled with the Government economic measures should contribute to easier overcome the financial burden from the health crisis and thus mitigate the consequences on the economy. However, the risks remain high, which is mainly related to the uncertainty about the duration and severity of the uneconomic shock. Despite the deteriorating environment, foreign reserves are maintained at a safe level, providing support for exchange rate stability. Maintaining a stable exchange rate of the Denar against the Euro reduces the vulnerability of the domestic financial sector related to the significant exposure to currency risk in the balance sheets of domestic entities. In the fiscal sector, the effects of the pandemic are expected to be reflected in widening the budget deficit and increasing the level of public debt.

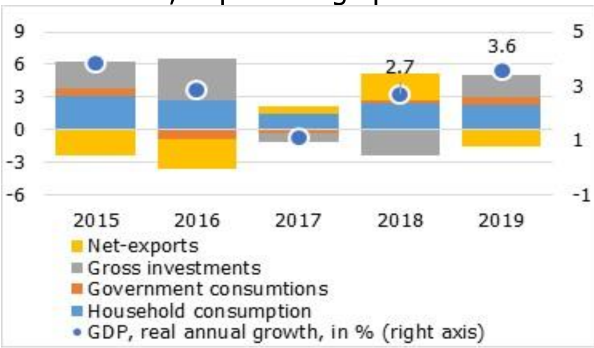
Economic activity in the domestic economy in 2019 continued to grow at an accelerated pace. In conditions of a stable domestic environment and absence of inflationary pressures, the domestic economy in 2019 registered a solid economic growth of 3.6%, with domestic demand having an increased contribution, amid further growth of the export demand, although at a slower pace compared to the previous year.

[16] More information on the domestic macroeconomic environment is given in the Annual Report of the National Bank for 2019.

Chart 24
Real GDP growth
in %

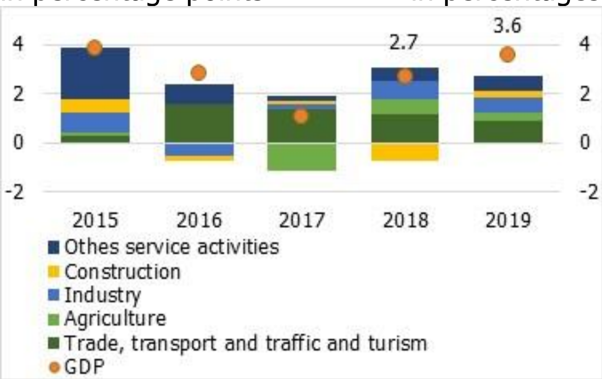


GDP structure, by component contributions, in percentage points



Source: State Statistical Office.
Note: GDP data for 2018 are preliminary, and data for 2019 are estimated.

Chart 25
Contribution to the real annual GDP growth, by activity
in percentage points in percentages



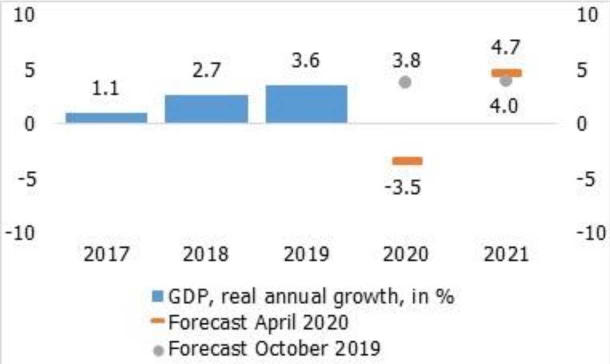
Source: State Statistical Office.

The domestic demand increase reflects the changes in the investment activity, which after a two-year decline, in 2019 achieved growth, supported by public and private investments and further maintenance of favorable financing conditions. The growth of the private consumption of the households continued in conditions of favorable expectations of the economic entities, further favorable movements on the labor market (growth of wages and employment) and prolonged credit support from the banks. In 2019, exports had the highest individual contribution to economic growth, although it slowed down on an annual basis, amid increased global uncertainty and slowing growth of some of our country's key trading partners. Export growth is still largely due to the activity of new production facilities, and some traditional export sectors have an additional contribution. The growth of exports and increased domestic demand led to the growth of import of goods and services, whereby net imports register a negative contribution to the change in the GDP.

Observing the output-side GDP, most of the activities registered higher value added. Same as in the last few years, the main driver of economic growth in 2019 is the group of activities "trade, transport and catering", which is also a structural feature of the domestic economy. Industry, construction and agriculture also have a solid contribution to growth. Similar to last year, the growth of the industrial sector is related to the favorable performances in the manufacturing industry, in activities in which there are larger export facilities with foreign capital and in the energy sector. The favorable developments in the construction sector are a reflection of the further realization of the larger public infrastructure projects in the field of civil engineering, with a significant contribution of buildings as well. Agriculture continues to make a positive contribution to growth, although it is slightly lower than last year. The performances of these four economic sectors with the highest value added in the total economic activity in the country are particularly relevant for the performance of the banking and the overall financial system, given that 87% of the total credit exposure to non-financial companies is concentrated with customers engaged in these activities.

Since the beginning of 2020, the risks to financial stability related to the economic environment have increased, which is associated with the emergence and spread of the new COVID-19 viral infection, which has seriously disrupted normal economic flows domestically and globally. The socio-economic consequences of the pandemic on the domestic economy are reflected through the decline in activity and difficult functioning of the corporate sector, restraint from investment and consumption, amid uncertain dynamics of disposable income and reduced demand for exports. The National Bank forecasts (from April 2020) predict a decline in domestic economic activity of 3.5% in 2020, which would be followed by a gradual stabilization and growth of the economy of 4.7% in 2021. The measures taken by the National Bank[17] and the Government[18] in response to the pandemic are expected to contribute to mitigating the negative consequences from the health crisis and returning the economy to the path of growth. However, the risks to the economic activity are mostly assessed as downward, which is related to the possible prolongation of the pandemic, and thus to the consequences on the domestic real sector, which emphasizes the risks to the stability of the financial sector in the next period.

Chart 26
Real GDP growth, actual and forecast
in %



Source: SSO and National Bank forecasts

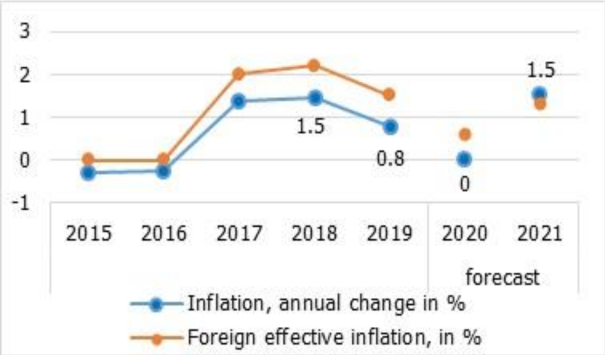
During 2019, the annual inflation rate slowed down and averaged 0.8% (1.5% in 2018), which primarily reflects the effects of changes in world energy prices on the domestic price level. Core inflation also contributed to the slower price growth, mainly due to the fall in prices of some transport services, while food prices accelerated moderately on an annual basis. An environment of stable prices is also expected to be maintained in the next period. The April forecasts of the National Bank predict an inflation rate of around 0% in 2020, amid the expected decline in domestic demand and lower pressures from import prices. In line with the expected recovery of the domestic economy, in 2021, the inflation rate is expected to be 1.5%.

[17]For more details on the measures of the National Bank, see the sections on Monetary policy instruments and Depository institutions from this Report.
[18]For more on Government measures see below in this section.

Chart 27

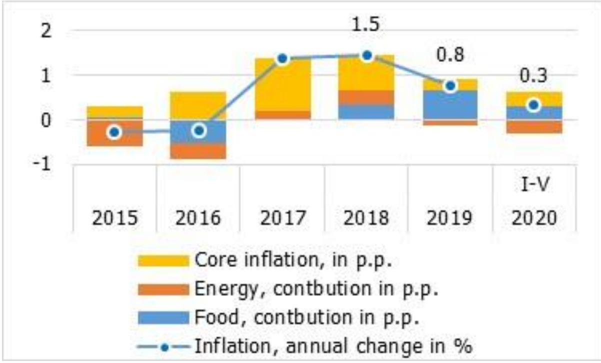
Domestic inflation and foreign effective inflation, annual growth rates and forecast

in %



Volatile (food and energy) and long-term component of inflation

annual contributions, in percentage points



Source: SSO, Eurostat and National Bank assessments.

The performances in the fiscal sector in 2019 have positively contributed to maintaining financial stability, by maintaining a moderate budget deficit and a stable public debt level. Budget deficit of 2.0% of GDP in 2019 (1.8% of GDP in 2018) was lower than the forecast[19] and mostly financed by domestic government borrowing by issuing government securities, and to a lesser extent by external borrowing[20] and by using government deposits with the National Bank. Primary budget balance[21] in 2019 was -0.8% of GDP (-0.6% in 2018). Such developments, complemented by the growth of economic activity, contributed to maintaining public debt[22] at a relatively stable level, which in 2019 amounted to 48.9% of GDP (48.6% of GDP in 2018). The public debt structure continues to be dominated by the external debt, whose share in GDP decreased on an annual basis, at the expense of the growth of domestic debt through new issues of continuous securities. Slightly more than 80% of the public debt refers to the debt of the state (central government, public funds and municipalities), while the rest falls on the debt of public enterprises.

[19] The initial budget plan for 2019 envisaged a budget deficit of Denar 17,700 million or 2.5% of GDP. With the budget revision for 2019, the total revenues and expenditures were reduced almost equally by Denar 297 million, and the budget deficit (Denar 17,700 million) remained as initially planned.

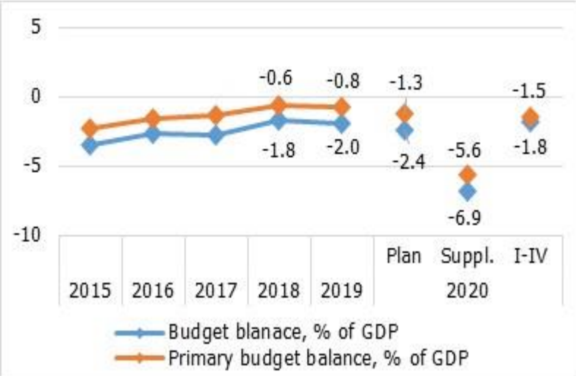
[20] In October 2019, an inflow of foreign currency was registered in the country based on a loan from the World Bank in the amount of Euro 125 million, intended for development policies for public finances and competitiveness.

[21] The primary budget balance does not include repayments of current liabilities based on loans (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] The public debt, as defined in the Law on Public Debt (Official Gazette No. 62/2005, 88/2008, 35/2011, 139/2014 and 98/2019), is the sum of the government debt and the debt of public companies established by the state or municipalities, municipalities within the City of Skopje and the City of Skopje, and companies that are entirely or predominantly owned by the state or by the municipalities, the municipalities within the City of Skopje and the City of Skopje.

Chart 28

Total and primary budget balance
in percent of GDP

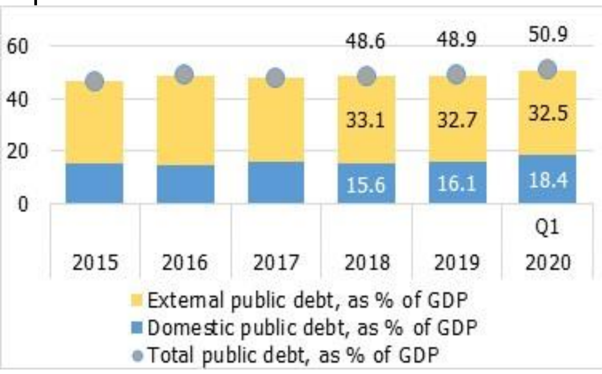


Total budget balance funding structure
in millions of denars in %
of GDP

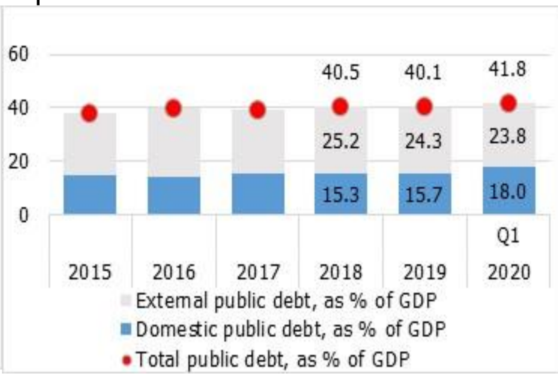
Source: Ministry of Finance and National Bank calculations.

Chart 29

Dynamics and structure of total public debt, by residency
in percent of GDP

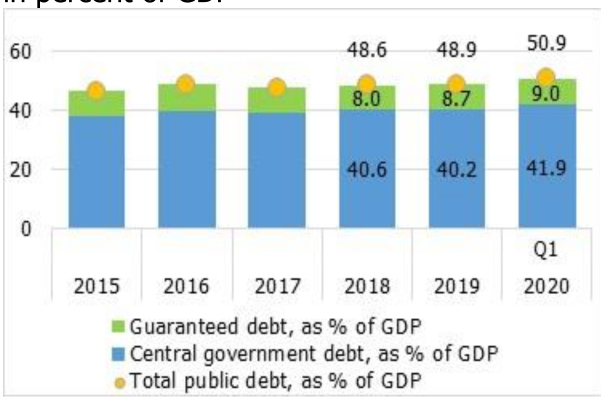


Dynamics and structure of central government debt, by residency
in percent of GDP

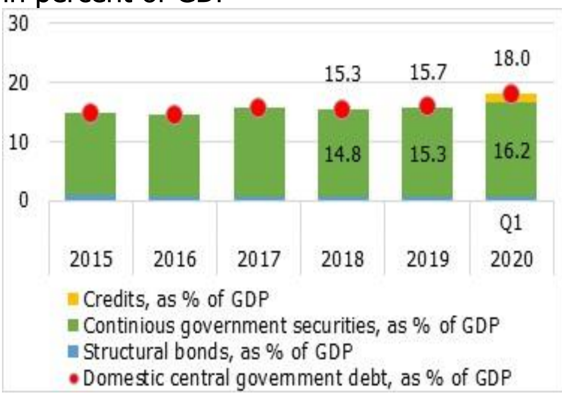


Structure of total public debt

in percent of GDP



Debt structure of domestic central government debt, by residency
in percent of GDP



Source: Ministry of Finance and National Bank calculations.

From the beginning of 2020, the COVID-19 pandemic is reflected on the fiscal sector through reduced revenue collection, due to the decline in economic activity and increased expenditures to support the health sector and to finance measures adopted by the Government to better cope with the economic consequences of the crisis. Such movements contributed to increase the budget deficit, which according to Budged rebalance for 2020, adopted in May 2020[23], is expected to be 6.8% of GDP, and compared to 2.3% of GDP, as originally planned. The increased budged needs for financing the deposit are expected to be covered through increased government borrowing from abroad[24], and domestic financing through government borrowing on the domestic financial market has moderately increased. **The deteriorating fiscal position will increase public debt, which however, is not expected to jeopardize its long-term sustainability.** According to IMF analysis[25], which takes into account the corona crisis effects on the fiscal sector, their public debt remains below the vulnerability threshold in cases of greater shocks[26], which currently does not indicate risk through this channel on the macroeconomic and financial stability, but careful planning of the public finances and their consolidation in the medium term is needed.

Economic measures of the Government to mitigate the adverse effects of the unexpected, uneconomic shock caused by the COVID-19 viral infection.

The first set of economic measures to bridge the adverse effects of the health crisis on the domestic economy was adopted on March 18, 2020. These measures targeted the most affected sectors of the economy and the most vulnerable groups. The purpose of the measures was to provide liquidity support to the affected companies and save jobs. The second set of economic measures was adopted on March 31 and included all companies affected by the crisis, which recorded a decline in revenue by 30% compared to last year's/seasonal average. This set included measures such as tax exemption, direct financial support for liquidity and job protection, and other so-called "soft" measures. The main economic measures to mitigate the consequences of COVID-19 are:

- Support to employers affected by the crisis, for the protection of jobs - payment of wages to workers for April and May 2020 in the amount of up to 14,500 per month per employee in proportion to the achieved effective hours spent at work. The purpose of the measure is to enable companies to retain employees despite the reduced workload and be able to pay salaries. These funds will have the treatment of grants for financially more stable companies, if they invest the same or a larger amount of funds for employee training, process upgrades and productive capital. This measure is estimated to have an effect on 200,000 employees;
- Subsidizing the mandatory social contributions for April, May and June for employees from the sectors of tourism, transport, catering and other affected sectors, in the amount of 50% of the contributions for the average paid salary in 2019;
- Exemption from advance payments for profit tax and personal income tax for legal entities and self-employed individuals, for March, April and May 2020;
- Interest-free credit line (in the amount of Euro 5.7 million) for micro, small and medium-sized enterprises from the most affected economic activities (tourism, catering and transport); interest-free credit line (in the amount of Euro 8 million) for micro, small and medium-sized companies from all sectors affected by the crisis; other loans with favorable terms for companies, in the total amount of Euro 50 million;
- Measures of commercial banks (based on a Government Decree and amendments to the banking

[23]Based on a Decree with legal force on amending the Budget of the Republic of Macedonia for 2020 during a state of emergency, adopted by the Government of the RNM on 15 May 2020.

[24] At the beginning of April, the International Monetary Fund approved financial support for our country, through the rapid financing instrument, in the amount of Euro 176.5 million, and at the beginning of June, inflows were realized based on the issuance of a Eurobond on the international capital market, in the amount of 689 million euros. With the rebalance of the Budget of RNM for 2020, in order to deal with the consequences of the crisis caused by COVID-19, in addition to the inflow from IMF, inflows are planned based on favorable loans from international financial institutions intended to finance certain projects, loan from the European Union for macro-financial support in the amount of Euro 160 million and issuance of an Eurobond on the international capital market in the amount of Euro 800 million.

[25] IMF Country Report No. 20/113, April 2020.

[26]The IMF forecasts assume that the budget deficit for 2020 will be 6.5% of GDP.

regulations by the National Bank) and of financial companies and leasing companies, aimed at temporarily easing the financial burden of citizens and companies.
The third set of economic measures was adopted on May 17 and targeted direct assistance to three segments:

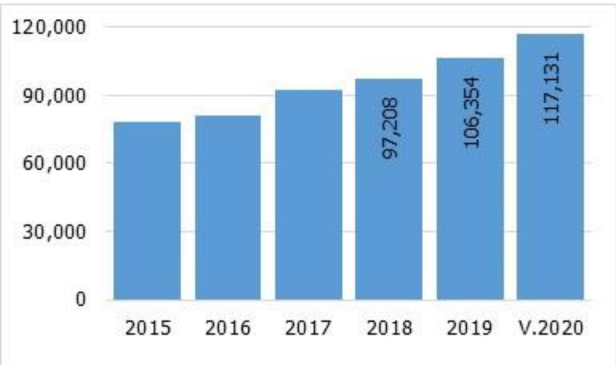
- Citizens' support - payment cards for socially vulnerable categories, for families with lower than Denar 9,000 income and young people, in order to strengthen trust and encourage consumption, focusing on products and services from the affected sectors in the domestic economy; encouraging domestic tourism with vouchers of Denar 6,000 and a payment card of Euro 50 for people with lower incomes; co-financing the education of young people up to 29 years of age in the sector for information technology and domestic payment card of Euro 50, in order to increase employment and competitiveness;
- Business sector support - interest-free loans for SMEs with a 30% grant component; financial support to increase competitiveness and exports with an industry focus; development of a state guarantee scheme through the Development Bank of RNM; programs to support innovation and digitization of SMEs with grants; and
- Support of the agricultural sector - to increase competitiveness, financing micro-entities in the agricultural sector and modernization of agriculture.

Source: Ministry of Finance.

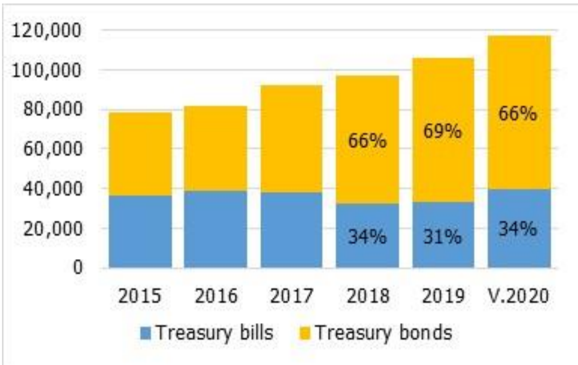
Extending the maturity of government securities by shifting the maturing short-term securities to longer maturities is typical in the last several years. These trends continued during 2019, which contributed to the growth of the share of government bonds in the structure of total government securities up to 69% (66% in the previous year). The share of treasury bills decreased and at the end of the year was 31% (34% at the end of 2018). Shifts were also registered in the currency structure of the domestic government debt, visible through the growth of the share of government securities without a currency clause· in n the total portfolio of continuous government securities from 57% to 60%, while reducing the share of government securities from with a currency clause from 43% to 40%.

Chart 30

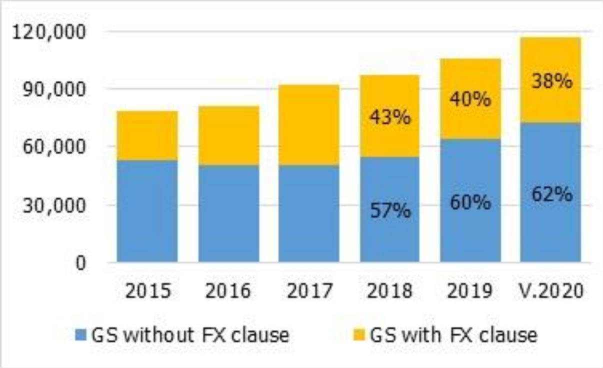
Total stock of government securities
in millions of denars
in %



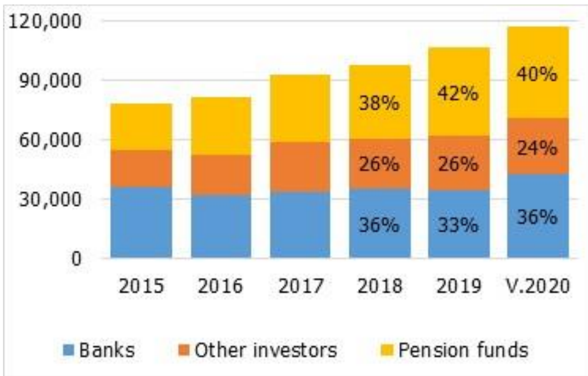
Maturity structure of government securities
in millions of denars
in %



Currency structure of government securities
in millions of denars
in %



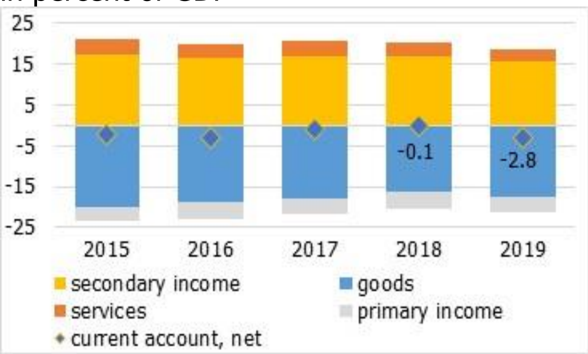
Ownership structure of government securities
in millions of denars
in %



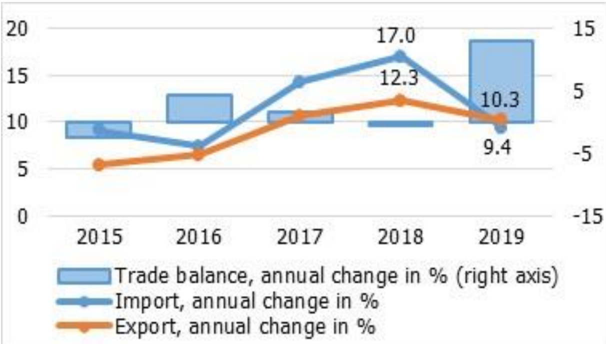
Source: Ministry of Finance.

The current account deficit of the balance of payments deepened in 2019. The current account deficit in 2019 amounted to Euro 314 million i.e. 2.8% of GDP, which is a deepening of 2.6 p.p. of GDP, on an annual basis. Maintaining a moderate level, the current account deficit does not signal the existence of major imbalances in the external sector. The widening of the current account deficit is mostly due to the higher trade deficit, amid a decline in the surplus in the services balance. Compared to the other current account components, the secondary income registered a slight deterioration, which amid moderate growth of private transfers, mainly results from lower net inflows in the government, while the primary income deficit is almost unchanged compared to 2018. The foreign trade deficit widened by 13% on an annual basis, compared to the small narrowing in the previous year. In conditions of a less favorable external environment, the export of goods increased by 9% on an annual basis, compared to last year's growth of 17%.

Chart 31
Current account and main components
in percent of GDP



Imports, exports and trade balance
annual changes, in %

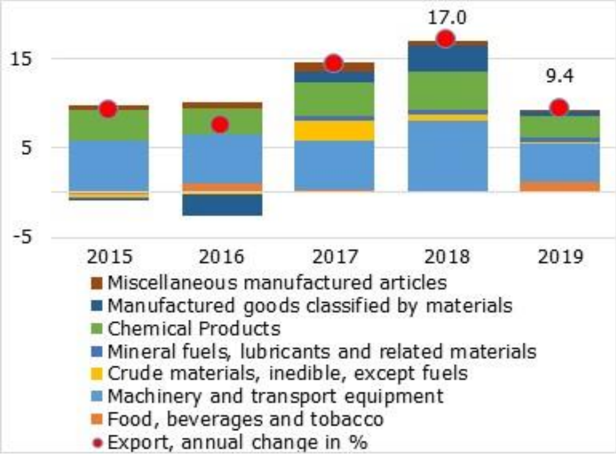


Note: Exports and imports of the Republic of North Macedonia, by sector and segment, are presented according to the system of international trade classification.

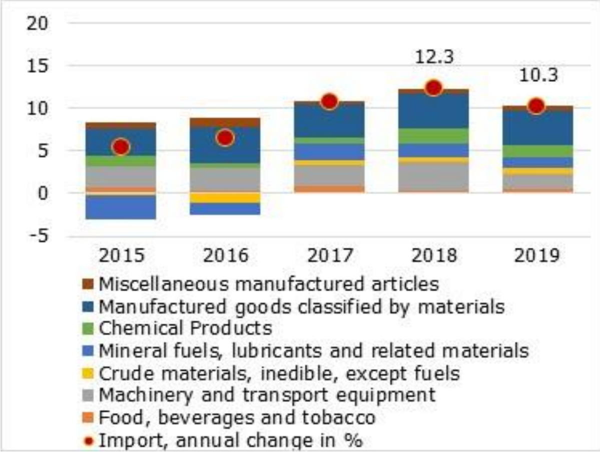
Structurally speaking, the performances result from the weaker export of foreign export facilities, with slightly better performances in some of the traditional export sectors. Export performances were partly reflected in the movements of the import component of foreign trade. Namely, the annual growth of imports is 10% (12% in 2018) and mainly arises from the raw material import of foreign export facilities.

Chart 32

Annual export growth and contribution to the annual growth, by sector
in percentage points in percent



Annual import growth and contribution to the annual growth, by sector
in percentage points in percent

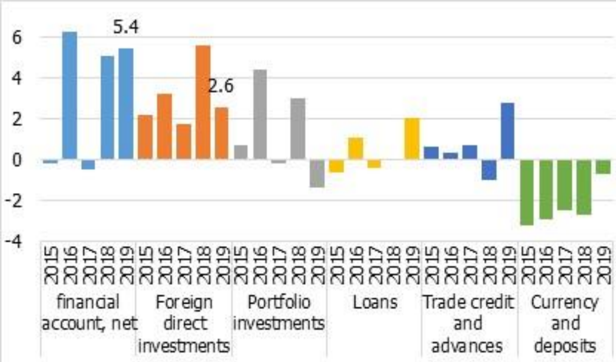


Source: State Statistical Office.

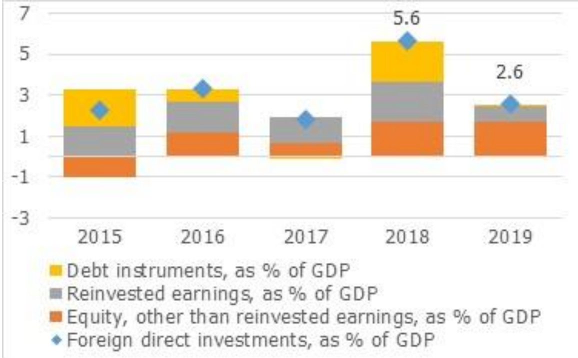
In the balance of payments, financial account inflows enabled full financing of the current account deficit and growth of foreign reserves. During 2019, the financial account of the balance of payments registered net inflows in the amount of Euro 616 million or 5.4% of GDP (5.1% of GDP in the previous year) and are a combination of debt and non-debt sources of funding. Foreign direct investments in 2019 amounted to Euro 290.6 million or 2.6% of GDP, which is lower than the previous year, when above average 5.6% of GDP were registered (partly due to one-time factors), but also is still at the level of the historical average for the period from 2010 onwards. Structurally speaking, it is important to note the growth of equity capital, as opposed to increased outflows based on intercompany lending and reduced reinvested earnings as a result of higher dividends paid in 2019. A significant source of inflows in the financial account in 2019 are the net inflows based on borrowing, primarily of other sectors (banks and non-banking corporate sector), part of which refers to the borrowing of public enterprises for the construction of road infrastructure, supplemented with government borrowing and depository corporations. Such performances are partially offset by net outflows based on portfolio investments, mostly as a result of the reduction of net government liabilities abroad (based on issued debt securities) when the banking sector invests in domestic Eurobonds, as well as due to the decrease of the net assets in the category "currency and deposits", mainly as a result of the reduced assets of the depository corporations.

Chart 33

Financial account and main components
in percent of GDP



Foreign direct investments
in percent of GDP

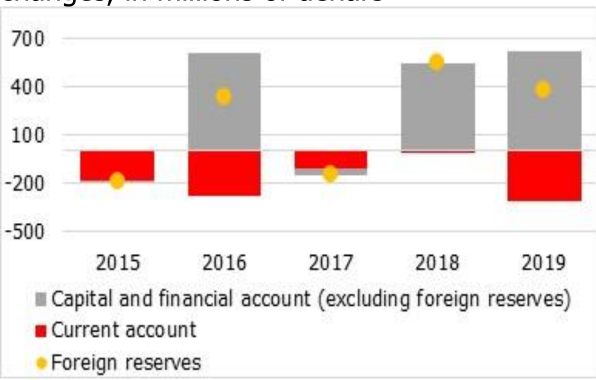


Source: National Bank.

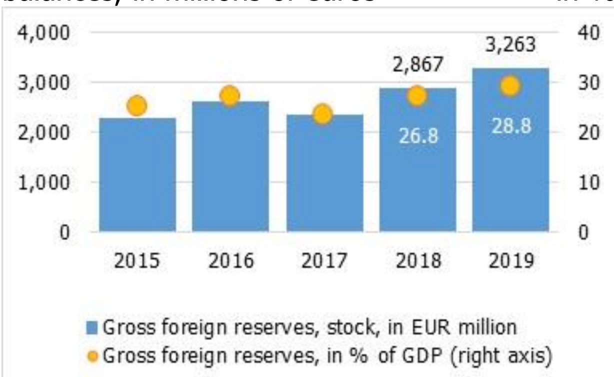
Foreign reserves achieved a significant growth in 2019 amounting to Euro 3,263 million or 29% of GDP at the end of 2019. The increase (by Euro 395 million) mostly arises from the National Bank purchase of foreign currency on the foreign exchange market, while the decrease results from the transactions on behalf of the government. According to adequacy indicators, gross foreign reserves are still maintained in a safe zone.

Chart 34

Current, capital and financial account and foreign reserves
changes, in millions of denars

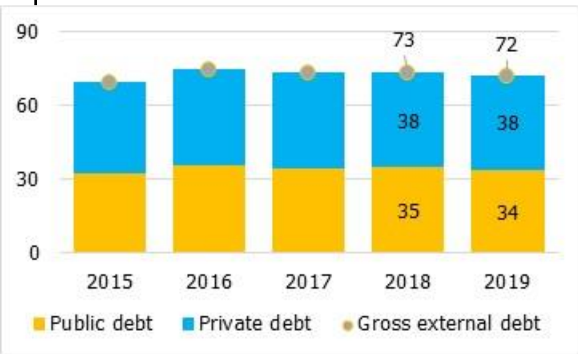


Gross foreign reserves and share in GDP
balances, in millions of euros in %



Source: National Bank.

Chart 35
Gross external debt, by debtor
in percent of GDP



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

The risks for the external sector in the next period are mainly related to the deteriorating global and domestic environment due to the spread of the new COVID-19 viral infection. The expected reduction in the export activity as a result of the pandemic, coupled with the narrowing of inflows based on private transfers should contribute to deepening the current account deficit to 3.2% of GDP in 2020 (from 2.8% in 2019). The current account deficit is expected to be financed mainly through external government borrowing and foreign direct investment, which will provide full coverage of the gap in current transactions and additional growth of foreign reserves. **Foreign reserves are expected to remain in the safe zone during the next period, providing support for exchange rate stability as one of the pillars of financial stability.**

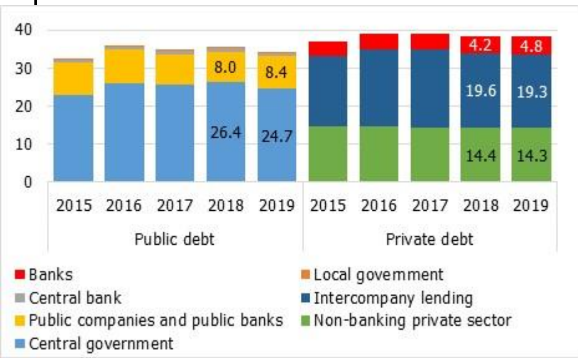
Gross external debt[27] decreased in 2019 and amounted to 72% of GDP at the end of 2019 compared to 73% of GDP in the previous year. The decrease in gross external debt is due to the lower public debt (by 1.3 percentage points of GDP), amid a small growth in the private sector debt (of 0.2 percentage points of GDP). Regarding public sector debt, the decrease mainly results from the lower liabilities of the government based on debt securities, amid banks investments in domestic Eurobonds, which is partially offset by higher liabilities based on long-term loans to public enterprises. In contrast, the annual growth of private debt is due to the higher debt of the banking sector, as a result of higher long-term liabilities based on loans and increased short-term liabilities of currencies and deposits.

The analysis of external debt ratios of the national economy show that the external debt is still in the safe zone. Solvency and liquidity ratios in payments to abroad point to relatively moderate external debt of the Republic of North Macedonia. Gross external debt to GDP ratio still classifies our economy in the group of highly indebted countries, while all other ratios point to low indebtedness. It is especially important to emphasize the solid structure of gross external debt, in which, liabilities based on intercompany debt and liabilities based on trade credits have relatively high share, close to 40%, which are more flexible and less risky forms of debt, which reduces the economy's vulnerability to the risk of potentially excessive external indebtedness.

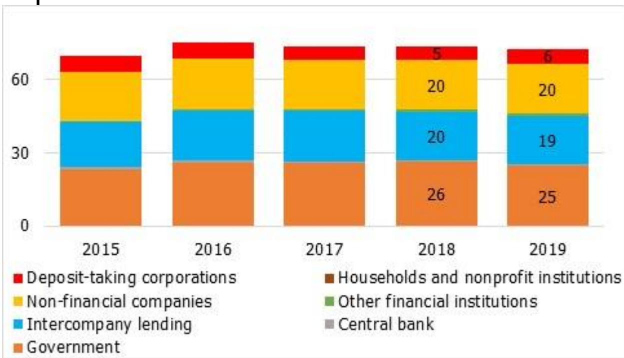
[27] Gross external debt includes public external debt, publicly guaranteed private sector debt and private non-guaranteed external debt. In the absence of publicly guaranteed private debt, the external private debt actually includes only non-guaranteed debt.

Chart 36

Structure of public and private debt by institutional sectors
in percent of GDP



Structure of gross external debt by institutional sectors
in percent of GDP

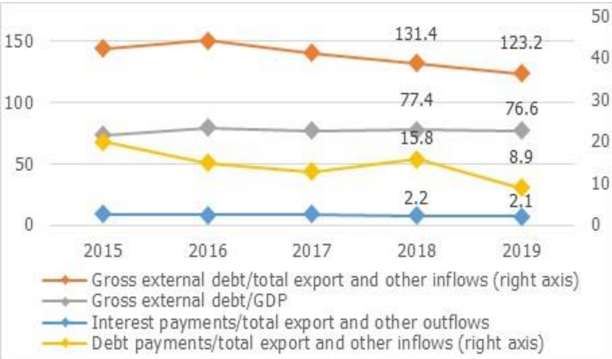


Source: National Bank.

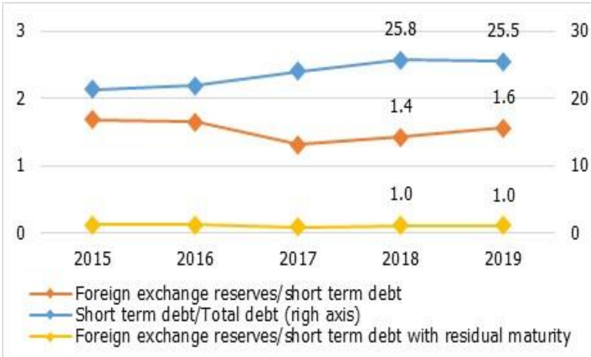
Note: Gross external debt of other sectors includes other financial institutions, non-financial corporations, households, and NPISHs.

Chart 37

Solvency, as an indicator of external indebtedness
in %



Liquidity, as an indicator of 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.

2.2. Setup of monetary policy instruments

The National Bank monetary policy is aimed at preserving price through a strategy of targeting a stable nominal exchange rate of the denar against the euro. The importance of the exchange rate in maintaining price stability and stable inflation expectations of economic agents arises from the characteristics of the domestic economy, as a small and open economy with high import dependence. Regarding the operational implementation of the monetary policy, the National Bank, in normal conditions, applies a standard set of monetary instruments and procedures, which are set on a flexible basis, in order to ensure stable liquidity conditions and balance on the foreign exchange market. In crises, the National Bank has and can apply non-standard measures. In 2019, the monetary policy was implemented in a stable domestic environment, and no changes were made in the instruments' setup.

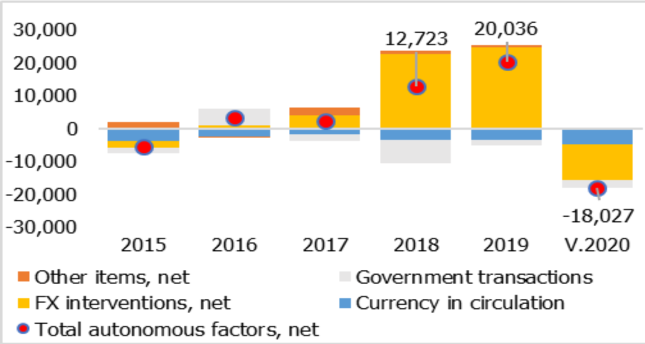
At the beginning of 2020, with the rapid spread of COVID-19 virus infection globally, the risks for the domestic economy deepened. In response to the new situation, the National Bank reduced the key interest rate in several occasions, which signaled further easing of the overall financing conditions, freed up liquidity in the system, and took additional non-standard measures in order to enable smooth credit flows in the economy.

CB bills emission is the basic instrument of the National Bank through which part of the excess liquidity is continuously withdrawn from the banking system. The application of an instrument for withdrawing liquidity from the banking system (sale of CB bills) arises from the structural liquidity position i.e. from the presence of excess liquidity in the banking system, which is created as a result of the changes in the so-called autonomous factors (cash in circulation, government transactions and National Bank interventions in the foreign exchange market), in the long run. In 2019, the liquidity in the banking system continued to increase under the influence of autonomous factors, with most of the created liquidity, similar to the previous year, arising from the National Bank interventions on the foreign exchange market (purchase of excess foreign currency by banks). During 2019, the National Bank conducted auctions for the sale of CB bills[28] and thus withdrew part of the excess liquidity in the system. The oitstanding amount of CB bills at the end of 2019 was Denar 24,769 million and remained at a relatively stable level during the year, as well as compared to the previous year (Denar 25,000 million at the end of 2018).

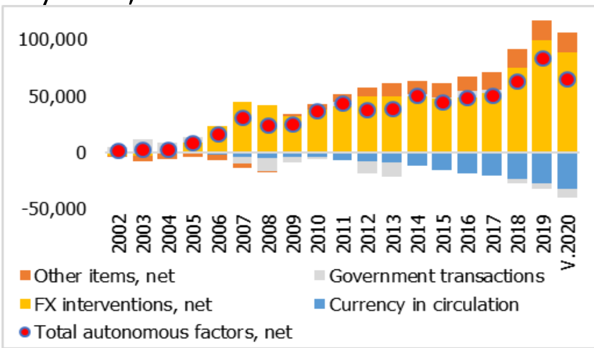
[28]CB bills auctions are conducted once a month, at the beginning of the reserve requirement period, by applying a tender with amounts (limited amount) and a fixed interest rate. At the auctions, starting from November 2013, a mechanism for limiting the potential demand for CB bills is applied. Pursuant to this mechanism, starting from March 2015, the amount with which banks can participate in the auction is conditional on the share of their liabilities, which form the basis for calculating the required reserve in domestic currency without a currency clause, in the liabilities that form the basis for calculation of the required reserve in domestic currency without a currency clause for the total banking system, for the reserve requirement fulfillment period. For more information see the Decision on CB bills (Official Gazette of the Republic of Macedonia No. 166/13, 30/15, 35/15 and 148/15).

Chart 38

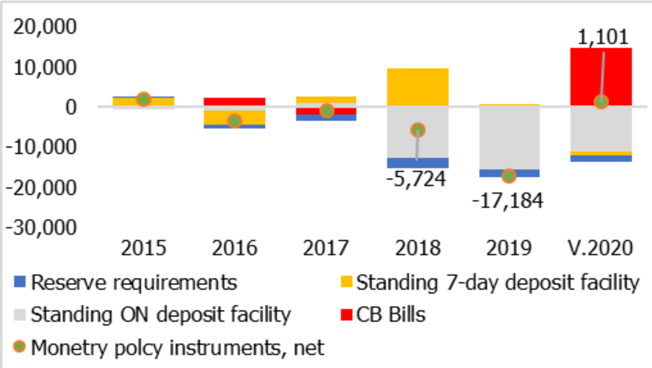
Autonomous factors
changes, in millions of denars



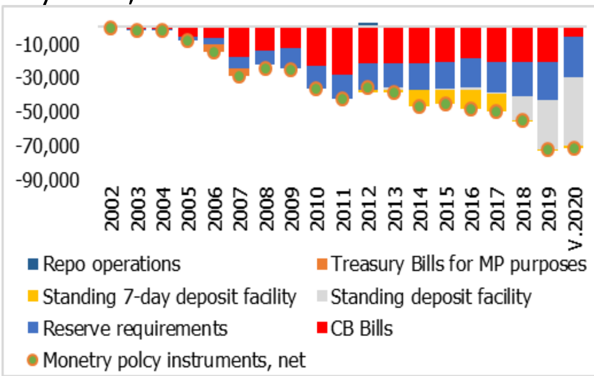
Autonomous factors
cumulative changes for the period 2002 - May 2020, in millions of denars



Monetary instruments
changes, in millions of denars



Monetary instruments
cumulative changes for the period 2002 - May 2020, in millions of denars



Source: National Bank.

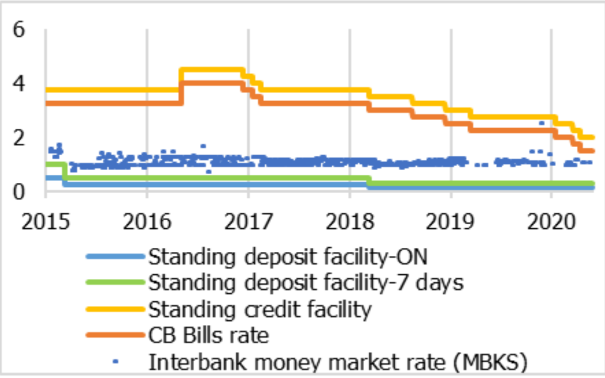
At the beginning of 2020, the National Bank reduced the amount of CB bills and took additional measures to support the domestic economy. In the first quarter of the year, the banks' liquidity decreased significantly under the influence of autonomous factors, whereby, structurally speaking, all autonomous factors acted to reduce liquidity[29]. During April, amid growing uncertainty about the rapid spread of COVID-19 virus infection and the possible effects on the domestic economy, cash in circulation continued to increase, which in combination with further interventions in the foreign exchange market by selling foreign currency, contributed for a significant decline in liquidity in the banking system. In order to ensure stable liquidity conditions and smooth credit flows in the economy, the National Bank, at the auctions in April and May, reduced the CB bills supply by Denar 8,000 and 7,000 million, respectively, thus freeing liquidity in the banking system in total amount of Denar 15,000 million. In order to support the domestic economy, the National Bank took additional measures and applied non-standard instruments (Annex 1).

Through the interest rate on the basic instrument, the National Bank signals changes in the financing conditions. In 2019, the National Bank continued to signal easing of financing conditions by lowering the key interest rate. In conditions of a stable domestic environment and absence of price pressures, favorable movements in the foreign exchange

[29]The government transactions were aimed at reducing the Denar liquidity, mostly as a result of the repayment of the government loan to Deutsche Bank in the amount of about Euro 158 million in January 2020. In conditions of increased uncertainty from the spread of the COVID-19 virus infection, cash in circulation increased significantly in March, reducing the liquidity of the banks, and the foreign exchange interventions of the National Bank acted in the same direction.

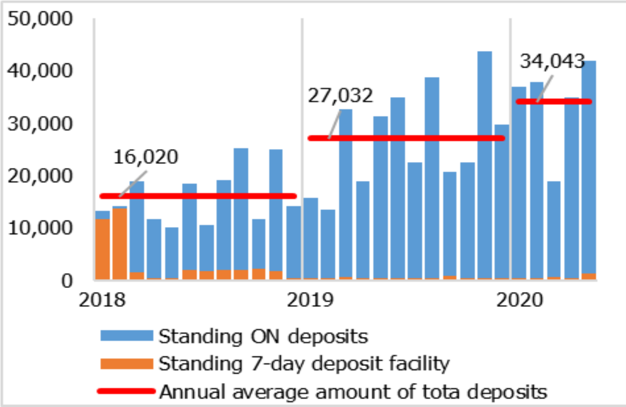
market and stable expectations of economic agents, the interest rate on CB bills in 2019 was reduced once, in March, by 0.25 percentage points, to the level of 2.25%. At the beginning of 2020, in conditions of the outbreak and rapid spread of COVID-19 virus infection in the domestic economy, the National Bank reduced the key interest rate on three occasions (January, March and May) by a total of 0.75 percentage points, to 1.5%, which sent a clear signal for a significant easing of funding conditions.

Chart 39
Interest rates of the National Bank and interbank interest rate
in %



Source: National Bank

Chart 40
National Bank deposit facilities balances, in millions of denars



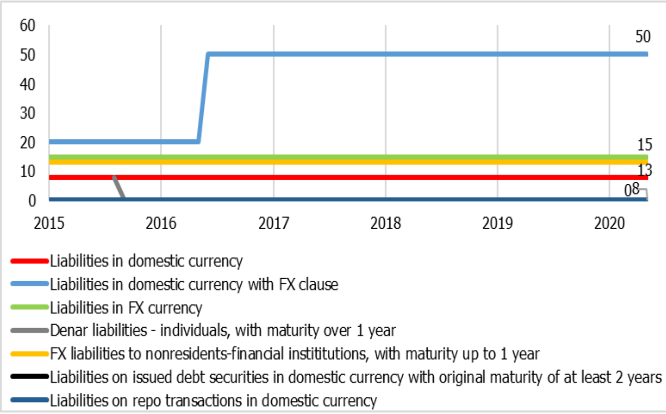
Source: National Bank.

The banks place the free liquid assets in deposits with the National Bank[30]. In 2019, given the limited CB bills supply, banks placed part of the free liquid assets in deposits with the National Bank. In conditions of increased liquidity in the system, the deposit facility in 2019 averaged Denar 27,032 million and was higher compared to the previous year (Denar 16,020 million). The total amount of bank deposits placed with the National Bank at the end of 2019 is Denar 29,599 million and is twice higher compared to the end of the previous year (Denar 14,176 million). In order to overcome the liquidity needs, and given the availability of deposits, in March the banks withdrew part of the funds placed as deposits with the National Bank. In the period April-May, the increase of bank deposits with the National Bank was mostly influenced by the released liquidity through the CB bills auctions. These funds are available to banks to ensure smoothness in the process of further credit support to the real sector.

Interest rates on overnight deposits and seven-day deposits in 2019 and in the first five months of 2020 remained unchanged (0.15% and 0.30%, respectively). The interest rate on overnight deposits is the lower limit of short-term money market interest rates.

[30] A bank may place overnight deposits in the National Bank each working day and seven-day deposits once a week, on Friday. Thus, banks are not entitled to withdraw the invested deposits earlier, either in part or in full. For more information see the Decision on deposit facility (Official Gazette of the Republic of Macedonia No. 49/12, 18/13, 50/13, 166/13 and 35/15)

Chart 41
Reserve requirement rate
in %



Source: National Bank

The reserve requirement is a standard monetary instrument of the National Bank. According to the set-up of the reserve requirement system, the banks and savings houses in the Republic of North Macedonia are obliged to set aside a part of their liabilities on the accounts with the National Bank. Differentiated rates are applied to the banks 'reserve requirement, which are determined depending on the currency and maturity characteristics of the banks' liabilities and are aimed at stimulating Denar and long-term savings, while a unified rate is applied to the reserve requirement for savings houses in domestic currency (2.5%)[31]. During 2019, the National Bank did not make any changes in the setup of the reserve requirement system.

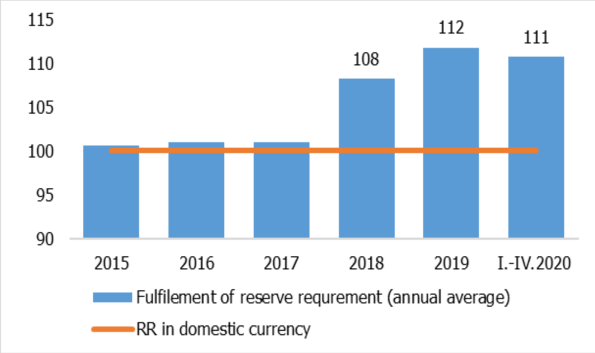
With the new situation in the domestic economy, and in support of the most affected activities, in March 2020 the National Bank amended the scope of the basis for calculating the reserve requirement. Namely, when calculating the reserve requirement of banks, the basis for the reserve requirement in denars is reduced by the amount of newly approved and restructured loans granted to companies in the most affected industries as a result of the spread of viral infection in the domestic economy[32]. These amendments shall become effective starting in the June reserve requirement period, which uses banks' liabilities in the month prior to the reserve requirement (May) as the basis for calculation.

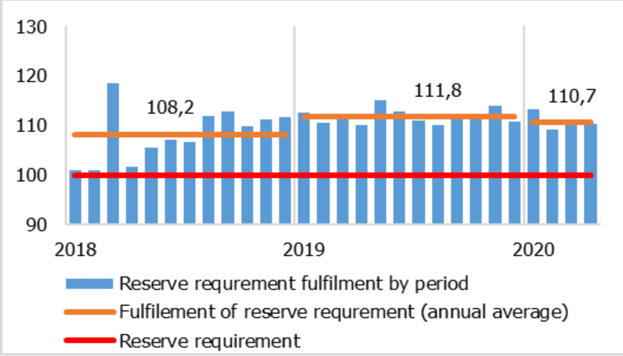
The presence of excess liquidity in the banking system is also evident through the fulfillment of the required reserve. In 2019, banks continuously ended the reserve requirement period with more allocated funds, which on average is 12% for the whole 2019 (8% in 2018). At the beginning of 2020, amid the liquidity released through CB bills, the banks' surplus funds on the accounts with the National Bank for the first four periods of the reserve requirement averaged 11%.

The National Bank also conducts repo operations to provide liquidity[33]. In 2019, the National Bank regularly conducted repo auctions to provide liquidity in the banking system in which it offered liquid assets (in the amount of Denar 500 million) in exchange for securities[34]. Amid increased liquidity in the system, banks had no interest in this instrument during 2019. There was no interest in this instrument in the first five months of 2020, including in the period of the pandemic, which confirms the solid level of liquidity of banks.

[31] For more information see the Decision on reserve requirement (Official Gazette of the Republic of Macedonia No. 87/16, 218/16, 138/17, 189/17 and 198/18).
[32] Decision amending the Decision on reserve requirement (Official Gazette of the Republic of North Macedonia No. 146/20)
[33] The auctions included volume tenders at fixed interest rate equal to the CB bill interest rate For more information about liquidity injecting repo auction see the Decision on purchase and sale of securities on temporal and outright basis by the National Bank of the Republic of Macedonia (Official Gazette of the Republic of Macedonia No. 81/11). In addition to repo auctions for providing liquidity, the current position of the monetary set of the National Bank envisages the possibility of conducting repo auctions for liquidity withdrawal, through bilateral repo transactions.
[34] List of securities for conducting monetary operations (Official Gazette of the Republic of Macedonia No. 152/20).

Chart 42
Maintenance of banks' reserve requirement in denars
annual data and data by period, in %





Source: National Bank.

As part of the set of measures taken by the National Bank in the first half of 2020 to tackle the adverse effects of viral infection on the domestic economy is the expansion of the scope of securities that are accepted as collateral instruments for conducting monetary operations, on a temporary or definitive basis[35]. Accordingly, as of 9 June 2020, the National Bank accepts domestic government bonds with the longest maturity (15 and 30 years) and Eurobonds issued by the government on international financial markets, which are held by the domestic commercial banks, as collateral. These changes will provide banks with greater access to liquidity, if they have such a need, which indirectly opens additional space for increased credit support to the economy.

The banks can also compensate the need for liquid assets by using a loan from the National Bank. The overnight loan is an integral part of the monetary set of instruments of the National Bank[36]. The loan is approved as an overnight repo transaction in exchange for securities, in accordance with the List of securities for conducting monetary operations. The interest rate on this instrument is determined by adding 0.5 percentage to the key interest rate of the National Bank and is the upper limit of the short-term interest rates on the money market. Amid the reduction of the key interest rate of the National Bank in March 2019 (by 0.25 percentage points) and on three occasions in the period January-May 2020 (for a total of 0.75 percentage points), the interest rate on overnight loans decreased by a total of 1.0 percentage point and at the end of May 2020 amounted to 2%. In conditions of increased liquidity in the banking system, banks did not use this instrument in 2019, and there was no interest in this instrument even in the first five months of 2020.

Banks can use the so-called intraday[37] credit during the day, in order to compensate the liquidity needs. The intraday credit aims to enable the banks to reimburse the temporary liquidity needs during the day. The intraday credit is an interest-free loan, which is approved by concluding a repo transaction, where the collateral instruments are specified in the List of securities for conducting monetary operations. During 2019 and in the first five months of 2020, there were no approved intraday loans.

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[35]The decision to expand the *scope of instruments for providing Denar liquidity in the banking system* was adopted at Operational Monetary Policy Committee meeting held on 13 May.
[36] For more information, see the Decision on overnight credit (Official Gazette of the Republic of Macedonia No. 42/11 and 49/12) shall be applied.
[37] Decision on intraday credit (Official Gazette of the Republic of Macedonia No. 42/11).

Box 1: Overview of National Bank measures to mitigate the adverse effects of COVID-19 viral infection

In order to mitigate the potential adverse effects on the domestic economy, caused by the outbreak and rapid spread of the COVID-19 virus infection, the National Bank took the following monetary, supervisory and prudent measures:

I. Monetary measures:

- In the period January-May 2020, the National Bank reduced the key interest rate on three occasions (January, March and May) by a total of 0.75 percentage points, thus sending a clear signal for significant easing of the general financing conditions.
- In order to ensure stable liquidity conditions and smooth credit flows in the economy, the National Bank, at the CB bill auctions in April and May, reduced the CB bills supply by Denar 8,000 and 7,000 million, respectively, thus freeing liquidity in the banking system in total amount of Denar 15,000 million.
- The National Bank reintroduces the non-standard reserve requirement measure which allows reducing the base for banks' denar reserve requirement for the amount of newly approved and restructured loans to companies which according to the information of the Government of the Republic of North Macedonia are most affected by the spread of COVID-19 (Decision amending the Decision on reserve requirement, Official Gazette of the Republic of North Macedonia No. 146/20). The measure is expected to facilitate loan support on favorable terms by banks for the most affected sectors.
- Through amendments to the List of securities for conducting monetary operations, the National Bank expanded the scope of securities that are accepted as collateral instruments in conducting monetary operations. This way banks will be given with greater access to liquidity, if they have such a need, which indirectly opens additional space for increased credit support to the economy.

II. Measures for delayed supervisory reporting and controls:

- The National Bank amended the risk management methodology, postponing the deadline for banks to submit the first report on the internal liquidity adequacy assessment process (Decision on amending the Decision on the risk management methodology, Official Gazette of the Republic of North Macedonia "no. 69/20). This regulatory easing enables bank to meet this obligation by September 30, 2020 instead of May 31. In this way, banks and their teams are given room to focus on providing credit support to the corporate sector and the households and maintaining the quality of loan portfolio.
- The National Bank also extended the deadline for banks to submit the Report on the internal capital adequacy assessment process, as well as the stress tests for 2020. This regulatory easing enables banks to meet these obligations in the period from 31 May - 31 July 2020 instead of until 31 May, and each bank shall notify the National Bank on the deadline in which it will submit the reports by 31 May.
- In order to comply with all issued recommendations for preventing of the negative effects from the spread of the COVID-19 virus infection, the National Bank has put the Plan for on-site inspections for 2020 on hold.

III: Regulatory/prudent measures:

- The National Bank amended the regulation on credit risk management (Official Gazette of the Republic of Macedonia No. 76/20 and 116/20) aimed at temporary easing of the financial burden of citizens and companies who use loans, and who already face or in the next period could face real difficulties in settling their liabilities to banks and savings houses, caused by the situation with the coronavirus.

The amendments leave additional regulatory room for banks and savings houses to offer more favorable contractual terms for the existing loans to those borrowers – natural persons and legal entities, who before 29 February 2020 had no problem with the repayment, i.e. their loans were not non-performing, and in the forthcoming period, they could face real difficulties in settling their liabilities. More specifically, the changes refer to greater flexibility of banks and savings houses when modifying the contractual terms for repayment of loans in favor of clients, depending on the need and financial capability of each borrower. These provisions also apply to loans that are approved in the period until the beginning of their application i.e. from 1 to 25 March.

The more favorable terms may be a temporary delay of the payment liability (grace period), prolonging of the maturity date, lower interest rate, approving of a new more favorable loan to repay the existing one, etc., thereby enabling reduction of the current burden of citizens and companies in dealing with the negative pressures of the pandemic. The changes in the contractual terms made by 30 September 2020, in accordance with the regulatory changes, will not be considered restructuring of credit exposure. This also allows citizens and companies who by the beginning of March had no problem with the repayment of their loans, free further access to credit support.

The regulatory amendments also eased the requirement for classification of a certain loan as non-performing. Instead of the current approach which requires from banks and savings houses to record loans that are with a delay longer than 90 days as non-performing, now the criterion for shift to a non-performing claim is moved to 150 days. Moreover, banks and savings houses will be able to apply this treatment only to those borrowers who by the end of February 2020 did not face repayment problems. This regulatory easing is also temporary and by 31 December 2020, banks and savings houses will be required to fully adjust to the existing criterion for identifying non-performing loans.

IV. Measures related to treasury operation services

- The National Bank abolished the fees charged for cash withdrawal and cash return in the central treasury of the National Bank (Decision on amending the Decision on the single tariff for the services rendered by the National Bank, "Official Gazette of the Republic of Northern Macedonia" no. 116 / 20). These amendments eliminate all costs for withdrawing and returning cash and contribute to supporting the cash management process by minimizing the potential risks of transmitting the infection through this channel. At the same time, the National Bank abolished the fee for issuing data to individuals from the Credit Registry for their indebtedness to banks and savings houses. All citizens in need will receive the data report from the Credit Registry free of charge.

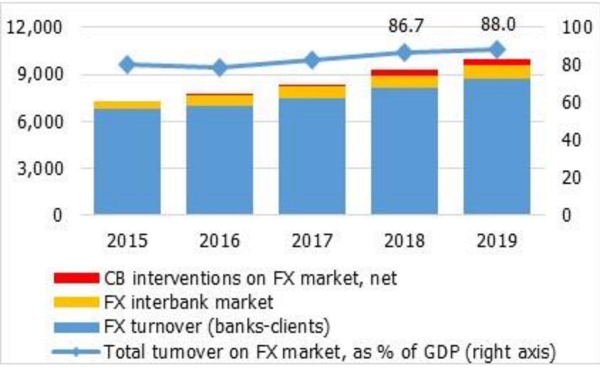
2.3. Foreign exchange market

The foreign exchange market is the most active and most significant segment of the domestic financial markets with a share of 88% of GDP. In this market segment, the movements during 2019 were favorable, given the solid external position of the domestic economy, stable expectations of economic entities and low and stable inflation rate. In such an environment, the supply of foreign currency was continuously higher than the demand, which enabled interventions of the National Bank by purchasing foreign currency. At the beginning of 2020, the uncertainty regarding the possible effects of the rapid spread of the COVID-19 virus infection on the domestic economy increased the demand for foreign exchange in the foreign exchange market. Unfounded information and speculations regarding exchange rate stability had an additional impact on the movements on the foreign exchange market. In response to such situations, the National Bank intervened by selling foreign currency, and through the channels of communication with the public, on several occasions, clearly expressed its readiness to maintain the stability of the domestic currency.

Chart 43

Total turnover on the foreign exchange market and share in GDP

in millions of euros in %

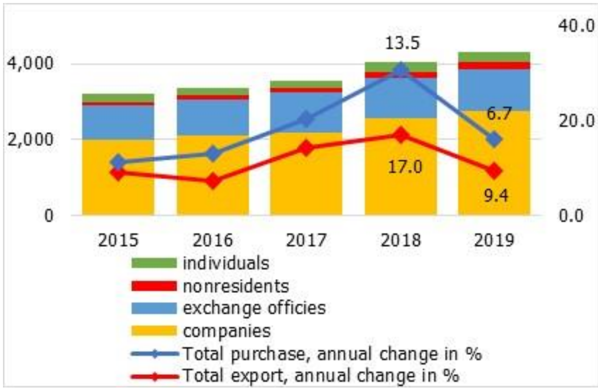


Foreign trade in North Macedonia

in millions of euros in %

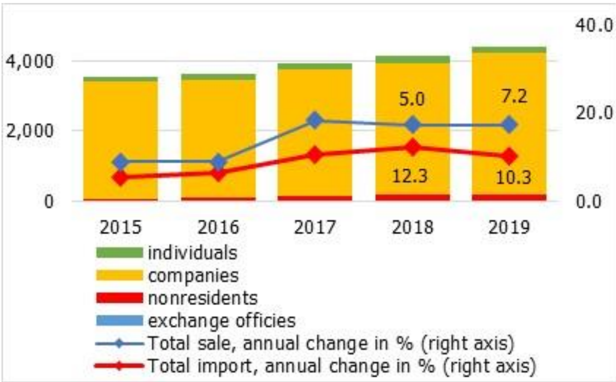
Banks' purchase of foreign currency from customers and total exports

in millions of euros in %



Banks' sale of foreign currency from customers and total imports

in millions of euros in %



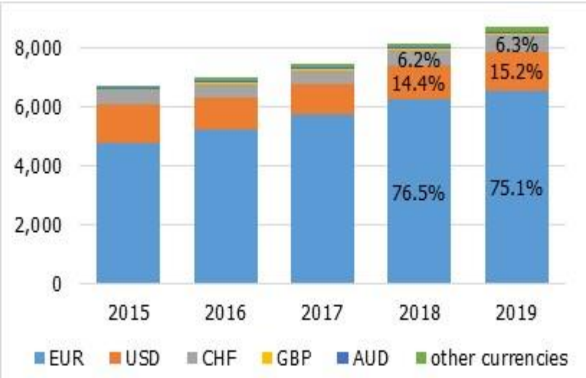
Source: National Bank, based on data submitted by banks.

The total turnover on the foreign exchange market in 2019 continues to grow on an annual basis, but at a more moderate level[38]. The turnover on the foreign exchange market in 2019 amounted to Euro 9,980 million and was higher by 7.7% on an annual basis, which is a more moderate growth compared to the previous year (11%). The growth dynamics of the foreign exchange market turnover still largely corresponds to the foreign trade, which increased by about 10% in 2019, on an annual basis versus growth of 14.3% in 2018. Structurally speaking, amid slower annual growth of total exports (9.4% vs. 17% in 2018), the purchase of foreign currency by banks from customers in 2019 (Euro 4,320 million) registered a more moderate growth on an annual basis (6.7% vs. 13.5% in 2018), while the sale of foreign currency (Euro 4,418 million) was higher by 7.2% (5% in 2018), amid annual growth of total imports of 10.3% (12.3% in 2018).

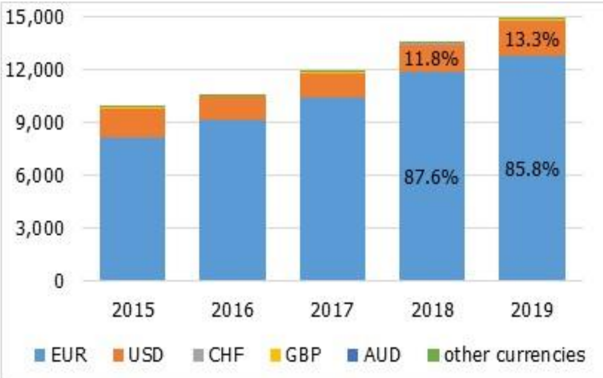
In terms of currency, the transactions in euros prevail on the foreign exchange market. In the total transactions of banks with their clients, the share of the euro in 2019 is dominant and amounts to 75.1% (76.5% in 2018), followed by the US dollar with a share of 15.5% (14.4% in 2018), while the share of other currencies (among which the Swiss franc, the British pound and the Australian dollar are the most common) is relatively small. This currency structure mostly arises from the transactions of banks with companies, which largely correspond to the currency structure of foreign trade, and partly reflects the transactions of banks with natural persons and exchange offices.

Chart 44

Currency structure of banks' transactions with their clients in the foreign exchange market
share in %



Currency structure of the total foreign trade
share in %



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

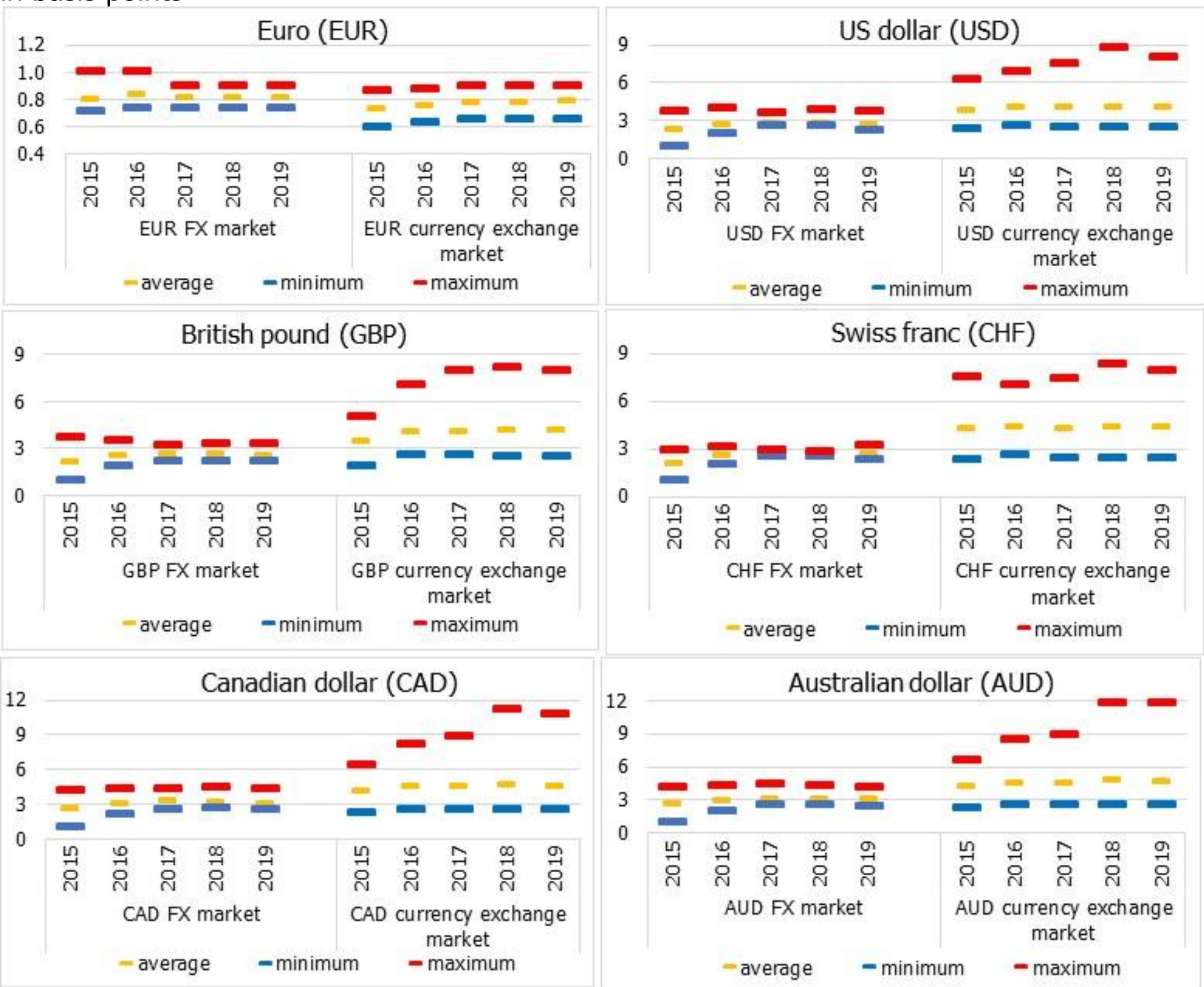
The comparisons of the bid-ask spreads of the euro and other currencies in the currency and foreign exchange markets do not indicate significant changes on an annual basis[39]. In conditions of a strategy for targeting the nominal exchange rate of the Denar against the Euro, the average bid-ask spread of the Euro on the currency and the foreign exchange market is low. In 2019, this spread is 0.8 percentage points and does not change compared to last year. For other currencies, the average bid-ask spreads in the foreign exchange markets (US dollar, British pound, Swiss franc, Canadian dollar and Australian dollar)

[38] The total turnover on the foreign exchange market encompasses transactions between banks and their customers (legal entities and natural persons, exchange offices and non-residents), interbank market transactions, including net-interventions of the National Bank with market makers.

[39] The calculation of bid-ask spread on the currency exchange market uses publicly available data of all banks in the Republic of North Macedonia, except the Development Bank of North Macedonia AD Skopje, while the calculation of the spread on the foreign exchange market uses data of market makers.

are higher, which is associated with the more modest liquidity of these currencies in the foreign exchange market and/or the presence of other currencies in the foreign exchange market.

Chart 45
Bid-ask spread on the currency exchange market and the foreign exchange market in North Macedonia of selected currencies
in basis points



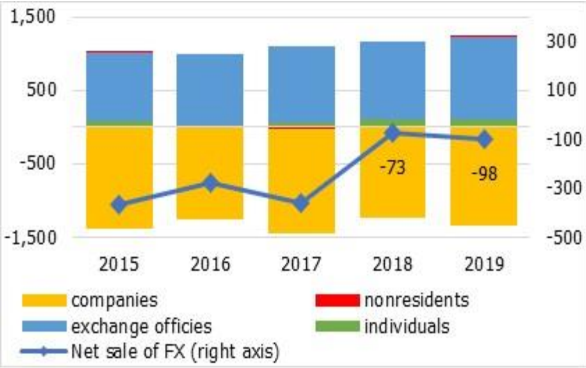
Source: National Bank and banks' websites.

In 2019, the average bid-ask spread of these five currencies on the currency exchange market averaged 2.8 percentage points (2.9 percentage points in 2018), while on the foreign exchange market, it is higher and averages 4,4 percentage points (4.5 percentage points in 2018). The higher average bid-ask spreads on the foreign exchange market (for cash) compared to the foreign exchange (non-cash) market reflect the additional margin that banks incorporate in the prices of currencies to cover the cost of handling cash.

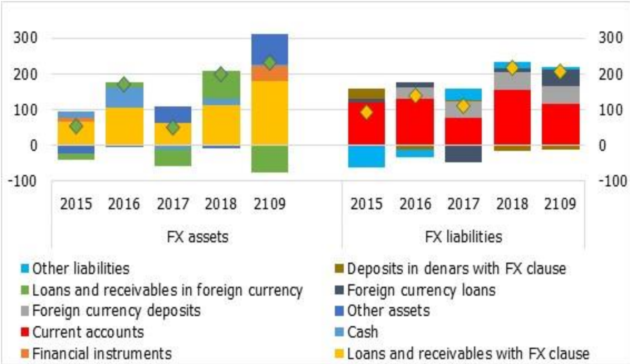
In the currency exchange market, banks in 2019 achieved low net sales of foreign currency in transactions with their customers. In 2019, banks, in transactions with exchange offices, individuals and non-residents, on a net basis purchased foreign currency in the amount of Euro 1,238 million, which is higher by Euro 85 million on an annual basis and is also the historically highest annual amount. According to the dynamics, most of the foreign exchange purchase is in the third quarter of the year, as a result of the usually higher foreign exchange inflows in the country based on private transfers. With the purchased foreign currency from the exchange offices, non-residents and individuals, banks continuously compensate the demand for foreign currency from the companies, which was present throughout the year. In the transactions with the companies, banks registered a net sale of foreign currency in the amount of Euro 1,336 million, which is Euro 110 million higher compared to the previous year. Hence, for the whole of 2019, on the foreign exchange market, banks registered sales of foreign currency in the amount of Euro 98 million, which is by Euro 25 million higher compared to the previous year.

Chart 46

Net purchase/sale of foreign currency on the foreign exchange market, by client and total in millions of euros



Banks' foreign currency assets and liabilities annual changes, in millions of denars



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

In the interbank market, banks actively traded and compensated the need for foreign currency liquidity. Amid continuing negative returns of financial instruments on the international markets, banks actively managed their balance sheets in 2019, shifting part of their foreign exchange potential to the domestic economy. On the interbank market, the supply was continuously higher than demand, with turnover (Euro 843 million) increasing by 14.9% on annual basis. The share of market makers in transactions with other banks amounts to 64.4% in 2019, which clearly indicates the active role of the market makers in this market segment and has a positive impact on its further deepening. **In 2019, the National Bank intervened in the foreign exchange market by purchasing excess foreign currency from banks.** Amid continuous higher supply than demand for foreign currency, the National Bank in 2019, for the second year in a row, intervenes in the foreign exchange market with significant purchase of foreign currency from banks. For the entire 2019, the National Bank purchased foreign currency in the amount of Euro 400 million (3.5% of GDP), which is higher compared to the previous year (Euro 368 million), and is also the highest annual amount of purchased foreign currency from banks.

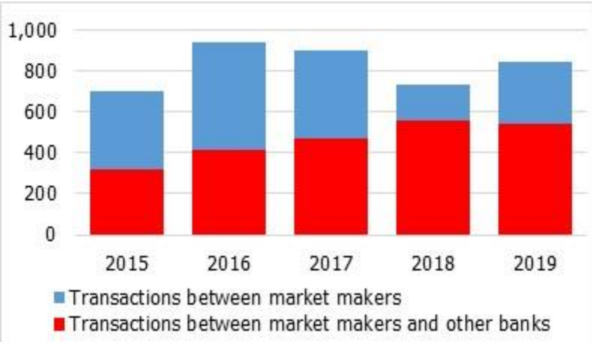
At the beginning of 2020, the National Bank supplemented the need for foreign currency and intervened at the foreign exchange market with the sale of foreign currency. With the increasing uncertainty regarding the possible effects from the COVID-19 viral infection on the domestic economy, foreign exchange market pressures intensified during March and April[40] and were evident thought the increased amount of foreign currency sales in transactions with natural persons and through the lower offer of foreign currency at the exchange offices. An additional effect on the increased demand for foreign currency were the unfounded information and speculation regarding the stability of the domestic currency. In response to the growing demand for foreign currency, the National Bank continuously replenished the required foreign exchange liquidity and stabilized the Denar

[40] The inflow of foreign currency based on a loan from the International Monetary Fund in the amount of Euro 176.5 million was realized on 15 April 2020.

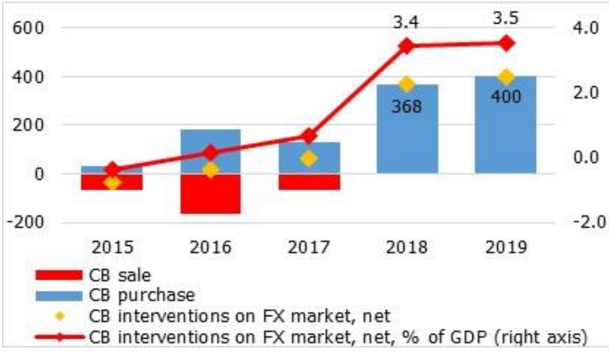
exchange rate through foreign exchange market interventions, and through public communication channels, clearly expressed its readiness to maintain the stability of the domestic currency. During May, the National Bank continued to intervene in the foreign exchange market by selling foreign currency, but at a more moderate level, which may signal a certain stabilization of the expectations of the entities. From the beginning of the year until May, the National Bank intervened in the foreign exchange market by selling Euro 174.2 million.

Chart 47

Interbank foreign exchange market trade
in millions of euros in %



National Bank interventions on the foreign exchange market
in millions of euros in %



Source: National Bank, based on data submitted by banks.
Note: National Bank net interventions on the foreign currency market include its transactions with market makers.

2.4 Household sector

Amid favorable dynamics of the total economic activity, absence of inflationary pressures, reduction of the unemployment rate and increase of wages (especially in the public sector), the disposable income of the "households" sector increased in 2019. The growth of disposable income is the basis for sustainability of the debt level of the "household" sector as a whole, but also for the formation of savings, taking financial risks through investments and subsequent accumulation of funds. The favorable domestic economic environment, together with the returns achieved by domestic institutional investors, especially the mandatory pension funds, accelerated the growth of financial assets of the "household" sector in 2019, which registered the highest absolute growth in the last decade. The accumulated financial assets of the "household" sector, their savings rate and the general perceptions and expectations of the population about the economic developments and the personal financial position, are of increasing importance for the financial stability, especially considering that the "household" sector, except being a user of credit products, it is the most important creditor of both domestic banks and other domestic financial institutions.

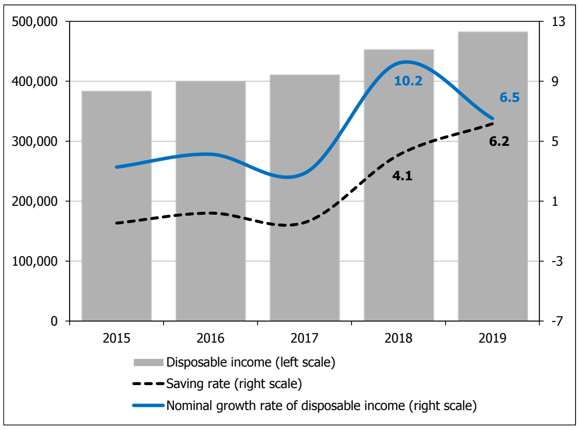
By entering the second phase of the Stabilization and Association Agreement concluded between the Republic of Northern Macedonia and the European Union and its member states (just before the end of 2018), domestic natural persons gained the opportunity to invest in financial instruments in foreign financial markets. This created conditions for households to diversify their financial assets through investments in foreign financial instruments. Indirectly, the new investment opportunities for natural persons mean additional competition for the domestic financial institutions to attract household savings, which amid extremely low deposit yields, will be especially emphasized for domestic banks. At the same time, this would lead to modernization of the offer of financial services on the domestic market, especially by non-bank financial institutions that manage financial funds on behalf of their clients.

Most of the household debt is still concentrated in domestic banks. The growth of credit support to households in the banking sector, which accelerated in 2019, in addition to the positive effects of greater risk dispersion, was due to the further improvement of banks' expectations and assessments of the credit demand risk profile. The quality of the banks' loan portfolio to households has so far manifested a relatively modest default rate and enabled a low rate of non-performing loans, which in 2019 was reduced to the historically lowest level of 2.0%. However, there are certain structural features of lending to the "household" sector, which act as risk factors and whose impact can be crucial in the event of adverse shocks on household disposable income. Namely, a relatively significant part of the loan portfolio of domestic banks is aimed at segments of the population with below-average personal incomes and who are usually significantly more sensitive to negative shocks to disposable income. Moreover, the relatively rapid growth of household loans in the past few years granted primarily for consumer purposes, which were with relatively longer contractual terms, can also prove to be excessive credit risk and lead to over-indebtedness of certain segments of the "household" sector. This is possible if we take into account that the contractual interest rates that incorporate the compensation for the undertaken credit risk are relatively low, influenced by the historically lowest level of the key interest rates, but also due to the competition on the domestic credit market. In addition, although

they serve a small part of households, it is necessary to closely monitor the activities of financial companies, because they create relatively more expensive debt for households amid lower transparency, especially in terms of conditions for "activation" of higher costs.

The level of indebtedness of the "household" sector in relation to the gross domestic product is still not high, despite the intensified growth in the recent years. The systemic vulnerability of the "households" sector, reflected through the level of the aggregate systemic risk indicator, which includes the indicators for the solvency and liquidity position of households, is also relatively limited. However, although debt repayment indicators indicate relatively low risks for household creditors, determining the optimal, sustainable level of household indebtedness is complex, given the lack of data on the amount of household income by households indebted to domestic financial institutions, but also the limited quality[41] of real estate market data, whose movements usually have a significant impact on the total wealth of households and consequently on financial stability. There are also serious prospects that the current health crisis will cause a negative shock to disposable income on certain segments of households and then reflect on the deterioration of their creditworthiness, which in turn leads to a risk of increased credit risk in banks, but also in other household creditors. On the other hand, the non-economic shock of the pandemic may cause increased restraint for borrowing, but also for using financial services from other segments of the financial system.

Chart 48
Disposable income and savings rate of households
in millions of denars and in %



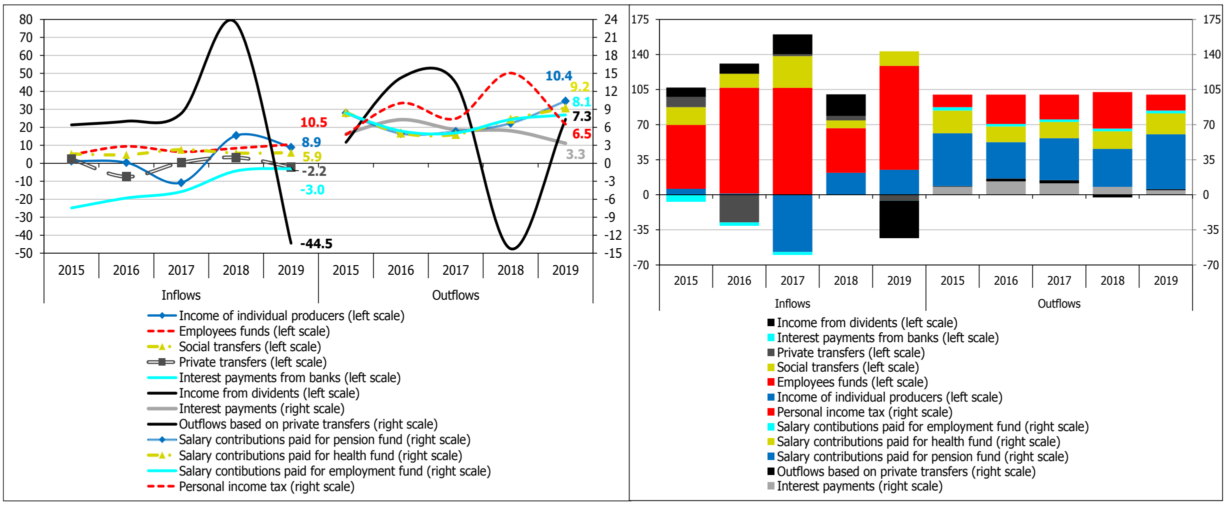
Source: National Bank calculations based on data from SSO, MF and CSD.

[41]Real estate market data do not have sufficient coverage nor a single source. The data is available from several sources, but all have some deficiencies. Data on concluded sales and prices by the Agency for Real Estate Cadaster (AREC) are of adequate quality, but the time horizon available is too short (about two years) to enable the identification and monitoring of real estate market cycles. The data from the State Statistical Office (SSO) are publicly available and cover a longer time range, but are quite limited in their scope and refer to the dynamics of allocated building decisions, uncompleted and completed apartments by municipalities and regions, as well as their size expressed in number of rooms or total surface. In addition, there are a number of weaknesses in the data on real estate prices, nor is there a publicly available price at which sales are made. Available data on apartment prices come from three different sources (SSO, AREC and the National Bank), but in all three cases there are certain shortcomings that do not allow full representation of the movement of apartment prices. The prices published by the SSO represent the cost price only for the newly built apartments on an annual basis, and not the selling price at which it was sold on the market. This price does not include the old apartments, as well as the new apartments that are traded on the real estate market. The data on the prices of apartments available to AREC are the most reliable, because they represent the average prices at which the transactions were made on the market, but the series of available data is very short (from 2016). The National Bank prepares an index of apartment prices on a quarterly basis, but despite the long time horizon of coverage, this index refers only to the territory of the City of Skopje, and the prices included in the index are the prices announced by real estate agencies, and not the prices in sales.

2.4.1 Disposable income of the "household" sector and its distribution (consumption versus savings)

The disposable income[42] of the "household" sector registered a deceleration in the annual growth in 2019, compared to the previous year. Thus, the growth rate of disposable income in 2019 was 6.5% and compared to 2018 is lower by 3.7 percentage points. When analyzing the growth of disposable income, it should be emphasized that the growth of disposable income of households as an estimated category does not always correspond to the growth of disposable income of specific groups or individuals, especially given the differences in the activities that generate income of individuals and their individual productivity. In other words, as a rule, the share of different social groups in the distribution of disposable income and in the contribution to its growth may be completely different from its growth rate. The dynamics of disposable household income and the contribution of the individual components that form it, should be interpreted with care, as only one aspect of the financial situation of the "household" sector, and especially to keep in mind that there are no accurate data and opportunity to assess

Chart 49
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 %



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

its distribution. Hence, it is relatively difficult to determine how to distribute the potential shock on the labor market and, consequently, on disposable income as a consequence of the current COVID-19 pandemic, by individual social groups.

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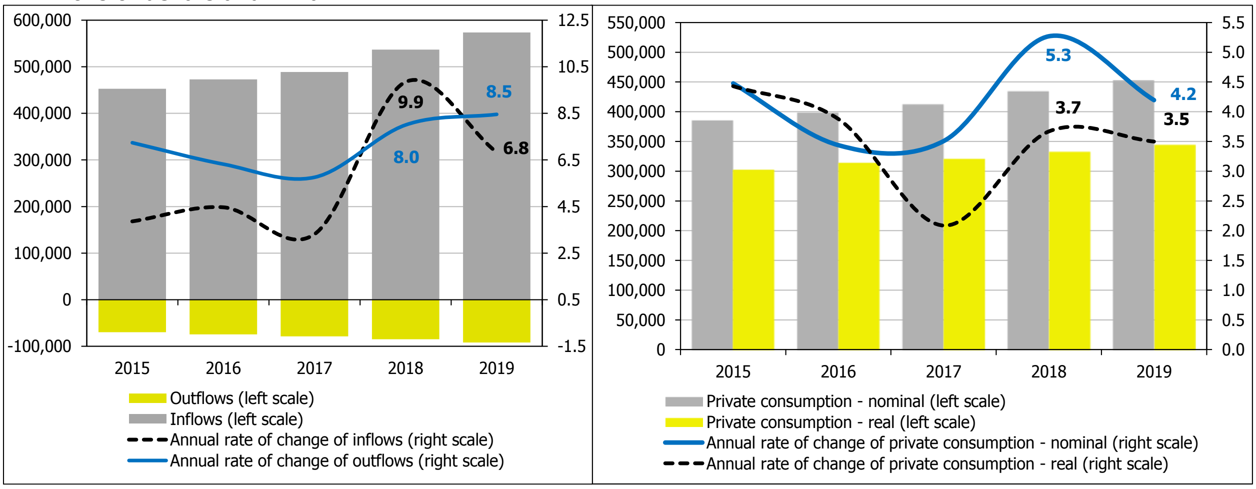
[42] Due to lack of data on disposable income in the official statistics, since 2007, the National Bank has been preparing an approximative data on the disposable income of households in the country which is updated annually. For some disposable income components for which there is no official data, estimates are made, so that such determined disposable income is most likely not precise or comprehensive. Disposable income is the difference between the nominal amount of estimated inflows and the outflow of funds to and from the "household" sector. The following are considered as inflow components: gross amount of benefits for employees, income of individual producers, social transfers to households at the expense of the consolidated state budget (pensions paid by PDIFM, social assistance, unemployment benefits, sickness benefits, etc.), inflows based on private transfers from abroad, the calculated periodic interest expenses of the banks for the household sector, dividend income, estimates of taxable income from other bases (income from copyrights and industrial property rights, income from property and property rights, capital gain, income from from games of chance and other prizes), income from regular repayments of denationalization bonds, interest payments from government securities and compensations of employed residents abroad. The following are considered as outflow components: calculated periodic interest income of the banks for the household sector, contributions from the salaries intended for the PDIFM, contributions from the salaries for the state health insurance, contributions from the salaries in case of unemployment, outflows based on private transfers abroad and payments for personal income tax.

According to the individual components that form the disposable income of households, the largest contribution to the growth of total inflows of households in 2019 is recorded in the benefits paid to employees. However, part of the inflows in the formation of disposable income, such as inflows from private transfers, dividend income and interest on deposits in domestic banks, declined in 2019. The growth of outflow components of disposable income is mainly due to the larger amount of wage contributions, primarily due to the increased number of employees, wage growth (as a basis for their calculation), but also partly due to the increase in the rates of some of the contributions. Also, an increased contribution in the outflow components of the disposable income is noticed in the payments for the personal income tax, mainly as a result of the higher incomes realized by the households, but partly due to the application of progressive tax rates during 2019. Practically, taxes to the government cover most (87.4%) of the total outflows that form the disposable income of the "household" sector.

Chart 50
Dynamics and annual growth of inflows and outflows of disposable income (left) and nominal and real private consumption (right)
in millions of denars and in %



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

In 2019, the favorable movements in the labor market continued, partly due to the further implementation of active employment encouragement measures[43]. The number of employees in 2019 increased by 5.1% (which is twice as high as in 2018, when it increased by 2.5%), followed by further unemployment rate reduction, which hit a record low of 17.3% at the end of 2019 (annual decrease of 3.5 percentage points). At the end of 2019, employment rate increased by 2.2 percentage points to 47.3%. The average wages paid continued increasing in 2019, which in part stems from the rise in minimum net wage (in July 2018 and twice during 2019[44]) and the increase in public sector wages[45], and in part from the effect of contributions subsidizing measure due to the wage increase.[46]

[43] In 2019, same as the years before, the Ministry of Labor and Social Policy and the Employment Agency implemented active measures and programs aimed to increase employment (for more details please visit https://av.gov.mk/labour-market-activation-of-vulnerable-groups.nspx and http://www.mtsp.gov.mk/proekti-od-trudovata-oblast.nspx).

[44] Pursuant to the Law on Minimum Wage (Official Gazette of the Republic of Macedonia No. 126/18), the minimum gross wage paid from July 2018 to March 2019 was Denar 17,370 (i.e. Denar 12,165, net), with regular adjustment of one third of the increase for the previous year of the following three indicators: 1) average wage paid in the country, 2) consumer price index and 3) real GDP growth. During 2019, the minimum wage was increased twice, in April and December. In April 2019, according to the Law on Minimum Wage (Official Gazette of the Republic of North Macedonia No. 59/19), the minimum gross wage was increased from Denar 17,370 to Denar 17,943 (the net wage increased from Denar 12,165 to Denar 12,507). In December 2019, according to the Law on Minimum Wage (Official Gazette of the Republic of North Macedonia No. 239/19), the minimum wage was additionally increased (by about Denar 2000) to Denar 14,500.

The growth of disposable income of the household sector created preconditions for growth of private consumption in nominal and real terms by 4.2% and 3.5%, respectively in 2019. However, the annual growth of household consumption slowed down in 2019 compared to the previous year, but remained a key determinant of the overall growth and a component with largest individual share in the GDP formation[47]. The growth of private consumption was driven by the favorable movements of inflow components that constitute disposable income, but also by the solid growth of consumer loans approved by banks and other lenders to households, as an additional funding source. On the other hand, certain consumer confidence surveys alert to a low domestic consumer confidence, which is further declining, increased restraints from major purchases and unfavorable expectations for the general economic situation, as well as perceptions of unfavorable changes in the financial sector[48] in the future. Such discrepancies between the surveys on domestic households' consumption mood (optimism/pessimism) and the dynamics of disposable income and private consumption can be regarded as yet another indicator that in our country, the effect of disposable income and its growth vary among different social classes. Also, available data on the structure of household final consumption by durability[49] indicate that just over a half of it accounts for consumer goods, which clearly shows the modest average living standard of the households. Analyzed by purpose, about 43% of the household consumption consists of essential goods for households (food and non-alcoholic products occupy 31.9% of the household consumption, clothing and footwear 4.5%, electricity 5.6%, and water, waste and other utilities 0.8%). Consumption of various services constitutes 38% of the household consumption, with the highest share of transport services of 8%. Consequently, the consumption of durable and semi-durable products, which is an immediate indicator of the living standard, is relatively modest, i.e. it accounts for about 10% of total household consumption.

Household disposable income less private consumption expenses represents household savings that serve as a basis for calculating the household savings rate[50]. At the end of 2019, disposable income fully covered the estimated private consumption of the household sector, primarily due to the accelerated dynamics of its annual growth. Hence, the household savings rate in 2019 reached 6.2%, and increased by 2.1 percentage points, compared to the previous year. However, in 2019, the relative size of household savings, as a percentage of GDP, was 4.3%. The multi-year average of the share of household savings in GDP is approximation of the household marginal propensity to save, and for the last fourteen years (from 2006 to 2019), it has been negative (-2.3%)[51].However, given that the disposable income data is based on the National Bank estimations and its distribution to private

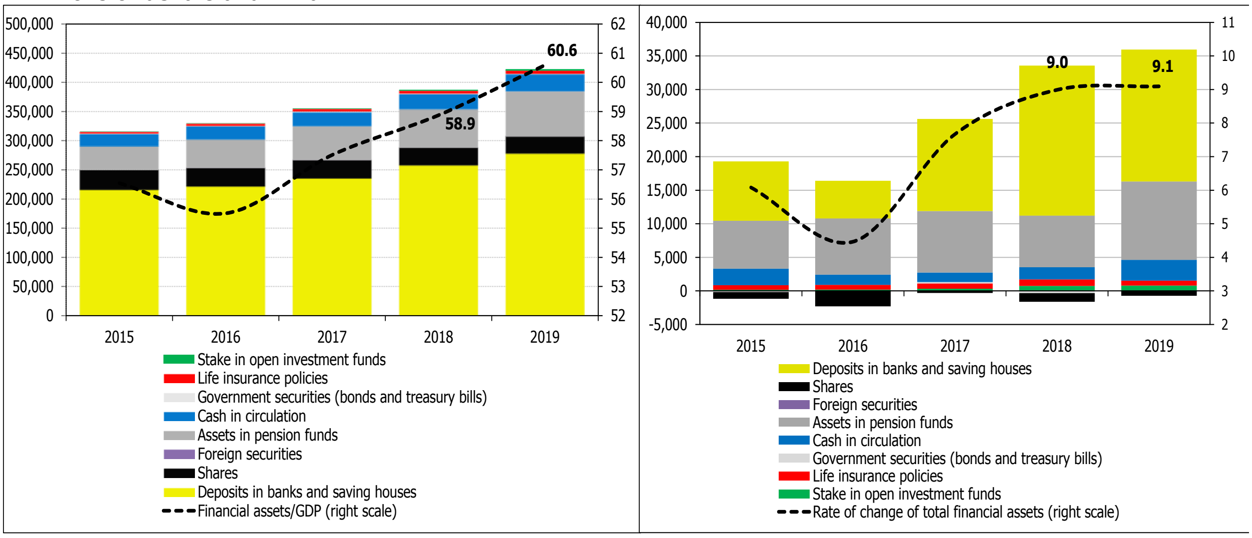
[45] In 2019, the wages of public sector medical specialist, other medical staff, employees of national and local institutions in the field of culture, employees of public institutions in the field of preschool child care and education, social workers was increased. In addition, there was a 5% wage increase for all public sector employees, starting with the September wage.
[46] According to the Law on subsidizing contributions from compulsory social insurance due to wage increase, which started to apply with the payment of the November wage (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 6000 a month per insured (Official Gazette of the Republic of North Macedonia No. 239/19, Articles 2 and 3).
[47] In 2019, household final consumption to GDP was 64.8% (65.9% in 2018), with contribution to the nominal GDP growth of 2.8 percentage points (3.5 percentage points in 2018). For 2019, the GDP data are estimated, and for 2018, they are preliminary.
[48] Source: European Commission's Consumer Survey as of December 2019. In January 2019, the European Commission reviewed the structure of consumer confidence indicator, and accordingly, the composite indicator of economic confidence. For more information on the new methodological changes visit: https://ec.europa.eu/info/files/revised-consumer-confidence-indicator_en
[49] For the latest available data on the structure of household final consumption by durability and purpose, as of 2017, visit: http://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat__BDP__BDPInvesGodisni__BDPsporedESS2010/475_NacSma_Mk_12Coicop_ml.px/?rxid=46ee0f64-2992-4b45-a2d9-cb4e5f7ec5ef.
[50] Household savings rate = savings –to- disposable income ratio.
[51] The savings rate from 2006 to 2013, as well as in 2015 and 2017 was negative. Therefore, the approximation of the marginal savings rate is negative.

consumption and savings, it should be taken with caution, considering that in our country, the shadow economy usually plays an important role in the formation of disposable income[52].

2.4.2 Financial assets of the household sector

In 2019, given the stable global economic environment with relatively less pronounced domestic risks and absence of inflationary pressures, the financial assets of households[53] grew slightly faster compared to 2018 (growth of 9.1% in 2019 and 9.0% in 2018). Also, the financial assets of households registered the

Chart 51
Financial assets of households (left) and annual growth rate by component (down)
in millions of denars and in %



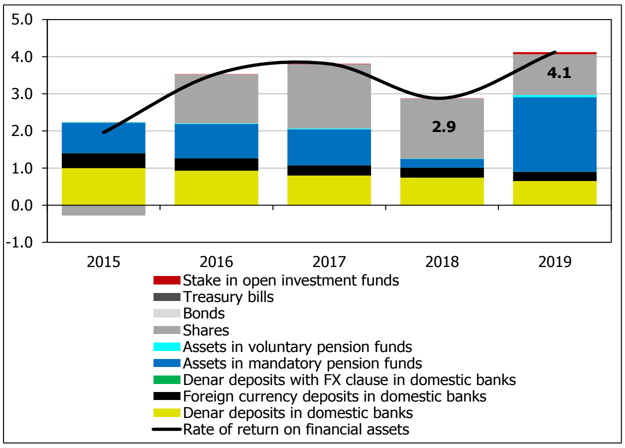
Source: National Bank assessments and calculations based on data submitted by banks and savings houses, MF, CSD, MAPAS, SEC, ISA and SSO.

highest absolute growth in the past ten years. Consequently, household financial assets to GDP ratio increased by 1.7 percentage points in 2019 and reached a historic high of 60.6%. Most of the growth of financial assets was driven by household deposits in domestic banks and savings houses and investments in private pension funds (33.2%). Having stable expectations and relatively more favorable risk perceptions of the domestic economic agents, household savings in banks continued to grow, as well as their stronger propensity to save in domestic currency. Given that household deposits account for more than half of the banks' financing sources (68.2% of total deposits of nonfinancial entities in 2019), this sector is the major creditor of the domestic banking system. However, the contribution of household deposits to the growth of total financial assets is slightly lower compared to the previous year (55.8% in 2019, compared to 69.9% in 2018), mainly due to the increased importance of other financial assets components, in particular household investment in private pension funds.

[52] Considering that certain disposable income components for which there is no officially released data are estimated by the National Bank, the disposable income is probably not comprehensive from a structural viewpoint, which consequently affects the savings rate in each year and could lead to negative marginal household propensity to save, which can still be considered an extremely unusual fact, considering the growth of deposits in this sector in the banks.

[53] Explanation of some specific financial assets components: 1) cash in circulation - based on the assessment that 80% of cash in circulation (outside banks) is with households and thus included in their financial assets; 2) domestic shares - investment of resident natural persons in domestic shares are a sum of listed and unlisted shares of domestic joint stock companies, at nominal value; 3) life insurance policies – amount of funds that cover the mathematical reserve on an appropriate cut-off date is taken as approximation for household claims based on life insurance policies; 4) foreign securities - natural persons' investment in foreign financial instruments is approximated through the difference between inflows and outflows of transactions executed through the platform of a domestic market operator for connection with a number of regional stock exchanges, received through bank notifications on international payment operations. Natural persons' investment in foreign financial instruments made through foreign financial market participants are not included.

Chart 52
Estimated yield on household financial assets and contribution of components to total yield
in %



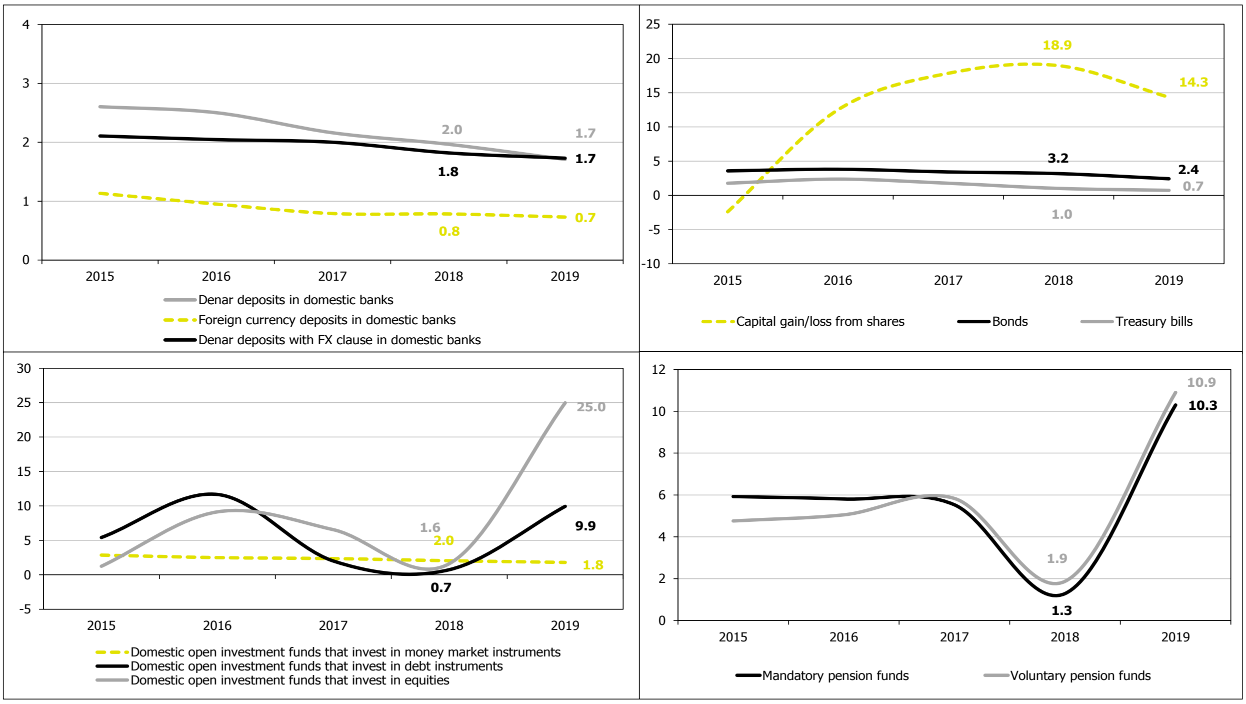
Source: National Bank assessments and calculations, based on data submitted by banks and savings houses, MF, MAPAS, CSD and Macedonian Stock Exchange.
Note: The annual nominal rate of return of private pension funds is calculated by weighting the rate of return of each fund to their net assets. The annual nominal rate of return of domestic investment funds is calculated based on the weighted average of daily selling price of units of each investment fund, using the share of each fund in total net assets of the investment funds as weight. The annual rate of return on domestic shares is estimated using the annual growth of market capitalization of shares on the capital market, where the dividend yield on domestic shares is not included in its calculation. The yield on domestic treasury bills is estimated as a simple average of the interest rates on treasury bills issued in the primary market. The annual yield to maturity of denationalization bonds traded on the stock exchange is estimated to be equal to the yield rate of denationalization bonds with residual maturity of five years. The assessment of the return on financial assets does not include household investments in domestic continuous government bonds due to their extremely low share (0.002%) in the ownership structure of these bonds and the insignificant role in the total financial assets of households (0.0004%).

There is also a slight increase in household investments in life insurance policies and in units in domestic open-end funds, amid decrease in investments in domestic shares, which corresponds to the lower turnover from secondary trading on the Macedonian capital market in 2019. It is worth noting that the second phase of the Stabilization and Association Agreement of our country with the EU in 2019 allowed for access to new investment alternatives for households, through the opportunity to invest in foreign financial instruments. This practically means an immediate increase in competition of domestic financial institutions for access to savings and accumulation of household funds.

Nominal rate of return on financial assets of the households sector[54] in 2019 was 4.1%, which is up 1.2 percentage points compared to 2018. This increase in the estimated nominal return on household finances is entirely due to the increased return on investment in pension funds (mandatory and voluntary), as well as on invested units in investment funds[55]. The movements in global equity markets, especially the downward correction of price levels in the last quarter of 2018 and the accelerated price growth in the last quarter of 2019 led to a significant annual increase in the yield of mandatory and voluntary pension funds as well as growth in the return on domestic investment funds[56]. In this context, one should note that for the purposes of this analysis, the scope of direct investments of domestic natural persons in foreign financial instruments is only partial (i.e. it only includes modest investments in foreign shares made through a platform of a domestic market operator for connection with a number of regional stock exchanges), which may actually mean underestimation of both the amount of household funds and the actual returns by component, as well as their variability.

[54] When assessing the rate of return on household financial assets, the rate of return on life insurance policies is not included due to the conditionality of this rate on the occurrence of risky event or fulfillment of contractual conditions, where the amount to be paid by the life insurance company is determined by the age and sex of the insured, taking into account the survival and mortality probability tables applied by each insurance company. Also, households' cash in circulation is not taken into account, since their nominal yield, by default, equals to zero.
[55] Analyzed by type of financial instrument included in the household financial assets, investment in mandatory pension funds registered the highest annual rate of return.
[56] For more details see the sections of this report that refer to fully funded pension insurance and investment funds.

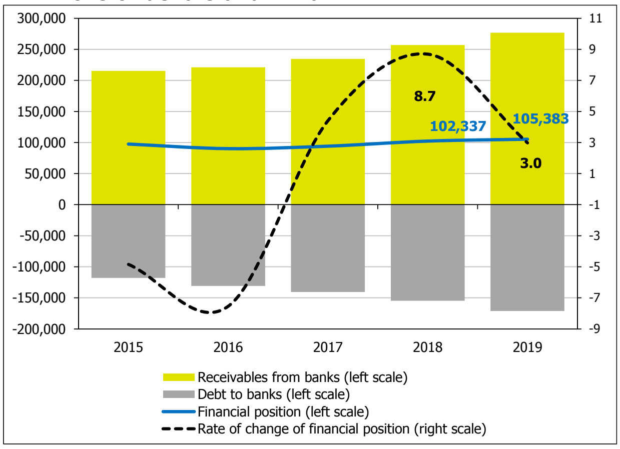
Chart 53
Annual rates of return by type of financial instruments that form household funds
in %



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

In 2019, all household financial asset-comprising components reported positive rates of return, most of which lower though compared to the previous year. Returns on assets in private pension funds that registered significant growth, compared to 2018, were an exception. Despite the lower capital gains from investment in domestic shares and interest rates on denar and foreign currency deposits in domestic banks, these components still play an important role in defining the return on total household assets. Yet, amid decreased deposit interest rates, some households, although moderately, seek alternative ways of saving, such as investments in voluntary pension funds, life insurance policies or shares in domestic open-end funds. Analyzing their features, some of these investments bring yields that are significantly more volatile compared to those of domestic bank deposits, which in turn increases exposure of households to market risks. Besides, this enhances the impact of changes in financial markets on the overall household wealth, by introducing an additional channel of transmission of global financial market movements to its financial assets.

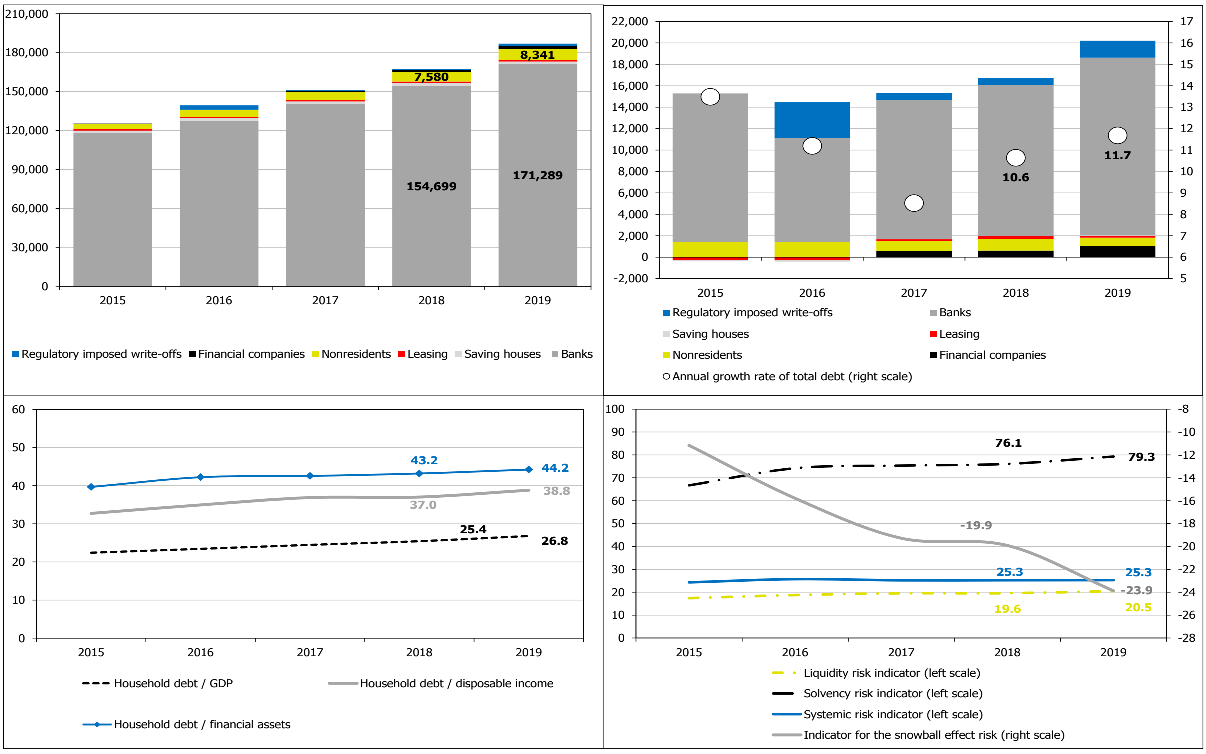
Chart 54
Financial position of households, composition and growth rate
in millions of denars and in %



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

In 2019, the faster household deposit than debt growth expanded the financial position[57] of this sector to domestic banks[58]. Thus, the annual growth rate of the household financial position to domestic banks in 2019 was 3.0%, which is significantly lower, compared to the previous year. The relatively low returns on domestic banks' deposit products urge households to increase their market risk tolerance by gradually shifting their savings to alternative financial products, such as investment in voluntary pension funds, life insurance policies, units in open-end funds or direct investment in financial instruments in foreign financial markets. However, the share of such investment in total household financial assets is still relatively modest.

Chart 55
Household debt structure (top left), structure of annual household debt growth (top right), indicators of the relative size of household debt (bottom left) and indicators of household debt risk and vulnerability (bottom right)
in millions of denars and in %



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

Note: $\textbf{Liquidity risk ratio}_t = \mathbf{0,5}\frac{\textbf{Debt}_t}{\textbf{Disposable income}_t} + \mathbf{0,5}\frac{\textbf{Interest payment}_t}{\textbf{Disposable income}_t}$. a higher value of this indicator denotes a higher ratio of debt to household disposable income.

Snowball effect risk ratio = $\frac{\textbf{Interest payment}_t}{\frac{\textbf{Debt}_t+\textbf{Debt}_{t-1}+\textbf{Debt}_{t-2}+\textbf{Debt}_{t-3}}{4}}$ - $\left(\frac{\textbf{Disposable income}_t}{\text{Расположлив дохо}\textbf{Disposable income}_{t-4}} - 1\right)$. 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 ratio between household debt and net financial assets (net financial assets are the difference between financial assets and debt of households).

The aggregate systemic risk ratio is the average of the analyzed liquidity risk, insolvency risk and snowball effect risk ratios.

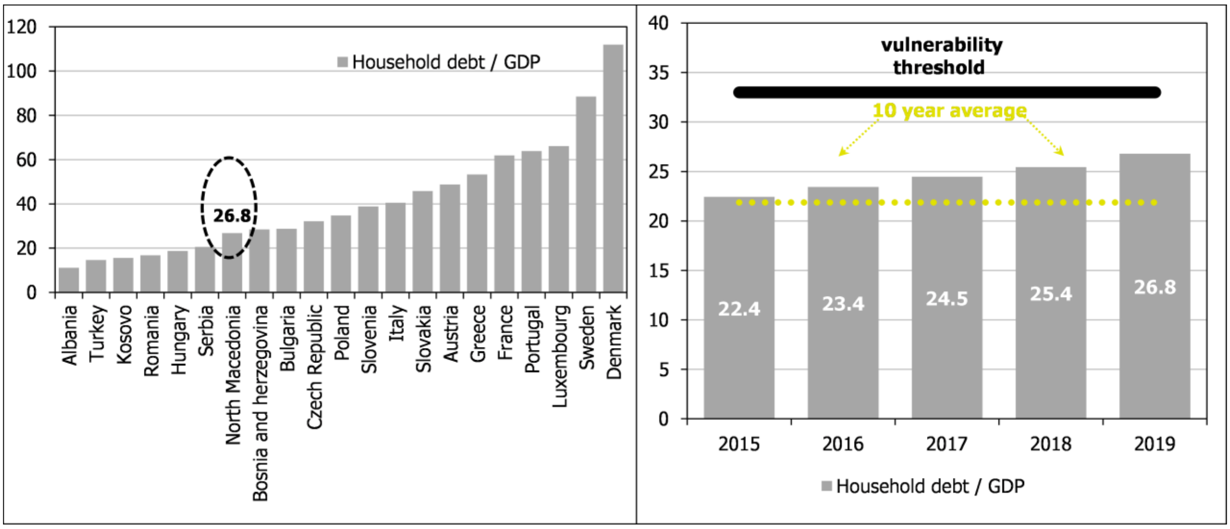
[57] Financial position of households to domestic banks is the difference between the claims on domestic banks (deposits) and debt to domestic banks (loans). In this analysis, the effect of the mandatory write-offs made by the banks in accordance with the Decision on the methodology for credit risk management is excluded from the household debt.

[58] Given the strengthened economic growth and favorable labor market shifts, household deposits grew by 7.6% in 2019, moderately lower though compared to the growth in 2018 of 9.5%. In contrast to deposits, the growth of total household debt to domestic banks in 2019 slightly accelerated compared to 2018 (10.7% in 2019, compared to 10.0% in 2018). Domestic bank lending to the household sector, as a key component of their debt to banks increased by 10.6% in 2019 (10.4% in 2018).

2.4.3 Household debt

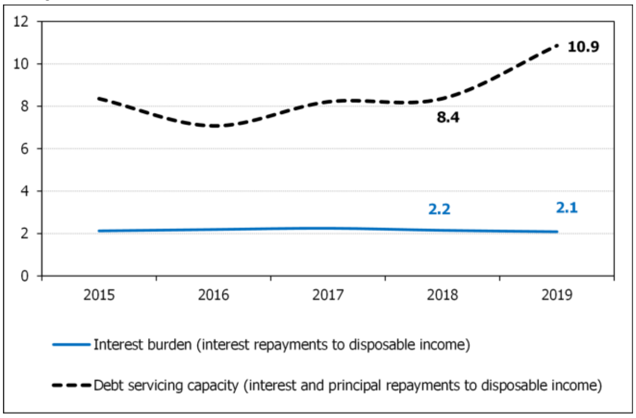
The household debt kept on gradually increasing in 2019. At the end of 2019, total household debt to GDP was 26.8%, which is higher by 1.4 percentage points compared to the end of last year.

Chart 56
Household debt to GDP ratio, by country (left) and vulnerability threshold (right)
in %



Source: National Bank, based on data submitted by banks and savings houses, SSO, MF and the latest available data for other countries published on the IMF's portal.
Note: 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 for household debt of 33% 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 2010-2019.

Chart 57
Household creditworthiness indicators
in %

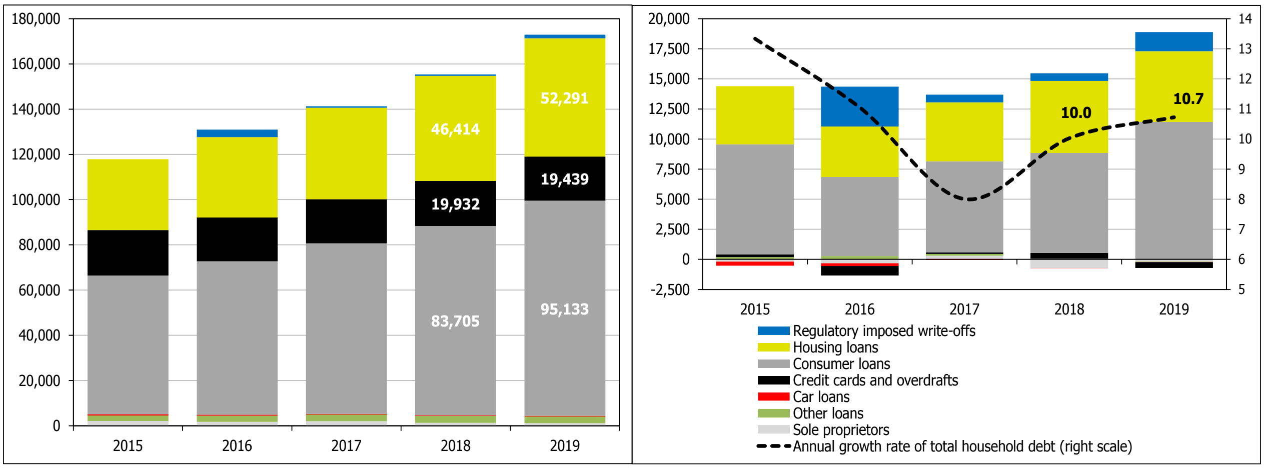


Source: National Bank, based on data submitted by banks.

Compared to 2018, the growth of household debt slightly accelerated to 11.7% (10.6% last year). The main driver of the annual growth of household debt was the debt to domestic banks[59] (91.6%), which arises from the bank-centric nature of the domestic financial system and the propensity of the households to use credit products from domestic banks, followed by debt to non-residents (4.5%).

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

Chart 58
Household debt to domestic banks by type of loan product (left) and annual growth (right)
in millions of denars and in %

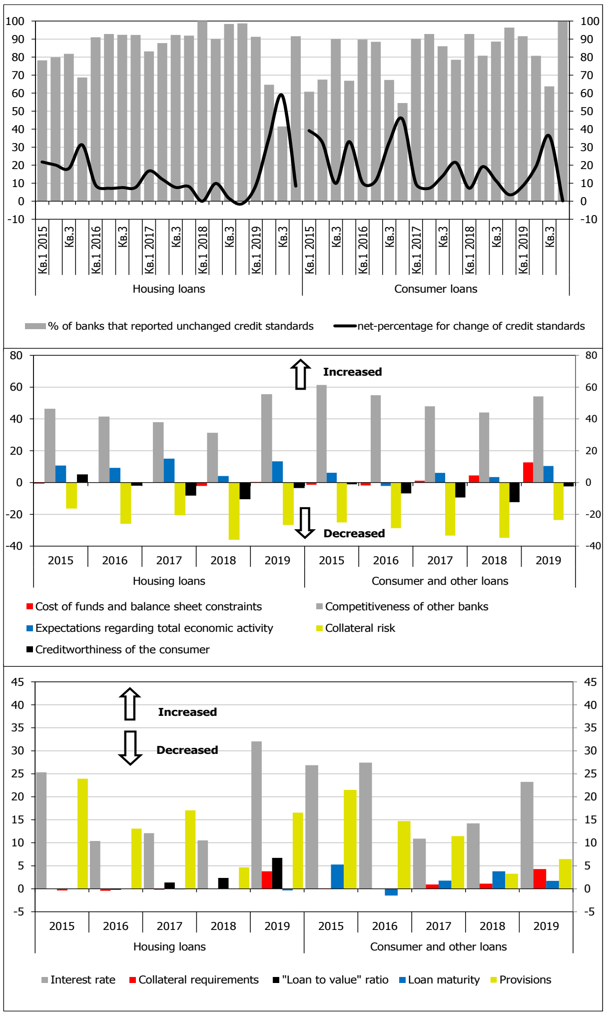


Source: National Bank, based on data submitted by banks.

The solid credit support to households from domestic banks in 2019[60] accelerated the growth of household debt. Accordingly, household debt indicators moderately deteriorated, but still within the level of the previous few years. Also, in 2019, the more pronounced increase in household debt in relation to the growth of disposable income and net financial assets led to a slight deterioration in the liquidity and solvency position of households, as well as in the household creditworthiness indicators. Household debt should be analyzed in the context of financial assets to disposable income, where the debt against these categories also remains relatively stable. The moderate level of household vulnerability from the debt level is also confirmed by the aggregate systemic risk indicator which is modest. Although this indicator shows minimal growth, its value remains relatively low and indicates sustainable risks in the household sector. Moreover, household debt to GDP ratio, although increasing and above the last 10-year average is still below the threshold of its vulnerability. Our country has one of the highest levels of household debt compared to countries in the region with similar level of economic development and per capita income, but analyzed as a whole, the entire Balkan region is still far below the household debt to GDP ratio of highly developed countries.

[60] In 2019, lending to households made the largest contribution of 63% to the annual growth of lending to non-financial corporations by domestic banks.

Chart 59
Assessment of household credit standards (up), factors influencing credit standards (middle) and change in credit standards (down)
in %



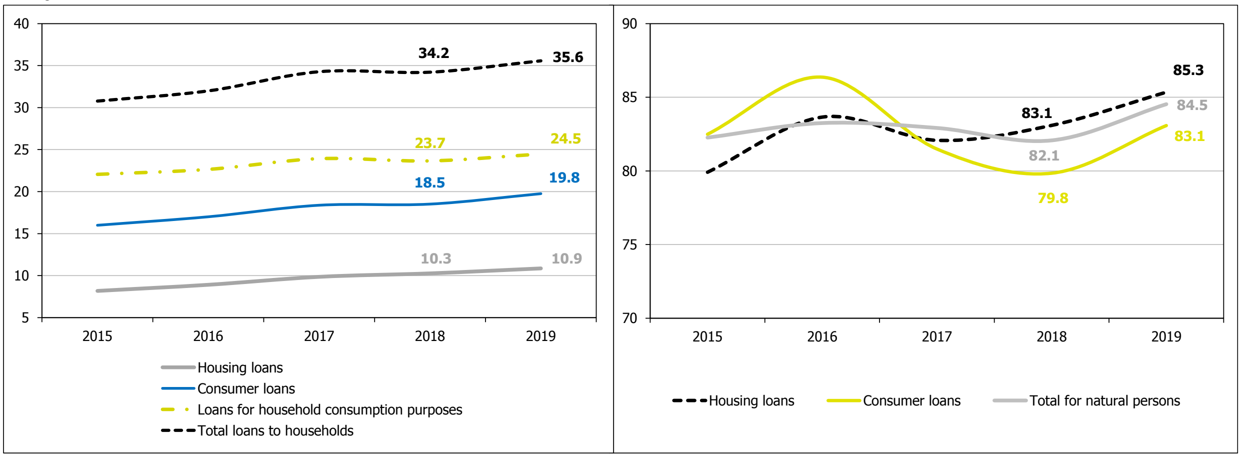
Source: National Bank, based on data in Bank Lending Surveys.
Note: The percentage of banks is weighted by the share of each bank in total household loans on specific dates. The assessment of the factors/credit standards is the average percentage of banks that responded that the stated factor/credit standard contributes to the non-changeability of the credit standards in all surveys. Net percentage of change in the credit standards is the difference between banks that have reported easing of the credit standards and banks that have reported tightening of the credit standards for households.

Households usually borrow from domestic banks[61], which traditionally are their major creditors. In 2019, the lending to this sector continued increasing, thus accelerating the growth of the financial support for households through bank loans of 10.7%. Analyzing the type of credit product used by the household sector from domestic banks, consumer loans and housing loans registered the largest annual growth in 2019 (13.7% and 13.0% respectively), and almost completely determined the growth of total households debt to banks. About 70% of household debt to banks is debt for financing household consumption in the form of consumer loans, car loans, overdrafts, credit cards and loans for other purposes. In contrast, in highly developed countries particularly those with extremely high household debt to GDP ratio, dominant part of household debt is for property financing. Hence, changes to the relative level of household debt to GDP or disposable income largely relate to the structure of debt by type of credit product. Namely, the current GDP and disposable income per capita directly determines the household creditworthiness, i.e. the maximum serviceable debt by each borrower. Thus, the current level of disposable income per capita indirectly appears to be a limiting factor for possibly swifter changes in the household debt structure in order to reduce the share of consumer loans at the expense of growth of property lending.

The increased financial support for households through bank loans[62] in 2019 was followed by easing of the household loan standards[63]. Thus, the easing of loan standards in 2019 was slightly more pronounced in loans for purchasing residential property, compared to consumer loans. According to the banks, in conditions of favorable

[61] Total household debt includes the amount of mandatory write-offs made by banks due to the requirements in the credit risk regulations since the written-off debt remains a liability 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. Due to this, the effect of write-offs is included only in the total household debt, but not in the analysis by individual structural characteristic.
[62] Factors that made domestic banks continue increasing the supply of loans in 2019 include growth of funding sources, increased competition in the banking sector, relatively high liquidity position of banks, low interest rates in global financial markets and changes in monetary policy.
[63] Source: National Bank's Lending Survey. For the purposes of this section of the Financial Stability Report, the results of these surveys are analyzed as average results of the four quarterly surveys relating to each calendar year. For more results from the lending surveys, visit the National Bank website.

Chart 60
Household debt to banks to disposable income ratio, on various bases (left) and approved to received credit applications from households ratio (right)
in %

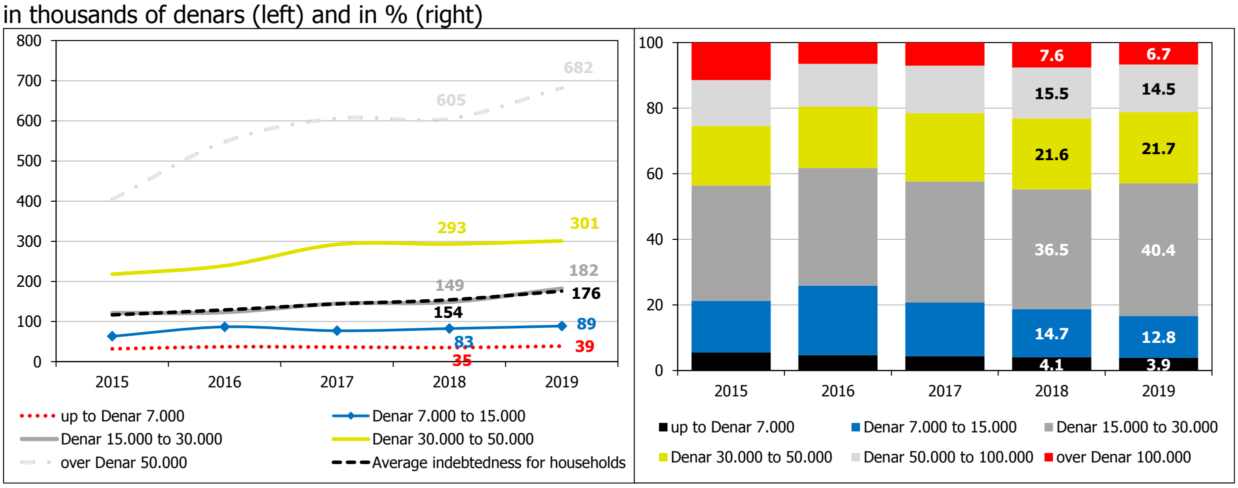


Source: National Bank's Credit Registry, based on data submitted by banks.

macroeconomic environment, the easing of credit standards, both in residential property loans and consumer loans mostly arises from the interest rate on loans, and partly due to loan fees. On the other hand, collateral risk and customer creditworthiness are factors that banks consider the most important for tightening the credit standards when approving residential property and consumer loans. On the other hand, bank competition remains crucial for easing the household loan standards.

Among other domestic creditors of the household sector, the debt to domestic financial corporations registered the fastest growth in 2019, given the aggressive market behavior of these financial institutions. Yet, despite the rapid growth, the share of loans from financial corporations in total household debt is still minor (about 1%). Household debt to leasing

Chart 61
Average household debt (left) and household debt structure (right), by monthly income
in thousands of denars (left) and in % (right)



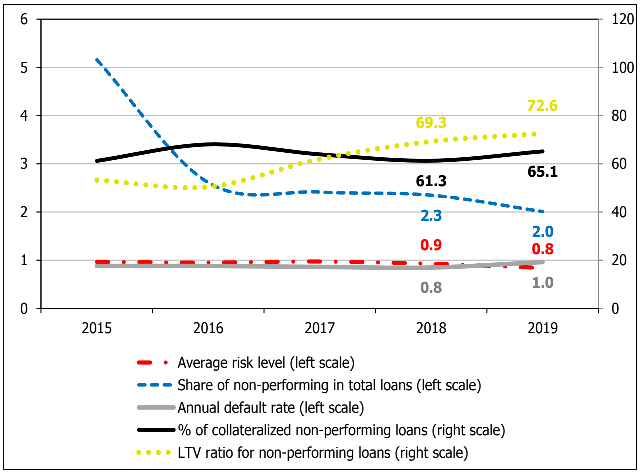
Source: National Bank, based on data submitted by banks.

companies and to savings houses also increased (by 13.2% and by 3.1%, respectively). On the other hand, household debt to non-resident creditors in 2019 increased by 10%, but its share in total household debt remained unchanged compared to last year (of 4.5%).

Easing of credit standards and banks' preferences to take credit risks by lending to households is confirmed with the relatively high approval of loan applications for both consumer and residential property loans, which in 2019 increased further compared to last year. Thus, the rate of approved credit applications (as a percentage of the total received applications) for the third year in a row is higher for residential property loans, which confirms the higher easing of housing loan standards. However, according to the number of received applications for credit products intended for households by banks, the interest of households in consumer loans is more noticeable, which by multiple times exceeds the interest in residential property loans.[64].

With the constant increase in the banks' propensity for household lending[65], the quality of this loan portfolio and the opportunities for its further growth, are immediately related to the household creditworthiness. This primarily relates to the households' ability to settle liabilities through the ratio between their monthly loan liabilities to banks and their monthly income. The amount of income is an extremely important factor for assessing creditworthiness, since the high debt risks and over-indebtedness are usually much more pronounced in natural persons with lower monthly income. Thus analyzing the structure of credit exposure to households by their monthly income, in 2019, there was an increase in the debt of lower monthly income persons. Namely, 46.7% of the total credit exposure of households is concentrated in households with a net monthly wage equal to or less than the average net wage for 2019. This percentage is even higher in credit cards and overdrafts (61.5%) and consumer loans (54.6%), while for housing loans it is significantly lower (21.7%). **This shows that the shock to disposable income, probably related to the pandemic crisis, especially to borrowers who generate income from the most affected activities, will inevitably hit the creditworthiness of some households, and thus will increase credit risk materialization with the banks.** By volume of monthly income, borrowers with a net wage equal to or below the average net salary for 2019, are the least indebted on average per person.

Chart 62
Household loan quality indicators
in %



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

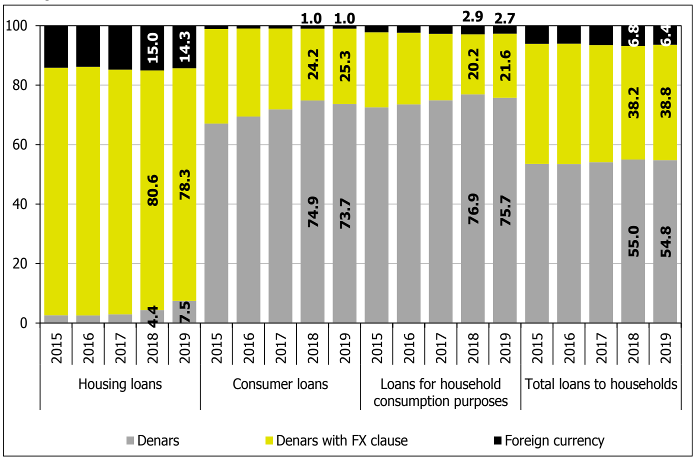
Loans granted with loan exceptions defined by banks[66] are considered a risk factor for the quality of loan portfolio and therefore require enhanced monitoring of the household creditworthiness. In 2019, the share of loans approved with loan exceptions by the domestic banks to the household sector was 5.1% for consumer loans, 13.0% for loans for purchasing residential property and 7.0% for total

[64] To illustrate, according to the data submitted by the domestic banks to the National Bank, in 2019, the number of received consumer loan applications exceeded 230,000, while the received applications for loans for purchasing residential property were just over 7,000.
[65] In 2019, the structural share of household loans exceeded the share of corporate loans in the total bank loans (49.9% and 49.1%, respectively as of 31.12.2019).

[66] According to the Decision on the methodology for credit risk management (Official Gazette of the Republic of Macedonia No. 149/18), the credit risk management policy or other internal regulations for identifying, measuring, control and reduction and monitoring credit risk (rules, procedures etc.), which banks are required to introduce and apply, shall, inter alia, contain definition of allowed exceptions, approval procedure and definition of acceptable level of credit exposure approved with exceptions over a certain period.

household loans. Loan approval with loan exceptions can be an indicator for strong competitive pressure and banks' readiness to accept higher credit risk to reach higher market share, but also for the need to adjust the credit policies and lending standards to the current conditions.

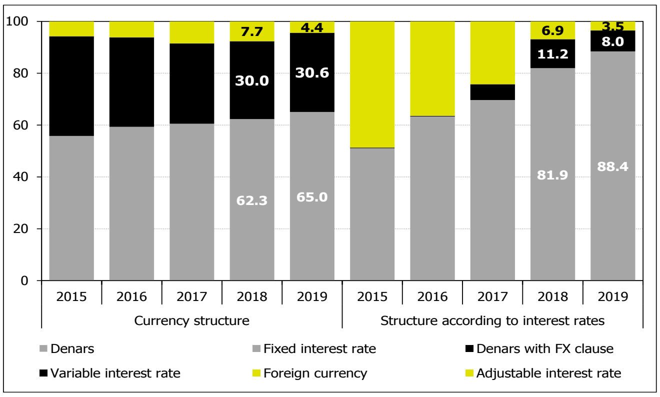
Chart 63
Currency structure of household debt to banks, by credit product
in %



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

Credit risk arising from households and their ability to settle liabilities regularly is one of the significant risks for the domestic financial institutions. In the domestic banks, as major household creditor, the quality of the overall household loan portfolio is solid, as seen through the non-performing loan rate, which has been relatively low over a long time. The rate of non-performing loans in the households sector in 2019 further decreased by 0.3 percentage points to a historic low of 2.0% at the end of 2019. Non-performing loans decreased by 5.3%, or Denar 192 million (compared to the growth of 7.4%, or Denar 247 million in 2018) largely due to the write-offs of non-performing loans that banks made in accordance with the credit risk regulatory requirements (shortening of the period for mandatory write-off of fully provisioned non-performing exposures, from two to one year)[67] as well as the growth of bank lending to households in 2019. Without the effect of these mandatory write-offs during 2019, non-performing loans of domestic banks to the household sector would register an annual growth of 15.9% (which exceeds 11.9% growth in 2018), and the non-performing loan rate would be 5.2% (growth of 0.2 percentage points compared to the previous year).

Chart 64
Structural features of newly approved bank loans to households
in %



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

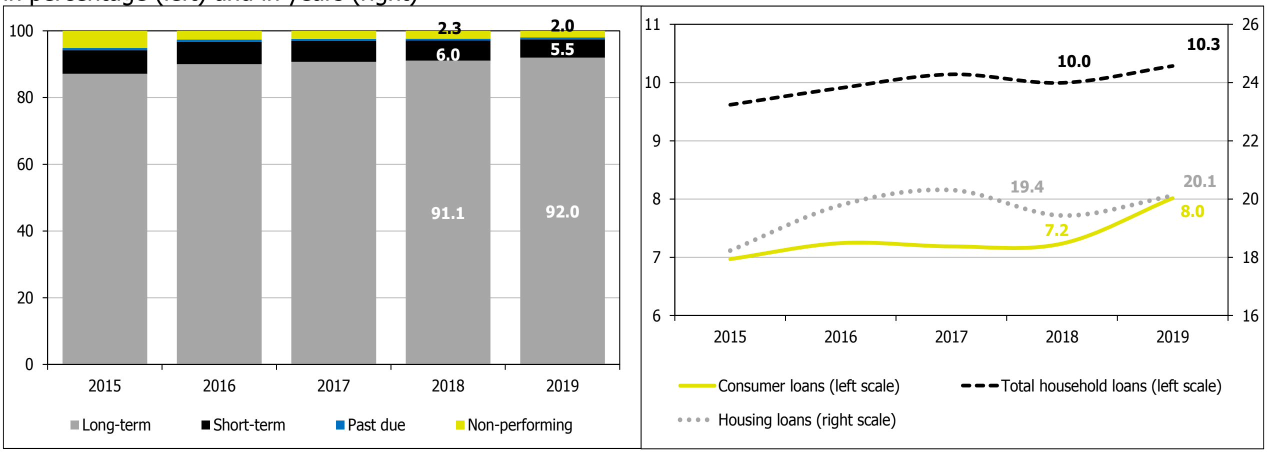
Loans for purchase of residential property are the relatively better segment of the banks' household loan portfolio, with continuous improvement of risk indicators in the last few years and a relatively low default rate (0.5%)[68]. Moreover, this segment of the banks' loan portfolio is almost completely (99.8%) collateralized with property whose estimated value is significantly higher than the claim[69]. However, despite the low volume of non-performing housing loans and the relatively good risk profile of housing loans, these loans still have a higher level of inherent risks, due to the

[67] Since July 2019, a new credit risk management methodology has been applied, introducing a mandatory write-off of non-performing exposures that are fully reserved for more than a year. For comparison, from 1.1.2016 to 30.6.2019, the write-off was mandatory for fully provisioned non-performing exposures for a period of two years.
[68] The risk indicators of domestic banks' loans to the household sector for consumer and residential property loans are presented in the annexes to this report.
[69] At the end of 2019, the ratio between regular loans for purchasing residential property and estimated value of collateral was 50.9% (48% at the end of 2018).

relatively longer residual maturities, combined with currency clause in euros and variable interest rates with relatively high spans above the reference. On the other hand, consumer loans seem to show signs of greater vulnerability compared to loans for purchasing residential property. Hence, this portfolio requires enhanced bank supervision, especially consumer loans with longer maturity or with a higher loan repayment to borrower's income ratio. In particular, it should be borne in mind that the current COVID-19 pandemic can severely hit the disposable income of certain borrowers, especially those who generate their income from activities that would experience long-lasting adverse economic effects of the health crisis. This could accelerate the deterioration of the risk profile of household loans, especially consumer loans. The facilitation offered by domestic banks in repayment of household loan products over a period of six months was used for 68.4% of consumer loans, and for almost half of the credit cards and overdrafts and housing loans.

The currency component is still largely present in household debt. In 2019, the currency structure of household loans registered almost no significant changes, namely, about 45% of household loans have a currency component, mostly in denars with a currency clause. On the other hand, about 47% of household deposits have a currency (almost entirely FX) clause. However, although the household sector as a whole is close to a harmonized currency position, it is very likely that most depositors are not at the same time credit borrowers with

Chart 65
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)

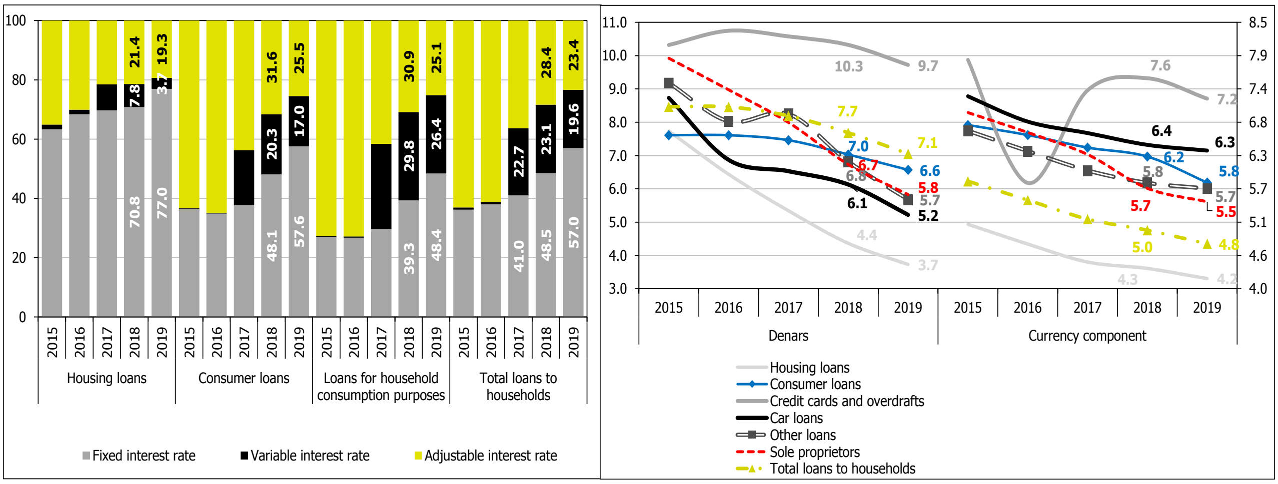


Source: National Bank’s Credit Registry, based on data submitted by banks.

banks. Hence, different categories of households, especially beneficiaries of residential property loans, may each have high short currency positions, i.e. high exposure to currency risk.

As the sources for repayment of this debt, that is most of the household income is in denars, the importance of denar stability for maintaining the level of household debt and their ability to repay the debt increases.

Chart 66
Household debt structure by credit products by type of interest rate (left) and average interest rate on household loans, by type of credit product (right)
in %



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

The faster growth of household debt, mostly in longer terms[70] where the customer creditworthiness is more uncertain, is a risk factor for the quality of this segment of the banks' loan portfolio. The growing debt of existing borrowers, followed by maturity extension[71], shows that households prefer to borrow in a long term. Longer repayment period tends to increase approval of credit applications from borrowers with "weaker" creditworthiness, who, in order to be eligible to meet the criteria of monthly loan liability repayment to monthly income, continue to repay the loan by distributing it in as many monthly installments as possible. The weighted average maturity of newly approved household loans is around ten years and four months, and if compared to the beginning of the decade, there is a significant increase (for example, in 2012, it was around eight years). In 2016, the National Bank introduced a higher capital requirement for consumer loans approved with maturity equal to or longer than eight years (risk weight of 150% instead of 75% or 100%), which is an increase in the amount of capital for covering risks (3.6% of the total own funds of the banks). This led to some slowdown in the rapid growth of such loans, whose growth rate was reduced to a moderate level (from 39.1% as at 31.12.2015 to 11.9% as at 31.12.2019).

The increase in maturity of household debt to domestic banks raises the household exposure to interest rate risk, which is an indirect credit risk for banks, due to a potential excessive debt burden for borrowers. This is due to the significant presence of adjustable and variable interest rates in household loan agreements. In 2019, the structure of debt and newly approved loans by type of interest rate continued registering frequent replacement of adjustable interest rate with variable and/or fixed interest rate, and cut in the weighted average interest rates on new loans[72] and on total household loans. The nominal interest rates was reduced equally in newly approved loans by currency features, and the spread between loans in denars and loans with currency component was almost identical as in the previous year. However, the significant interest rate difference

[70] As of the end of 2019, long-term household loans accounted for 92.0% of total household loans.
[71] 98.7% of newly approved loans are long-term, with original maturity of more than a year.
[72] Average interest rates are weighted for the share of each type of loan in total household loans.

between denar and currency component loans emphasizes the importance of the cost factor (interest rate) in the households' choice of currency, which leads to maintaining strong demand for currency component loans.

2.5 Corporate sector

In 2019, the domestic corporate sector increased its value added and operating income and reported no significant changes in its overall risk profile. Overall profitability, as an important indicator of the financial strength of the domestic corporate sector, was preserved in 2019, despite the uncertain global environment that slowed down the activity of new export-oriented facilities and reduced their profits. Annual profit growth slowed, but remained solid, driven by the improved profitability of small and medium enterprises. Such developments positively contributed to the credit risk exposure of the domestic financial sector, given that the group of small and medium enterprises is the largest group of borrowers from domestic banks[73]. In 2019, large entities which have the highest coverage with financing from domestic banks reported a lower annual profit, but still hold the largest share in total net profit of the corporate sector. The group of micro-entities continued operating at a loss and was the most vulnerable to risks in all operating segments, which limits their access to financing from the banking sector[74]. For sustainable profitability of the corporate sector in the period ahead, it is important to improve productivity and competitiveness, which have recently deteriorated and became potential source of risks to this sector's financial soundness.

The solvency of domestic corporate sector is stable or improving according to some indicators, mainly in the debt-service capacity, supported by the further maintenance of low interest rates. The corporate debt has been stable for many years and is among the lowest compared to EU countries, which mitigates the risk of over-indebtedness. On the other hand, liquidity management remains the main challenge for domestic corporate sector, partly due to the irregularity of the execution of debtor-creditor obligations. Although the last five years have been marked by an improved financial discipline, the late execution of obligations remains a practice of the domestic corporate sector, with deadlines that significantly exceed those in the EU. When short-term liabilities occupy a significant part of the total sources of corporate financing, such situation stresses the contagion risk in the sector and transfers the problems to creditors in the case of liquidity shock in the corporate sector.

The total domestic corporate debt in 2019 kept on growing at a lower rate than the nominal GDP growth rate, which enabled further debt reduction measured through the debt to GDP ratio. The domestic corporate debt is still below the vulnerability threshold and below the last ten-year average. The non-resident sector remains the main creditor of the domestic corporate sector. Almost half of the external debt is intercompany borrowing, which mitigates the risk of high domestic indebtedness. Debt to domestic banks also increased, while market financing was completely absent from the balance sheets of domestic companies. Major part of the corporate debt is indexed to foreign currency and with variable interest rates, which emphasizes the exposure to currency and market risk, which if materialized, can affect the ability to repay debts, and hence the performance of financial institutions, primarily domestic banks.

[73] Small and medium enterprises account for 58.7% of the total entities towards which the domestic banks have credit exposure.
[74] In 2019, banks' credit exposure equaled only 22% of the 34,402 micro-entities that submitted annual accounts. In small and medium enterprises, the coverage with bank loans is almost three times higher, i.e. it is close to 60%, while in large companies it is around 80%.

The main challenge ahead of the domestic corporate sector relates to the COVID-19 pandemic risks and the implications on the global and domestic economic flows. Risks to financial stability will mainly depend on the corporate sector ability to overcome the initial liquidity shock, to prevent it from being transferred to solvency shock, which would materialize credit risk in the balance sheets of domestic banks. The National Bank measures, along with the government measures, are expected to facilitate the overcoming of the financial hurdles of the companies and mitigate these risks. However, whether and to what extent the corona crisis will have long-term effect on the domestic corporate sector will largely depend on the duration and severity of the shock, as well as the dynamics of post-crisis recovery, which are currently highly uncertain and represent a significant risk factor for the overall financial stability in the coming period.

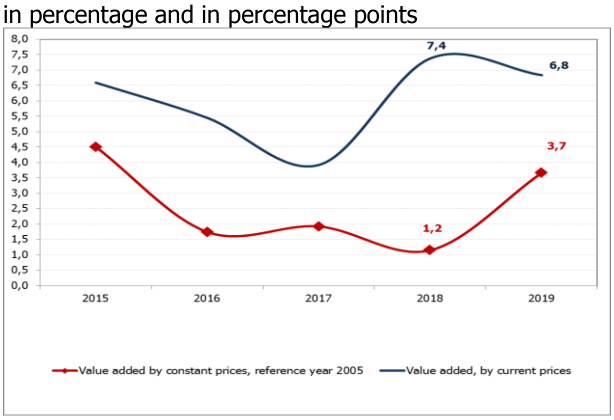
2.5.1 Corporate performance

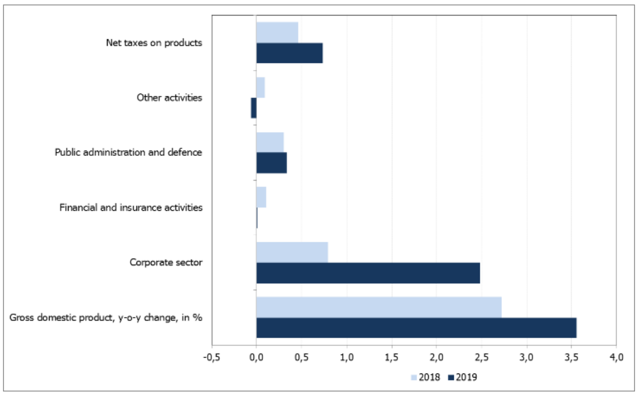
In 2019, the domestic corporate sector continued to grow and achieved positive operating results. The real annual growth rate of value added[75] of the corporate sector[76] in 2019 accelerated to 3.7%, compared to 1.2% in the previous year.

Chart 67

Annual growth rate of corporate value added (left) and contribution to real GDP growth (right)

in percentage and in percentage points





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

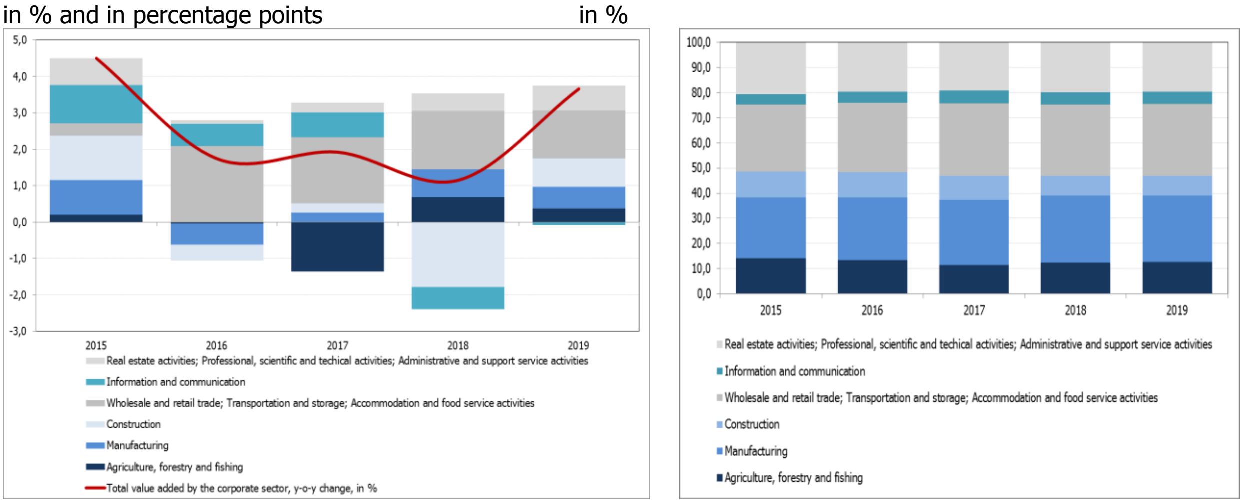
In 2019, most of the activities registered growth of value added.

[75] The Report uses estimated data on the value added of the corporate sector for 2019 and preliminary data on the value added of the corporate sector for 2018, disclosed by the State Statistical Office in March 2020.

[76] 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 include legal entities with main activity in: financial and insurance; public administration and defense, compulsory social security; education; health and social care; arts, entertainment and recreation; other services; activities of households as employers; activities of households that produce different goods and provide services for own purposes; and extraterritorial organizations and bodies. The State Statistical Office publishes the GDP data and the contribution of activities to its formation according to ESA 2010 methodology, which is also used to group activities as follows: entities with main activity of wholesale and retail trade and repair of motor vehicles and motorcycles, transport and storage, accommodation and food services are disclosed in aggregate and for the purposes of this report are presented as trade, transport, storage and hotels and restaurants, while entities with main activities related to real estate, professional, scientific and technical activities, and administrative and support services are grouped into one category.

Chart 68
Contribution to the growth of corporate value added by activity at prices in 2005 (left) and value added structure by corporate sector activity at current prices (right)
in % and in percentage points in %

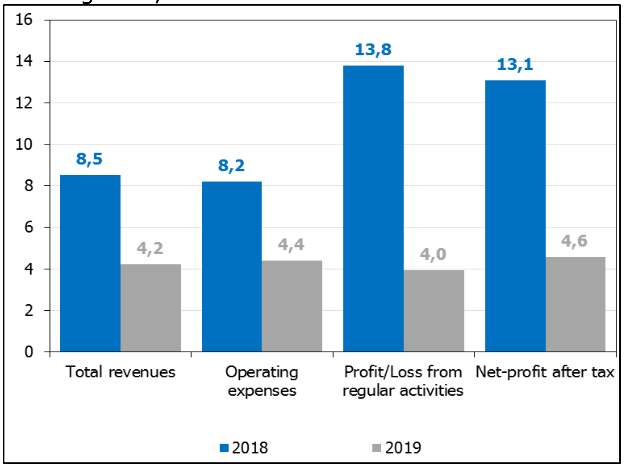


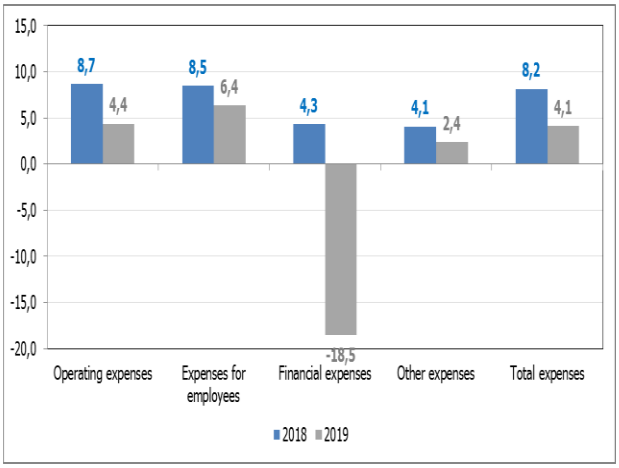
Source: State Statistical Office of the Republic of North Macedonia and National Bank calculations

The growth of corporate sector activity[77] enabled further growth of income and profits, at a more moderate pace though, compared to the previous year. The growth of total corporate income[78] in 2019 slowed to 4.2% on annual basis, amid growth of total expenses of 4.1%, with the greatest contribution of the costs of raw materials and procurement of goods, and further growth of employee costs. Data on the average monthly gross wage paid in the corporate sector show an annual increase of 5.8% (7.4% in the previous year) reflecting the increased minimum wage[79] and contribution rates[80], as well as the introduction of new government measures to subsidize contributions to increase private sector wages[81]. Such movements meant maintaining the trends from the previous five years of higher corporate wage growth compared to the public and financial sectors and the arts and entertainment sector. This contributed to a moderate narrowing of wage gap between corporate sector and other sectors, and at the end of 2019, the average gross wage paid in the corporate sector was 90.2% of the average monthly gross wage paid in the country, i.e. 82% of the average gross wage paid in the public sector.

[77] The analysis of corporate operations indicators relies on data from the Central Registry of the Republic of North Macedonia. According to these data, at the end of 2019, the total number of non-financial entities registered in the Central Registry of the Republic of North Macedonia was 112,437 (111,845 in 2018). Only 61,039 of these legally and formally existing entities (56,515 in 2018) submitted annual accounts to the Central Registry, an 54,272 entities (50,081 in 2018) submitted annual accounts to the Central Registry of the Republic of North Macedonia in 2019.
[78] Total corporate income include sales income, capitalized own products, other income from regular operations, financial income, share in profit of parent entities, net profit from discontinued operations (if any) and deferred tax income. Sales income has the largest share in the structure of total income (above 95%).
[79] During 2019, the minimum wage was increased twice, in April and December. In April, the minimum wage was increased from Denar 12,165 to Denar 12,507 net wage (gross from Denar 17,370 to Denar 17.943) as adjusted to the increase of the average wage paid in the Republic of North Macedonia for the previous year, to the consumer price index and the real GDP growth (one third of the growth of each indicator, respectively, Law on Minimum Wage, Official Gazette of the Republic of North Macedonia No. 59/19). With the additional increase in December (of around Denar 2000 net), the minimum wage paid for the period from December 2019 to March 2020 was Denar 14,500 net (Law on Minimum Wage, Official Gazette of the Republic of North Macedonia No. 239/19).
[80] The rates at which contributions were paid in 2019 increased to 18.4% for compulsory pension and disability insurance and 7.4% for compulsory health insurance (previously, these rates were 18% and 7.3%, respectively).
[81] On 14 November 2019, the Assembly of the Republic of North Macedonia adopted the Law on Subsidizing Compulsory Social Insurance Contributions Due to Salary Increase (Official Gazette of the Republic of North Macedonia No. 239/2019) effective as of November wage, which allows for subsidizing contributions for increasing net wage from Denar 600 to Denar 6,000 per month per insured for the private sector employees.

Chart 69
Corporate income, expenses and profits
annual growth, in %



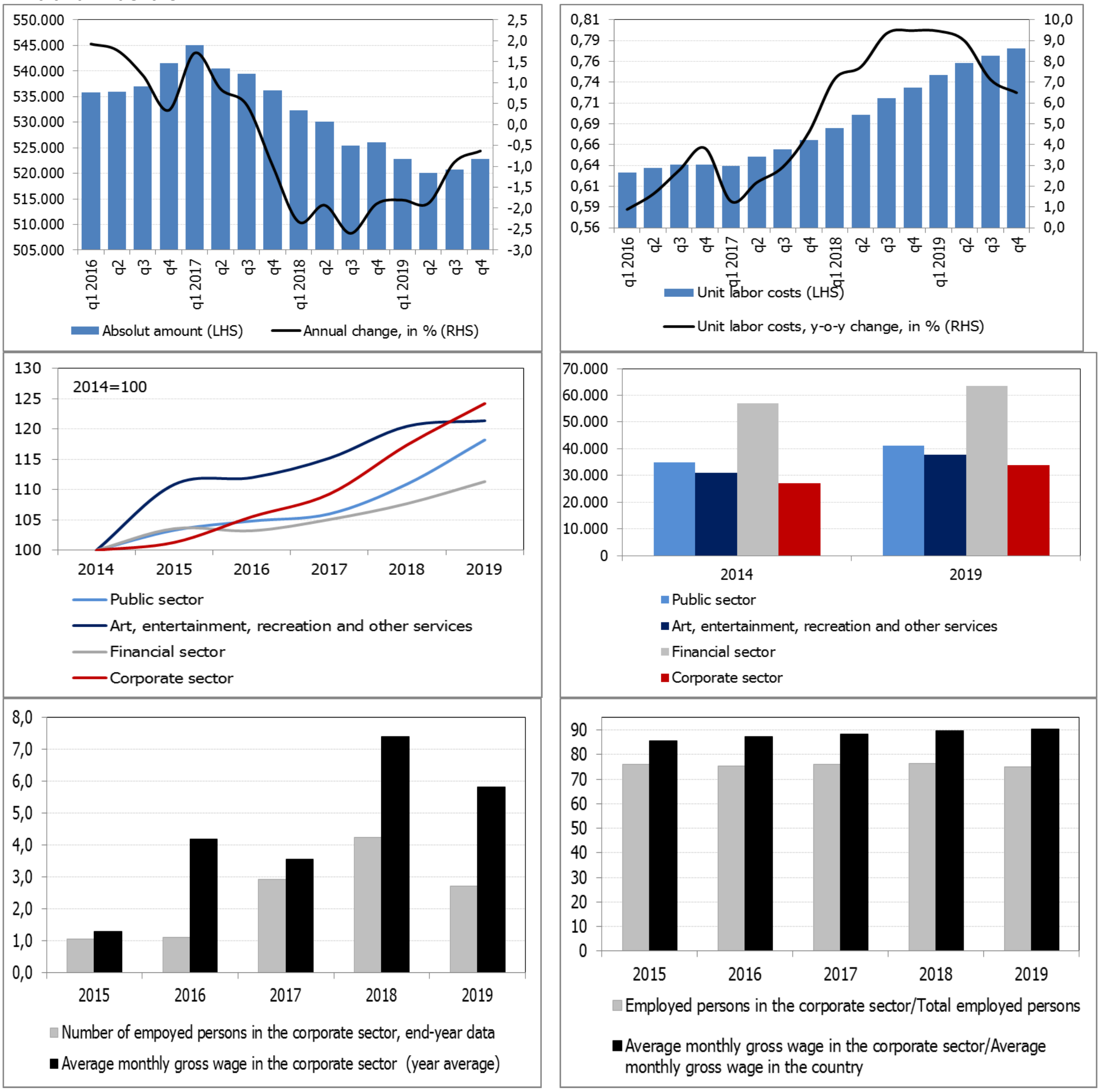


Source: Central Registry of the Republic of North Macedonia.

In 2019, the competitiveness indicators of the corporate sector deteriorated. The corporate productivity decreased on an annual basis for the second year in a row (by 1.3% on average, compared to 2.2% in the previous year), given the high growth of unit labor costs[82] (by 8%, after the growth of 8.5% in the previous year). Such movements require greater corporate effort to increase productivity to support wage rise, without compromising corporate competitiveness. In this regard, it is important to continuously improve business processes and modernize existing facilities, increase the level of technological equipment and modernize human resource development and management policies, and create stronger ties between domestic suppliers and foreign facilities to enhance transfer of knowledge and good business practices.

[82] Corporate productivity is the ratio between value added and number of employees in the sector. Unit labor cost is the ratio between average monthly gross wage and value added per employee in the sector. Data on the movement of value added per employee and unit labor costs per sector are presented in the Annexes to this Report.

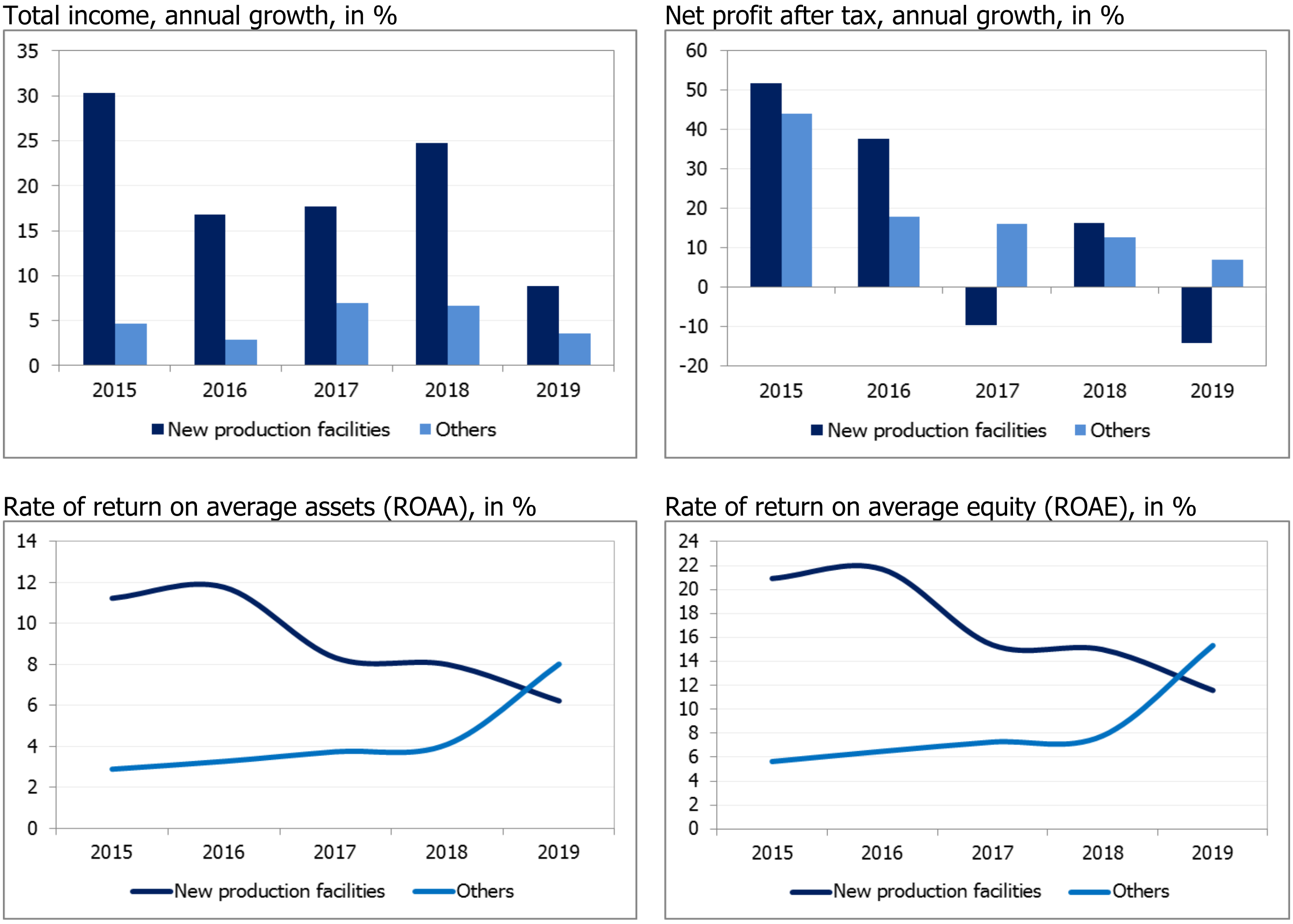
Chart 70
Value added per employee (up, left), unit labor costs of the corporate sector (up, right), annual rise in gross wages by sector (middle, left), gross wage by sector (middle, right), annual growth of the number of employees and wages (down, left) and indicators of corporate importance for the domestic labor market (down, right)
in % and in denars



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

In 2019, the domestic corporate sector preserved its profitability. The net profit of the total corporate sector continued to grow, at a slower pace though, increasing annually by 4.6% (13.1% in the previous year). The growth of net corporate profit was primarily driven by the group of small and medium enterprises. In 2019, large entities reported lower profit, but their share in total net corporate profit is still the highest (58%). Micro entities continued to incur operating losses. The number of entities operating at a loss in 2019 accounted for about one third of the total number of entities in the corporate sector.

Chart 71
Indicators for the operation of new facilities compared to the rest of the corporate sector

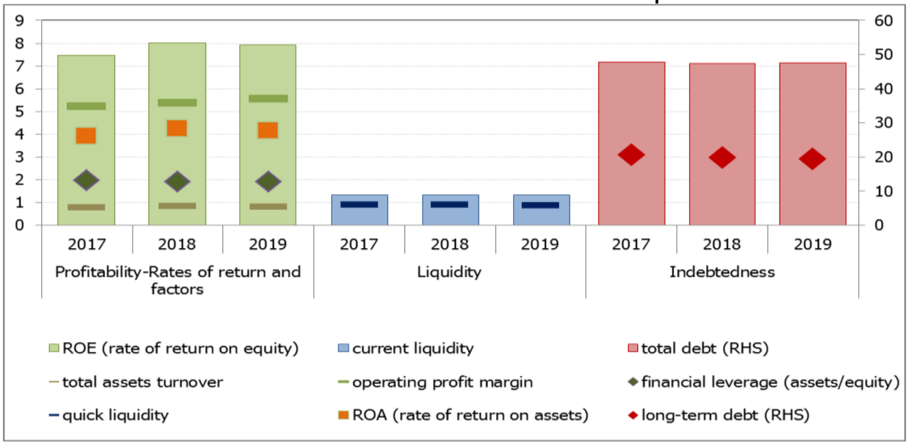


Source: Central Registry of the Republic of North Macedonia.

New production facilities[83], reported higher growth of total revenues (by 8.8%) in 2019 compared to other corporate sector entities (3.6%), but significantly lower compared to the previous year (24.8%). This reduced the net - profit and deteriorated the profitability indicators of the new production facilities, unlike the rest of the corporate sector, which reported profit growth and improved rates of return on assets and equity.

[83] It refers to 30 economic agents identified as new production facilities in foreign ownership, which mainly operate in the technological and industrial development zones and are export-oriented.

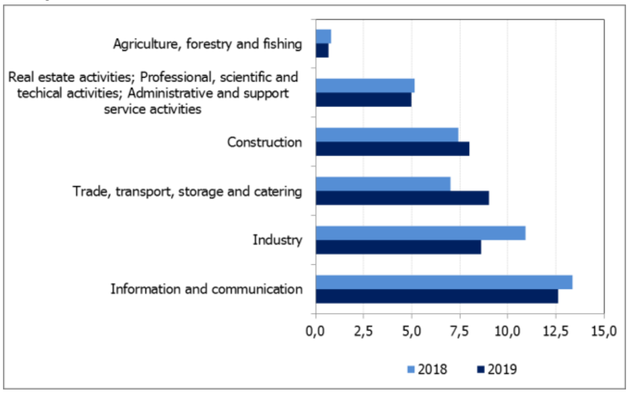
Chart 72
Financial soundness indicators of the domestic corporate sector

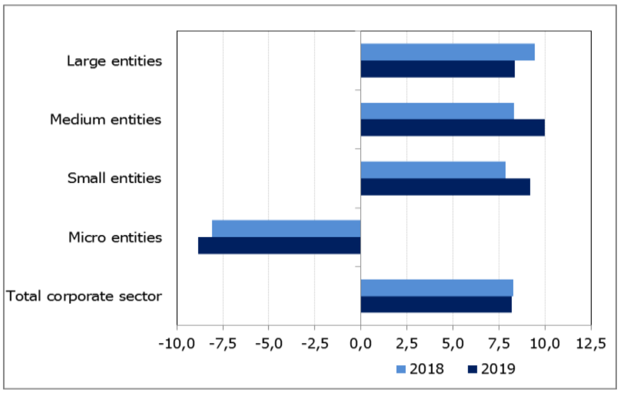


Source: Central Registry of the Republic of North Macedonia.

In conditions of slower growth of profit, profitability ratios remained stable, close to the levels of the previous year. The return on assets (ROA) in 2019 was 4.1%, while the return on equity (ROE) was 7.9%. Both ratios persist above the historical average of the previous ten years[84]. Analyzing by activity, the information and communications remain the most profitable activity, despite the moderate deterioration of the annual indicators, where the least profitable activity is agriculture. The profitability of trade, transport, storage and catering improved, same as construction, while industry reported a lower rate of return on equity compared to the previous year.

Chart 73
Return on equity (ROE), by activity and size
in %



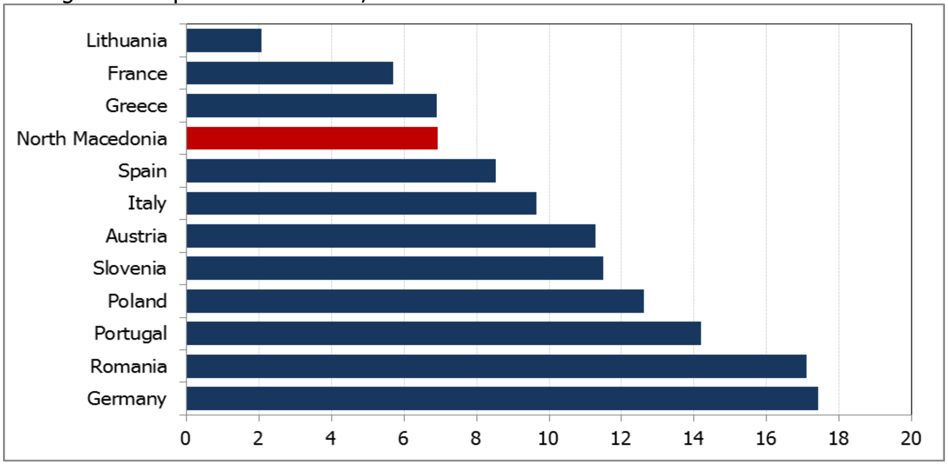


Source: Central Registry of the Republic of North Macedonia.

Compared to EU countries, the domestic corporate sector shows slightly lower profitability. The rate of return on equity of the domestic corporate sector in the last five years[85] was lower, compared to most of the analyzed countries, including countries in the region. Within the selected group of countries, the highest profitability was reported by the corporate sector in Germany and Romania, and the lowest in France and Lithuania. Such ratios indicate room for improvement of operations and strengthening of the financial power of the domestic corporate sector, which will improve competitive advantage in the international market.

[84] The return on assets (ROA) for the previous ten years averaged 3.4%, while the return on equity (ROE) averaged 6.6%.
[85] The analysis refers to the average of the rates of return on capital for the period 2014-2018.

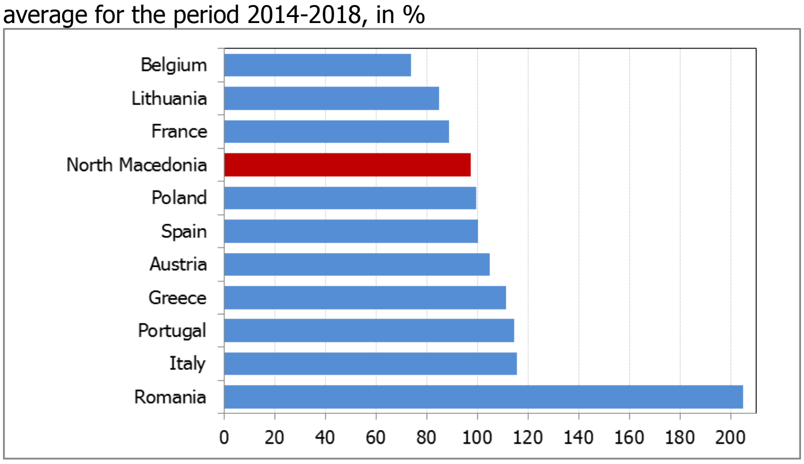
Chart 74
Return on equity (ROE), international comparison
average for the period 2014-2018, in %



Source: IMF's database on financial soundness.

The analysis of risk exposure of the domestic corporate sector shows further reduction in insolvency risk seen through improved capitalization and indebtedness maintained at an acceptable level. In 2019, equity increased by 5.9% on an annual basis, with a share of 52.4% in total sources of corporate financing. In terms of size, all groups of entities improved their capital position, particularly large entities (with contribution of 45.6%). Analyzed by activity, trade, transport, storage and catering, industry and construction made the greatest contribution to the corporate equity growth. The growth of capitalization supported further the growth of debt financing without increasing financial leverage of the corporate sector. The financial leverage ratio (debt-to-equity) remained stable at 0.9, which is among the lowest compared to EU countries.

Chart 75
Financial leverage ratio (debt-to-equity), international comparison
average for the period 2014-2018, in %



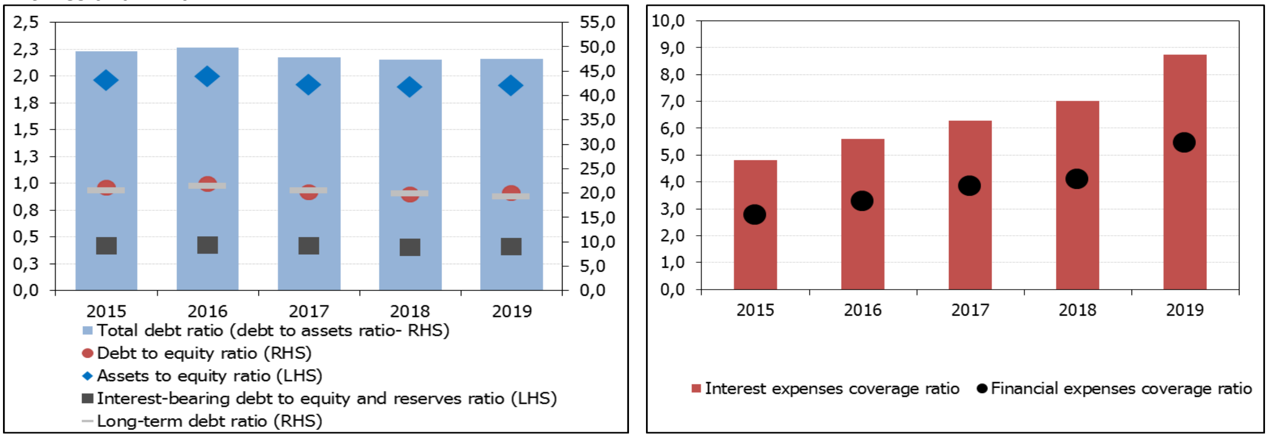
Source: IMF's database on financial soundness.

Other debt indicators also point to positive assessments of corporate solvency. After the decrease in 2017, the total corporate indebtedness indicator[86] in the last two years was maintained at a relatively stable level and in 2019, it was 47.6%. The dynamics of long-term debt is similar, and in 2019 it was 19.3%. The trend of further increasing the coverage of

[86] The methodology for calculating corporate performance indicators is given in the Annexes to this Report.

interest expenses and financing expenses with operating profit continued[87], with contribution of the increased corporate profitability, same as the trend of decreasing the cost of debt financing, which matched the environment of low interest rates.

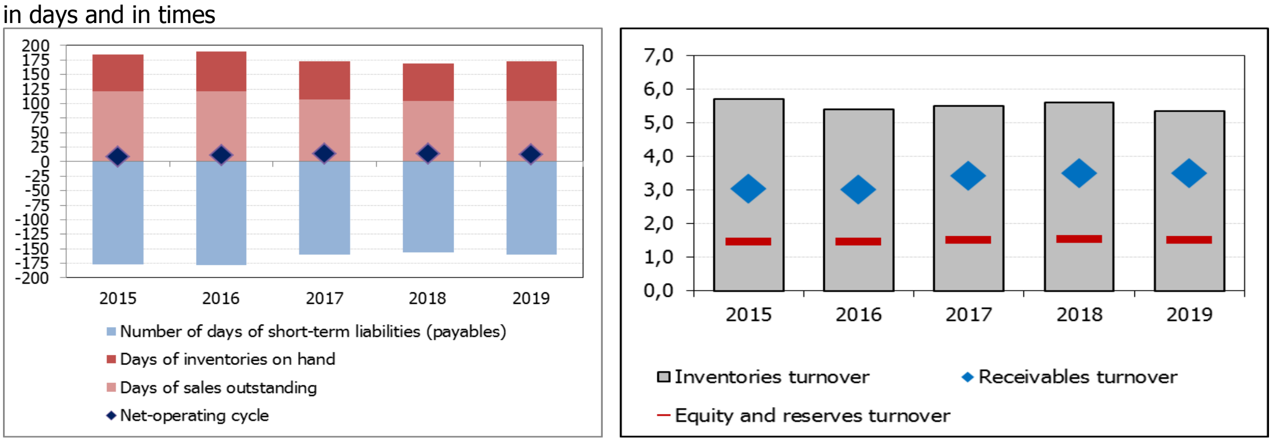
Chart 76
Selected corporate debt indicators
in times and in %



Source: Central Registry of the Republic of North Macedonia.

However, the analysis of company size and activity indicates greater vulnerability of certain corporate segments considering the debt level. Thus, according to the debt indicators, construction remains the most indebted activity, followed by service sector (real estate activities; professional, scientific and technical activities; administrative and ancillary services), whose total debt is also above the sector average. In terms of size, the largest entities are the least indebted. Micro entities are the most indebted and have a higher cost-financing burden. Higher debt increases the financial risk associated with micro-entities, which can have a limiting effect on access to finance. This requires appropriate structural reforms to reduce risks in the balance sheets of micro-entities and improve financial discipline, as an important precondition for sustainable growth of financial inclusion in the period ahead.

Chart 77
Selected indicators of operational efficiency of the corporate sector
in days and in times



Source: Central Registry of the Republic of North Macedonia.

Liquidity risk remains a key source of vulnerability for the domestic corporate sector. During 2019, liquidity ratios remained stable and below the theoretically satisfactory

[87] Operating profit (profit from normal business activities) = gross income of the domestic corporate sector less operating expenses.

level[88]. Micro-entities and agricultural entities continue to show greater vulnerability to liquidity shocks, which is seen through the lower level of quick and current liquidity ratios compared to other entities and the sector average. The still existing irregularities in liabilities execution is a factor that contributes to the modest liquidity of the domestic corporate sector. On a net basis, the domestic corporate sector has a relatively short operating cycle[89]of about 13 days, but this is due to the long periods of tying up assets and payment of short-term liabilities. Payment discipline has improved in recent years, as seen through the shortened deadlines for liabilities settlement. However, they are still longer than the deadlines specified in the Law on Financial Discipline[90], and in the developed EU countries. Thus, in 2019, the domestic corporate sector needed about 3.5 months on average to collect claims, and almost 5.5 months to pay short-term liabilities. In the European Union[91], the collection days[92] are less than one month (21 days) in Germany, 42 days in France, 46 to 48 days in Belgium and Spain and 83 days in Italy. Short-term liabilities payment takes 24 days in Germany, 56 days in France, 50 and 60 days respectively in Belgium and Spain and 90 days in Italy. Delayed settlement of domestic corporate liabilities complicates liquidity management and emphasizes the contagion and spillover risk to creditors in the event of a liquidity shock. This is especially noticeable given that an important source of corporate financing are the short-term liabilities with a share of 67% in total liabilities (excluding equity), with the liabilities to suppliers and related companies accounting for 40%. Hence, maintaining corporate financial soundness requires improvement of financial discipline to ensure more efficient liquidity management and strong resistance to shocks of the corporate sector.

[88] The rule of thumb, which is considered satisfactory, usually, uses 1 for quick liquidity, and 2 for current liquidity. The quick liquidity ratio of the domestic corporate sector in 2019 was 0.9, and the current liquidity ratio was 1.3.

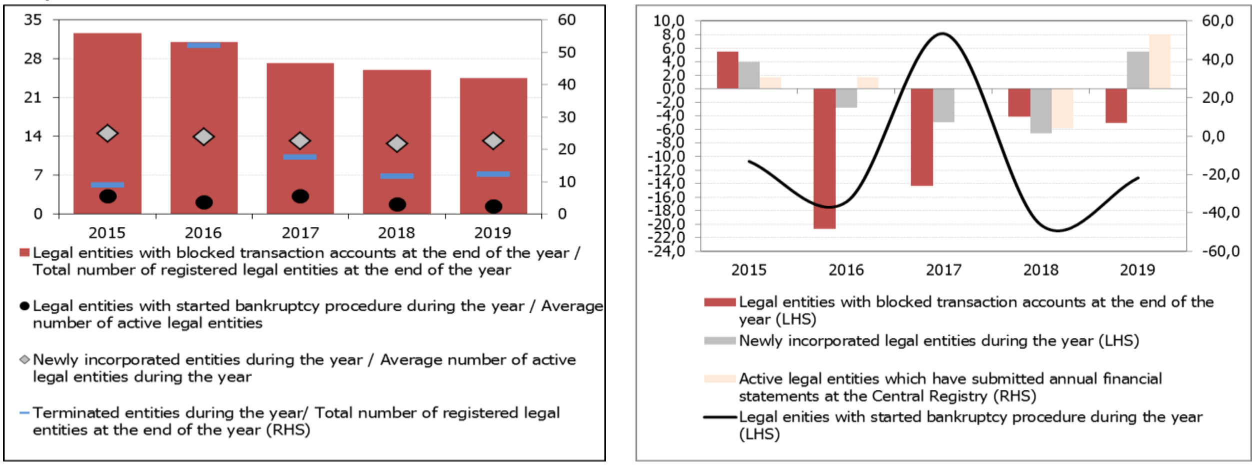
[89]Net operating cycle is the average period from payment to suppliers to collection of claims on customers, including the time needed for transforming raw materials into finished products through a production process.

[90] The Law on Financial Discipline does not allow more than 60-day period for settlement of liabilities in a business transaction between private economic agents. By way of derogation, in the business transaction between private economic agents, it may allow a period longer than 60 days, but not longer than 120 days, only if there is an explicit written consent from both parties.

[91] The data are based on a study of the FSA (Financial Statement Analysis) WG European Committee of Central Balance Sheet Data Offices "The Use of Accounting Information to Estimate Indicators of Customer and Supplier Payment Periods, April 2017.

[92] The data for the days of claim collection and short-term liabilities payment refer are as of 2013.

Chart 78
Relative importance (left) and annual growth (right) of newly incorporated, bankrupted, ceased and legal entities with blocked accounts
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

The need for greater financial discipline is shown in the data on the number of entities with blocked transaction accounts, which in 2019 continued to decrease, but still have a high share of 24.5% in the total number of registered legal entities in the Republic of North Macedonia. The number of legal entities under bankruptcy proceedings opened in 2019 decreased by 21.7% annually (after the drop of 46.2% in the previous year), which further reduced the approximate bankruptcy rate[93] to 1.4% (1.7% in the previous year). After the decrease in the previous year, the number of enterprise deaths[94] in 2019 increased (by 5.1% annually) to 12.2% of the average number of active enterprises during the year. However, the rate of enterprise deaths is lower than the **rate of enterprise births[95]**, which after a three-year period of steady decline, increased to 13.2% in 2019 (12.6% in 2018). This is a positive indicator of economic dynamic, given that enterprise births create jobs and support economic growth.

[93] The rate of bankrupted legal entities is the ratio between the number of legal entities that entered into bankruptcy during the year (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.

[94] The number of enterprise deaths is derived from the data on the total number of registered enterprises as of the end of the previous year and the number of enterprise births in the current year. Thereby, the reason behind the enterprise deaths is not taken into account, having in mind that the Law on Trade Companies prescribes a procedure for determining the status of inactive entity and the possibility to deregister such entities from the records of the Central Registry of the Republic of North Macedonia, including the failure to submit an annual account.

[95] The rate of enterprise births is the ratio between the number of enterprise births during the year and the average number of active enterprises in the year. Active enterprises 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 a procedure for determining the status of an inactive enterprise and the possibility of deregistration of such enterprises from the records of the Central Registry, including in the case of failure to submit annual accounts.

2.5.2 Corporate debt

The total debt[96] of the domestic corporate sector in 2019 grew at a slower pace compared to the GDP growth, which made the debt ratio to reduce (debt to GDP). Total corporate debt to GDP was 65.8% at the end of 2019, which is moderately higher than the average of the selected CESE countries[97] (55.6% of GDP in 2018), but below the vulnerability threshold[98] and below the debt average in the last ten years. If the domestic corporate debt excludes short-term trade credits[99], as an instrument for deferred interest-free financing of foreign trade, then the total domestic corporate debt to GDP would be lower (50.6%). External debt, which accounted for about 60% of the annual growth of total debt, is still the main driver of the corporate debt growth. Debt to domestic banks also increased, but more slowly than the previous year. Non-banking financial institutions continue to play a modest role in financing the domestic corporate sector, amid absence of debt financing through domestic capital market.

External domestic corporate debt continued to grow in 2019. At the end of 2019, the external debt constituted 58.5% of the total corporate debt, with of 38.5% share in GDP (38.9% of GDP in the previous year). The growth of external debt was supported by the further reduction of foreign cost financing, which have been kept low for a long time. External debt structure is dominated by long-term borrowing, which is the main generator of new debt growth in 2019. Thus, the debt repayment profile remains favorable with longer liabilities maturity, which reduces the risk of external debt refinancing. The structure of short-term liabilities is also favorable, with the largest share of trade credits[100] (92.1%) as an instrument for deferred interest-free financing of foreign trade.

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[96] For the purposes of this analysis, total corporate debt includes: loan liabilities, interest and other banks' claims, including the aggregate written off debt, in accordance with the banks' regulatory obligation to write off exposures fully provisioned for more than two years (more than a year since July 2019), foreign liabilities (non-residents), the value of active lease agreements and liabilities based on active contracts with financial companies.

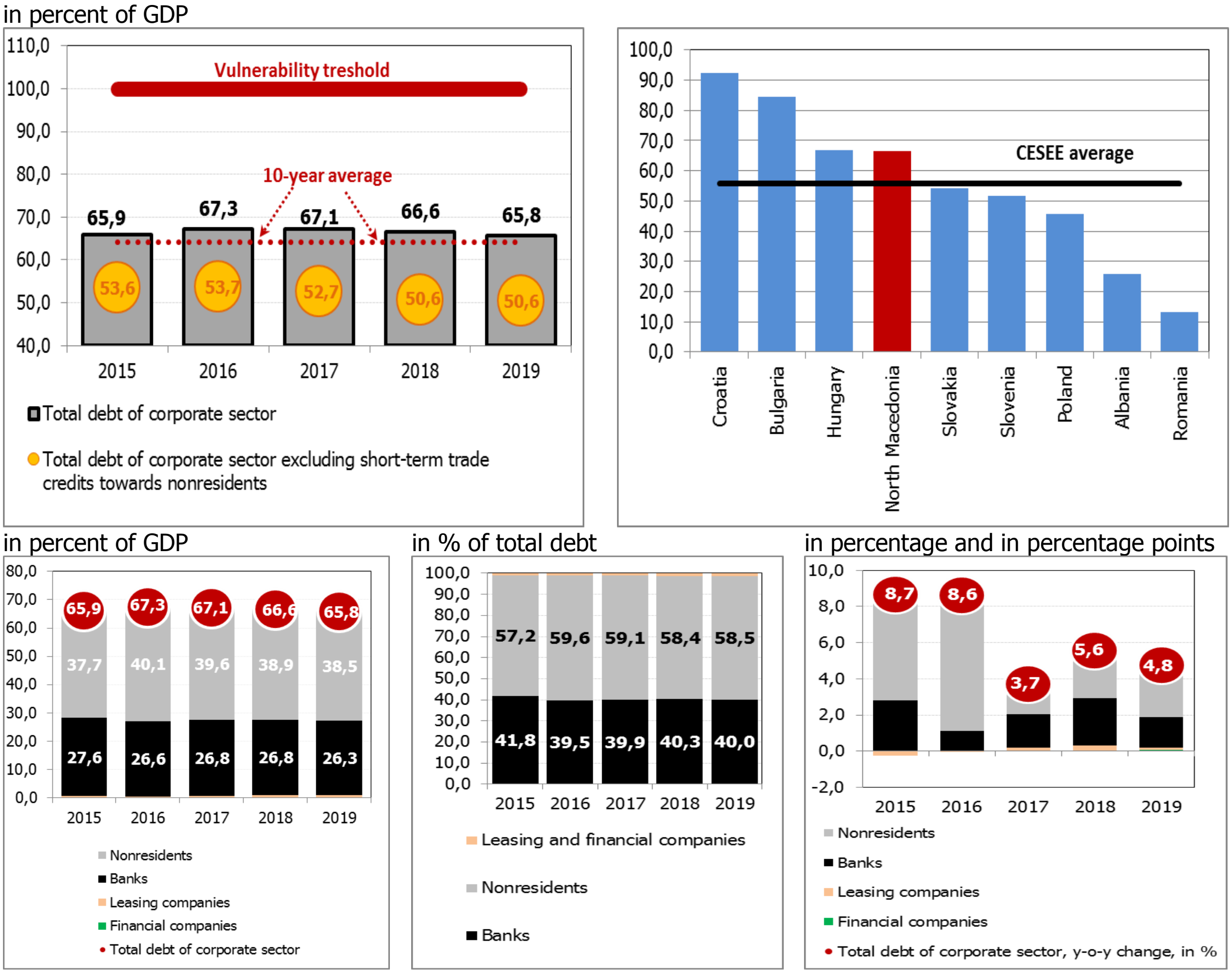
[97] The average refers to 2018 and includes the following CESE countries: Albania, Bulgaria, Croatia, Hungary, North Macedonia, Romania, Slovakia, Slovenia and Poland. Source: IMF's global debt database.

[98] 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 100% of GDP is derived according to the ECB principle (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 2006-2019.

[99] At the end of 2019, short-term trade credits represented 23.1% of the total corporate debt and 39.5% of the corporate debt to non-residents.

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

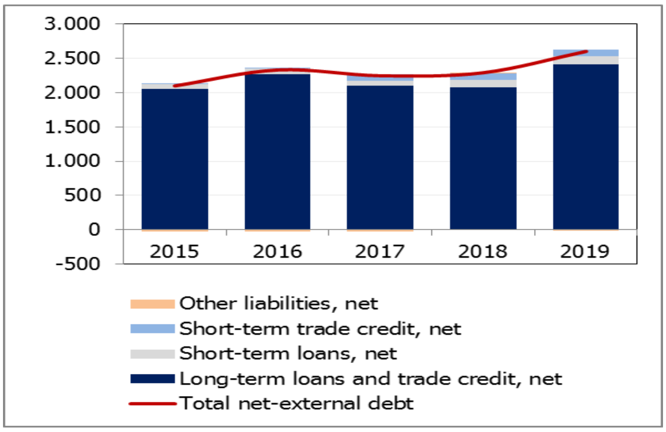
Chart 79
Corporate debt in the Republic of North Macedonia (up, left) and compared to countries in the region (up, right), corporate debt structure in the Republic of North Macedonia by type of creditor (down, left and middle) and contribution to the annual growth of total corporate debt by type of creditor (down, right)
in percent of GDP

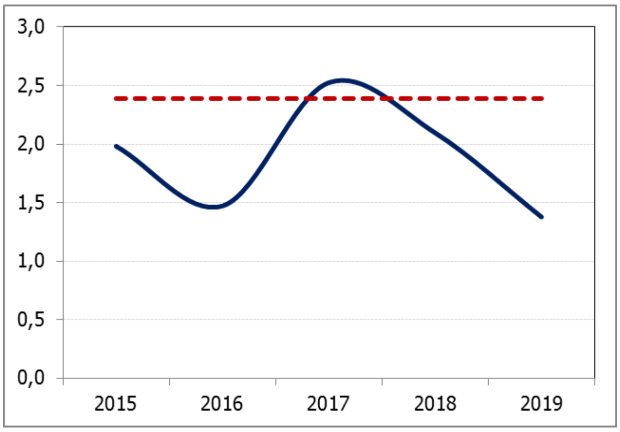


Source: National Bank of the Republic of North Macedonia, Ministry of Finance of the Republic of North Macedonia and State Statistical Office of the Republic of North Macedonia.
Note: Data on CESEE countries are as of 2018.

Analyzing by creditor, in 2019, the growth of liabilities between unrelated entities was slightly higher, amid stronger growth of intercompany debt, compared to the previous year. Intercompany debt still accounts for about half of total external corporate debt, with long-term borrowing accounting for about 53%. Short-term liabilities, on the other hand, relate almost entirely to trade credits (90%). Such external debt structure, by creditor, further reduces the exposure to risk of refinancing external debt, given that intercompany debt is seen as a more flexible and more easily accessible financing instrument.

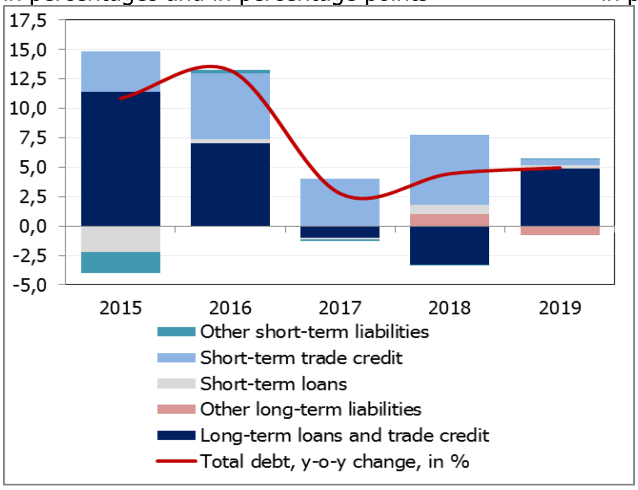
Chart 80
Net external corporate debt (left) and derived interest rate on external debt (right)
in millions of euros | in %

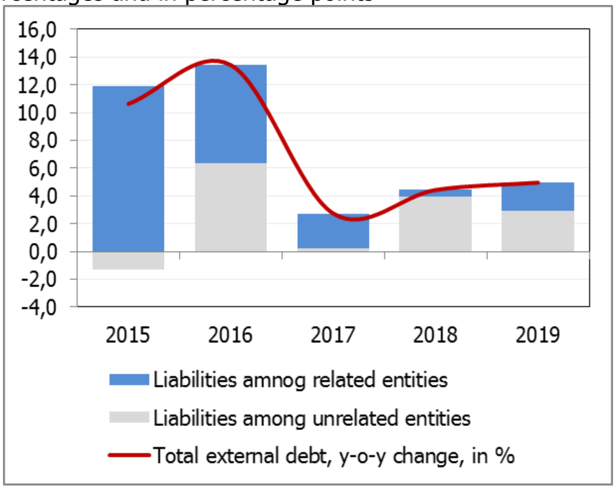




Source: National Bank of the Republic of North Macedonia.
Note: Net external debt is the difference between gross external debt and gross external claims of the corporate sector. Interest rate on external debt is the ratio between interest on corporate loans from non-residents and total corporate loan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

Chart 81
Contribution to the annual growth of corporate debt to non-residents by maturity (left) and creditors (right)
in percentages and in percentage points | in percentages and in percentage points





Source: National Bank of the Republic of North Macedonia.

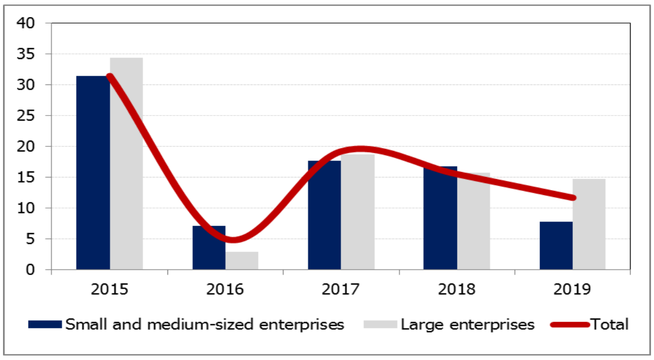
In 2019, the corporate debt to the domestic banking sector continued increasing, at a moderately slower pace though, compared to the previous year. The total company debt to the banking sector was 26.3% of GDP at the end of the year (26.8% of GDP in the previous year). According to the National Bank Lending Survey[101], the growth of banks' corporate loans is due to factors on the supply and the demand side of loans. The Survey results show further easing of credit standards by domestic banks, mainly to small and medium enterprises. The greatest factor is the competition of other banks, amid improved banks' expectations for the overall economy and the perspective of individual economic activities. The easing is seen in cuts of loan interest rates, fees and commissions.

[101] The National Bank Lending Survey is conducted quarterly. In this section of the Financial Stability Report, the Survey results are analyzed as average results of the four quarterly surveys relating to each calendar year. For more information about the results from the lending surveys, visit the National Bank website.

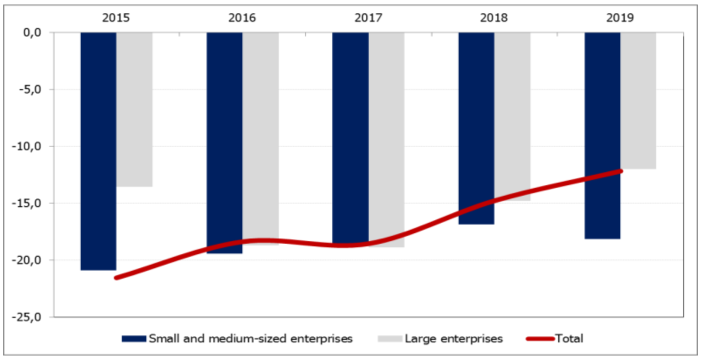
Loan demand continued increasing (more from large enterprises), primarily as a result of the increased needs of enterprises for financing investments, amid increase in loan demand for both investments in stocks and working capital, and debt restructuring.

Chart 82
Results from the Bank Corporate Lending Surveys

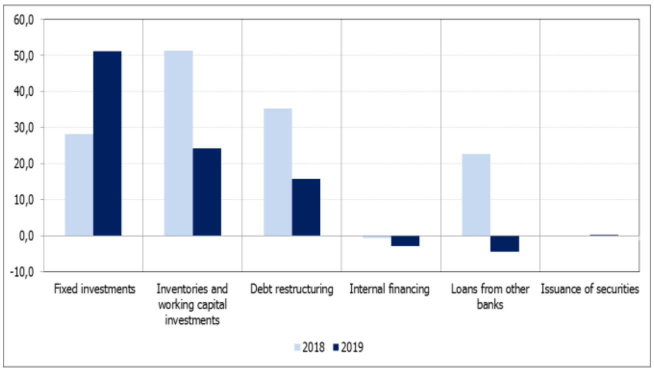
Loan demand



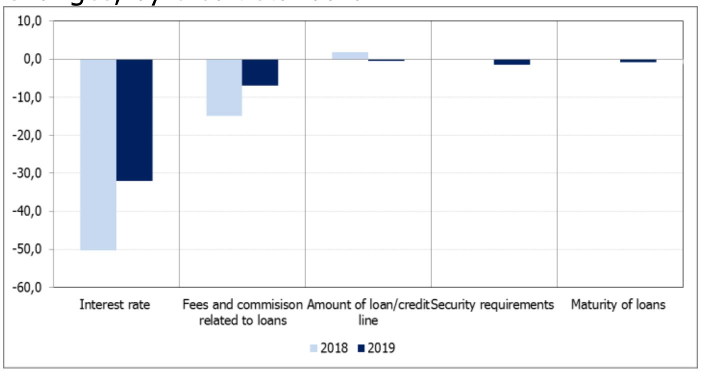
Credit standards



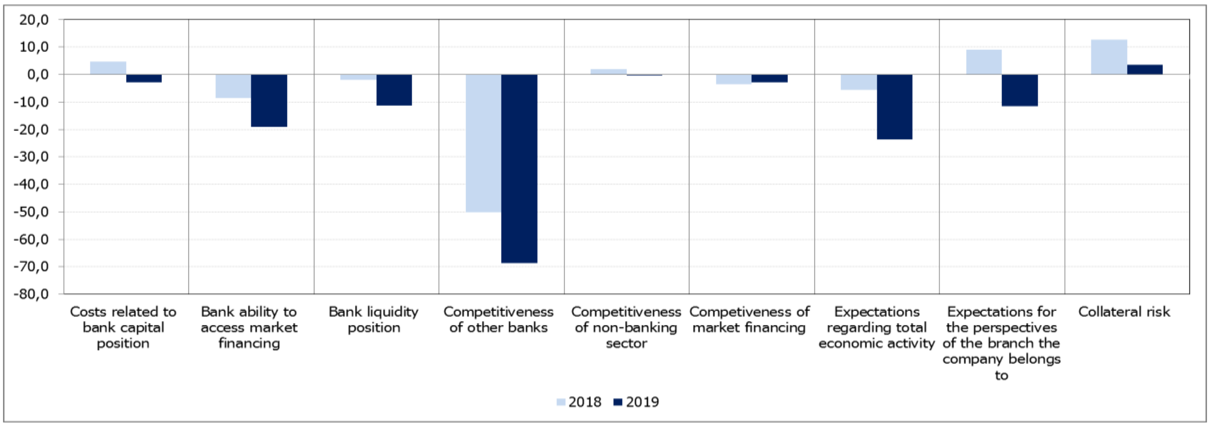
Loan demand factors



Changes, by credit standard



Credit standards factors



Source: National Bank, based on data in Bank Lending Surveys.
Note: In credit demand, a negative net percentage means lower credit demand, a positive net percentage means higher credit demand, and a zero net percentage means unchanged credit demand. In credit standards, a negative net percentage means eased credit standards, a positive net percentage means stricter credit standards, and a zero net percentage means unchanged credit standards. The same stands for net percentages in factors that affect credit standards and changes in individual credit standards. In factors influencing loan demand, the net percentage is the difference between the sum of "significantly contributes to higher demand" and "partially contributes to higher demand" and the sum of "partially contributes to lower demand" and "significantly contributes to lower demand."

During the year, the number of companies that borrowed from the banking sector increased (by 5.4%), so the number of companies to which banks have credit exposure was 35.8% of the total number of active enterprises. Large companies, although the least numerous[102], reported the highest coverage with financing from domestic banks (banks have credit exposure to 80.4% of the total number of active large companies). Small and medium enterprises are the largest group of borrowers (58.7% of the total number of enterprises to which banks have credit exposure), with almost 60% of the total number of active small and medium enterprises having access to financing from domestic banks. Micro-enterprises reported the lowest coverage with financing from domestic banks (22.2% of the total number of active enterprises in the group), but also the highest level of operational risks. The data show that companies that borrowed from the banking sector used the finance for investments, seen through the long-term loan growth. Short-term loans in 2019 declined, after the growth in the previous two years. The growth of long-term lending is a positive indicator of the financial viability of companies that borrowed from the banking sector. Companies to which banks have credit exposure show slightly better operating results compared to the total corporate sector, which primarily refers to debt and profitability ratios[103]. This also positively contributes to the credit risk exposure of domestic banks to the corporate sector. The rate of non-performing loans of banks to the corporate sector was 7.5% at the end of 2019, which is an improvement compared to the end of the previous year when it was 7.9%. However, the improvement is mostly due to the mandatory write-offs of banks due to regulatory requirements, and if their effect is excluded, the non-performing loans rate would increase on an annual basis from 10.8% in 2018 to 11.3% in 2019.

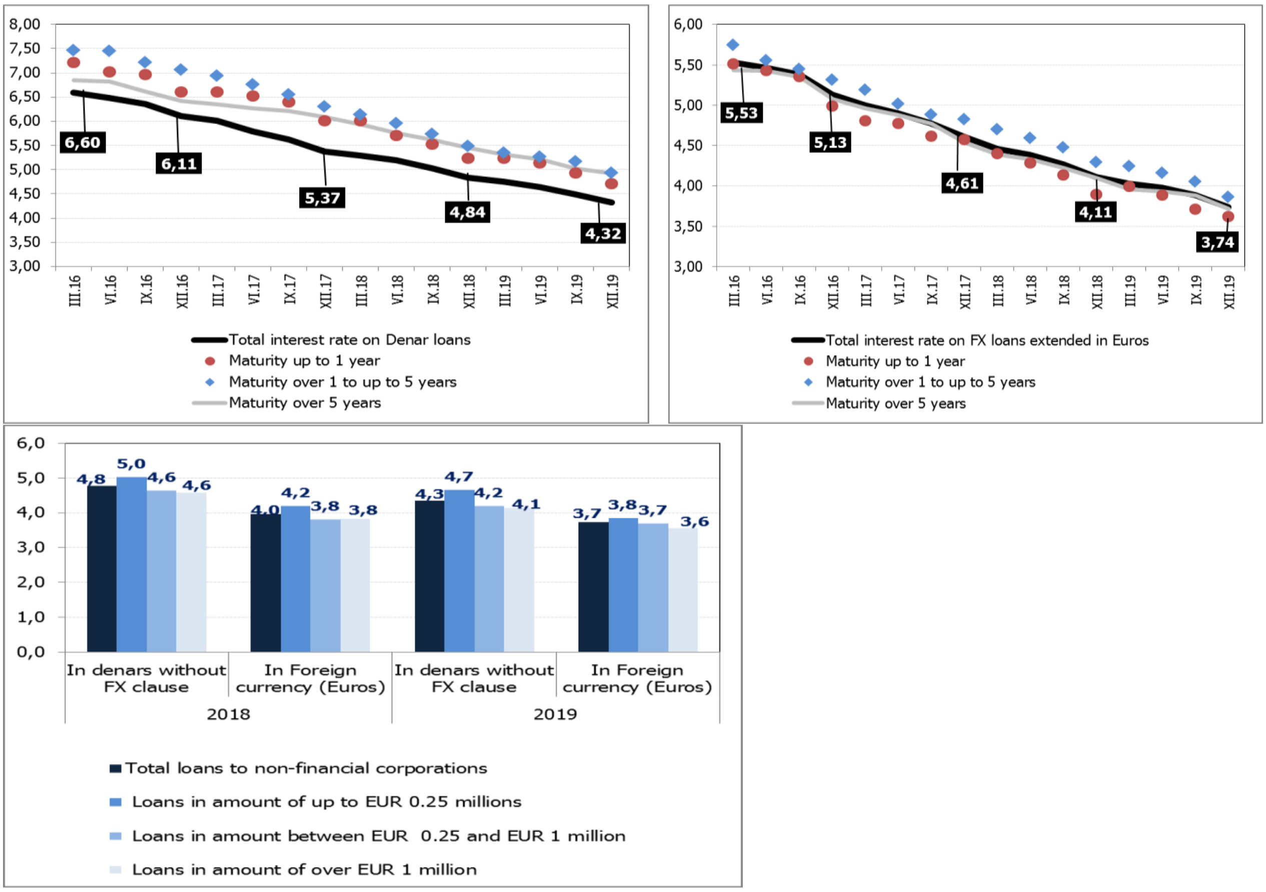
Analyzing the interest structure of total corporate debt, data show further decrease of adjustable interest debt, which at the end of 2019 reduced to 7.7% of the total corporate debt. This largely reflects the changes in the structure of debt to domestic banks made under the National Bank recommendations to abandon adjustable interest rates[104] in loan and deposit agreements. Before this, in the second half of 2017, the adjustable interest debt accounted for about 39% of the total corporate debt, i.e. 77.4% of the debt to domestic banks. Three years later, the structure of debt to banks completely changed, and most of the debt was with variable interest rate (46.5%), followed by fixed interest debt (28.1%), while the share of adjustable interest debt was 14.4%. The external debt structure is dominated by fixed interest debt (57%), which registered the fastest growth during the year, amid growth of interest-free debt, which reached 10% of the total external debt of the corporate sector. The movements in the previous three years improved the risk profile of the total corporate debt in terms of exposure to interest rate risk, about 42% of which was fixed interest debt at the end of 2019. However, the share of floating interest rates remained high (around 48%)[105], which emphasizes the vulnerability to shocks in the event of a change in the interest rate trajectory.

The 2019 data show further reduction of banks' interest rates on corporate loans amid monetary easing by the National Bank[106] and stable domestic environment. All interest rates decreased in terms of currency and maturity, with the largest decrease (of 0.7 percentage points annually) registered in interest rates on euro loans up to one-year maturity. The analysis shows lower interest rates on new loans, both in terms of currency and in loan size, with banks still charging lower interest rates on larger loans from Euro

[102] Of 34,402 active businesses in 2019, 479 are large enterprises.
[103] For the performance ratios of companies to which domestic banks have credit exposure, see the Annex to this Report.
[104] In October 2016, the NBRM recommended that banks increase their transparency in the formation of interest rates on loans and deposits, warning them about the reputational and legal risks that they take by applying clauses of unilateral adjustment of the agreed interest rate. It expressed its expectation that from 30 June 2017, banks will, on their own initiative, stop applying adjustable interest rates in the credit and deposit agreements, and will adjust their practices and policies on the manner of forming interest rates, and build and increase their capacity for interest rate risk management.
[105] Debt with variable and debt with adjustable interest rates.
[106] For more details on the changes in the National Bank monetary policy stance, see *Monetary instruments setup and changes in 2019*.

250,000 thousand to Euro 1 million, and over Euro 1 million compared with smaller loans of up to Euro 250,000[107].

Chart 83
Interest rates on total domestic bank corporate loans in denars without currency clause (up, left) and in foreign currency (euro) (up, right) and average interest rates on new corporate loans by domestic banks (down)
in %



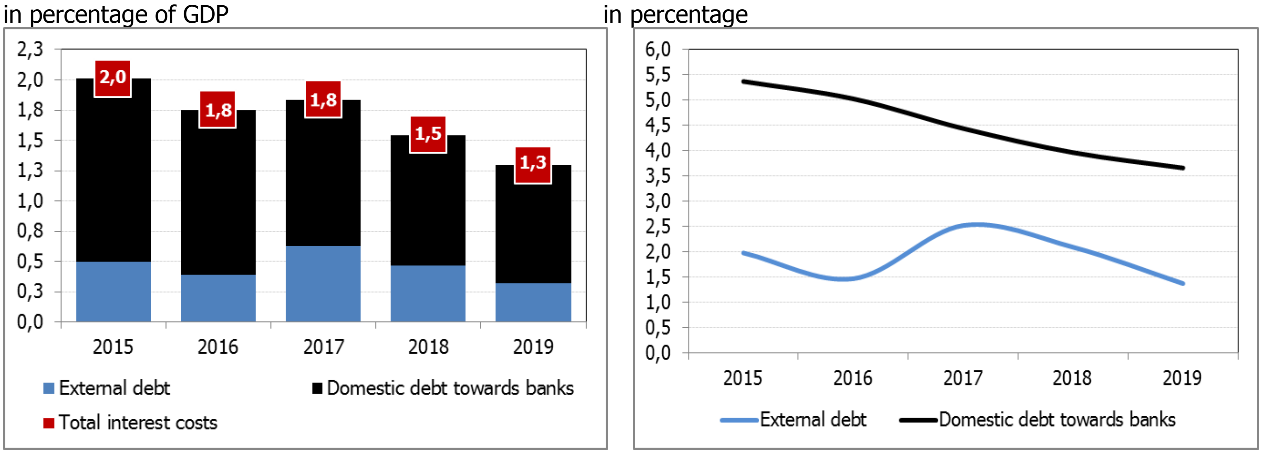
Source: Statistics of the National Bank interest rates.

Such movements in domestic interest rates, amid interest rate cuts in international markets, supported further reduction of interest costs for corporate debt settlement[108], which in 2019 amounted to 1.3% of GDP. Within them, the interest costs of the domestic debt have a larger share, which corresponds to the higher interest rates on the domestic compared to international markets. Thus, the interest rate on domestic debt[109] in 2019 was 3.7%, compared to the interest rate on external debt[110] which was 1.4%. Lower interest costs improve the current corporate sector's capacity to repay existing debt. However, if we take into account the long period of low interest rates, the sustainability of such trends in the coming period is questioned. This, together with the high share of variable interest rate debt in the total corporate debt, emphasizes the interest rate risk in the corporate debt portfolio, requiring careful management to preserve long-term debt sustainability.

[107] Applies to denar equivalent of foreign currency loans and denar loans.
[108] It refers to interest expenses, which for the external debt include interest paid on corporate loans during the year, and for the domestic debt include income earned by banks from non-financial entities during the year.
[109] The interest rate on domestic debt is the ratio between banks' interest income from non-financial entities and the stock of total banks' loans to the corporate sector.
[110] The interest rate on external debt is the ratio between interest paid on corporate loans from non-residents and total liabilities on corporate loans from non-residents.

Besides the interest rate risk, the exposure to the exchange rate risk remains significant for the corporate sector given that foreign currency debt prevails in the structure of total corporate debt. As of the end of 2019, the debt with currency component[111] made up 73.8% of the total corporate debt, being the main generator of the new debt during the year. Such movements are mostly due to the growth of foreign debt, which accounts for about 60.7% of the growth of total debt or 71.7% of the growth of debt with currency component. Thus, as of the end of 2019, the share of external debt in total corporate debt with currency component reached 79.3%. The new lending by the banking sector also contributed to higher currency risk exposure, mainly in denar loans with FX clause[112]. The strategy of maintaining a stable exchange rate of the denar against the euro protects economic agents against currency risk and is an important pillar of the financial stability of the corporate sector, especially given that the euro is the leading currency in the external debt structure (76.3%). The second most important currency is the US dollar, which as of 2019, accounts for 23.1% of total external debt, while the share of other currencies is insignificant.

Chart 84
Interest expenses of the corporate sector (left) and interest rate on corporate debt (right)



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. External debt interest costs include interest paid on corporate loans during the year, while domestic debt includes income earned by banks from non-financial corporations during the year.
The interest rate on domestic debt is the ratio of banks' interest income from non-financial companies and the balance of total banks' loans to the corporate sector. The interest rate on external debt is the ratio between interests paid on corporate loans from non-residents and total liabilities on corporate loans from non-residents.

[111]Refers to foreign currency debt and denars debt with FX clause.
[112] Denar loans with FX clause in 2019 contributed with 48.4% to the growth of total corporate debt to the banks. Foreign currency debt also increased, contributing with 10% to the growth of total corporate debt to the banks, while denar loans decreased annually, following the growth in the previous year.

Table 1
Structure and changes to the domestic corporate debt components

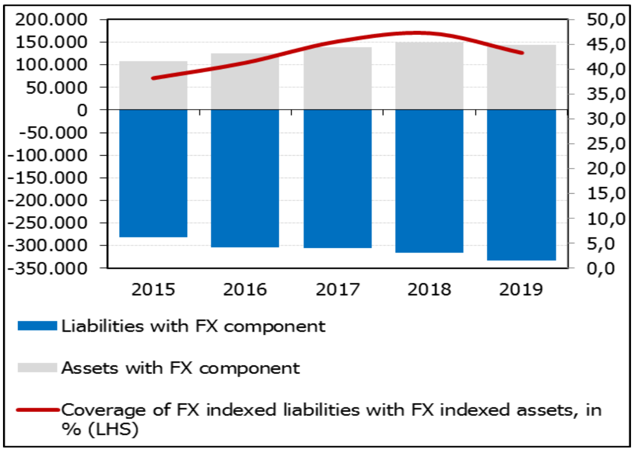
	Type of debt	Structure (in %)			Absolute change (in Denar millions)			Relative change (in %)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
Currency	Denar debt	22,5	23,0	21,8	9.283	7.119	-385	11,0	7,6	-0,4
	FX debt	68,5	67,2	67,1	3.840	9.896	13.455	1,4	3,5	4,6
	Denar debt with FX clause	5,7	6,1	6,7	-1.080	3.164	4.217	-4,4	13,4	15,8
	Cummulative of regulatory imposed write-offs to domestic banks	3,3	3,8	4,4	2.734	2.932	3.593	25,3	21,7	21,8
Maturity	Short-term debt	34,7	37,3	35,6	12.262	19.162	285	9,3	13,3	0,2
	Long-term debt	58,0	55,6	57,0	625	2.854	17.970	0,3	1,2	7,4
	Other debt (past due and nonperforming)	4,0	3,4	3,0	-844	-1.837	-967	-4,8	-11,0	-6,5
	Cummulative of regulatory imposed write-offs to domestic banks	3,3	3,8	4,4	2.734	2.932	3.593	25,3	21,7	21,8
Type of interest rate	Debt with fixed interst rate	32,9	37,1	41,7	17.232	15.232	23.294	19,8	14,6	19,5
	Debt with variable interest rate	29,6	36,3	40,1	14.076	22.824	20.492	17,6	24,2	17,5
	Debt with administratively adjustable interest rate	28,7	17,8	7,7	-31.157	-33.831	-30.920	-25,5	-37,1	-53,9
	Other -interest free debt towards nonresidents	4,7	4,0	4,9	1.486	-2.239	3.900	11,0	-14,9	30,5
	Cummulative of regulatory imposed write-offs to domestic banks	4,0	4,9	5,6	2.674	2.864	3.465	26,3	22,3	22,0

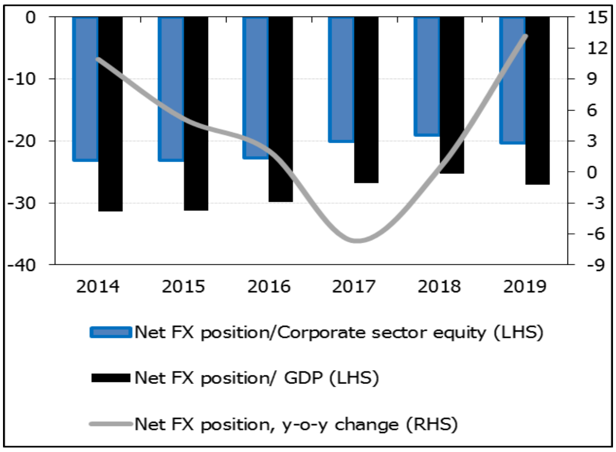
Source: The National Bank data on the corporate debt to banks and non-residents, the Ministry of Finance data on the corporate debt to leasing companies and financial entities.
Note: In the debt maturity structure, the share of other (past due and non-performing) debt is obtained from the data on the corporate debt to banks, due to the unavailability of data on non-performing debt to other creditors. The debt structure by type of interest rate is obtained from the debt to the banking system and debt on the principal of loans to non-residents. Written off debt by domestic banks is part of the domestic corporate debt written off by banks in 2016, following the regulatory requirement to write-off exposure that has been fully covered with impairment and/or special reserve for more than two years (more than one year from July 2019).

The 2019 data show moderate deterioration of the coverage of liabilities with FX clause with assets with FX clause to 43.3% (47.3% in the previous year), which follows the continuous improvement of this indicator in the last four years. Such movements are due to the growth of liabilities with FX clause, amid declining assets, which increased the short (negative) net currency position[113] of the domestic corporate sector. In 2019, the negative net currency position of the corporate sector was 27% of GDP and 20.4% of the corporate sector equity, compared to 25.3% of GDP and 19.1% of the equity in the previous year. These developments further underline the importance of stable denar exchange rate against the euro, and prudent currency risk management in the corporate balance sheets to ensure long-term corporate debt sustainability.

[113] Net currency position is 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 assets are higher than liabilities, and negative, i.e. short, when 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 loans with currency component from domestic banks and total liabilities to non-residents. The stock of investments abroad as of 31.12.2019 is based on data as of 31.12.2018, since the data for 2019 becomes available in the second half of 2020.

Chart 85
Net currency position of the corporate sector
In millions of denars and in % in %



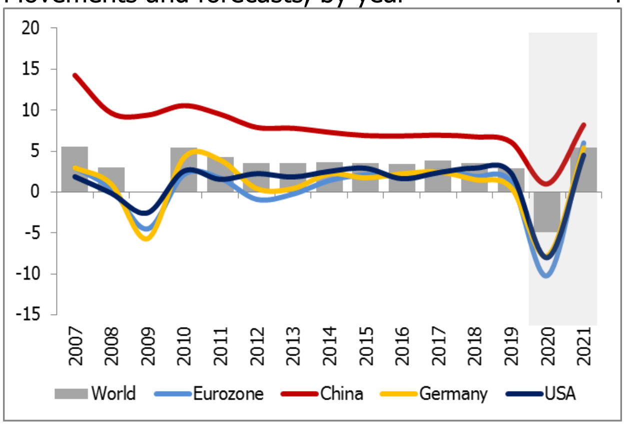


Source: National Bank of the Republic of North Macedonia, State Statistical Office of the Republic of North Macedonia and Central Registry of the Republic of North Macedonia.

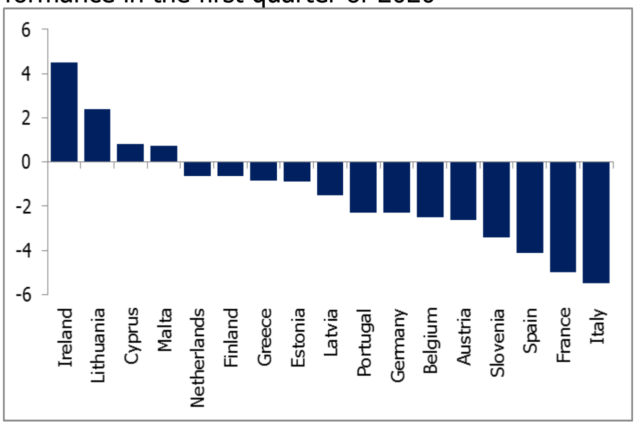
Initial assessments of the pandemic effects on the domestic corporate sector

The emergence and spread of COVID-19 since early 2020, has seriously endangered the global health, and the measures to protect public health and prevent the virus spread have an adverse impact on economic activity. According to the latest IMF estimates[114], as a result of the pandemic, global economy is expected to decline by 4.9% in 2020, which is the deepest recession after the Great Depression, heavier than the global financial crisis in 2008-09. The United States economy is expected to decline by 8%, the euro area economy by 10.2%, the German economy by 7.8%, in contrast to China, whose economy is expected to increase by 1% in 2020. The first quarter data already show an economic contraction in the developed countries. In the euro area, there was almost no economy immune to the effects of the pandemic, with Italy, Spain and France being among the hardest hit. The IMF baseline scenario forecasts global economic recovery in 2021, with global GDP growth of 5.4%, assuming the pandemic subsides in the second half of the year and the containment measures are released, which together with monetary and fiscal stimulus measures, would normalize economic activity. However, the risks to global growth are assessed as largely downward, conditioned by the shock protraction and severity, and any infection resurgence and prolonged implementation of containment measures could protract the recession and deepen the economic crisis.

Chart 86
GDP, real annual growth, in %
Movements and forecasts, by year



Performance in the first quarter of 2020



Source: IMF, World Economic Outlook, June 2020 and Eurostat.

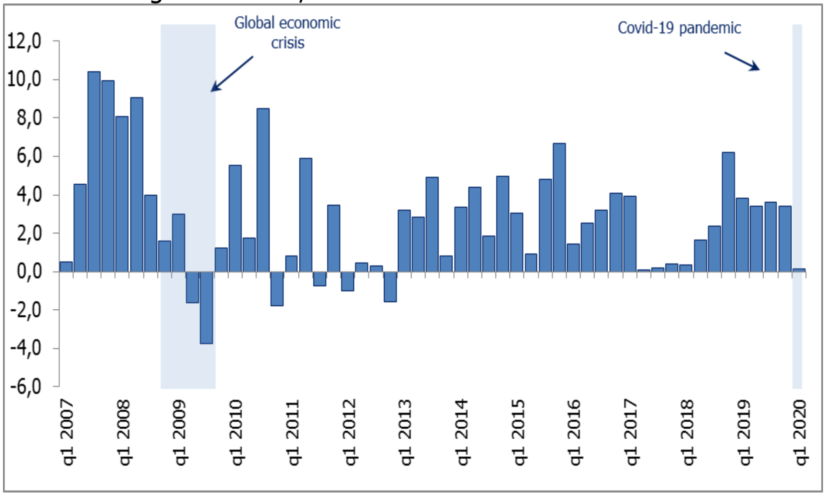
[114] IMF, World Economic Outlook, June 2020.

In the domestic economy, the COVID-19 pandemic began to spread in early March 2020, and the containment measures included closing borders, restricting movement and complete or partial closure of certain businesses, primarily those implying close social interaction. Such conditions severely affected domestic economy, which is expected to decline by 3.5% in 2020, and to rebound by 4.7% in 2021[115].**The deteriorating global and domestic environment will undoubtedly affect the performance of domestic corporate sector, with possible effects on its risk profile, which will depend on the duration and severity of the shock.** As corporate data are obtained and analyzed annually, below we analyze the movements of available economic indicators to gain initial knowledge about any corona-crisis effects on the domestic corporate sector.

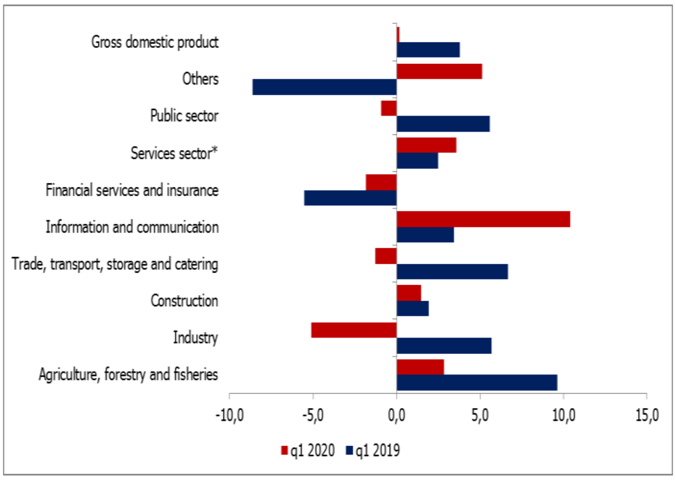
Initial domestic economy indicators show that the containment measures, implemented both domestically and abroad, strongly affect the domestic economy, and thus the corporate activity. Namely, the real annual GDP growth rate in the first quarter of 2020 significantly slowed down to 0.2%, compared to 3.4% in the previous quarter and 3.8% in the first quarter of 2019. This is an observation from mid-March at the start of the implementation of containment measures, which means their very short impact on the domestic economy. Analyzed by activity, industry, trade, transport, storage and catering, and financial sector reported contraction. ICT sector made a positive contribution to GDP growth in the first quarter, with growth in construction, agriculture and services sector[116]. The GDP expenditure analysis shows slower private consumption, lower investments amid uncertain global and domestic environment, after the strong growth in the previous two quarters. A decrease was also registered in exports, amid lower imports demand, which is an indicator of reduced activity of domestic export facilities.

[115] According to the NBRNM April forecasts. For more details, see the *Quarterly Report, May 2020*.
[116] Services sector includes real estate activities, professional, scientific and technical activities and administrative and auxiliary services.

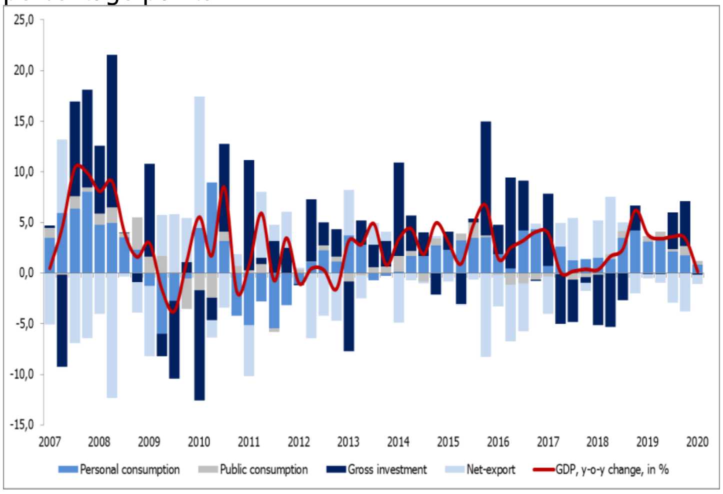
Chart 87
Gross domestic product
Real annual growth rates, in %



Real annual growth, in %



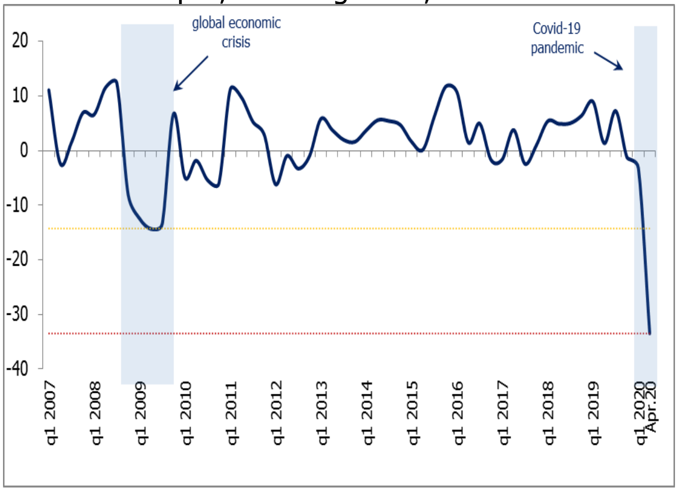
Contribution to the real annual GDP growth, in % and in percentage points

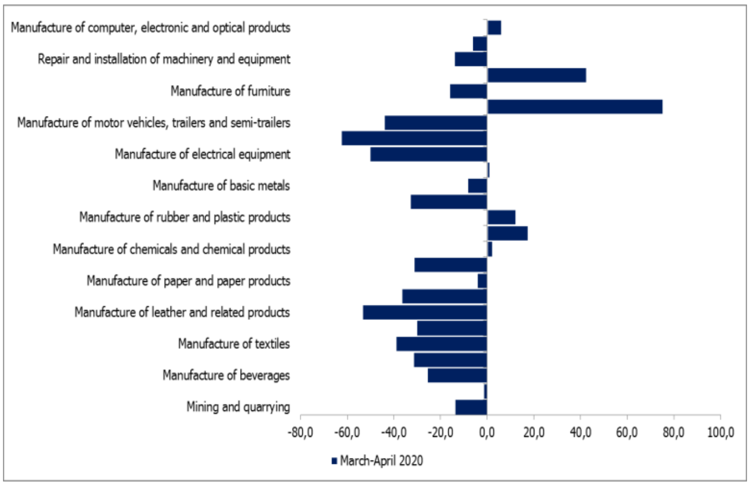


Source: State Statistical Office.

High-frequency indicators of the domestic economy show even stronger effect of the corona crisis in the second quarter. After a decline of 13.4% in March, industrial output in April decreased by 33.5% on an annual basis, which is higher compared to the decline in the acute phase of the global economic crisis in 2008-2009. Most industries experienced economic contraction, with the largest contraction registered in the group of foreign export facilities related to automotive industry, such as production of machinery and equipment, electrical equipment and motor vehicles. The leather, and clothing and textiles industries were also affected by the crisis, same as the food and metal processing industries.

Chart 88
Industrial output, annual growth, in %

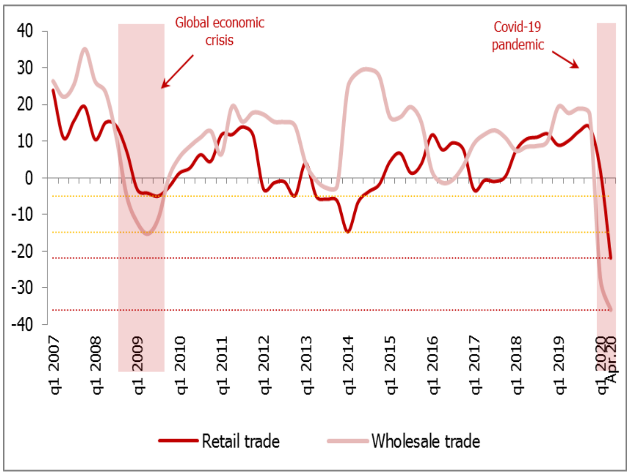




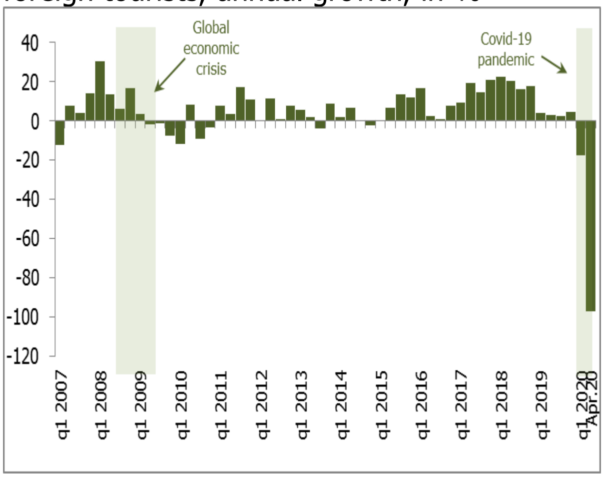
Note: The left chart shows average annual growth for the quarter, except for April 2020, where the data refers to the annual growth in April. The right chart shows the average annual growth for the period March-April 2020.
Source: State Statistical Office.

Unfavorable performance was also registered in wholesale and retail trade, with a decline in turnover of 21.9% and 36%, respectively, in April. However, it seemed that the crisis hit the tourism hardest. One of the main containment measures, taken domestically and abroad, aimed to restrict movement and tourist travel, sharply reduced the number of overnight stays of domestic and foreign tourists by almost 100% in April 2020 compared to the same month last year. Given that tourism largely relies on close social interaction, it will probably suffer prolonged effects from the crisis even after the release of containment measures. Considering that industry, and trade, transport, storage and catering are leading businesses in the domestic corporate structure (33.6% and 32.6%, respectively in total corporate assets in 2019), such movements in high-frequency data indicate strong impact of the crisis on the domestic corporate performance.

Chart 89
Wholesale and retail trade (left) and tourism (right)
Trade turnover, annual growth, in %



Number of overnight stays of domestic and foreign tourists, annual growth, in %

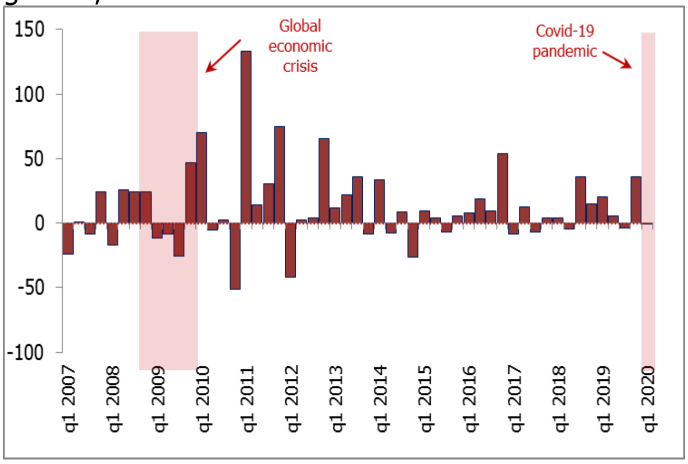


Note: The charts show average annual growth for the quarter, except for April 2020, where the data refers to the annual growth in April.

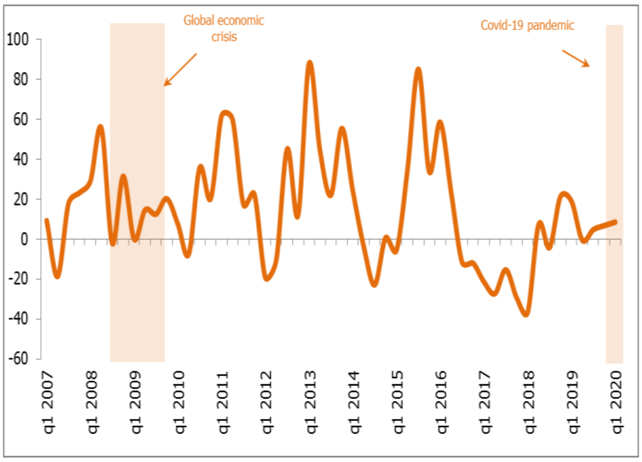
Among the other activities, agriculture registered a small decline, while construction continued to grow in the first quarter, as seen through the growth of volume of completed construction works. However, March data show lower volume of construction works, amid significant fall in contracted activities, which indicates influence of the crisis on this sector.

Chart 90
Agriculture (left) and construction (right)

Total purchase of agricultural products, annual growth, in %

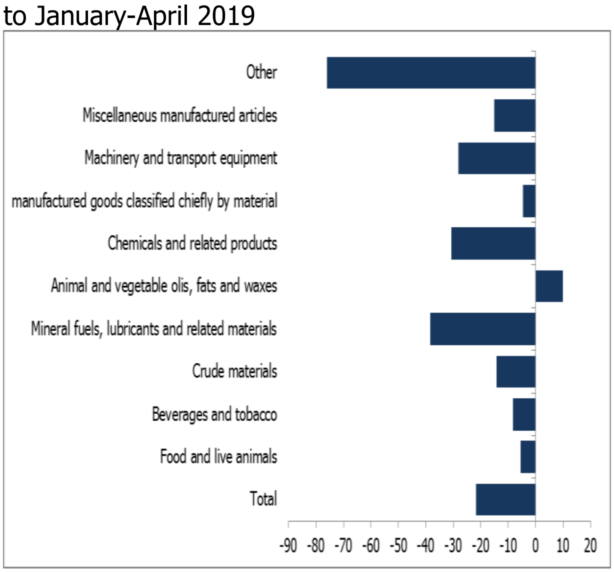


Completed construction works, annual growth, in %



Note: The charts show average annual growth for the quarter, except for April 2020, where the data refers to the annual growth in April.
Source: State Statistical Office.

Chart 91
Exports by SITC sectors
Annual growth, in %, January-April 2020 compared to January-April 2019



Source: State Statistical Office.

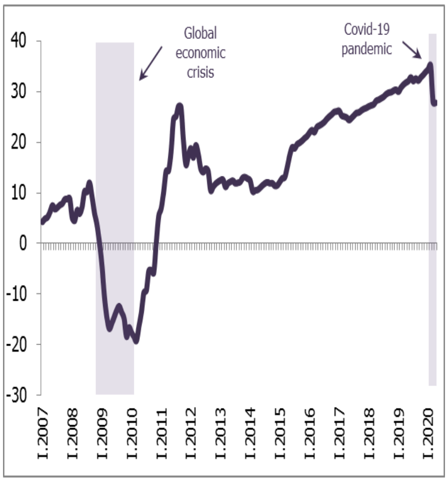
Besides by the domestic developments, economy could also be affected by the overall unfavorable global environment of high uncertainty, declining external demand and disrupted production chains. These already affect the dynamics of domestic exports, which in the first four months of 2020, decreased annually by 21.6% in nominal terms. Exports reduced mostly due to the lower export of chemical products, and machinery and transport equipment, which together constitute about half of total exports. Such movements indicate that the corona crisis affects the domestic export facilities, including the new production facilities, whose activity already slowed down in 2019 due to the lower foreign demand.

Expectations channel is yet another channel to affect economic performance. Survey results[117] show deteriorated expectations of economic agents, pronounced in March and continuing in April. The manufacturing businesses expect deterioration in the economy, with less favorable assessments for the production volume and employment in the next three months.

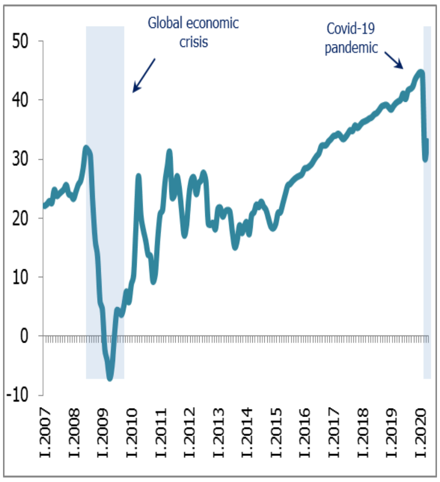
[117] Survey on business tendencies in manufacturing industry, State Statistical Office.

Chart 92
Business tendencies in manufacturing industry

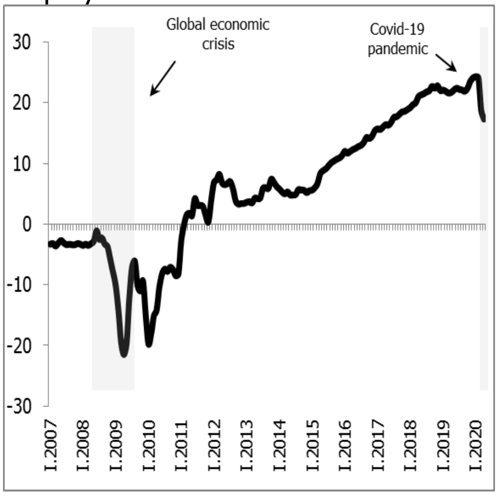
Current state of businesses



Expectations for the production volume in the next three months



Expectation for the number of employees in the next three months



Source: State Statistical Office.

In summary, the initial indicators show serious pandemic effects on the domestic economic activity, and thus on the corporate activity. The magnitude of the overall adverse effects is currently difficult to assess due to the limited available data and the uncertainty about the future course of pandemic and its socio-economic consequences for economies around the world. High-frequency indicators for the domestic economy clearly indicate contraction in almost all economic activities, with the strongest impact on tourism and catering. The economic effects of the crisis in the initial phase are reflected in declining income and difficult liquidity management by the corporate sector, which emphasizes its risk exposure, especially given the modest level of liquidity as a long-term weakness of the domestic corporate sector. To maintain financial soundness of the corporate sector, it is important to prevent this liquidity shock to turn into solvency shock, which may transfer risks to the financial sector and, accordingly, to the banking sector, as a major domestic creditor of the corporate sector. The National Bank measures[118] taken in response to the pandemic, along with the government economic measures[119] are expected to facilitate the overcoming of financial difficulties of the companies and to mitigate these risks. The appropriate solvency and moderate debt level of the overall domestic corporate sector also contribute to greater resilience of the sector to shocks. **However, the ultimate effects of the corona crisis on the corporate sector will depend on the duration and severity of the shock, with possibly greater vulnerability of some segments to others, depending on the company's activity, adaptability of its business model and its size.** In this context, risk exposure is higher for services sector, which may experience prolonged impact of the crisis even after the abandonment of containment measures, and for micro-enterprises, as the most financially vulnerable group of enterprises, with limited access to financing from domestic banks.

[118] For more details on the National Bank measures, see *Setup of monetary policy instruments* and *Deposit-taking institutions* in this Report.

[119] The economic measures taken by the Government in this period relied upon several pillars: temporary exemption from advance payment of profit tax for companies affected by the crisis; favorable credit lines for the affected micro, small and medium enterprises provided through the Development Bank of the Republic of North Macedonia; subsidizing social wage contributions and direct wage subsidies in the amount of the minimum wage for April and May for all affected companies. For more details on the government economic measures, see *Domestic Environment* in this Report.

II. DOMESTIC FINANCIAL SYSTEM AND MARKETS

1. Financial system

1.1. Financial system structural features and concentration

The accelerated growth of financial system assets continued in 2019. The banking system and the fully funded pension funds (primarily mandatory pension funds) reported the highest share in the financial system assets and contribute the most to its absolute growth. Some other segments of the financial system (financial companies, open-end investment funds and their management companies) report constant and quite dynamic growth, but both individually and jointly constitute a very small portion of the total financial sector assets. Despite the continued financial system development, a comparative analysis of the levels of financial intermediation with other CSEE countries indicates a modest size of the domestic financial sector. The concentration in the financial system segments under observation was mainly decreasing in 2019, and in some segments, there is no more than five active institutions. The largest and most important financial system segments are predominantly owned by foreign shareholders. In 2019, there were changes in the ownership structure of insurance sector (due to the acquisition of two non-life insurance companies by new owners), pension fund management companies (due to the incorporation of a new company) and financial companies (due to the birth of six new companies and death of one).

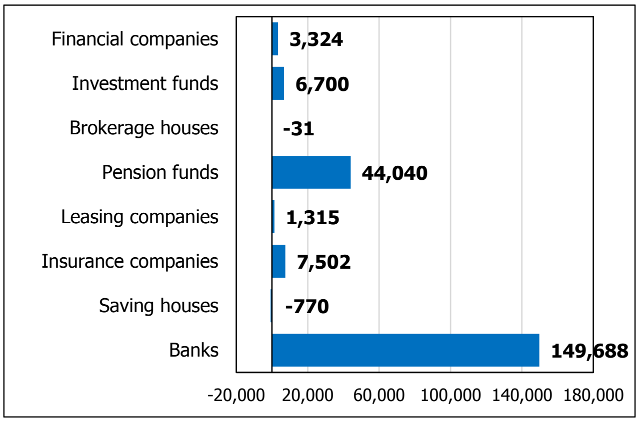
Table 2
Structure of total assets of the financial sector in the Republic of North Macedonia

Type of financial institutions	Total assets (in millions of Denars)		Structure (in %)		Change 31.12.2019 / 31.12.2018		Number of institutions	
	2018	2019	2018	2019	In millions of Denars	In %	2018	2019
Deposit takers	**505,517**	**552,095**	**82.9**	**81.7**	**46,578**	**9.2**	**17**	**17**
Banks	503,469	549,969	82.5	81.4	46,500	9.2	15	15
Saving houses	2,048	2,125	0.3	0.3	77	3.8	2	2
Non-deposit takers	**104,395**	**123,606**	**17.1**	**18.3**	**19,211**	**18.4**	**126**	**130**
Insurance companies	21,369	23,918	3.5	3.5	2,549	11.9	16	16
- Non-life insurance companies	14,275	15,651	2.3	2.3	1,376	9.6	11	11
- Life insurance companies	7,094	8,267	1.2	1.2	1,173	16.5	5	5
Insurance brokers	1,531	1,774	0.3	0.3	243	15.9	35	35
Insurance agents	141	170	0.0	0.0	29	20.9	11	10
Leasing companies	4,923	5,626	0.8	0.8	703	14.3	7	7
Pension funds*	65,941	77,620	10.8	11.5	11,679	17.7	4	6
- Mandatory pension funds	64,386	75,623	10.6	11.2	11,237	17.5	2	3
- Voluntary pension funds	1,555	1,997	0.3	0.3	442	28.4	2	3
Pension funds management companies	1,115	1,382	0.2	0.2	267	24.0	2	3
Brokerage houses	141	147	0.02	0.02	6	4.4	5	5
Investment funds*	6,378	8,650	1.0	1.3	2,272	35.6	15	16
Investment funds management companies	149	198	0.0	0.0	49	32.6	5	5
Private funds management companies	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Financial companies	2,707	4,120	0.4	0.6	1,413	52.2	22	27
Total	**609,912**	**675,700**	**100.0**	**100.0**	**65,788**	**10.8**	**143**	**147**

Source: For each institutional segment, the competent supervisory authority (the NBRNM, the SEC, the MAPAS, the ASO and the Ministry of Finance).
*The amounts refer to total gross assets (property). One of the three voluntary pension funds does not have a single member and as of 31.12.2019, it does not have funds.
Note: According to the regulation, private funds and private fund management companies have no obligation to provide data on the value of their assets and net assets.

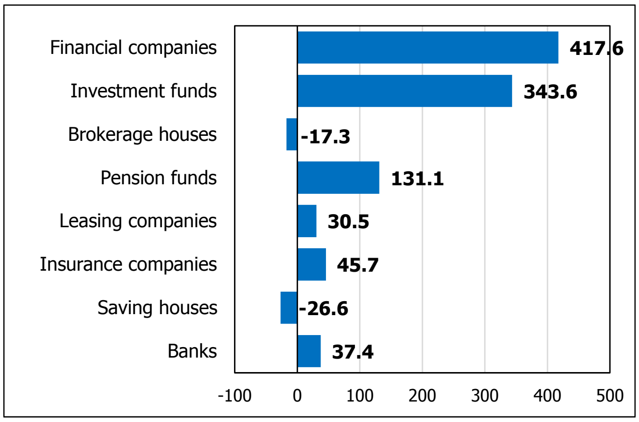
In 2019, the assets of the financial system continued to grow at an accelerated pace. Usually, the banking system and the fully funded pension

Chart 93
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.

Chart 94
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.

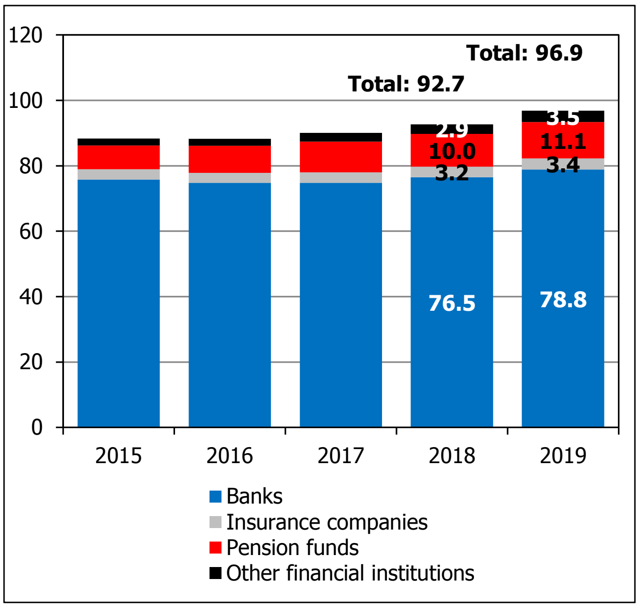
funds (mainly the mandatory private pension funds) make the largest contribution to the absolute growth of the assets of the financial system. Thus, in 2019, the assets of the financial system increased by Denar 65,788 million or by 10.8%, which is more not only compared to the previous year (when the assets grew by 9.6%) but **is the fastest annual growth of the assets of the financial system from 2011**[120] **onwards.** The annual changes in the assets of the banking system and the pension funds made the greatest contribution to the total growth of the assets of the financial system of 70.8% and 17.8%, respectively. They are followed by the insurance companies and the open-end investment funds, which made a moderate contribution to the absolute change in the assets of the financial system of 3.9% and 3.5%, respectively. Analyzing the annual growth rate, the assets of the financial companies and the assets of the open-end investment funds registered the highest annual growth rates, of 52.2% and 35.6%, respectively, followed by the investment fund management companies, whose assets increased by 32.6%.

The characteristics of the financial system and the structure of the growth of the assets in 2019 do not deviate significantly from the trend registered in the last five years. Banks, followed by private pension funds, are the most important segments of the financial system. The other segments of the financial system, despite the dynamic growth in some of them, occupy a modest part of the total assets of the financial sector. Namely, in the past five years, the assets of the financial system increased by Denar 198,336 million or by 41.5%. The largest contribution to this growth was made by the assets of the banking system and the pension funds. In contrast, financial companies and investment funds register the most dynamic growth and in the last five years they increased their assets by more than five and four times,

[120] In 2010, the assets of the financial system increased by 13.1%

respectively. The banking system is the largest and most important segment of the financial system, whose share in the assets of the financial system, although it gradually decreases over the years, is still quite high and amounts to 81.4% as of 31.12.2019. Fully funded pension funds are the second largest and most important segment of the financial sector, whose share in the assets of the financial system constantly grows, since their establishment and emergence on the market (in 2006), and they currently account for 11.5% of the total assets of the financial system. Mandatory pension funds absorb a large part of the pension savings of employees and have a young membership, which guarantees them further solid growth of the assets and makes them the most important non-banking institutional investor in the country. These two segments are extremely important for the maintenance of the financial stability and not only because of their size. These two segments cover a significant portion of the savings of natural persons (in the form of deposits and pension savings). Also, banks are important for the other, non-bank financial institutions, which place part of their assets in the form of deposits with them, which altogether, makes banks the key link for the stability of the entire financial system. Insurance companies are the third largest segment in the financial system (with a share of 3.5% in the assets of the financial system), but they do not lead much with their absolute growth, which is relatively similar (for both the last year and the last five years) to that registered in the open-end investment funds. Life insurance companies are those that register a more dynamic growth (Denar 5,003 million or 153.3% for the last five years), although they are still a far smaller segment, compared to non-life insurance companies (currently, they have a twice smaller amount of assets compared to non-life insurance companies). Namely, life insurance services are increasingly required by natural persons and gradually penetrate in the domestic market. Their products have been recently combined with a so-called collective investments, when the investment risk of the insuree is on their burden and depends on the performances of individual investment funds and segments of the financial markets, where the life insurance companies make the investments (so-called unit-linked life insurance products). The environment of low and declining interest rates poses a significant challenge to both the other institutional investors and the insurance companies, especially to the life insurance companies, where the investments usually represent a far more significant part of the assets (compared to the non-life insurance companies). Financial companies are the youngest and one of the most dynamic segments of the financial system, which are predominantly oriented towards lending to natural persons and legal entities with difficult access to loans of deposit financial institutions, thus enabling higher levels of financial inclusion for these categories of persons. They often act online, sometimes have very aggressive approach on the market and successfully use the achievements in digital technology, and there are also examples of insufficient transparency in the business relationship with the clients. The open-end investment funds are also a quite dynamic segment of the financial system, which offer an additional investment alternative on the domestic market (in addition to the investment of deposits or life and pension insurance), which in 2019 delivered rather high rates of return. However, most of the assets account for the so-called cash investment funds, where the investments are usually made in instruments with a low risk and high degree of liquidity, because of the need for optimum management of the free cash of investors, mostly in order to maintain its real value and to possibly achieve some relatively moderate yield. Despite the evidently high growth of the assets of financial companies and investment funds, their shares in the assets of the total financial system are still low, although growing, and as of 31.12.2019 they amount to 0.6% and 1.3%, respectively. After a longer period of continuous reduction of the assets of leasing companies (2012-2016), in the last three years, this segment of the financial system stopped the process of

Chart 95
Financial system assets to GDP ratio
in %

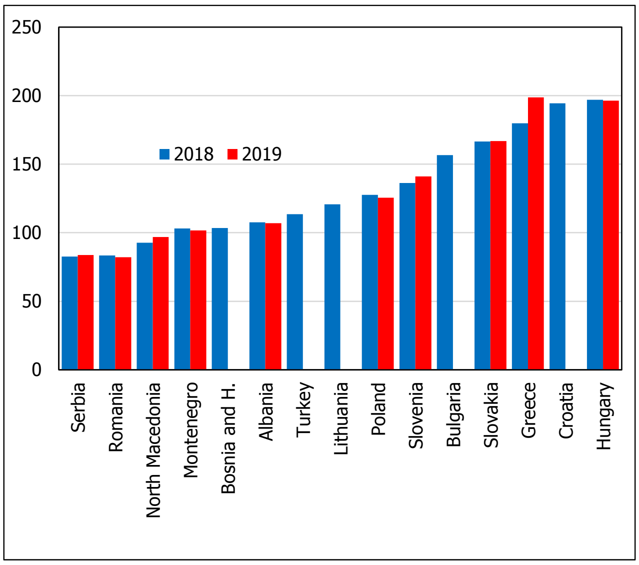


Source: National Bank calculations based on data submitted by banks, savings houses, SEC, MAPAS, ISA, SSO and the Ministry of Finance.

disintermediation, started to register double-digit rates of annual growth, which also contributed to a solid cumulative growth for the last five years. However, the leasing sector is still underdeveloped, with a predominant orientation towards the leasing with vehicles and small share of its assets in the total assets of the financial system (0.8%). Certain disintermediation, analyzed for the last five years, is registered in savings houses and brokerage companies. Namely, the number of savings houses halved in the past five years (from four to two savings houses), due to the transition of two savings houses to the sector of financial companies, which developed into a strong competitor for savings houses (savings houses account for 0.3% of the total assets of the financial system). The reduction of the assets of brokerage companies started back in 2008, by "bursting" the price "bubbles" on the domestic stock exchange, and lasted until 2016. In the period of 2017 - 2019, the assets of these companies registered some growth, which corresponds to the certain revival of the movements on the domestic stock exchange. However, this growth was not sufficient to annul the reduction of the assets of brokerage companies in the first two years (2015 and 2016) of the analyzed five-year period. At the end of 2019, brokerage companies account for 0.02% of the financial sector assets.

The accelerated growth of the assets of the financial system increased their share in GDP, by 4.2 percentage points, to a level of 96.9%, for 2019. However, the comparative analysis with other countries of Central and Southeast Europe indicate a still modest level of financial intermediation in our country. The lower levels of financial intermediation, coupled with the simple and poor structure of the financial system, usually suggest potentially smaller support of the financial sector for the economic growth and development of the country. In contrast, the simple structure of the financial sector, the small interdependence of its individual segments and the smaller integration with the international flows make it more resistant to external shocks, and its modest size

Chart 96
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 and the Ministry of Finance. For the other countries, the websites of Eurostat (https://ec.europa.eu/eurostat) and of the central banks from the individual countries. Given that the data for 2019 is not available for all countries, for the purpose of better comparability between the countries, the data for 2018 is also presented.

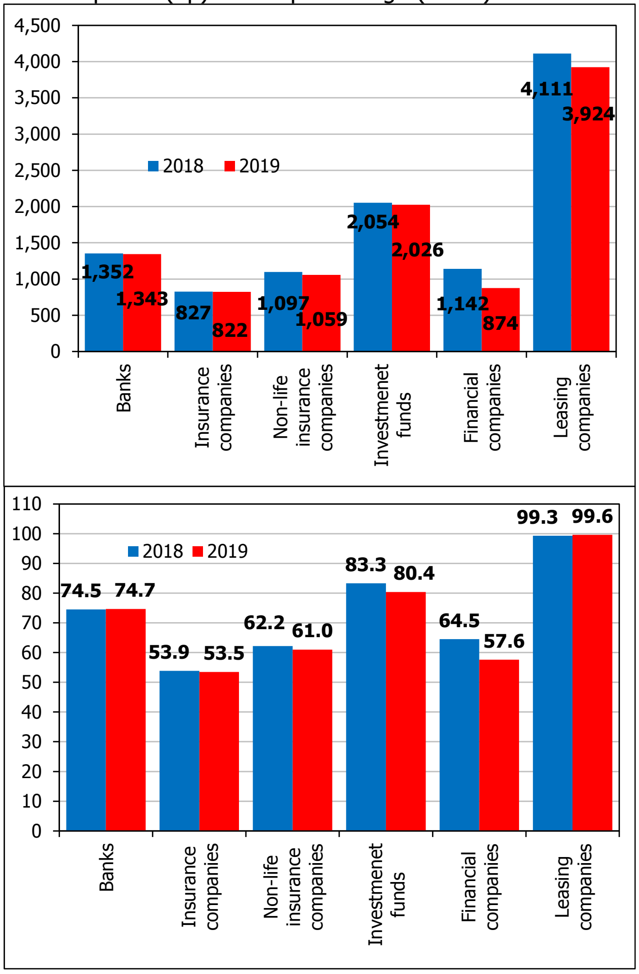
additionally limits the potential feed-back negative effects of the financial system toward the economy.

The concentration in the individual segments of the financial system, as measured by the Herfindahl index and the CR5 indicator, generally registers an annual decline[121]**.** An exception is the CR5 indicator for the banking system and the leasing sector, where this indicator registers a modest annual growth. The Herfindahl index suggests an acceptable level of concentration (between 1,000 and 1,800 index points) in all analyzed segments of the financial system, with the exception of the investment funds, although their number is relatively large (sixteen in 2019), and the leasing sector, which, with a total of seven active companies, is characterized by the highest concentration, among the analyzed ones. On the other hand, there are also segments of the financial system where up to five institutions operate, indicating a higher level of concentration in these segments (the segment of savings houses, life insurance companies, private pension funds[122], pension and investment funds management companies[123] and brokerage companies).

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 unfavorable movements and 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

[121] The analysis takes into account those segments of the financial system where at least six institutions actively operate and where data on the amount of assets by individual institution are available.
[122] Although the total number of fully funded pension funds is six, still one of the voluntary pension funds still does not have members and does not have funds.
[123] At the beginning of 2020, one investment funds management company took over another company, which will further increase the concentration in this segment of the market.

Chart 97
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 SSO, CSD and CR..

quickly and easily and by different channels (and not only through the owners of legal entities). In 2019, certain changes are registered in the ownership structure of the insurance companies, the pension funds management companies and in the segment of the financial companies. Namely, in 2019, two non-life insurance companies were taken over by new owners. In the first case, a domestic bank (in foreign ownership) took over an insurance company, which was previously owned by a domestic legal entity and foreign insurance company[124]. In the second case, one foreign insurance company replaced another foreign insurance company, as a new owner of an insurance company that operates on the domestic market[125]. Furthermore, a new, third mandatory and voluntary pension funds management company was established in the segment of fully funded pension insurance, whose owner is a foreign insurance company[126]. Finally, in 2019, six new companies were established in the segment of financial companies, and the operating license of one company was revoked, which caused certain changes in the ownership structure of this segment of the financial system, in order to strengthen the share of foreign shareholders (in particular foreign non-bank financial institutions).

[124] It concerns the taking over of "Albsig" AD Skopje (or "Nova Osiguruvanje" AD Skopje) by Halk Banka AD Skopje.
[125] It concerns the taking over of "Eurosig" AD Skopje by the insurance group "Grave".
[126] It concerns the establishment of "Triglav Penzisko Drustvo" AD Skopje.

Table 3
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	***24.3***	***100.0***	***20.5***	***86.7***	***81.8***	***12.7***	***27.9***	***62.5***
Non-financial legal entities (including civic associations)	9.6	100.0	0.9	52.4	1.3	0.0	0.0	42.3
Banks	0.1	0.0	13.1	0.0	3.5	12.7	19.9	0.0
Other financial institutions	0.4	0.0	1.5	0.0	0.0	0.0	4.3	0.0
Natural persons	9.0	0.0	5.0	34.3	77.0	0.0	3.7	20.2
Public sector	5.1	0.0	0.03	0.0	0.0	0.0	0.0	0.0
Foreign owners	***75.4***	***0.0***	***79.5***	***13.3***	***18.2***	***87.3***	***72.1***	***37.5***
Natural persons	2.0	0.0	0.04	8.2	0.0	0.0	0.3	11.6
Non-financial legal entities	10.1	0.0	0.0	0.0	7.4	0.0	11.9	0.0
Banks	59.7	0.0	0.0	2.6	9.5	0.0	0.0	0.0
Other financial institutions	3.5	0.0	79.5	2.5	1.3	87.3	59.9	25.9
Undefined status	**0.3**	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
Total	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***

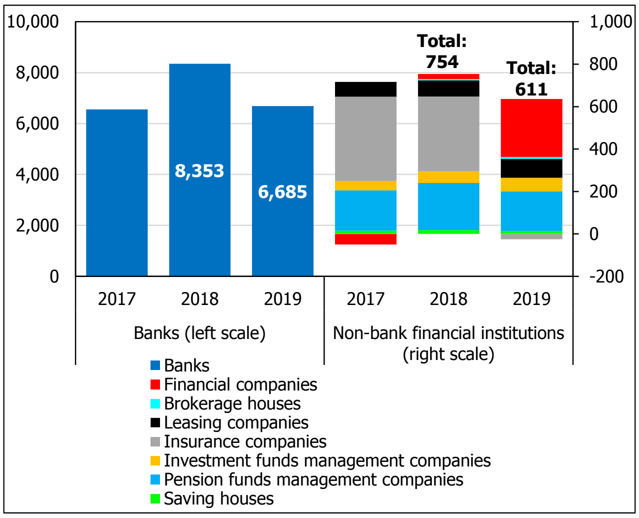
Source: National Bank calculations based on data submitted by banks, savings houses, SEC, websites of pension fund management funds, ISA, CSD and the Ministry of Finance.
Note: The share by type of owner in the ownership structure refers to shareholder capital / core capital of the financial institutions.

1.2. Profitability and efficiency of the financial system

The financial system registered profit in 2019, which is smaller compared to the previous year and is at a similar level as in 2017. The banking system participates the most in the formation of the profit of the overall financial sector (with 91.6%) and in 2019 it also contributed the most (with 92.1%) to its reduction, compared to 2018. Also, the non-bank financial institutions register a smaller financial result compared to 2018, which was mostly a result of the negative financial result of the insurance companies, due to the loss of the non-life insurance companies, as well as the smaller profits of the pension funds management companies and of the savings houses. In contrast, the financial companies registered a more significant growth in the profit realized in 2019. The profits of the financial institutions are expected to be in the line of fire in the next period, as a result of the negative effects of the coronavirus pandemic. Namely, it is expected that, on the one hand, the demand for services from (some of) the financial institutions will decline, and consequently, their operating income, due to the reduced real economic activity, while on the other, the costs will increase, due to the various forms of materialization of the individual risks (credit risk, market risks, etc.) that financial institutions are exposed to in their operations. In addition, the prolonged trend of low and declining interest rates is expected to have an adverse effect on the profitability of some of the financial institutions, especially with those where interest income has a high share in the formation of total income and profit.

In 2019, the financial system registered profits of Denar 7.3 billion, which is less by Denar 1.8 billion, or by 19.9% compared to 2018. The lower profit of the banking system made the largest contribution to the reduction of the total profit of the financial sector, although the segment of non-bank financial institutions also registered a significantly reduced profit. Thus, the profits of the banking system decreased by Denar 1.7 billion or by 20% in 2019. This

Chart 98
Amount of profit of the individual segments of the financial system
in millions of denars



Source: National Bank calculations based on data submitted by banks, savings houses, websites of pension fund management funds SEC, ISA and the Ministry of Finance.

reduction of the achieved financial result of banks is due to the exhaustion of the effects of the large non-recurring items which were present in 2018 in the form of reduction of impairment costs and increase in the amount of other operating income. These non-recurring items result from the collection of a relatively high amount of non-performing exposure by a domestic legal entity and realization of a capital gain with one bank from the sale of a stake in its associate. If we exclude the effect of these one-time events, banks' profits in 2019 would be smaller by only 2.4% compared to that from 2018. Some contribution to the reduction of the profit was made by the lower net interest income of banks, as well as by the moderate growth of the individual expenditure categories. In contrast, net fee income increased by 9.4%. This shows that, in conditions of low interest rates and with significantly exhausted room for further reduction of the cost for their deposit financing, domestic banks are oriented towards finding alternatives with which they could offset the reduced contribution of the net interest income to the formation of the rates of return. This can be performed in different ways, by increasing the scope of the activities that generate commission income, by introducing new services or more sophisticated business activities by banks, etc. The structure of the net commission income of the domestic banks shows that most of this income results from the performance of payment services, i.e. payment operations in the country, international payment operations and card operations, which jointly form over two thirds of total net commission income in 2019. The transition to the second phase of the Stabilization and Association Agreement, concluded between the Republic of North Macedonia and the European Union and its member states (from the end of 2018), expanded the opportunities of the domestic entities for investments in real estate abroad, foreign securities, purchase of derivative instruments on foreign markets, etc., which is an additional opportunity for both the banks and the other financial institutions in our country to enrich the offer of products and services for their clients and to expand the income base. The total profit of the non-bank financial institutions also fell compared to 2018 (by Denar 143 million, or by 18.9%). The largest contribution to the reduction of the profit of this segment of the financial system was made by the insurance sector, which had losses in 2019 at an aggregate level (of Denar 25 million), compared to the profits of Denar 353 million in 2018. The negative financial result of the insurance companies entirely results from the generated losses of the non-life insurance companies (in the amount of Denar 126 million), versus the relatively high profits in 2018 (of Denar 270 million). Moreover, a large part of the loss in this segment is concentrated in only two non-life insurance companies, which got new owners in 2019 (already mentioned above). Namely, according to the information from the Insurance Supervision Agency[127], these companies before their taking over were under intensive supervisory measures, out of which the underestimated technical reserves and the overestimated investments in real estate were the most relevant to this issue. With the taking over, the new owners took measures to comply with the imposed supervisory measures in order to increase the technical reserves and to harmonize the values of real estate according to the prudent rules in this domain, which resulted in presentation of high operating losses. In contrast, the life insurance companies registered an increased profit in 2019 by Denar 18 million, or by 21.1%. Namely, in 2019, the absolute growth of the net income from life insurance premiums exceeded the growth of the net costs for conducting insurance activities by more than twice. At the same time, the net cost of damages registered an absolute fall, and the rate of return on investment of life insurance companies increased by 0.4 percentage points, to a level of 4% for 2019. A decrease in the profit of Denar 35 million or by 15.6%, was also registered in the pension funds management companies. More than half of

[127] Source: Annual report on the situation and movements on the insurance market in 2019, Insurance Supervision Agency, Skopje, 2020.

the reduction in their profit is a consequence of the presented loss of the newly established pension funds management company. In addition, in 2019, the profit from the funds management decreased, due to the reduction of the maximally permitted fees that the pension funds management companies may charge in the second pillar[128], and the outflows/transfers of funds from paid contributions from the second to the first pillar also had a certain impact for the lower profit from the funds management, according to the amendments to the Law on Pension and Disability Insurance from the end of 2018. The higher operating costs[129] of one of the pension funds management companies also contributed to the reduced total profit in this segment of the financial system. Savings houses are in the group of non-bank financial institutions with a reduced financial result in 2019 (by Denar 5 million or by 28%), which is entirely due to the higher costs for impairment of financial assets and the certain growth of operating costs (costs for employees and depreciation). All other segments of the non-banking financial sector registered a higher profit in 2019, and the largest growth of the financial result, by more than eleven times (i.e. by Denar 250 million), was registered in the financial companies. Namely, in conditions of a significant growth in the activities (approved loans) of the financial companies, their interest and fee income registered a high growth, which was almost twice higher compared to the growth of the total operating expenses. Despite the significantly deteriorated quality of the loan portfolio of the financial companies, the impairment cost increased more moderately in 2019 (by Denar 60 million or by 31.5%, contrary to the growth of Denar 109 million or by 136.3%, registered in 2018), which may indicate insufficiently recognized impairment costs in the income statements of these companies.

[128] The fee from contributions decreased from 2.5% to 2.25%, and the fee from assets decreased from 0.035% to 0.030%.
[129] This is a growth of several categories of intangible expenses, mostly in the following items: donations, fee for licenses, auditor's and consulting services, representation, exchange rate differentials, etc.

Table 4
Indicators of individual financial institutions' profitability and efficiency
in %

Financial institutions	ROAA			ROAE			Expenses / income*		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Banks	1.4	1.7	1.3	13.5	16.0	11.7	69.4	61.7	67.7
Saving houses	0.7	0.9	0.6	1.8	3.4	2.5	91.0	90.0	92.6
Pension funds management companies	21.1	21.3	15.0	22.2	22.2	15.6	53.7	50.5	60.0
Investment funds management companies	47.6	41.6	37.0	49.4	43.1	39.2	55.9	58.7	51.4
Insurance companies	2.0	1.7	-0.1	6.1	5.3	-0.4	94.4	95.3	99.6
Life insurance companies	1.2	1.3	1.2	5.7	5.6	6.3	94.2	94.8	94.4
Non-life insurance companies	2.3	1.9	-0.8	6.2	5.2	-2.3	94.5	95.5	101.0
Leasing companies	1.9	1.7	1.7	12.4	13.9	15.7	94.2	94.8	85.2
Brokerage houses	-0.3	5.3	7.1	-0.4	5.9	7.7	101.1	88.6	82.8
Financial companies	-3.2	1.0	8.0	-6.7	2.2	22.6	109.0	93.2	75.8
Total:**	2.2	2.4	2.2	13.3	15.8	12.4	70.8	63.2	68.0

Source: National Bank calculations based on data submitted by banks, savings houses, websites of pension fund management funds, SEC, ISA website and the Ministry of Finance.
* Expenditures include all costs (including for impairment of financial and non-financial assets), except extraordinary expenditures and profit tax. Income includes all income except extraordinary income.
** The indicators in the row total are calculated as a weighted average of the indicators for the individual types of financial institutions. The share of the financial result of each type of financial institution in the total financial result is used as a weight for all financial institutions.

The rates of return on average assets and equity and reserves of the individual segments of the financial system moved in accordance with the changes in the amounts of the realized profit. The open-end investment funds management companies are exceptions, where despite the growth of the profit registered in 2019 (by Denar 9 million or by 14.6%[130]), however the rates of return decreased, due to the higher percentage growth of the property and capital of the companies, compared to the percentage growth of the profit. Despite the reduction of the rates of return of the investment fund management companies, they still have comparatively the highest rates of return, as well as the most favorable (lowest) ratio between operating expenses and income. The ratio between expenditures and revenues is the highest in the insurance sector, primarily in the non-life insurance companies, which indicates their poor operational efficiency. An additional indicator of the poor operational efficiency of the non-life insurance companies is the high combined coefficient of these companies, which, calculated on a net basis, exceeds the level of 100%[131].

[130] The growth of the profit of the open-end investment funds management companies mostly results from the increase in the income from commissions/sales (input, output commission/fee, management commission, income fee, etc.). In addition, one of the companies significantly reduced its operating costs (mostly for education of the employees).
[131] This means that the amount of the costs for conducting insurance activities and for the claims incurred from the insurance exceeds the amount of the premium earned from the sale of non-life insurance policies. The high combined coefficients of the

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

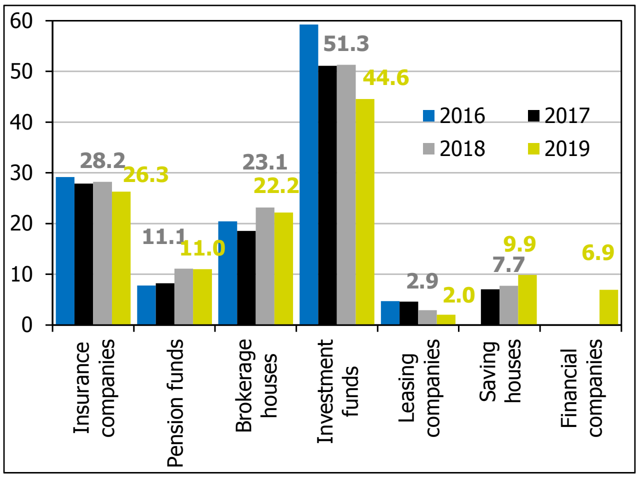
Cross-sector relation of institutional segments in the financial system of the Republic of North Macedonia and the possibilities of risk spillover are low. The reason behind is the simple financial system structure, small interdependence of the activities of the individual segments and absence of complex 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 the non-financial sector are concentrated. Also, deposits of other financial institutions, although almost insignificant in the banks' deposit base are one of the major investment for some financial institutions. Ownership relations between individual institutions of the financial system are within moderate frames. Also, the credit risk for the banks due to loans approved to other banks and non-bank financial institutions, is relatively small due to the small volume of the exposure, so that the risk of contagion through these channels is also limited. The insurance sector increases its connection with the banks, and the greater offer of non-traditional insurance products, the so-called unit-linked products, leads to a connection of the proceeds of this type of insurance product with the movements on the financial markets.

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 with banks, in the form of deposits. In 2019, the total deposits of the non-bank financial institutions invested in the banks[132] amounted to Denar 20,825 million, which is a moderate increase of Denar 951 million, or by 4.8% compared to the previous year. Analyzed by individual segments of the financial system, the deposits placed with the banks are an important part of the assets of the non-bank financial institutions, especially with the investment funds, the insurance companies, the brokerage companies and the private pension funds, where more than 10% of the assets are invested as deposits in the domestic banks (here, one can also mention the savings houses, where 9.9% of the assets are placed in deposits with the banks). Relatively high placements in the form of deposits with domestic banks is in line with the nature of the activities of the non-banking segments of the financial

insurance companies, especially if their level exceeds 100% for an extended period of time, can encourage riskier investments with the expectation that the profits from the investments will annul and overcome the losses from the conduct of the insurance activity.

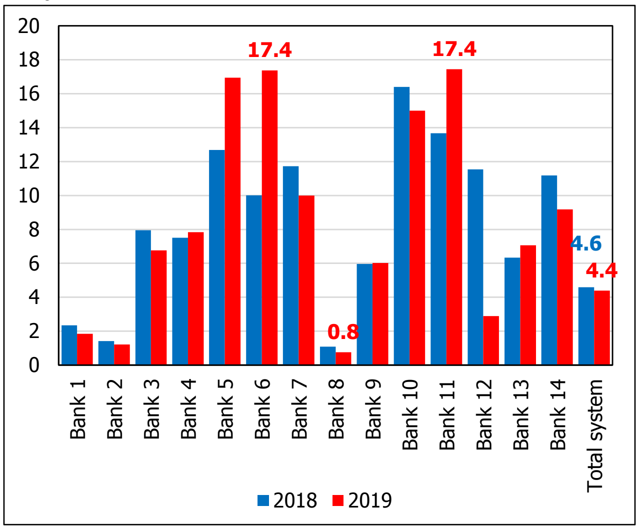
132 Deposits also include transaction accounts of other institutional segments in the banks. As of 31.12.2019, 9.1% of the total deposits of the non-bank financial institutions are funds on a transaction account with a bank or are in the form of sight deposits. As a rule, these are funds that are kept for transaction purposes and are not expected to be withdrawn even amid crisis episodes.

Chart 99
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.

Chart 100
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 which does not accept deposits.

system, but also of the regulatory opportunities / limits and the facilities for investing in other financial instruments. Hence, the fact remains that solvency and liquidity of the banking system are an important factor also for the stable operations of the non-banking financial institutions and crucial channel for spillover of risks from banks to these financial institutions. In contrast, the deposits of the non-bank financial institutions have small shares in the total deposit base and assets of the banking system and as of 31.12.2019 amount to 4.8% and 3.8%, respectively. Hence, at the aggregate level, the 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 five banks in the system (with a total market share in the total assets of 10.1%), 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. The highest individual share of these deposits in the liabilities of the individual banks amounts to 17.4% and is registered in two banks. Hence, the banks with a slightly more significant share of the deposits of non-bank financial institutions in the total liabilities can expect certain liquidity implications amid possible simultaneous withdrawal of these deposits.

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 31.12.2019, bank loans approved to domestic non-bank financial institutions equaled modest Denar 783 million or 0.2% of the total bank loans (analyzed by individual bank this share does not exceed 1.8%). 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 in the liabilities of the savings houses is the highest

(6.1%)[133], followed by the share of the bank loans in the liabilities of the leasing companies, which equals modest 4.3%[134].

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 10,669 million or 1.9% of the total assets of the banking system. Moreover, 87.3% 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, loans approved to other banks account for as much as 90.3% of its assets. However, the contagion risk in this bank would materialize only in case of an extreme scenario of reduced performances of all banks through which the DBNM AD Skopje places the foreign loans. Regarding the other banks, the interbank claims do not exceed 2.8% 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 7.1%. The analysis of the turnover on the interbank market for collateralized and non-collateralized deposits confirms the relatively low exposure of the banks to the risk of spillover of possible problems, from one bank to another. Namely, in 2019, the banks traded only in non-collateralized deposits (no repo transaction was concluded), in a total amount of Denar 7,064 million, which is only 1.4% of the total assets of the banking system, at the end of 2018[135].

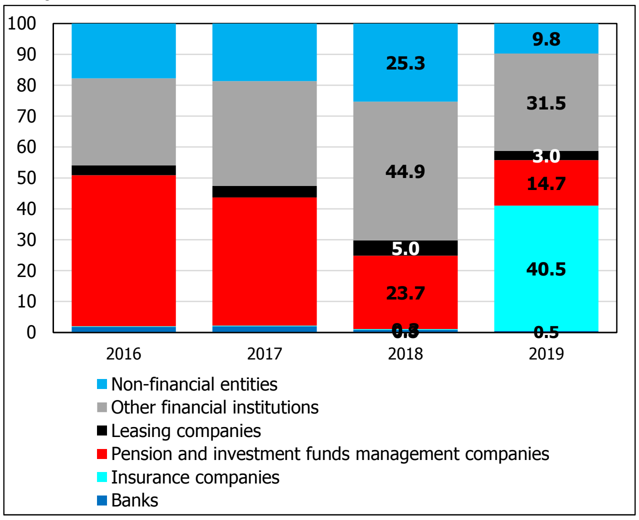
[133] This calculation for the savings houses takes into account only the direct loans that the banks have placed with the savings houses. However, the savings houses also take out other loans from the banks, but indirectly, because the ultimate creditor is not a domestic bank but some other legal entity who deposits funds with the bank from which the savings house takes out the loan. Banks record these loans in their commission operations.

[134] Bank loans are also used by the insurance companies (1.4% of the liabilities) and the financial companies (2.5% of the liabilities).

[135] In 2018, the turnover on the interbank market for non-collateralized deposits was significantly higher (Denar 39,345 million) and accounted for 8.5% of the assets of the banking system as of 31.12.2017. In addition, in 2018, there was also trading in the market of collateralized deposits, in the amount of Denar 4,090 million, or 0.9% of the assets of the banking system at the end of 2017.

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 1,552 million or 0.3% of the total assets of the banking system (by individual bank, this share does not exceed 1.5%). At the beginning of 2019, one bank became the predominant owner of an insurance company in the country[136]. On the one hand, this will enable expansion of the offer of services and expansion of the opportunities for new revenues, it is the herald of the emergence of more complex and combined products in the next period, but it is also a wider channel of possible transmission of risks between the two types of institutions. Furthermore, one 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[137]. Finally, the banks also have (joint) 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[138] of the pension and investment funds, which can be a potential channel for cross-sector spillover of risks, solely due to the reputational risk. Among the non-bank financial institutions, at least two[139] of the insurance and brokerage companies establish an ownership connection with the other segments of the financial system (specifically, with one investment funds management company and with one financial company). In the context of the ownership connection between the

Chart 101
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 submitted by banks.

[136] It concerns the taking over of "Albsig" AD Skopje (or "Nova Osiguruvanje" AD Skopje) by Halk Banka AD Skopje.
[137] The company deals with purchase and sale of own real estate.
[138] According to the legislation, the assets of the pension and investment funds are independent of the assets of the banks custodians of the assets of the funds.
[139] No data on the ownership structure of the individual insurance and brokerage companies is available.

individual financial institutions, it should be borne in mind that different types of financial institutions in our country are part of the same foreign financial groups. Thus, two of the pension funds management companies are part of groups that are also present on the domestic market with insurance companies. Furthermore, one financial and one leasing company, as well as one insurance and one leasing company are also part of the same foreign financial groups. Although the regulations for each of the segments of the financial system limits the possibilities for spillover of problems and risks from the foreign members and the parent entities of the financial groups to the domestic members, as well as between the domestic members from different segments, however, it is not possible to fully eliminate (at worst, the reputational risk is that risk which can never be fully eliminated).

Banking insurance, i.e. cooperation between banks and insurance companies based on an agreement for representation in insurance, was applied by seven banks in 2019 (five banks in 2018). However, in 2019, gross written premiums charged through banks represented only 4.8% of total premiums of insurance companies. At the same time, a very small, symbolic, part of the banks' claims (only Denar 2 million) are insured against default with some insurance company. Also, the banks' exposure secured by a life insurance policy is still modest (11.9% of the total credit exposure to natural persons or 14.8% of the exposure to natural persons excluding credit cards and overdrafts on current accounts), but has a growing trend (in 2018, these shares amounted to 8.1% and 10.3%, respectively). **Moreover, the potential damage to loan collateral, protected by property insurance policy** (as of 31.12.2019, 52.3% of the banks' total credit exposure to non-financial companies collateralized with property is additionally protected by property insurance policy[140]) **is yet another potential channel for connection**

[140] Source: data submitted by banks

between the insurance and banking sectors). However, the risk that a single event can cause great damage that could not be paid by an insurance company, thereby jeopardizing the collection of claims of some bank can be materialized in the most extreme baseline scenario (e.g. natural disasters).

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 collective 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 12.4% of the total gross written premiums of life insurance companies in 2019[141]).

[141] This share was 10% for 2018.

1.4. Deposit-taking institutions

1.4.1. Banks

The banking system remained stable also in 2019, maintaining its high capitalization and stable solvency position. However, the higher volume of activities in 2019, in particular of those for which a higher risk weight is applied in the capital adequacy calculation, contributed to the moderate annual reduction of the solvency ratios. As of 31.12.2019, the capital adequacy ratio was 16.3%.

Besides the high capacity of the banking system to absorb the unexpected losses from its activities, banks are also prudent when determining the expected losses from the loan portfolio. The application of the new accounting standard IFRS 9 in the area of credit risk management (from 1.7.2019), did not cause major changes in the classification of loans, nor in the percentage of impairment for loans, which is probably due to the slightly more conservative approach of the banks when determining impairments, even before the application of this standard. In addition, for a relatively high percentage of the total loans, collateral is established (often some real estate), whose estimated value exceeds the amount of loans. Also, the banks are relatively prudent in terms of the requirements for the maximum allowed ratio between the monthly liabilities based on loans to natural persons and their monthly incomes, which currently ranges around 55-60%. In 2019, the share of non-performing loans in total loans to non-financial entities recorded a further decline and went down to 4.8%, mostly under the influence of the annual fall in non-performing loans, due to the changes in the regulations for mandatory write-off of these loans (the fall in non-performing loans is partially due to collection or sale of the claims). The coverage of non-performing loans with impairment remains high (67.7%), which limits the potential negative effects on banks' solvency from their possible complete default. Credit quality indicators are still weaker for the portfolio composed of companies, which was reflected appropriately on the dynamics of the credit growth with this sector. The banks' indirect exposure to credit risk which arises from the presence of loans with currency component (42.3% of the total loans) and loans with adjustable and variable interest rate (74.3% of the total loans) remained significant.

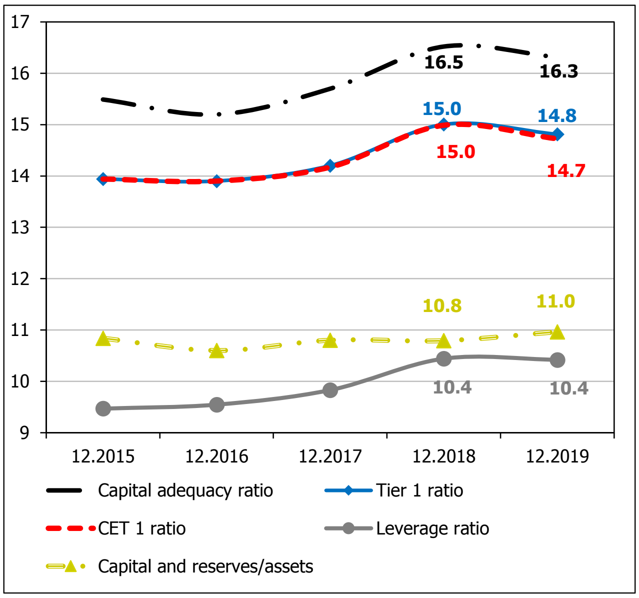
In 2019, banks strengthened the already strong liquidity positions of the banking system. Thus, the share of liquid assets in total assets reached almost 32% of total assets, and liquid assets cover around 55% of short-term liabilities and around 60% of household deposits. The costs for financing of the sources of banks' funds decreased and for some of them, they are at the historically lowest level. However, the low levels of the interest rates on deposits limit the room for their further reduction. In conditions of strong growth of sight deposits, in the process of maturity transformation carried out by banks, the part of the new deposits placed in long-term loans is smaller, and the part of the new deposits placed in liquid assets increases.

Banking system exposures to currency risk and interest rate risk in the banking book increased in 2019, but remained moderate. Unlike the exposure to currency risk, where the probability of materialization is minimal, given the application of the de facto fixed exchange rate of the denar against the euro, in conditions of a downward trend of the interest rates, the exposure to interest rate risk already becomes visible through the reduction of the net interest income for the second consecutive year. In conditions of a rapid growth of denar deposits, the part of the newly collected deposits that is placed in denar loans to the non-financial sector decreased, while the part of

the new deposits that is placed in loans with currency component and in liquid assets increased.

The beginning of 2020 was marked by the world COVID-19 pandemic, which will inevitably have strong negative effects on the performances of the domestic economy, consequently on the liquidity and creditworthiness of companies and households and finally on the domestic banks. Liquidity and capital buffers of the banks, built and accumulated in normal calm conditions, according to the requirements of the prudential regulation and supervision, are the main aces of our banks in conditions of stress, which should this time as well deal with the numerous challenges they are faced with. At the same time, the National Bank constantly monitors the situation and takes appropriate measures and activities, if necessary.

Chart 102
Indicators of solvency and capitalization of the banking system*
in %

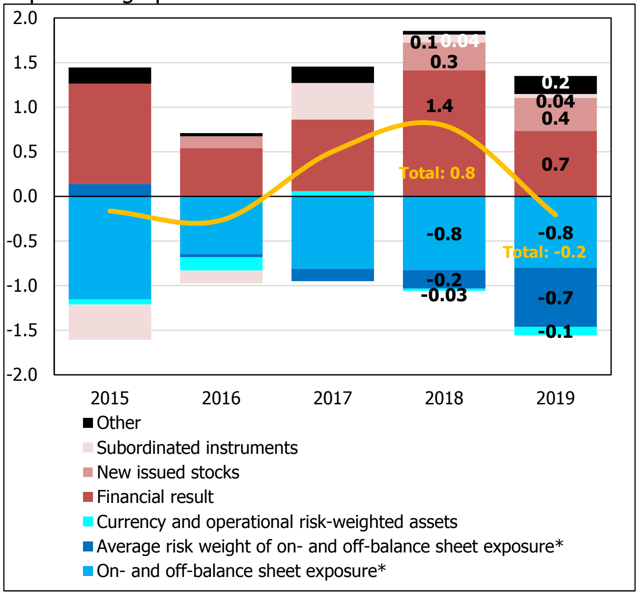


Source: National Bank, based on data submitted by banks.
*The domestic regulation is harmonized with the requirements of the capital component of the international standard Basel 3, starting from March 2017. Hence, data on the rate of Common Equity Tier 1 capital and of the leverage ratio for the end of 2015 and 2016 are not obtained from banks, but are calculated by the National Bank.

In 2019, the banking system maintained its high capitalization and stable solvency position. The capital adequacy ratio moderately decreased by 0.2 percentage points (to a level of 16.3% as of 31.12.2019), which was mostly a result of the growth of the activities of the banking system with the private sector (contribution of -0.8 percentage points) and the higher average risk weight of these activities (contribution of -0.7 percentage points). At the same time, the retained earnings and the new share issues made a positive contribution to the annual change of the capital adequacy ratio, of 0.7 and 0.4 percentage points, respectively, which was still insufficient to annul the effect of the growth of the activities and their higher average risk weight. The rate of Tier 1 and Common Equity Tier 1 capital registered a similar annual reduction, as well as the capital adequacy ratio, contrary to the moderate growth of the ratio between capital and reserves and total assets and the unchanged level of the leverage ratio.

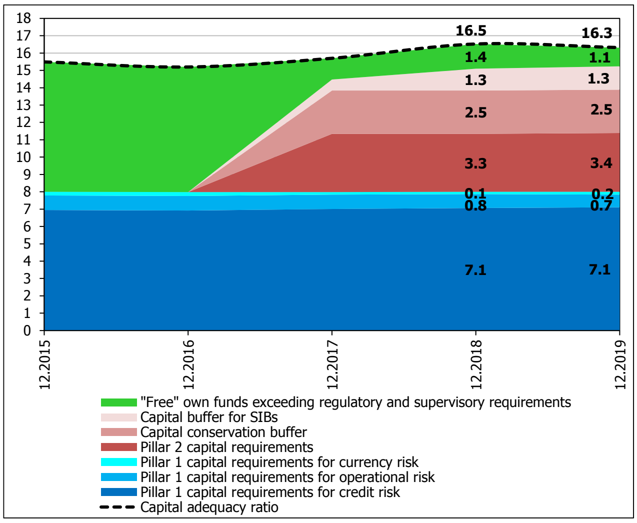
The capital adequacy ratio of the banking system is higher by 1.1 percentage point of the total regulatory and supervisory requirements, including the activated capital buffers determined as of 31.12.2019. Thus, after covering the capital requirements according to pillar 1 (regulatory requirements), pillar 2 (supervisory requirements) and the currently activated capital buffers (to conserve capital and to ensure greater resilience of the domestic systemically important banks), excess own funds of 6.6% 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), in 2019 could also be used for even more dynamic activity of the banking system. The systemic risk capital buffer and the countercyclical capital buffer are not currently activated, i.e. they are at a level of 0%. Namely, the analyses that are regularly carried out by the National Bank so far have not

Chart 103
Breakdown of the structure of the annual changes of the capital adequacy ratio of the banking system
in percentage points



Source: National Bank, based on data submitted by banks.
* The on-balance sheet and the off-balance sheet exposures exclude the exposures with a risk weight of 0%, which have no impact on the calculation of the credit risk-weighted assets. Almost entirely, these are exposures to the central bank and the central government and cash.

Chart 104
Breakdown of the adequacy ratio of the banking system, according to the use of own funds
in %



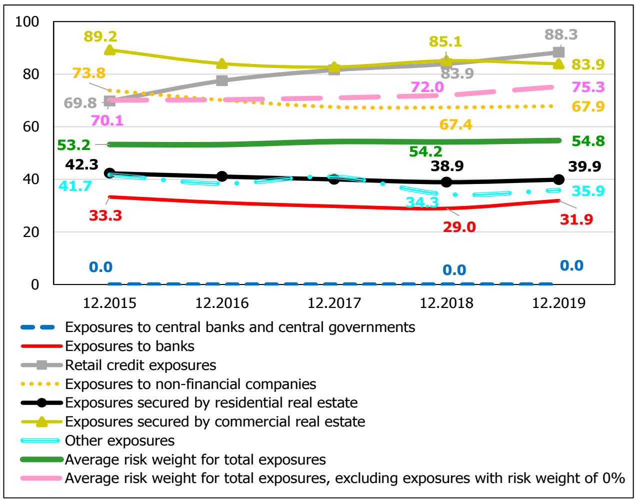
Source: National Bank, based on data submitted by banks.

indicated an excessive exposure of the domestic banks to systemic risks that could potentially disturb or jeopardize the stability of the overall financial system and economy, which in turn would impose a need for improving the banks' resilience, by introducing an obligation for maintaining a higher capital, in the form of a systemic risk capital buffer. On the other hand, the gap between the achieved level of the loans to non-financial sector/GDP ratio and its log-term trend[142] remains in a negative zone (-4.3 percentage points), far below the regulatorily set minimum level of 2 percentage points, which needs to be reached in order to activate the countercyclical capital buffer. Despite the relatively high level of the capital adequacy ratio, however, compared to the banking systems of other countries, including of the closer region, the Macedonian banking system has a slightly lower capital adequacy[143].

The average risk weight, calculated as a share of the credit risk-weighted assets in the total on balance sheet and off-balance sheet activities of the banking system registered some annual increase of 0.6 percentage points to a level of 54.8% as of 31.12.2019. If the analysis excludes the activities for which application of a risk weight of 0% is regulatorily envisaged (almost entirely, claims on the central bank and the central government), then the average risk weight of the activities is 75.3% and registers a solid annual growth of 3.3 percentage points, which is the highest growth in the last ten years. In 2019, the highest growth of almost 30% was registered in the claims on the central bank and the central government (primarily the placements in overnight deposits with the National Bank and in government bonds), which are part of the liquid assets of the banking system. On the other hand, the retail loan portfolio continued to accelerate the growth, and in 2019 these claims (to natural

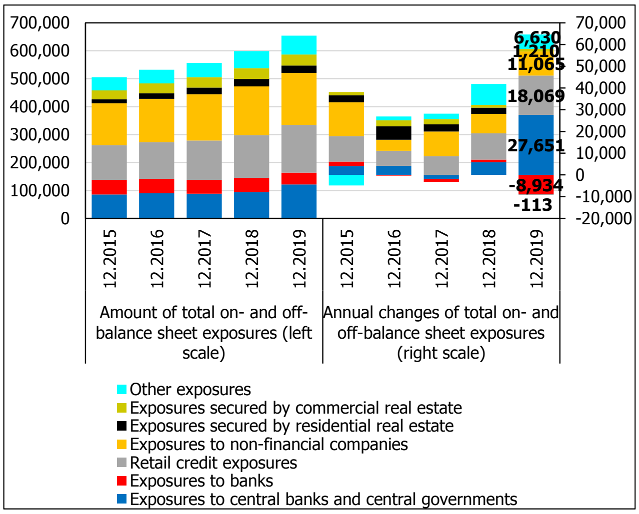
[142] Determined by a one-sided HP filter (λ = 400,000), on a quarterly time series, starting from 31.12.2004.
[143] Source: Report on the risks in the Banking System of the Republic of North Macedonia In 2019, p. 67.

Chart 105
Average risk weight of the individual categories of activities that are included in the calculation of the credit risk-weighted assets
in %



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

Chart 106
Balance and annual changes of the individual categories of on-balance sheet and off-balance sheet activities that are included in the calculation of the credit risk-weighted assets
in millions of denars



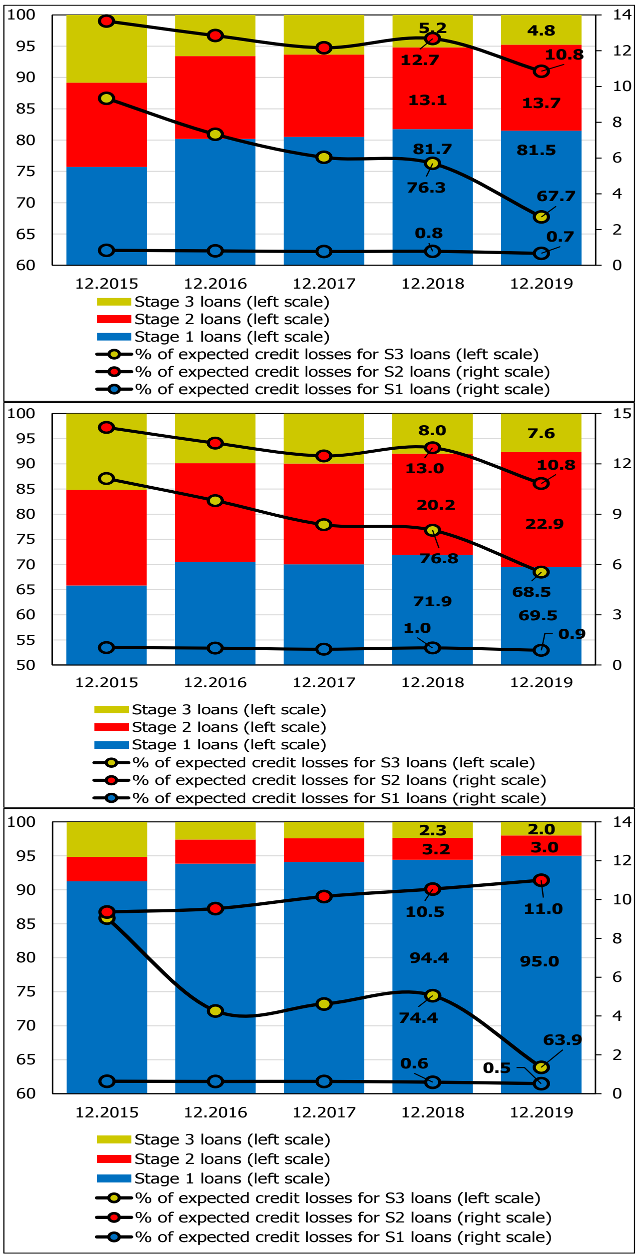
Source: National Bank, based on data submitted by banks.

persons and small companies) increased by almost 12%. The average risk weight for the retail loan portfolio has been continuously growing and in the last five years it increased by almost 20 percentage points (currently, the average risk weight for the retail loan portfolio is comparably the highest, at a level of 88.3%), mostly under the influence of the regulatory changes from the end of 2015[144]. Thus, the higher capital requirements, for currently one of the fastest growing segments of the banks' credit activity (consumer loans approved in longer terms), enabled accumulation of a higher capital, which (will) serve to cushion the losses from this credit activity of banks (the higher capital accumulated on this basis makes up 3.6% of the total own funds of the banking system). In 2019, solid growth was also registered in the claims on other trade companies (6.3%) and the claims secured by commercial real estate (3.1%), which are mostly claims on enterprises. The average risk weights for these two segments of the banks' loan portfolio have been continuously declining and in the last five years they decreased by almost 6 percentage points, which is largely a result of the regulatory changes from the end of 2015[145]. In conditions of a slower recovery of the credit growth to non-financial companies, from the consequences of the global financial and subsequent debt crisis in the euro area, the introduction of lower capital requirements for the claims on enterprises aimed to stimulate higher credit growth to the domestic corporate sector. Although the credit growth to enterprises registered some revival in recent years, however it still quite lags behind compared to the growth of household loans.

[144] Starting from 1.1.2016, all newly approved consumer loans with original maturity equal to or longer than eight years are regulated by a risk weight of 150% (as opposed to the previous 75% or 100%). At the same time, in addition to the application of the regular risk weight of 75% to the exposures on the basis of overdrafts on current accounts and credit cards, the regulatory changes provided for application of a risk weight of additional 75% to the possible increase in this exposure, compared to 31.12.2015.

[145] At the end of 2015, in line with the EU regulation, the National Bank introduced lower capital requirements for guarantees issued by banks which guarantee payment based on a certain business relationship of the customer (application of conversion factor of 20% or 50%, instead of 100%), as well as banks' claims backed by commercial property that meets certain conditions ((application of risk weight 75%, instead of 100%).

Chart 107
Structure of loans to non-financial sector (top) / companies (middle) and households (bottom), according to whether there are significant changes in the credit quality and the expectations for collection and % of impairment for the loans from the individual groups
in %



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

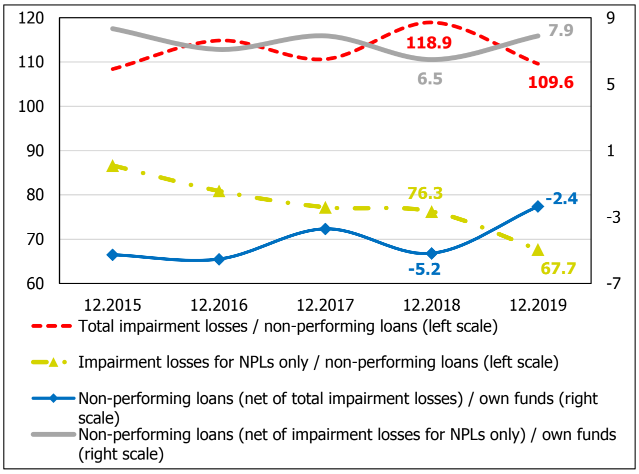
Starting from 1.7.2019, the regulation in the field of credit risk management is harmonized with the requirements of the International Financial Reporting Standard 9 (IFRS 9)[146]. According to the requirements of this standard, when assessing the credit risk, the banks are obliged to recognize the credit losses that have already been materialized (for non-performing loans, i.e. loans from group 3, where there is objective evidence of impairment), but also the future expected credit losses, for the loans where currently there is no objective evidence of impairment (for regular loans, i.e. loans from group 1, which are new or where there is no deterioration of the creditworthiness after the initial recognition and loans from group 2, where the creditworthiness significantly deteriorated after the initial recognition, but there is no objective evidence of impairment). Moreover, the banks record both the materialized and the expected credit losses by determining impairment and special reserve for loans[147]. Hence, the application of IFRS 9 requires from the banks to apply a backward-looking approach, but also a forward-looking approach, in the process of assessment and management of the credit risk in general.

The application of the new accounting standard IFRS 9 did not cause major changes neither in the structure of loans, according to whether there are significant changes in the credit quality and the expectations for collection (i.e. the classification of loans in group 1, group 2 and group 3), nor in the percentage of

[146] The regulation in the field of accounting and financial reporting of banks and savings houses is harmonized with the requirements of this standard (IFRS 9), starting from 1.1.2018.
[147] According to the requirements of IFRS 9, the losses for impairment of the assets from group 1 are determined as a product of the expected losses for the entire life span of the asset and the probability of incurring a credit loss in the next 12 months, while the losses for impairment of the assets from group 2 and group 3 are determined at a level of the expected losses for the entire life span of the asset.

impairment for the loans from the individual groups, given the introduction of the obligation for determining expected credit losses by banks. This points to the application of a somewhat more conservative approach when determining impairment, even before the application of IFRS 9[148]. The structure of loans to non-financial entities[149] is predominated by loans from group 1, with 81.5%, followed by those from group 2, with 13.7%, and from group 3, with 4.8%, which is almost unchanged structure compared to 31.12.2018. The structure of loans according to whether there are significant changes in the credit quality and the expectations for collection, in the corporate loan portfolio, is slightly less favorable compared to the total portfolio, where loans from group 1, group 2 and group 3 account for 69.5%, 22.9% and 7.6%, respectively. The structure of household loans is predominated by loans from group 1 with 95%, followed by loans from group 2 and group 3, with modest shares of 3% and 2%, respectively. For comparison, in the banking system of the EU countries, loans from group 1 account for 90.1%, loans from group 2 account for 6.8%, and those from group 3 represent 3.1% of the total loans[150]. The comparative analysis with the banking systems of the individual EU member countries, places the Macedonian banking system among the systems with less favorable structure of loans, analyzed by their classification in group 1, group 2 and group 3. This, on the one hand, is an indicator for the level of credit quality of claims of domestic banks, while on the other, it is a possible indication that Macedonian banks do not underestimate the credit risk[151], when they assess whether there was or no significant deterioration in the credit quality and the expectations for collection after the initial

Chart 108
Coverage of non-performing loans with impairment
in %



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

148 According to the International Accounting Standard 39 (so-called IAS 39), which is the predecessor of IFRS 9, entities were mainly obliged to make impairment of claims, if there is objective evidence of their impairment.
149 In the charts presented in this section of the Report, for the dates before the domestic regulation to be harmonized with the requirements of IFRS 9, the classification of loans in group 1, group 2 and group 3 was made according to the rules that are introduced after the amendments to the regulation that define the manner of this classification (exposure in category A - group 1, exposure in categories B and the regular part of C - group 2 and non-performing exposure - group 3).
150 Source: Risk Dashboard (Data as of Q4 2019), European Banking Authority.
151 As of 31.12.2019, the Macedonian banking system has the most similar structure of the total loans to that of the banking system of Romania, where loans from group 1 account for 80.8%, loans from group 2 for 14.3%, and those in group 3 for 4.9% of the total loans. In the group of banking systems of the EU member countries, the banking system of Romania is one of the sectors with a relatively unfavorable structure of the total loans classified in group 1, group 2 and group 3, not taking into account the banking systems of Greece and Cyprus, which have obvious problems for a longer period Source: Risk Dashboard (Data as of Q4 2019), European Banking Authority.

recognition of loans.

The materialized credit risk, as measured by the share of non-performing loans in total loans, registers a trend of reduction and at the end of 2019, in the credit portfolio of the non-financial sector, this share reduced to the historically lowest level, of 4.8% (5.2% as of 31.12.2018). In conditions of solid credit growth (6.1% in 2019), the reduction of non-performing loans (-2.8%), however, mostly contributed to the fall in their share in the total loans. The fall in non-performing loans to non-financial entities is mostly a result of the banks' regulatory obligation for mandatory write-off of non-performing loans, which are fully covered by impairment. The amendments to the regulation in the field of credit risk management (with application from 1.7.2019), require from the banks to write off the loans that are fully provisioned at least in the last year (previously, starting from 1.1.2016, the banks were required to write off the non-performing loans that were fully provisioned in the last at least two years). As already mentioned above, the materialization of the credit risk is higher in the corporate segment of the loan portfolio[152] (the share of non-performing loans in total loans is 7.6% as of 31.12.2019), compared to household loans, where the share of non-performing loans in total loans is 2%[153] (at the end of 2018, these shares were 8% and 2.3%, respectively).

Coverage of non-performing loans with impairment registered an annual decline of 8.6 percentage points, to a level of 67.7%, as of 31.12.2019, which is mostly a consequence of the write-off of the non-performing loans for which the banks have made a full (100%) impairment. Analyzed by sectors, the coverage of non-performing loans with impairment decreased in both non-financial sectors and is slightly lower

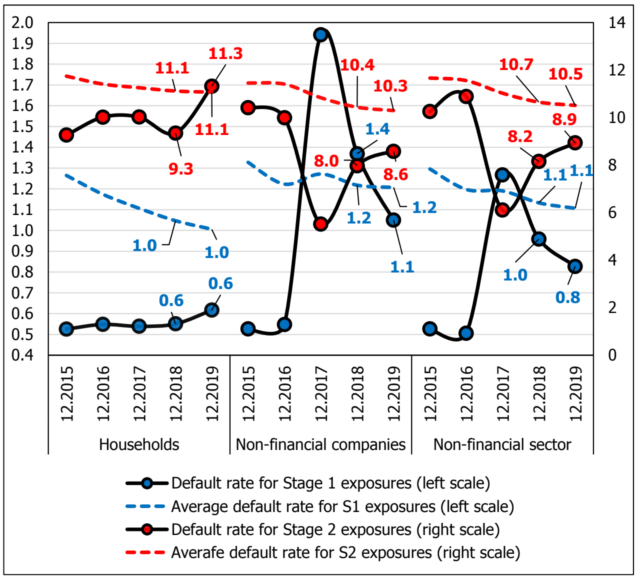
[152] At the end of 2019, the indicator for the share of non-performing loans in total loans is 7.9%, for loans to clients from industry, 6%, for loans to clients from wholesale and retail trade and 9.7%, for loans to clients from construction and activities related to real estate (taking into account the three activities to which banks have approved the largest amount of loans and, as of 31.12.2019, they account for 79.3% of the total loans to non-financial companies). As of 31.12.2018, the shares of non-performing loans in total loans were 9.7%, 6.9% and 9.1%, respectively.

[153] As of 31.12.2019, the share of non-performing loans in total consumer loans is 2.2% (2.6% as of 31.12.2018), and the share of non-performing loans in total housing loans is 0.9% (0.9% as of 31.12.2018). Housing and consumer loans are the most frequently used credit products and as of 31.12.2019, they account for 86.2% of the total loans to households.

in the non-performing credit portfolio composed of households (63.9% as of 31.12.2019). The comparative analysis with the banking systems of the EU countries indicates solid coverage of non-performing loans with impairment. Namely, this indicator for the Macedonian banking system is higher by 23 percentage points compared to the banking system of the EU (44.7% as of 31.12.2019) and is also higher than the banking systems of all individual EU member countries[154].

[154] As of 31.12.2019, the banking system of Hungary has the highest indicator, of 66.5%, for the coverage of non-performing loans with impairment. Source: Risk Dashboard (Data as of Q4 2019), European Banking Authority.

Chart 109
Default rates of regular credit exposures (from group 1 and group 2), by individual sectors
in %



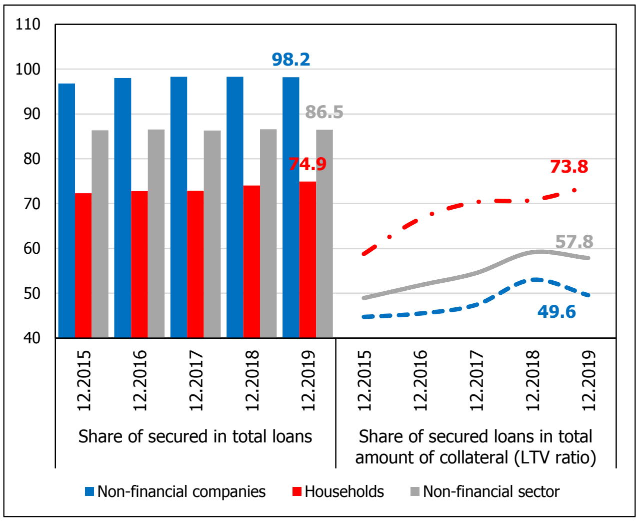
Source: National Bank, based on data submitted by banks.

In addition, the part of the non-performing loans for which the banks have failed to make an impairment accounts for about 8% of the own funds of the banking system and its complete provision with impairment, would reduce the capital adequacy ratio by, no more than[155], 1.3 percentage points. The high provisioning of the non-performing loans limits the amount of future unexpected losses due to a possible complete default on these loans, but it also reflects the weaknesses in the banks' process of management of these loans and the evidently low percentage of expected collection of non-performing loans.

The rates of coverage with impairment of regular loans to non-financial entities from group 1 and group 2, registered an annual decrease and at the end of 2019 reduced to 0.7% and 10.8%, respectively. Analyzed by individual sectors, the coverage of the loans from group 1 and group 2 with impairment registers similar movements, with the exception of the rate of expected credit losses for the household loans form group 2, where the percentage of coverage with impairment registered an annual growth of 0.5 percentage points, to a level of 11% (however, it should be borne in mind that only 3% of the total household loans are classified in group 2). Generally, the percentages of coverage of the loans classified in group 1 and group 2 match the annual rates of default on these loans. Small downward deviation is registered in the household loans, where the percentages of impairment for the loans from Group 1 (0.5%) and Group 2 (11%) are slightly lower compared to the default rates for 2019 (0.6% for the loans from Group 1 and 11.3% for the loans from Group 2), as well as compared to the average default rates[156] (1% for the loans from Group 1 and 11.1% for the loans from Group 2). Similarly, in the corporate loans classified in group 1, the percentage of impairment (0.9%) is slightly lower compared to the annual default rate for 2019 (1.1%), but also compared to the average rate of default

[155] Given a conservative assumption that the new impairment is treated as unrecognized, which directly reduces the own funds (and not the financial result, which often occurs in practice), without simultaneously correcting the risk-weighted assets (which is also standard practice).
[156] The average default rates are calculated on a quarterly series of annual default rates, for the period starting from 31.3.2009, to the calculation date.

Chart 110
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.

(1.2%) on these loans[157]. However, our banks provide more than twice higher level of coverage of the exposures from these two groups with impairment, compared to the EU countries. Namely, as of 31.12.2019, in the banking system of the EU countries, the rate of coverage with impairment of the total loans from group 1 is 0.2%, while for the loans from group 2, the coverage indicator is 3.7%. Analyzed by individual EU member countries , only the banking systems of Croatia, Romania and Hungary have minimally higher rates of coverage of the loans from group 1 (by 0.8% for Croatia and Romania and 0.9% for Hungary), compared to the Macedonian banking system (0.7%). At the same time, none of the banking systems from the individual EU member countries has a double-digit rate of coverage of the loans from group 2, as is the case with the Macedonian banking system (10.8%)[158].

Relatively high percentage of the corporate and household loans are secured by some kind of collateral. Namely, 98.2% of loans to non-financial companies, i.e. 74.9% of household loans are secured by some kind of collateral. In the structure of household loans there are also loans that, according to the records in the Credit Registry of the National Bank, are uncollateralized, but the contractual terms for these loans contain a so-called executive clause[159], that allows banks a relatively fast forced collection of loans (among other things by way of blocking the funds on the payment account of the debtor). In the structure of collateralized loans, the share of loans secured by real estate[160] is the highest. The share of loans secured by the so-called "hard collateral" in total collateralized loans is relatively stable in the past five years, and at the end of 2019 it equals 77.2% in corporate loans, i.e. 54.1% in household loans. In the structure of collateralized household loans, there is also a

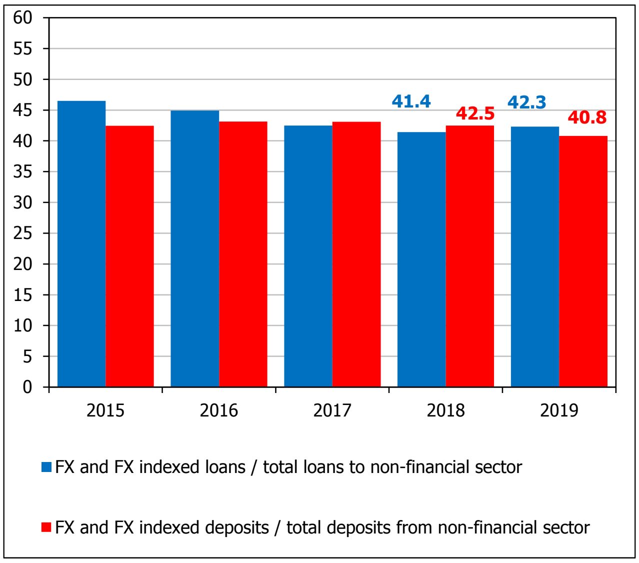
[157] Assuming that the banks were supposed to make an impairment of the loans to a level that is at least equal to the average rates of default on loans, then the shortage of provisions made for expected credit losses is about Denar 1.2 billion, which is 6.9% of the total impairment made for loans to the non-financial sector.
[158] Source of the data on the rates of coverage of loans from group 1 and group 2 for the banking systems of the EU countries: Risk Dashboard (Data as of Q4 2019), European Banking Authority.
[159] According to the Law on Enforcement and the Law on Notarial Practice. The National Bank does not have any data on the amount of loans with such clause included in the agreements.
[160] Residential facilities, business facilities, warehouses, production facilities and other real estate are taken into account.

relatively high share of loans secured by a guarantor and bill of exchange (24.8% as of 31.12.2019), whose collection by banks in practice is relatively solid, in case of a need for activation of this collateral (if the client is not able to regularly pay off their loan). In addition, household loans are mostly 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, the salary of the borrower can be considered a relatively high-quality "collateral" for the bank, that the approved loan will be regularly paid off (especially in those cases when the employer places an administrative ban on the salary of the client[161] or the client is required to give a so-called standing order for regular payment of the installments on the loan[162]). Moreover, the banks are relatively cautious about the maximum allowed ratio between the liabilities based on the loans of the client and their monthly income, which currently ranges around 55-60%.

[161] This administrative ban requires from the employer, on approval of the receiver of the salary, and often at the request of the bank, a portion of the salary of its employee, in the amount of the installment for the loan, to "ban" it for payment to the employee and to pay it to the bank-creditor.

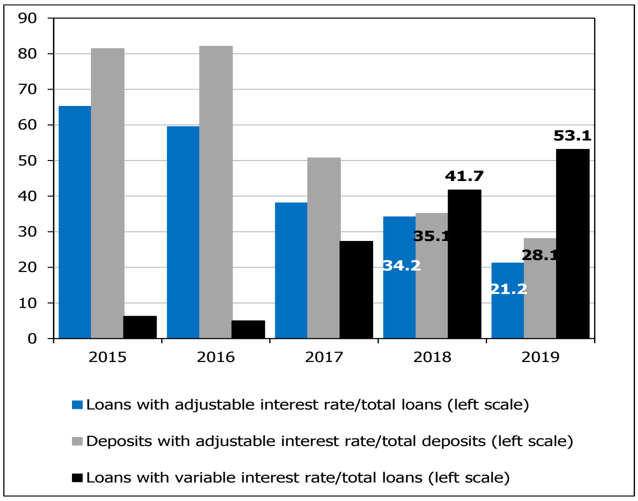
[162] With this standing order, the client gives "permanent" approval to the bank, for the bank, on a regular basis, to collect the installments on the loan, from the funds on their payment account, until the loan is fully repaid.

Chart 111
Banking system exposure to indirect credit risk, from loans with currency component and share of deposits with currency component in total deposits
in %



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

Chart 112
Banking system exposure to indirect credit risk, from loans with variable and adjustable interest rate, and share of deposits with adjustable interest rate in total deposits
in %



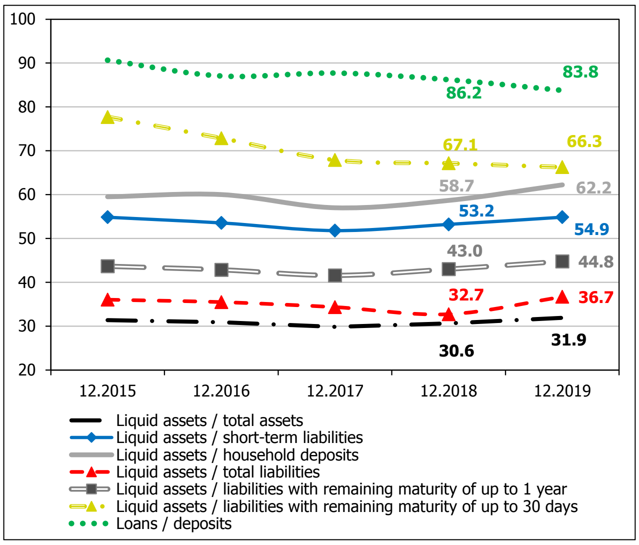
Source: National Bank, based on data submitted by banks.

On the other hand, the indicators for the loan-to-value ratio are at a relatively prudent level and amount to 49.6%, for loans to non-financial companies and 73.8%, for loans to households[163]. When assessing the appropriateness of the level of this indicator, especially in conditions of dominance of the real estate as collateral for loans, it should be borne in mind that the Methodology for assessing the market value of the real estate in our country (and which arises from the Law on Assessment),[164] which prescribes the minimum standard for banks when assessing the value of the collateral, is not in accordance with the best international practices. Hence, there is a risk of erroneous estimates for the value of the established collateral, which is mitigated by the fact that the indicators for the loan-to-value ratio are at a quite low level.

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. In 2019, the share of loans with currency component in the total loans to the non-financial sector increased to a level of 42.3% (41.4% as of 31.12.2018). However, in conditions of application of fixed nominal exchange rate of the Denar against the Euro, the probability of materialization of this risk is low, given the fact that more than 99% of the loans with currency component are nominated in euros or are in denars with Euroclause. On the other hand, the share of loans with variable and adjustable interest rate is also significant and amounts to 53.1% and 21.2%, respectively (at the end of 2018, these shares amounted to 41.7% and 34.2%, respectively). The period to the next reassessment of the interest rates, by around 26% of the loans with variable interest rate and by around 16% of the loans with adjustable interest rate, exceeds one year, which indicates relatively growing uncertainty, for this part of the loans, about the future

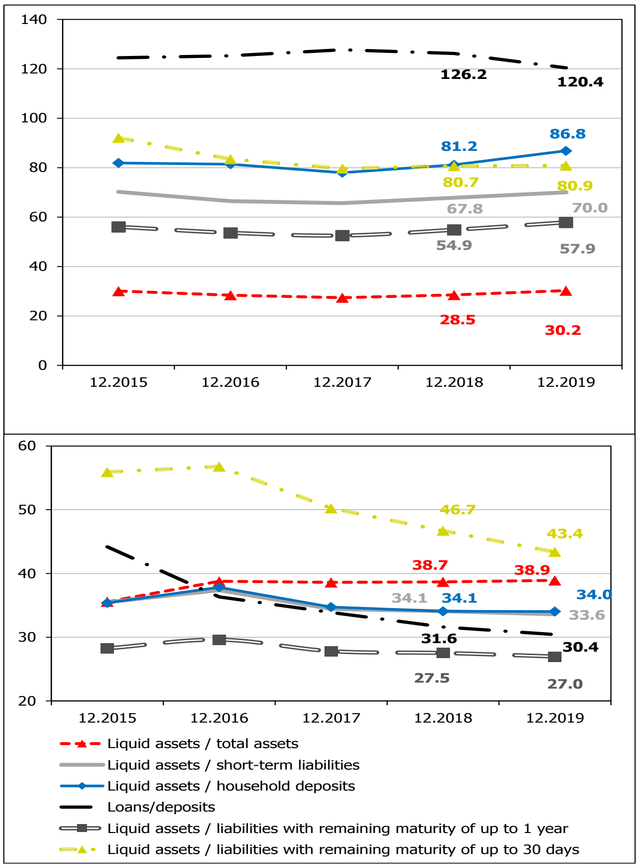
[163] It should be borne in mind that the banks (can) not estimate the value of the collateral "guarantor and bill of exchange" and hence it is not known and is not entered in the Credit Registry, which in turn increases the level of the indicator for the ratio between the collateralized loans and the value of the collateral. On the other hand, as mentioned above, the practice shows that the loan collection by way of activation of this collateral (guarantor and bill of exchange) is at a relatively high level. If the calculation isolates the household loans, secured by a guarantor and bill of exchange, the ratio between the collateralized loans and the estimated value of the collateral would be 55.5%.
[164] The estimate is entirely based on the application of a cost approach for assessing the value of the real estate, through administrative determination of the parameters and accounting points by m2 that are used in this approach in the Methodology.

Chart 113
Liquidity ratios of the banking system
in %



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

Chart 114
Liquidity ratios by currency - Denars (up) and FX (down)
in %

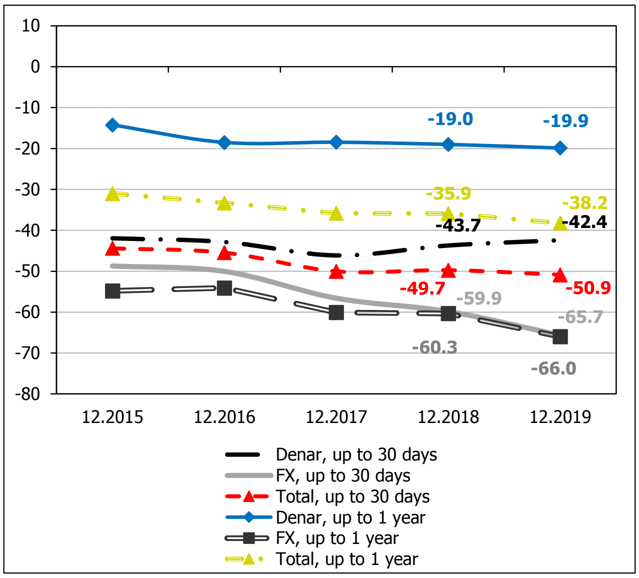


Source: National Bank, based on data submitted by banks.

amount of the interest rates that will be applied when determining the clients' interest repayments. Although, in recent years, the application of the adjustable interest rates in the credit agreements significantly decreased, however, simultaneously and almost with the same intensity, the share of loans with variable interest rate in total loans increased. Hence, the borrowers' exposure to interest rate risk (i.e., the banks' exposure to indirect credit risk) remained almost the same. In addition, usually, the frequency of change in the interest rates, when applying the variable interest rates, is far more frequent compared to the unilaterally adjustable interest rates, where, although the change in the amount is more uncertain and with discretion of the bank's management, however, in practice, these interest rates were (are) adjusted more rarely.

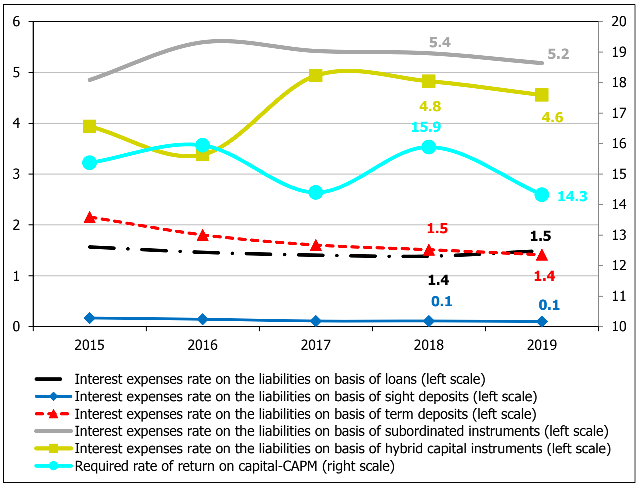
Banks have a high volume of liquid assets. The significant annual growth of liquid assets in 2019, of 14.2% (12.7% in 2018), which is absolutely and in percentage terms the highest in the last nine years, further improved most indicators of liquidity of the banking system. Thus, the share of liquid assets in total assets increased by 1.3 percentage points in 2019, to a level of 31.9%. At the same time, the indicators for the coverage of the individual categories of liabilities with the liquid assets also registered a moderate improvement. Namely, for a longer period, the liquid assets cover around 55% of the short-term liabilities of the banks and around 60% of the total household deposits. The indicator for the ratio between loans and deposits to/of the non-financial sector is maintained within prudent frames, between 80% and 90%. Exactly the disposal of Macedonian banks of a solid volume of liquid assets has always been an important factor for easier overcoming of the individual crisis episodes in our country in the short-term increased withdrawals of the deposits that have always been settled. Namely, household deposits are the most important source of funds for the domestic banking system (household deposits account for 50.3% of the total liabilities of the banking system). In 2019, the improvement of the liquidity ratios of the banking system was concentrated in the indicators of denar liquidity, which have always

Chart 115
Gap between banks' assets and liabilities that mature in the next 30 days and one year
in %



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

Chart 116
Rate of interest expenses* for the individual categories of liabilities of the banking system and the cost (price) of the capital**
in %



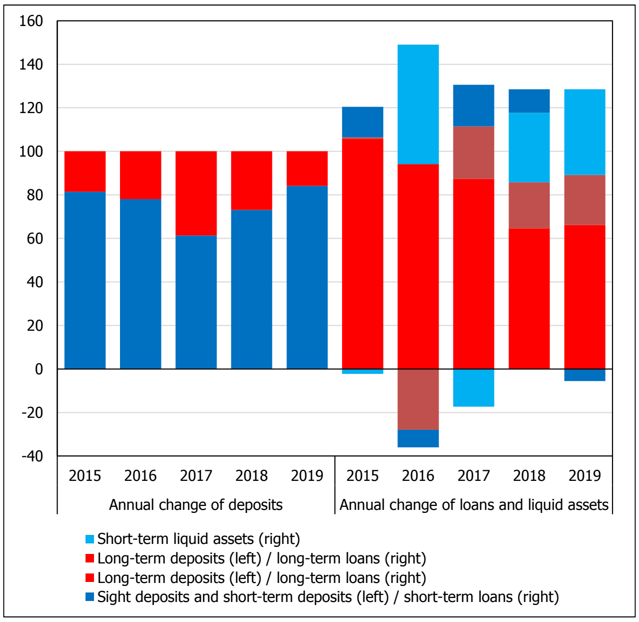
Source: National Bank, based on data submitted by banks.
*The interest expenses rate is calculated as a ratio between the amount of interest expenses realized in the last four quarters (the cumulative flow of interest expenses realized in the last four quarters) and the average amount of sources of funds, calculated as an average of the their stock in the last five quarters
** The required rate of return on investors in the banks' shares (cost/price of the banks' capital) is calculated by applying the so-called "CAPM" model, on a sample of eight banks whose shares are listed on the official market of the Macedonian Stock Exchange.

been at a relatively high level. In contrast, the indicators of foreign currency liquidity of banks decreased in 2019 and are far lower compared to those of denar liquidity; 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. 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. At the end of 2019, almost 51% of the liabilities that fall due in the next 30 days are not covered by funds from the same maturity bucket. The gap in the maturity bucket up to one year, although smaller, is still significant, as about 38% of liabilities with residual contractual maturity up to one year are not covered by assets from the same maturity bucket. In the first half of 2020, a new Decision on the methodology for liquidity risk management was adopted, whose application will start from 1.1.2021. The new Decision introduces an obligation for banks to calculate and maintain a certain minimum level of the so-called liquidity coverage ratio, which is an important step forward towards harmonization of the domestic regulation with the international standard Basel 3 (in relation to the minimum liquidity requirements).

The costs for financing of the sources of banks' funds decreased in 2019 and for some of them, they are at the historically lowest level. For deposits, as the most important source of funds of the banking system, the banks currently have the lowest rates of interest expenses (0.1% for demand deposits and 1.4% for term deposits)[165], compared to the other types of sources of funds. In contrast, the cost for the capital is the

[165] *The interest expenses rate is calculated as a ratio between the amount of interest expenses realized in the last four quarters (the cumulative flow of interest expenses realized in the last four quarters) and the average amount of sources of funds, calculated as an average of the their stock in the last five quarters.

Chart 117
Shares of the annual changes of deposits and loans of the non-financial sector and of the liquid assets in the annual change of deposits of the non-financial sector, by maturity
in %



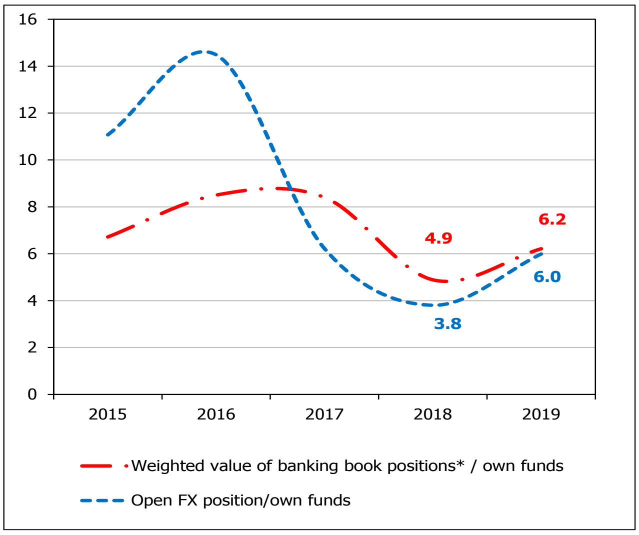
Source: National Bank, based on data submitted by banks.
*The analysis does not include due and non-performing loans

highest, as a source of funding for banks, at a double-digit required rate of return on investors in the banks' shares (14.3%)[166]. The historically low levels of the rates of interest expenses for liabilities based on deposits limit the room for their further reduction.

In the past three years, in the process of maturity transformation in the banks' balance sheets, the part of the newly collected deposits that is placed in long-term loans is smaller. Namely, in conditions of a more significant growth in demand deposits (including cash on transaction accounts with banks), which, in the past three years, reached a dominant share in total deposits of non-financial entities[167], a smaller part of such collected funds is placed in long-term loans. Thus, in 2016, the growth of long-term loans represents 94.1% of the growth of total deposits, while in 2019 this share was 66.2%. At the same time, the banks placed by around 20-25% of the newly collected deposits in long-term liquid instruments[168], and in the last two years, there is also a significant share of the annual increase in the short-term liquid assets[169] in the growth of total deposits (31.9% in 2018 and 39.3% in 2019, contrary to the fall in the short-term liquid assets in 2017). In practice, in the past few years, banks were oriented toward somewhat larger accumulation of liquid assets, at the expense of the smaller volume of lending activity, relative to the potentially possible one (from liquidity aspect), and in this process, beside deposit, they also use non-deposit sources of financing[170].

[166] The required rate of return on investors in the banks' shares (cost/price of the banks' capital) is calculated by applying the so-called "CAPM" model, on a sample of eight banks whose shares are listed on the official market of the Macedonian Stock Exchange. For more details see the Report on the Risks in the Banking System of the Republic of North Macedonia In 2019, (p. 69-70).
[167] They increased the share from 44.4%, as of 31.12.2016, to 54.1%, at the end of 2019.
[168] Placements in government bonds.
[169] Primarily the placements in overnight deposit facilities with the National Bank and the funds on the denar accounts of the banks with the National Bank.
[170] The annual growth of loans and liquid assets of the banking system exceeds the annual growth of deposits (e.g. in 2019, the growth of liquid assets and loans accounts for 123% of the growth of deposits). Hence, part of the growth of liquid assets and loans was financed by non-deposit sources of funds.

Chart 118
Banking system exposure to currency risk and interest rate risk in the banking book.
in %

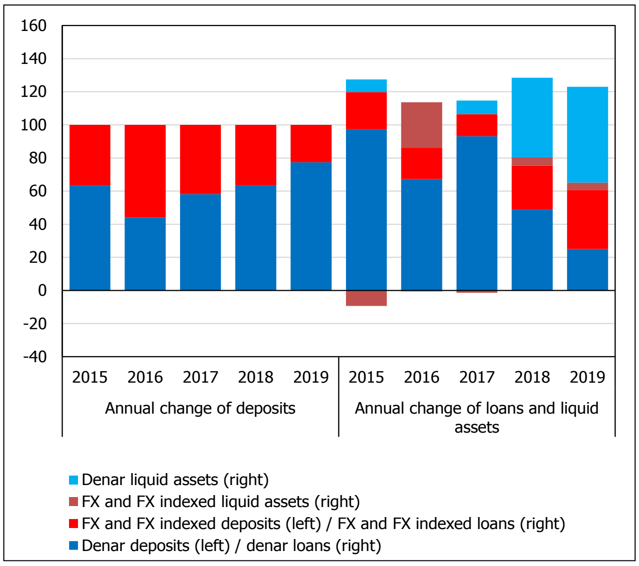


Source: National Bank, based on data submitted by banks.
*Weighted value of banking book denotes potential loss of economic value of this portfolio, amid assumed unfavorable interest shock of ±2 percentage points.

The increased growth of demand deposits in the past period partially complicates the liquidity risk management for banks. However, it should be borne in mind that the depositors were given an opportunity for a premature withdrawal of a high percentage of term deposits (93.4% as of 31.12.2019). In this case, the potential liquidity consequences for banks from term deposits are similar to those from demand deposits.

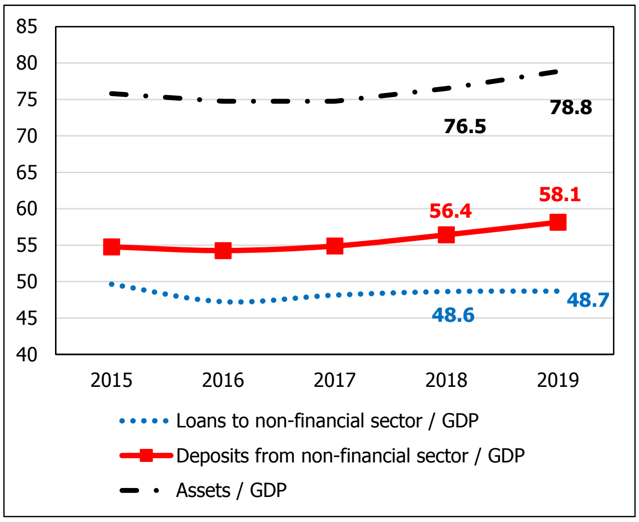
Banking system exposures to currency risk and interest rate risk in the banking book increased in 2019, but remained moderate. Thus, the open currency position of the banking system increased the share in own funds to a level of 6% (3.8% as of 31.12.2018). On an aggregate basis, the currency position is long, which potentially exposes the banking system to the risk of appreciation of the value of the denar, primarily, against the euro, which dominates in the banks' activities (the probability of materialization of the banks' exposure to currency risk is minimal given the application of de facto fixed exchange rate of the denar against the euro). At the same time, the ratio between the weighted value of the banking book (as an absolute measure for the banks' exposure to the interest rate risk in the banking book) and the own funds increased to a level of 6.2% (4.9% as of 31.12.2018). On an aggregate basis, the banking system is exposed to the risk of reducing interest rates, given the positive total gap between the interest-sensitive assets and liabilities. Moreover, given the high positive gap between active and passive interest-sensitive positions up to one month, the possible downward changes in interest rates would condition a significant materialization of this risk in a relatively short time period. This risk was practically materialized in 2019, when amid declining interest rates, the banks' net interest income decreased by 2.4% and contributed with more than 20% to the total fall in the profits of the banking system. In addition, the replacement of adjustable with fixed and/or variable interest rates in the credit and deposit activity of the banks (this process, with greater intensity, started from 2017) complicates the management of the interest rate risk and imposes a need for a constant improvement of

Chart 119
Shares of the annual changes of deposits and loans of the non-financial sector and of the liquid assets in the annual change of deposits of the non-financial sector, by currency
in %



Source: National Bank, based on data submitted by banks.
*The analysis does not include due and non-performing loans

Chart 120
Financial intermediation
in %



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

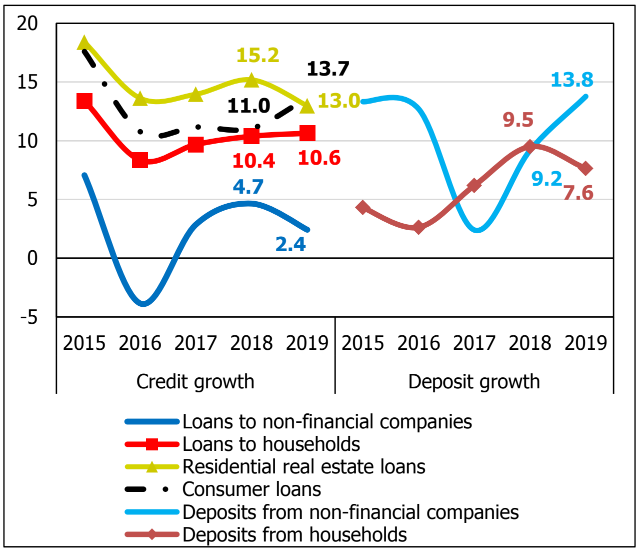
the banks' capacity to manage this risk.

In the last two years, in conditions of a rapid growth of denar deposits, the part of the newly collected deposits that is placed in denar loans to the non-financial sector decreased, while the part of the new deposits that is placed in loans with currency component increased[171]. Namely, despite the largest contribution of denar deposits to the growth of total deposits of non-financial entities (77.4% in 2019), a smaller part of such collected funds is placed in denar loans. Thus, in 2017, the growth of denar loans accounted for 93.2% of the growth of total deposits, while in 2019, this share went down to a level of 25%. In contrast, in 2017, they used 13.3% of the growth of total deposits to increase the loans with currency component, while in 2019, this share was 35.6%. This analysis, of the currency transformation carried out by banks, also confirms the conclusion about the greater orientation of banks in the past period towards increasing the liquid assets, primarily in denars, instead of lending. Namely, in 2018 and 2019, banks placed by 48.1% and 57.8%, of the newly collected deposits, in denar liquid assets (for comparison, in 2017, only 8.2% of the growth of deposits was aimed at increasing the denar liquid assets of the banks). In addition, in the same period, by about 5% of the newly collected deposits were placed for strengthening of the liquid assets with currency component.

Besides the prudent risk management, the financial intermediation carried out by banks is also one of the main functions necessary for the efficient reallocation of resources to the economy and, consequently, for maintaining the financial stability in the country. Despite the almost continuous growth of the shares of the activities of the banking system in GDP, however, compared to most of the analyzed EU member countries, the level of financial intermediation in the Republic of North Macedonia is at a lower level. In contrast, the comparative analysis indicates that the Macedonian banking system has similar levels of financial intermediation to the banking

[171] This analysis excludes due and non-performing loans to the non-financial sector.

Chart 121
Annual growth rates of loans and deposits of the banking system
in %



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

systems from the countries of the region[172], which confirms the usual interdependence between the levels of economic development and of the financial intermediation in the individual countries. In conditions of solid growth of deposits of the non-financial sector, the banks' credit activity also continued to increase[173]. The growth of loans to non-financial companies lags behind the growth in lending to households for a longer period. The higher level of materialization of the credit risk in the corporate portfolio is one of the factors for the weaker credit activity of banks with this sector (at the end of 2019, the share of non-performing loans in total loans equals 7.6% in the credit portfolio comprised of companies, and 2% in the portfolio comprised of households). The poor quality of the demand for loans by the domestic companies, reflected by the lack of high-quality projects, ideas and adequately liquid, efficient, reliable and responsible corporate clients is also an important factor that conditions low rates of credit growth with non-financial companies[174]. Household loans register double-digit annual growth rates in the last two years, supported by the high growth of housing and consumer loans, which are the fastest growing segments of the banks' credit portfolio for a longer period. The higher diversification of the credit portfolio comprised of natural persons, the improved expectations and banks' estimates for the risk profile of the credit demand from this sector, the low total indebtedness and the favorable developments in the labor market are the most important factors that support the solid credit growth with the household sector[175].

[172] For more details see the Report on the Risks in the Banking System of the Republic of North Macedonia In 2019, (p. 80).
[173] Starting from 2016 onwards, the credit growth is conditioned by the previously mentioned changes in the regulation in the domain of the credit risk management, for mandatory write-off of fully provisioned non-performing loans. The effects of these changes on the annual credit growth rates were the strongest in the first year of application of the changes (2016), but also in 2019, when the obligation for mandatory write-off of non-performing loans expanded from fully provisioned loans in the last at least two years to fully provisioned loans in the last at least one year.
[174] More details in the section concerning the corporate sector of this Report.
[175] More details in the section concerning the household sector of this Report.

Results from the stress-testing of the banking system of the Republic of North Macedonia, in conditions of a pandemic of a new virus

The beginning of 2020 was marked by the COVID-19 pandemic, which (will) inevitably have strong negative effects on the performances of the domestic economy, consequently on the liquidity and creditworthiness of companies and households and finally on the domestic banks. Banks, their clients and, generally, all economic agents and institutions in our country face numerous challenges from this crisis, whose consequences will depend on the duration and intensity of the negative effects of the global health, and consequently economic, crisis. At the moment, it is difficult to assess the intensity and duration of the negative effects for the banks, although the next adverse scenarios could be assumed with a certain amount of certainty.

The banks' liquidity may be in the line of fire on both sides of the balance sheet. On the assets side, there is a very probable inability of some of the clients to settle their liabilities to banks on time (the initial data show that banks have granted a delay in the repayment of loans for a period of several months, by about 65% of the household portfolio). In addition, in a smaller part of the liquid instruments, depending on the accounting classification, downward adjustments in the value are possible, taking into account the turbulent developments on the international financial markets as a result of the health crisis. On the liabilities side, the possible psychological pressure on depositors from the current events, may affect the volume and currency structure of household deposits which are the most important source of funds for the banking system. Every significant deposit withdrawal under the influence of the negative news related to the virus epidemic and the expectations for significant spillover effects of the epidemic on the domestic economy creates liquidity pressures on banks. Even in the absence of significant deposit withdrawals from banks, in conditions of growing uncertainty, risk of wage reduction and perhaps job loss, one can expect greater general restraint of citizens to deposit their funds in the banks, which in turn would have a negative impact on the sources of funding for banks and the future scope of activities. Also, most previous crisis episodes in our country have been accompanied by an increased demand for foreign currency and pressures on the foreign exchange market and consequently increased challenges for the National Bank given the monetary strategy of a de facto fixed exchange rate of the denar against the euro.

On the assets side, more intensive materialization of the credit risk from the credit activity with companies and households is very probable. Namely, despite the major delay in the borrowers' obligations, provided by the March changes in the regulation in the domain of the credit risk management, however, after the expiration of these six months of "grace period" (April - September 2020), one can expect that some of the banks' clients will not be able to regularly service their obligations. This in turn will mean an obligation for banks to make impairment of the claims on clients, which will have a negative effect on their profitability and through it, on banks' solvency as well. In conditions of a currently deteriorated domestic and external environment, not only from the real sector, but also from the banks, one can expect general restraint from taking riskier activities, i.e. reduced supply of loans and tightening of the credit standards, which will have an appropriate impact on the volume of new loans and credit growth rates.

Liquidity and capital buffers of the banks, built and accumulated in calm conditions, according to the requirements of the prudential regulation and supervision, are the main aces of our banks in these stressful conditions, which should this time as well fight off the numerous challenges they are faced with. The National Bank constantly monitors the situation and takes appropriate measures and activities. Thus, the central bank reduced its policy rate, by 0.5 percentage points, to a level of 1.5% and made changes to the reserve requirement that release additional liquidity and provide support to the lending to the most affected sectors in the economy. Furthermore, the changes in the regulation in the domain of the credit risk management eased the credit burden of the banks' clients in the period when the negative effects of the pandemic are expected to be the most pronounced[176]. Also, the National Bank reduced the supply of CB bills, thus expecting provision of further support to the Macedonian economy by maintaining the credit flows and the credit cycle by the banking system, and expanded the scope of securities it can accept from the domestic banks as instruments to provide denar liquidity in the banking system. The National Bank may also use other, conventional and non-conventional instruments, which would provide additional liquidity, which is especially important, given the specificity of the shock and the measures taken to deal with it. At the same time, the level of foreign reserves is adequate, and the National Bank is prepared to take all the necessary measures to preserve the stability of the exchange rate, and through it, to preserve the price and financial stability in the country as well.

The National Bank constantly conducts stress tests of different form and content, which check the banks' resilience in various extreme, but theoretically possible scenarios. Usually, the stress-tests focus on strong shocks of economic nature, not only in our country, but also in the developed financial world in general. Thus, so far no stress-test has been conducted where the scenario was built around the assumption of a pandemic of a new and unknown virus. Namely, this is a shock of non-economic nature, which is difficult to predict in advance, incomparable with the previous shocks of a non-economic character and as such, usually, it is not subject to analysis in the stress-tests until it really occurs. In addition, the great variety of the non-economic shocks imposes a need for taking specific measures and activities by policy makers, which often creates more or less unique environment for banks and other financial institutions (and stimulates different reactions by economic agents), which makes the non-economic shocks even more incomparable to each other.

In such circumstances, the National Bank carried out additional stress test analyses that provided for several possible scenarios in the current and assumed future conditions. All these scenarios are uncertain and largely depend on the duration and intensity of the epidemic of this virus in our country and in the world. However, the stress tests are only one tool in the banks' risk management system and in the set of analytical instruments of the National Bank. The purpose of their conduct is not to give precise conclusions about the situation in the banks, but to give an assessment, an indication of the banks' resilience to shocks, whereby both the banks and the National Bank would be more prepared to take measures and activities on time to ease the situation if necessary.

In April and May 2020, the stress testing of the banking system using scenario analysis required development of **baseline and 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 (stress) macroeconomic 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 a time horizon of two years, starting from the end of 2020 and finishing with the end of 2021.

[176] In agreement and by consent from the borrowers, banks were allowed to make certain easing of the credit conditions, including a temporary delay in the clients' loan liabilities, without such changes to have unfavorable restructuring treatment. Also, certain easing regarding the recognition of the non-performing status was made, i.e the threshold for acquiring a non-performing status has been moved from 90 days to 150 days. The changes in the regulation are planned to have a temporary character and to be applied by 30 September. For more details see the Report on the Risks in the Banking System of the Republic of North Macedonia In 2019, (p. 18-19.

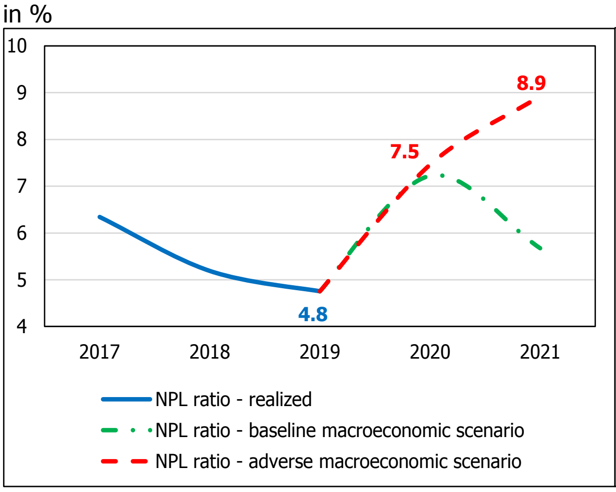
Table 5
Baseline and adverse macroeconomic scenario for the conduct of the stress test (in percentage)

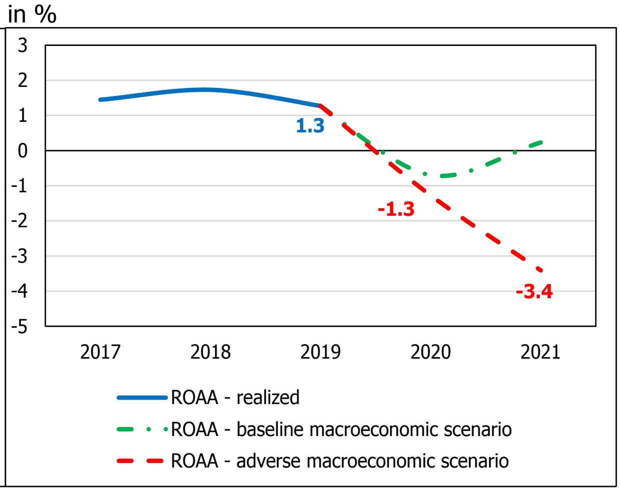
Macroeconomic variables	Past dynamics							Baseline macroeconomic scenario		Adverse macroeconomic scenario		Gap between adverse and baseline macroeconomic scenario	
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2020	2021	2020	2021
Real GDP growth	2.9	3.6	3.9	2.8	1.1	2.7	3.6	-3.5	4.7	-6.4	-1.9	-2.9	-6.6
Real personal consumption growth	1.9	2.2	4.4	3.9	2.1	3.7	3.5	-4.3	6.1	-6.7	-1.6	-2.4	-7.7
Real gross-investments growth	0.5	10.7	8.3	12.5	-2.2	-7.3	6.6	-10.4	9.8	-16.3	-6.5	-5.9	-16.3
Real exports growth (products and services)	6.1	16.5	8.5	9.1	8.3	15.6	8.3	-17.1	25.0	-21.6	-0.6	-4.5	-25.6
Real imports growth (products and services)	2.2	14.1	9.9	11.1	5.2	9.1	9.0	-15.4	21.6	-19.5	-0.4	-4.1	-22.0
Unemployment rate	29.0	28.0	26.1	23.7	22.4	20.7	17.3	17.3	16.5	18.7	20.2	1.4	3.7
CPI - annual cumulative change	2.8	-0.3	-0.3	-0.2	1.4	1.5	0.8	0.0	1.5	-1.9	0.0	-1.9	-1.5
Real base interest rate	0.4	0.7	3.1	4.0	3.1	1.4	1.1	2.5	2.4	2.9	2.9	0.4	0.5
Real disposable income growth	-0.3	2.6	4.3	3.0	4.4	6.0	5.4	-3.6	7.7	-4.0	1.5	-0.4	-6.2
Employment rate	40.6	41.2	42.1	43.1	44.1	45.1	47.3	47.4	47.9	46.6	45.7	-0.8	-2.1
Annual growth of loans to private sector	6.6	10.0	9.6	-0.1	5.4	7.3	7.6	3.0	6.0	0.0	-1.0	-3.0	-7.0

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 scenarios are built. The baseline macroeconomic scenario assumes that the viral infection shock will be short-lived and that the main blow to the economy will be felt in the second quarter, followed by a gradual normalization. In contrast, the adverse macroeconomic scenario assumes stalling of the health crisis in the coming period, which, consequently, will create even more pronounced negative economic effects, compared to the baseline macroeconomic scenario. The assumed decline in GDP for 2020, of -6.4%, in the adverse macroeconomic scenario, would be one of the sharpest in the newer history, specifically the most substantial after 1993.

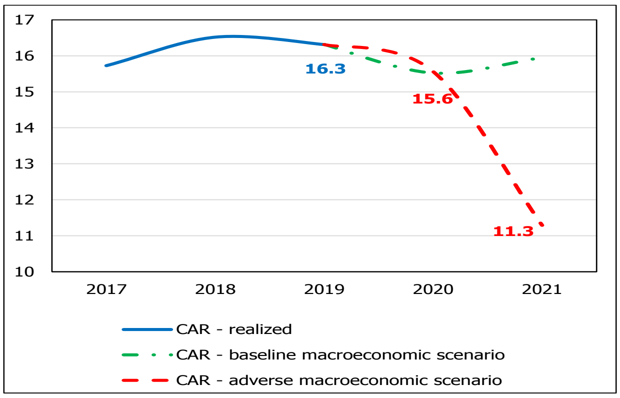
Chart 122
Achieved and forecasted levels of the share of non-performing loans in total loans to non-financial entities (left) and rate of return on average assets (right)





Source: National Bank calculations

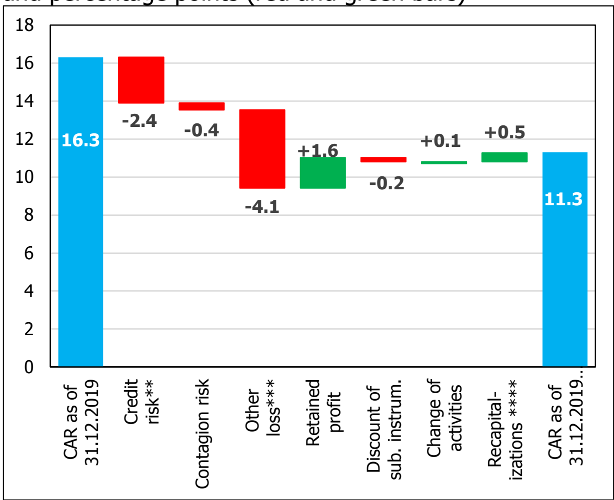
Chart 123
Achieved and forecasted levels of the capital adequacy ratio
in %



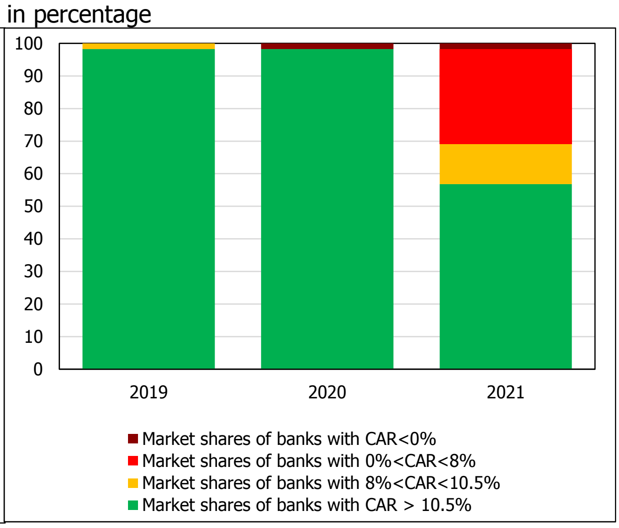
Source: National Bank calculations

The results of the conducted stress test[177] indicate a generally satisfactory resilience of the banking system to extreme macroeconomic shocks. Thus, in conditions of extremely unfavorable movements in the macroeconomic environment, non-performing loans to the banking system grow by 56.9% in 2020 and by 18.4% in 2021 (cumulatively, for both years, these loans increase by 85.7%), whereby at the end of 2021, the share of non-performing loans in total loans reached a level of 8.9%[178]. At the same time, in the two analyzed years, the banking system operates at a loss, which accounts for 1.3% of the average assets at the end of 2020, i.e. for 3.4% in the average assets for 2021. The capital adequacy ratio in 2020 decreases to a level of 15.6%, and in 2021 it falls to 11.3%. The materialization of the credit risk and the reduced profitability of the banks have the greatest impact on the decrease of the capital adequacy of the banking system. In contrast, the materialization of the contagion risk among banks does not have significant effects on the

Chart 124
Structure of the reduction of the capital adequacy ratio* (left) and market shares of banks according to the level of the capital adequacy (right)
in percentage (blue bars)
and percentage points (red and green bars)



in percentage

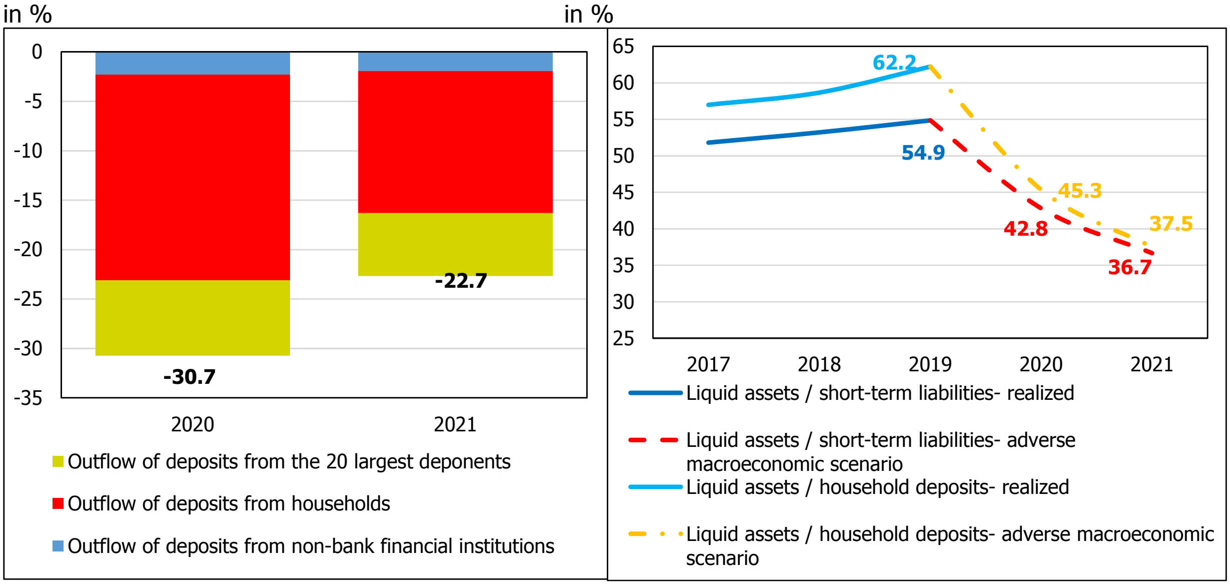


Source: National Bank calculations
*Red bars denoted a reduction of the capital adequacy ratio, while the green ones indicate an increase.
** It also includes penalty fines for the banks with high concentration of the credit portfolio.
***The other losses are calculated as the difference between the total financial result and impairment (expected losses) due to credit risk and contagion risk.
**** These are recapitalizations in two banks that were already made in the period of preparation of the stress-test.

[177] 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.
[178] 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 2020 and 2021.

capital adequacy which confirms the low exposure of the banks to this risk[179]. Finally, in conditions of extremely adverse macroeconomic scenario, the liquid assets of the banking system decreases by 30.7% in 2020, i.e. by 22.7% in 2021 (or cumulatively, for both years, the liquid assets decreases by 46.4%), but, none of the banks reports a shortage of liquid assets (i.e., even after the extreme shocks, banks still have a certain amount of liquid assets). The withdrawal of deposits from the households and from the 20 largest depositors have the greatest impact on the reduction of liquid assets. In contrast, the outflow of sources of funds originating from the other banks and non-banking financial institutions in the system has a somewhat smaller effect on liquidity positions[180,181].

Chart 125
Structure of the percentage fall in liquid assets (left) and achieved and forecasted levels of selected liquidity ratios (right)



Source: National Bank calculations

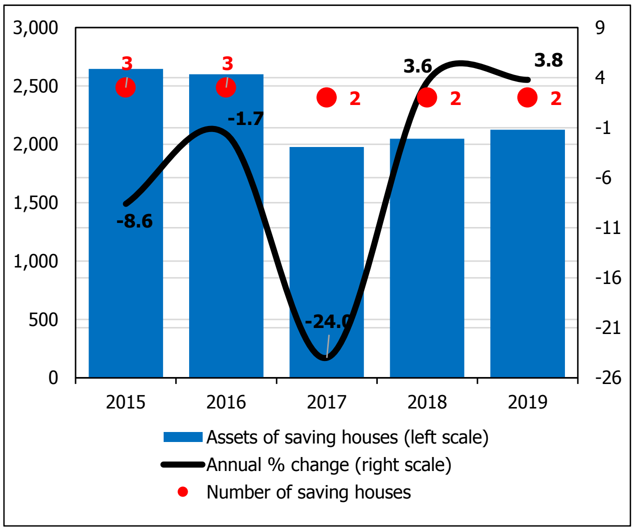
The analysis by individual bank suggests more pronounced vulnerability of the individual banks to macroeconomic shocks and subsequent need for recapitalization, amid possible materialization of the assumed macroeconomic scenario. Thus, at the end of 2021, ten banks, with a share of 43.2% in the total assets of the banking system, have a capital adequacy ratio lower than 10.5%. In four banks, with a market share of 30.9% in total assets, the capital adequacy ratio drops below 8%, and in one bank, this ratio is negative. The required recapitalization of the banks, for their capital adequacy ratio to reach a level of minimal 10.5% again, is Denar 7.6 billion (or 1.1% of GDP for 2019).

[179] It was assumed that the percentage of impairment (expected losses) of interbank claims (of those that will not be withdrawn) ranges from 5-15% by individual bank (depending on the level of the capital adequacy ratio and the rate of return on average assets of the individual banks, after the conduct of the macroeconomic shocks), with the exception of one bank, where the assumed percentage of impairment is 71%, given the high negative capital adequacy ratio in this bank, after the conducted shocks.
[180] It was assumed that in each of the analyzed years, banks and non-banking financial institutions withdraw by 10-20% from the assets placed in the individual banks. In addition, it was assumed withdrawal of 5-15% of the household deposits placed in the individual banks and of 10-20% of the deposits of the 20 largest depositors. The percentage of withdrawal of funds from each bank was determined depending on the level of banks' capitalization and the level of profitability, after the conducted macroeconomic shocks.
[181] The results of the stress test in the baseline macroeconomic scenario for 2020 are relatively similar to those of the adverse macroeconomic scenario for the same year. A bigger difference is registered in the part of the forecasts for the scope of activities of banks (the baseline scenario assumes growth, while the adverse scenario, stagnation, unchanged scope of activities), which had appropriate effects on the capital adequacy ratio.

1.4.2. Savings houses

Savings houses are deposit-taking institutions, whose significance for the financial system of the Republic of North Macedonia, according to the scope of activities they perform, is very small. Savings houses cover a certain segment of the credit market that has more difficult access to financing from banks. Savings houses collect deposits from individuals in addition to banks, 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 and deposit insurance, as well as due to their satisfactory solvency and liquidity, as well as the appropriate prudential supervisory and regulatory framework. Savings houses, as deposit-taking institutions, face numerous challenges in the next period, as a result of the global health crisis, which will inevitably have profound economic consequences. The channels of transmission of the negative effects on the savings houses would potentially lead through the credit placements, where the credit risk will be materialized, as expected, but pressures on the liabilities side are also possible, given the relatively high share of household deposits.

Chart 126
Total assets and number of savings houses
in millions of denars and in %



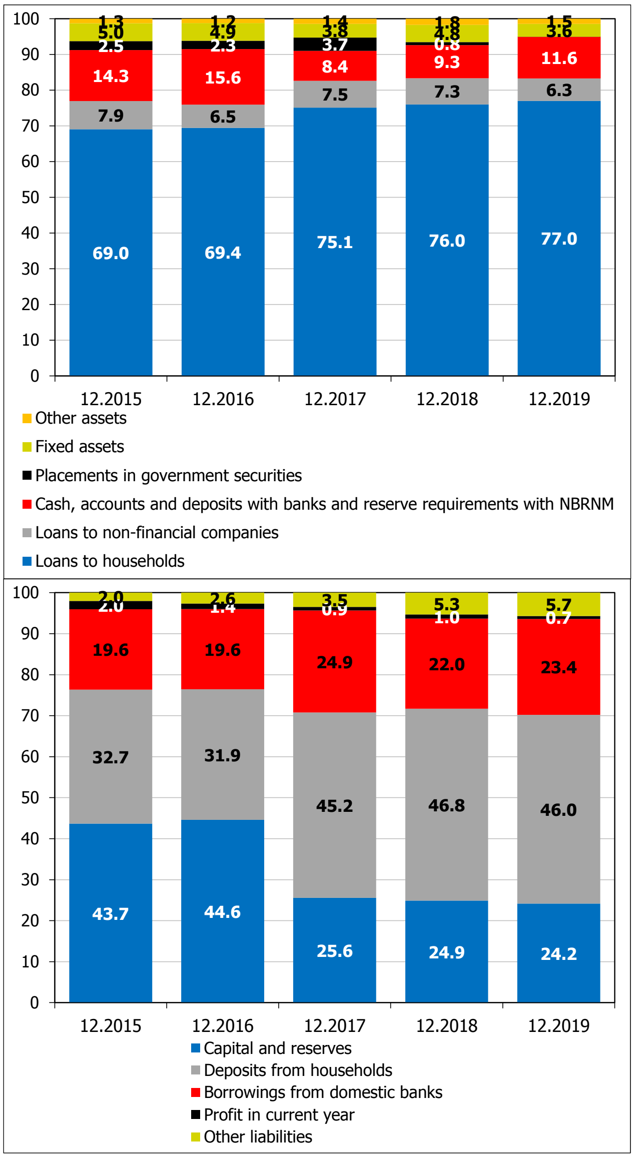
Source: National Bank, based on data submitted by the savings houses.

In 2019, the number of savings houses remained unchanged (two) compared to the previous year. The total assets of the two savings houses amounted to Denar 2,125 million and registered slightly faster annual growth of 3.8% (Denar 77 million), compared to 3.6% in 2018 (Denar 71 million). The share of the assets of savings houses in the total assets of the financial system and in GDP is quite small and amounts to 0.3%, respectively.

Savings houses establish some connection with the domestic banks, but the small volume of activities limits the possible negative impact on the banks' operations. At the end of 2019, the deposits that the savings houses have placed in the domestic banks amount to insignificant 0.05% of the total deposit base of the banking system, but they make up 9.9% of the total assets of the savings houses. At the same time, the loans that the savings houses use from the banks make up 0.04% of the total bank loans and account for 6.1%[182] of the liabilities of the savings houses. Hence, savings houses cannot be considered a significant channel for potential transmission of the risks to banks as the most important

[182] It should be borne in mind that this calculation for the savings houses takes into account only the direct loans that the banks have placed with the savings houses. Savings houses also take out other loans, indirectly, through banks, whereby the ultimate creditor is not a domestic bank but some other legal entity who deposits funds with the bank from which the savings house takes out the loan.

Chart 127
Structure of assets (up) and liabilities (down) of the savings houses
in %



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

sector of the financial system.

Savings houses mostly use household deposits as a source of funds (46%), but there is also a significant share of capital and reserves (24.2%) and total loan liabilities (23.4%). In 2019, on the liabilities side, the largest growth of Denar 46 million, or by 10.3%, was registered in the total loan liabilities[183], followed by household deposits which increased by Denar 20 million (or by 2.1%). On the assets side, most of the assets (83.3%) account for loans extended to the non-financial sector. Household loans dominate in total gross loans, with a share of 92.3%[184]. In 2019, the growth of the credit activity of savings houses registered a certain slowdown and amounted to Denar 54 million, or 3% (4% or Denar 68 million in 2018). Moreover, the growth of the credit activity of savings houses is entirely due to household loans, whose growth amounts to Denar 75 million, or 4.6% and is slightly higher, compared to 2018 (67 million, or 4.3%). In contrast, loans to non-financial companies decreased by Denar 21 million, or 13% (in 2018 these loans increased by Denar 1.6 million, or 1%)[185]. In the coming period, one can expect slower growth in the lending to savings houses, given the competitive pressure from financial companies, whose share on the market increases rapidly in the last few years in conditions of stricter regulatory requirements for savings houses as deposit-taking institutions compared to financial companies.

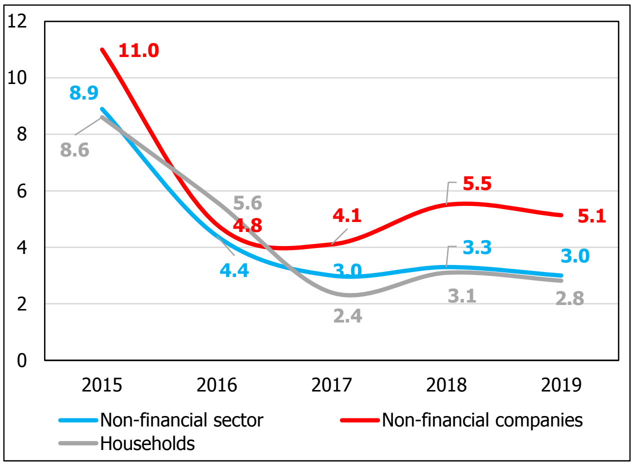
The effect of the crisis caused by the pandemic was also felt by the savings houses, which was reflected on the trend of loans and deposits in April and May 2020, when they registered a monthly decline, of 1.7 and 2.1% respectively (for loans) and 1.2% and 1.6% respectively (for deposits). It is still early to assess the volume of credit losses caused by the crisis, which will depend on the duration of the crisis, but also on the

[183] Most of the growth of total loan liabilities accounts for direct loans taken out from banks (84.8%), in particular toward one bank.
[184] According to the regulations, a savings house can place funds with legal entities up to 1.5 times the amount of own funds, and unlimited through bank by providing bank guarantee.
[185] The reduction of corporate loans is mostly due to the repayment of regular loans, and to a lesser extent to the mandatory write-offs, amid simultaneous absence of significant amounts of new loans to this sector, given the predominant orientation of savings houses towards lending to households.

creditworthiness of the clients of savings houses.

Credit risk is the most significant risk savings houses are exposed to. Given that lending to savings houses is mostly aimed at natural persons, consequently the credit risk due to default on the claims is dispersed among many users and at smaller amounts. The level of materialization of the credit risk, as measured by the share of non-performing loans in total loans to non-financial entities is low, i.e. it amounts to 3% and improves by 0.3 percentage points compared to 2018. The reduced share of non-performing loans in total loans is a result of the reduction of non-performing loans by Denar 4 million, or by 6.3%. This reduction is largely (56.8%) due to households, and to a somewhat smaller extent (43.2%) to non-financial companies, and mostly arises from the mandatory write-offs of fully provisioned non-performing loans[186]. Hence, the share of non-performing loans in total loans to households also reduced to a level of 2.8% (3.1% as of 31.12.2018), while in non-financial companies this indicator went down to 5.1% (5.5% as of 31.12.2018). Compared to banks, savings houses report slightly worse quality of household loans portfolio. A number of factors can contribute to this, ranging from differences in credit policies and acceptable levels of risk to the creditworthiness of customers who borrow from savings houses. Also, according to the regulations, the savings houses are not carriers of the payment operations, so they have no insight into the accounts of the borrowers, nor can they track the salary inflows of their (potential) clients. However, with the savings houses there is a good coverage of non-performing loans with allocated impairment (70.6% of the overall non-performing loan portfolio i.e 73.7% of the non-performing loan portfolio composed of households), which given the high capitalization, indicates satisfactory capacity

Chart 128
NPL ratio
in %



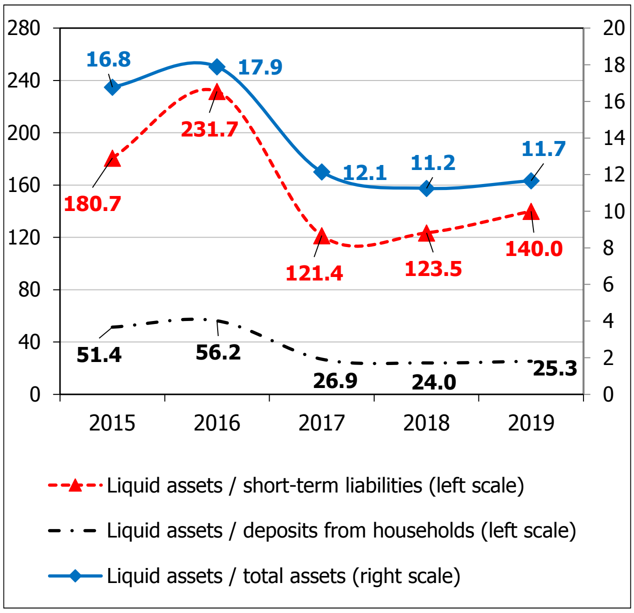
Source: National Bank, based on data submitted by the savings houses.

[186] According to the regulation, starting from 1.1.2016, banks and savings houses are obliged to write off the non-performing loans that are fully provisioned in the last at least two years. Starting from 1.7.2019, the amendments to the regulation require from deposit institutions to write off the non-performing loans that are fully provisioned, at least in the last year. In 2019, on this basis, the two savings houses wrote off non-performing loans in a total amount of Denar 23.5 million. Of them, Denar 4 million account for non-performing loans to companies, and the remaining Denar 20 million for non-performing loans to households.

to absorb potential credit losses.

According to the Decree on the manner of changing contractual terms for credit exposures with banks and savings houses (Official Gazette of the Republic of North Macedonia No. 80/20 of 27.03.2020) and The Decision amending the Decision on credit risk management methodology of the NBRNM (Official Gazette of the Republic of Macedonia No. 76/20 and 110/20), and taking into account the effects of the global health crisis due to COVID-19, savings houses enabled delay, i.e. establishment of a grace period (from April to June 2020) for repayment of the loans in the part of the principal for all credit products that clients use, in a period of three months. Within this grace period, the clients are obliged to pay only interests and commissions, agreed according to the credit agreement. As of 30.4.2020, the amount of loans for which a change was made to the contractual terms of payment reached Denar 570 million (31.9% of total regular loans).

Chart 129
Liquidity indicators for saving houses
in %

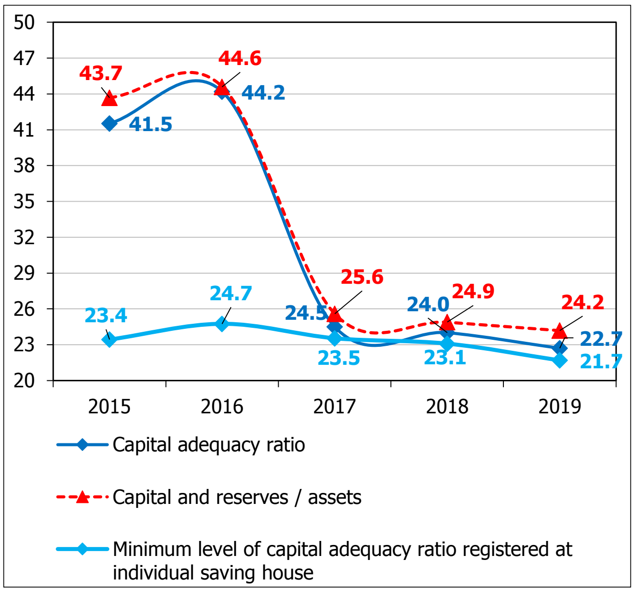


Source: National Bank, based on data submitted by the savings houses.

The savings houses' liquidity ratios remained satisfactory. In 2019, liquid assets[187] of savings houses increased by Denar 18 million, or 7.6%. Moreover, they provide full coverage of the short-term liabilities (140%) and cover 25.3% of the total household deposits (which is by 1.3 percentage points more compared to the previous year). The share of liquid assets in total assets is 11.7% as of 31.12.2019 (an increase of 0.5 percentage points compared to 31.12.2018). Compared to the share of liquid assets in total assets with banks, in savings houses this share is at a significantly lower level. This stems from the limited selection and available options for savings houses to invest in yield-bearing liquid financial instruments. Given the significant share of the loan portfolio in the savings houses' assets, a prerequisite for maintaining adequate liquidity is the loan quality and the regular generating of cash inflows on repayment basis. Savings houses meet the prescribed liquidity ratios, whereby both

[187] Most of the liquid assets of savings houses accounts for cash and reserve requirement with the NBRNM (81.7%), and the remaining part (18.2%) for accounts and deposits with domestic banks and placements in treasury bills (0.1%).

Chart 130
Solvency indicators of savings houses
in %



Source: National Bank, based on data submitted by the savings houses.
Note: In 2017, the significant reduction in the capital adequacy ratio of savings houses is due to the reduction in the number of savings houses by one.

liquidity ratios (up to 30 and 180 days) are by several times higher than the prescribed minimum level of these ratios, which is 1.

The solvency of the two savings houses is high, despite the moderate decline in the capital adequacy and solvency ratios relative to 2018. The capital adequacy ratio equals 22.7%, whereby in the two savings houses it is higher than the regulatory requirement (which is 20%). The smaller capital adequacy ratio results from the minimal annual reduction of own funds of 0.4% (as a result of the reduction of the Tier II capital - subordinated instrument, in one savings house) amid growth of the risk-weighted assets (5.4%).

1.5. Fully funded pension insurance

The accumulated assets through the fully funded private pension insurance registered accelerated growth in 2019. Despite the regular payments of contributions, the favorable market movements in the international capital markets contributed as well to the growth of the private pension funds' assets. In addition, 2019 was one of the most successful years for private pension funds concerning the realized rates of return. Low inflation rates contributed the real return of the pension funds to come closer to the realized nominal return. The structure of the investments of domestic pension funds does not differ much compared to the previous year. Historically, the strategic asset allocation that the mandatory pension funds adhere to is with an approximate ratio of debt / equity instruments of about 70% : 30%, while voluntary pension funds of about 65% : 35%. In addition, a high concentration of the pension funds assets is evident, especially in the portfolio of debt instruments, which actually shows that the credit risk premium is a key factor that determines the realized return of the pension funds. Hence, the key risks for the performance of the pension funds arise from the materialization of the undertaken credit risk, together with the risk of the change in the prices of foreign equity instruments.

Given that the domestic system of mandatory fully funded pension insurance has been operating for fifteen years, private pension funds are still in the accumulation phase; they have relatively young membership; do not have larger outflows for pensions and have a long investment horizon without the need of a high level of liquidity. As a result, the slowdown in economic activity due to COVID-19 global pandemic will inevitably affect the performance of private pension funds, but it is not a risk factor that can disrupt their long-term goals for increasing their members' assets, the accumulation of which, together with the realized reurn, at the end of the working life, should be used to fund the consumption after the retirement of the members. At the same time, it is important that the accomplishment of this long-term goal of the pension funds depend on the amount of contributions paid by individual members, as well as the fees charged by pension companies and which are at the expense of the pension funds' assets.

Significance of the private pension funds for the financial stability

Private pension funds, almost wherever they are established and operate as individual non-bank financial institutions, show relatively rapid growth, and in many countries, they are the largest domestic institutional investor. Hence, it is particularly important to explain their role in terms of the maintaining of financial stability, as well as the possibility of them to materialization of the systemic risk due to structural weaknesses arising from their activities[188].

The segment of the private fully funded pension insurance is important for the financial stability maintenance for several reasons. First, by definition, the pension funds accumulate wealth for the population, and for the majority of the already retired members represent the most important (and sometimes the only) source of income. This means that their assets and performance have exceptional importance for the overall wealth and the financial position of the households. Moreover, private pension funds most often are relatively large financial institutions, which is why they also have great

[188] More details on the structural weaknesses of the pension funds, as well as generally, for financial institutions performing asset management, and indirectly, their significance in terms of financial stability, can be found in the document of the Financial Stability Board titled "Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities", available at: https://www.fsb.org/2017/01/policy-recommendations-to-address-structural-vulnerabilities-from-asset-management-activities/.

importance for the development of domestic financial markets, often with a leading role in a range of market segments or certain types of market transactions. Pension funds have an important role in terms of connections with other segments of the domestic financial system. As a rule, the pension funds are an important institutional client of banks and other financial institutions (managing funds, insurance companies), thus exercising strong operational connection with other financial institutions. Pension funds may also be important investors in debt or equity instruments issued by financial institutions. It should be noted that the pension funds can sometimes play a strong role regarding the socially responsibility[189], with them often being able to affect and cause changes in the business behavior of other economic agents. All these aspects of the operation of the privately funded pension funds contribute to the importance of pension insurance from the aspect of financial stability maintenance.

In contrast, by their potential, private fully funded pension funds, as a rule, have a limited role to cause systemic risk within the financial system as a whole[190]. This should not be understood that private fully funded pension insurance has no systemic significance, since it is particularly important primarily from the aspect of the national social protection system. There are many reasons for the limited impact of private pension funds from the aspect of systemic risk in the financial system. Namely, the pension funds, as a rule, have extremely long investment horizons, with a relatively long duration of potential liabilities, they are not included in the maturity transformation of their liabilities, they do not have the opportunity to have cross-exposure from one to another fund, most often have a limit on the amount of debt which can use or accumulate and they can not be subject to opening and conducting a bankruptcy procedure. In addition, the need for instant liquidity is predictable, both from the aspect of the time of the cash outflows, as well as from the aspect of their volume. Also, one should not overlook the importance of the operational rules which pension funds need to follow during the creation of their investment policy and management of the pension funds' assets (such as diversification of the portfolio of various financial instruments, ebmeding within the investment policies of clear investments rebalancing rules, rules regarding investments in alternative asset classes, rules for the usage of the derivative financial instruments, etc.). Such operational rules, although micro prudential in their nature, have significant indirect macrofects, as well.

In 2019, the total assets in the private fully funded pension insurance system reached 11.1% of the gross domestic product[191] and on 31.12.2019 equaled Denar 77.6 billion, i.e. about Euro 1.26 billion[192]. **Our system of private pension insurance is still in the accumulating phase. For comparison, at the end of 2018, the total assets of pension funds in the EU member states amounted to Euro 3.8 trillion[193] and most of them operate with significant disbursements of funds to their members[194]**. Thereby, in the asset structure of the private fully funded pension insurance system, the mandatory pension funds prevail (with a share of 97.4%), as opposed to the

[189] If they invest according to the so-called ESG Criteria or if involved in practices of the so-called shareholder activism, which implies an impact on the management bodies causing a certain strategic change or attainment of a goal, without having a dominant or significant capital share in the company.

[190] According to the Banking Law, a systemic risk is a risk of disruptions in the financial system that tends to cause serious adverse effects on the financial system and the overall economy.

[191] As illustration, according to the latest available data about the OECD member countries, the assets in the various organizational forms where pension savings accumulate (all fully funded pension plans, including where they are in the form of pension funds), as a percentage of gross domestic product, in 2018, amounted from a minimum of 0.7% in Greece to a maximum of 198.6% in Denmark, and for all OECD member countries, expressed as an weighted average, with gross domestic product as weight, amounted 82.3% of the gross domestic product. Source: http://www.oecd.org/publications/oecd-pensions-at-a-glance-19991363.htm.

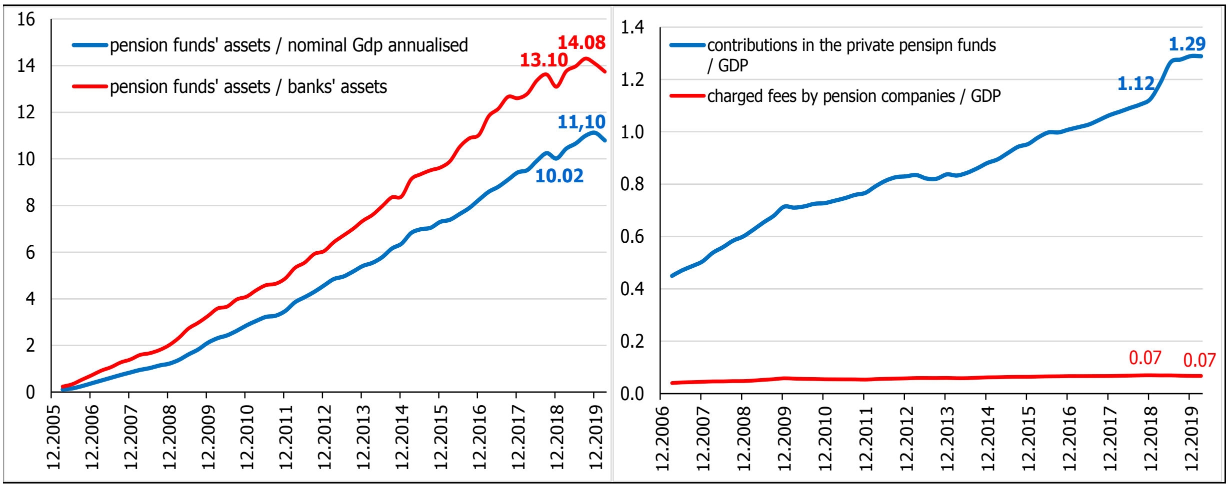
[192] For the calculation purposes in euro equivalent, the middle NBRNM exchange rate of the denar against the euro on 31 December 2019 is used.

[193] For pension funds in the EU, the total assets of the EU pension funds for which the EU Directive 2016/2341 on the Activities and Supervision of Institutional Retirement Provision (IORPS) is applied. Source of data, Financial Stability Report of EIOPA from June 2019, available at: https://eiopa.europa.eu/Pages/News/EIOPA-Financial-Stability-Report-June-2019.aspx.

[194] As illustration, according to the latest available data for OECD countries, payments of pensions and pension benefits from private pension plans, regardless of their organizational form, in 2018, on average for all OECD countries, accounted for 1.5% of gross domestic product, with the highest being registered in the Netherlands with 5.8%, the USA with 5.2%, Swetzerland with 5.1% and Australia with 4.7% of the gross domestic product. Source: http://www.oecd.org/publications/oecd-pensions-at-a-glance-19991363.htm.

minimal representation of the voluntary pension funds[195], which is mainly due to the mandatory character of the membership in this system for most of the new employees.

Chart 131
Dynamics of the relative size of the total assets volume of the private pension funds (left) and dynamics of the relative size of the contributions and charged fees in the private pension insurance system (right)
in %



Source: internal National Bank calculations based on MAPAS data. The GDP data are provided with the statement released by the State Statistical Office from 8.6.2020, where the GDP data for 2018 are preliminary, and for 2019 are estimated data.

The collected contributions by the private pension funds, which actually form the base for accumulation of individual members' assets, also increased their share in the GDP, reaching the historical maximum of 1.29% in 2019. Thus, in the structure of the contributions (which amounted to Denar 8,995 million in 2019), the contributions in the mandatory pension funds (which amount to 1.25% of GDP) prevail with a share of 96.6%, while in the voluntary pension funds this share is 3.4% (share in GDP up to 0.04%). The employee[196] is liable for the payment of the contributions to the mandatoru pension funds, which are calculated at a rate of 6% of the gross salary and are included in the rate of the total contribution for pension and disability insurance, which in 2019 was 18.4 % of the gross salary of the members[197]. The total rate of contribution for pension and disability insurance in our country is within this contribution rate in other countries[198], with the contribution rate intended for mandatory private pension insuranc slightly smaller compared with the same rate at other countries taking a smaller share in the gross domestic product[199],

[195] The size of the voluntary pension funds' assets is relatively moderate and amount to about Euro 32 million.
[196] According to this, the domestic mandatory pension insurance system falls into the category of personal pension plans, according to the OECD classification of pension plans depending on who establishes the membership and shall pay the contributions. In a number of countries, the employer also appears as a payer for the payment of pension insurance contribution, i.e. pension plans are based on the occupation, so called occupational pension plans. In the United States, for example, total pension and disability insurance contributions are 12.4% and are evenly divided between employee and employer. In Estonia, the total contribution to pension insurance is 22%, with the employee paying 2% and the employer pays the remaining 20%.
[197] The rate of the total contribution for pension and disability insurance in 2019 increased by 0.4 percentage points compared to 2018 when it was 18.0%. Starting from January 2020, the total contribution rate for pension and disability insurance increased by another 0.4 percentage points and amounted to 18.8%. These increases in the total contribution rate had exclusively fiscal effects, i.e. they were transmised as an increase of the part of the total contributions that are intended for the PDIF, while the share that goes to the mandatory pension funds did not change.
[198] According to the latest available data for OECD countries that have private mandatory pension insurance where the employee is liable to pay a contribution (such as the Macedonian system), the contribution rate ranges from 2% in Estonia to 11.2% in Chile, with an ordinary average of 5.3%. Source: https://www.oecd-ilibrary.org/docserver/b6d3dcfc-en.pdf?expires=1593732302&id=id&accname=guest&checksum=BAA18F9554B64590B2DDAA9A592931FB.
[199] According to the latest available data for some OECD countries, the contribution paid to the mandatory fully funded pension insurance in 2019, regardless of whether it is paid in privately or publicly managed pension plans and regardless of the division of the

while the level of contributions in the voluntary pension funds is drastically lower compared to payments in countries with higher per capita income or more developed financial markets[200].

The key stakeholders in the private fully funded pension insurance system are the members of the pension funds, including the retired members[201], who are owners of the pension funds' assets. At the end of 2019, the number of members in the mandatory pension funds was 507,556 whose annual growth was halved (3.6%) compared to the previous year (7.2% in 2018). Mandatory pension funds include 55.8% of the total number of employees, i.e. 30.1% of the working-age and 52.7% of the active population in the country[202]. This on the one hand indicates that the mandatory pension funds already have solid coverage of the population with membership, but also that there is still room for further increase, in part due to the natural replacement of the working age population, as well as in case of favorable labor market movements and reduction of the level of informal employment in the domestic economy. On the other hand, at voluntary pension funds, although the membership is growing at a slightly faster pace compared to last year (3.3% in 2019, compared to 2.5% in 2018), only a moderate 7.9% of the total number of employees, i.e. 1.5% of the working-age and 2.6% of the active population are members in the third pillar[203]. The relatively small interest of the domestic population for membership in the voluntary fully funded pension insurance after a decade of the start of its functioning, in fact shows that the conventional financial incentives for forming and usage of voluntary pension savings, through tax refunds or favorable tax treatment of realized investment inflows[204], are not a sufficiently strong motive for more dynamic increase of contributions in the voluntary pension pillars, especially by the household (individual members). Hence, in order to increase the role of voluntary pension insurance, perhaps some unconventional ways to encourage the population may be applied, by introduction of some solutions that have already been established in other

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contribution between the employee-payer and employer-payers, range from the lowest 2% in Norway to the highest 15.5% in Iceland. These contributions range from 0.3% of the gross domestic product in Poland and Austria to 9.8% of the gross domestic product in Iceland, with a regular average of 2.6%. Source: http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2019.pdf.

[200] To illustrate: According to the latest available data for those OECD countries that have a system of voluntary pension plans in place, contributions to voluntary pension plans, regardless of their organizational form, as a percentage of gross domestic product in 2018, range from the lowest 0.1% of the gross domestic product in Italy, up to the highest 0.9% of the gross domestic product in the Czech Republic.

[201] According to the regulation, as a retired member of the mandatory pension funds is considered a natural person who has exercised the right to a pension from the mandatory fully funded pension insurance through programmed withdrawals and has an individual account in a mandatory pension fund from which he withdraws funds, while as a retired member of voluntary pension funds is considered a natural person who has exercised the right to pension benefit from voluntary fully funded pension insurance through programmed withdrawals or multiple payments and has an individual and/or professional account in a voluntary pension fund from which he withdraws funds. Hence, those retirees who were not members of the private pension funds, but exercise the right to a pension exclusively through payments made at the expense of the PDIF, are not owners of their funds. Also, those persons who were members of a mandatory pension fund and retired without using programmed withdrawals, but through purchasing a lifetime annuity from a life insurance company, are not considered as a retired member of a mandatory pension fund, but as a client of the appropriate life insurance company.

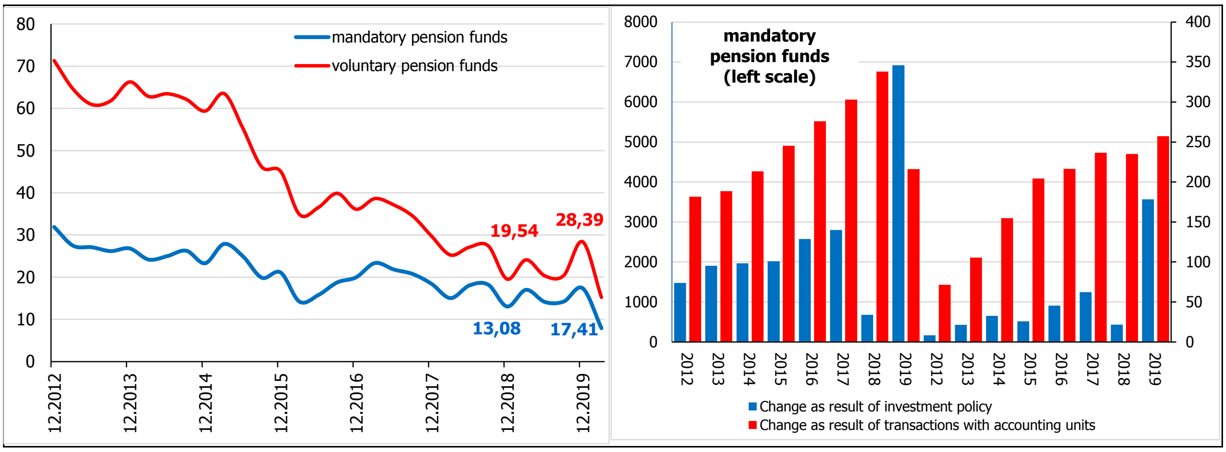
[202] The source of data for the total number of employees in the country, the working age population and the active population is the Labor Force Survey of the State Statistical Office, published on March 6, 2020.

[203] The total number of members in the voluntary pension funds on 31.12.2019 is 25,181 persons, of which about 60% are members through an employers' professional pension scheme and the rest are individual members.

[204] Typically, countries provide conventional incentives to encourage voluntary private pension insurance in the form of tax benefits, primarily to differentiate and make pension savings more attractive compared to a range of other savings products and alternatives available to the public, such as bank deposits, life insurance policies with savings component and investments in open-end investment funds. Preferential tax treatment can be in the form of exemption from tax base, right to a tax refund or through direct tax exemption. Pursuant to Article 158 of the Law on Voluntary Fully Funded Pension Insurance, no personal income tax is paid on the amount of contributions paid in the professional pension schemes for employees and for a taxpayer earning income from self-employment, up to four average monthly gross salaries. Also, in accordance with Article 158 of the Law on Voluntary Fully Funded Pension Insurance, the member of the voluntary pension fund who pays own funds to the individual accounts in the pension fund, which are previously taxed, is entitled to a personal income tax refund calculated on the amount of the paid contribution to the voluntary pension fund, which in total may not exceed four average monthly gross wages. Pursuant to Article 159 of the Law on Voluntary Fully Funded Pension Insurance, the income from investing the assets of the voluntary pension funds is not taxed, and the income from investing the assets of the voluntary pension funds, distributed on voluntary and professional accounts of the members is not taxed.

countries that have more developed private voluntary pension insurance[205].

Chart 132
Annual growth rate of the assets of the private pension funds (left) and structure of the absolute growth of net assets of the private pension funds (bottom, right)
in % and in millions of denars



Source: internal National Bank calculations based on MAPAS data.

In 2019, the growth of the private fully funded pension funds' total assets accelerated compared to the previous year (growth of 17.7% in 2019 compared to 13.2% in 2018). The annual increase was more dynamic at the voluntary pension funds (28.4%), while at the mandatory pension funds the annual growth rate reached 17.4%.[206]. The increase in growth rates is primarily because in the last quarter of 2018 on the global equity markets was registered downward price correction, and in the last quarter of 2019 there was a slightly more dynamic price growth, and accordingly, the market value of securities on an annual basis showed significant growth[207]. Compared to the last few years, in 2019, a significantly higher contribution to the increase of the net assets of the mandatory pension funds was made by the assets management and investment results[208], while the contribution of the effects of the transactions with accounting units was reduced[209]. This change also arise from the implementation of the amendments to legislation in 2019 for the mandatory fully funded pension insurance system, adopted in the last quarter of 2018, which referred to the membership criteria and set obligations for compulsory change of the

[205] Certain countries use financial incentives that are not directly related to the tax treatment of pension insurance, and are usually based on conditional payments, more often by the Government, but somewhere by employers, on the accounts of members of various pension plans who have made payments on their individual accounts. For example, the obligation for full or partial matching contributions by the employer is common in the United States, Iceland, New Zealand and Italy, the obligation for full or partial conditional matching contributions by the state is applied in Austria, Australia, Chile, Hungary, the Czech Republic, Mexico, New Zealand, Turkey and the United States and fixed nominal subsidies exist in Germany, Turkey, Mexico, Lithuania and Chile. Source: OECD.

[206] The net assets of the pension funds, which represent the difference between the assets and the liabilities of the pension fund, in 2019 increased by 17.5% with the mandatory pension funds and by 28.1% with the voluntary pension funds.

[207] Due to this, the mandatory pension funds in 2019 recorded net non-realized capital gain from investments in financial instruments in the amount of Denar 4,698.1 million and net realized capital gain in the amount of Denar 298.9 million (in 2018, Denar 1,072.5 million and Denar 63.7 million, respectively). Voluntary pension funds in 2019, recorded net non-realized capital gain from investments in financial instruments of Denar 138.7 million and net realized capital gain of Denar 5.5 million (in 2018, Denar 12.2 million and Denar 2.7 million, respectively).

[208] The increase in the net assets of the pension funds due to the asset management and investments includes the net realized profit or loss from the investments, including dividend income and interest, unrealized gain or loss (including the effect of exchange rate differences) by the assets that according to IFRS 9 are measured at fair value through profit or loss and the effect of changes in revaluation reserves of assets that according to IFRS 9 are measured at fair value through other comprehensive income (in accordance with IAS 39 these assets were referred to as 'available-for-sale financial assets').

[209] The increase in net assets of pension funds due to transactions with accounting units includes inflows based on contributions paid by fund members, inflows or outflows based on change of membership, including due to termination of membership according to law and outflows based on the payments of pensions or pension benefits to the members.

membership of individuals belonging to certain categories[210]. This caused a significant transfer of assets from the mandatory pension funds to the PDIF during 2019. In this manner, the most significant amount was transferred based on termination of membership under the law, which amounted to Denar 4,944 million and represents 99.3% of the total transferred funds to PDIF on all grounds[211], as well as almost 45% of the total collected contributions in 2019 by the mandatory pension funds. Hence, although the payments of contributions by the members of the mandatory pension funds in 2019[212] increased by 62% compared to 2018, still in 2019 the outflow due to the change of membership was extremely high, which caused a noticeable fall in the contribution of the transactions with accounting units in the growth of net assets of mandatory pension funds (from 90.9% in 2018 to 38.5% in 2019)[213]. Regarding the voluntary pension funds, the increase in net assets in 2019 is largely due to transactions with accounting units, i.e. cash inflows from contributions paid by members. However, compared to previous years, there is a decrease in the share of transactions with accounting units in the assets growth (from 91.6% in 2018 to 59.0% in 2019), which was mainly caused by the significant slowdown in new payments of contributions by the members[214]. Given that pension funds are still in the accumulating phase, the contribution of outflows for the payment of pensions and pension benefits to the formation of the change in net assets is still moderate and is not expected to be a limiting factor for the further increase of net assets of pension funds.

Review of the basis, manner and amount of payments of pensions and pension benefits from private pension funds

The starting point for regulating the payments from the pension funds is the Law on Payment of Pensions and Pension Benefits from the Fully Funded Pension Insurance. Given the relatively short period of operation of private pension funds, less than 15 years, but also given the age structure of members, so far there have not been larger payments from pension funds based on acquired pension rights, i.e. pensions from mandatory pension funds or pension benefits from voluntary pension funds. Consequently, the most common basis for the outflow from the pension funds so far, were actually the

[210] With the amendments to the Law on Mandatory Fully Funded Pension Insurance from December 2018, the membership of persons born before 1.1.1967 who had their first employment after 2003 ceased, which means closing their account by the pension company and transferring the accumulated funds to PDI Fund, and reflected with the termination of membership of 12,679 persons. The members of the mandatory pension funds who until 1.1.2019 during the pension insurance acquired the status of insured individual farmer and natural persons registered as self-employed individuals for retail trade at market stands and green markets, also terminated their membership in the mandatory fully funded pension insurance on January 1, 2019 by closing the account and transferring funds to the PDIF, which meant termination of membership of additional 2,612 persons. For persons born before 1.1.1967 who had their first employment before 2003 and who have voluntarily chosen to become members of the mandatory pension funds by concluding an appropriate membership agreement, the amendments to the law have determined the possibility of termination of their membership in the system of mandatory fully funded pension insurance, unless they themselves declare in writing for the extension of their membership in the mandatory pension funds until 30.9.2019. If such a written statement is not submitted by the prescribed deadline, their membership is terminated, their accounts are closed and the accumulated funds are transferred to the PDI Fund. Of these persons, 5,109 had their membership terminated, and 1,091 had signed a statement to renew their membership. The same procedure applied to insured persons who during the pension insurance had an insurance length of service which is considered to have an increased duration that allows lowering the age for exercising the right to an old-age pension for at least one year (so-called beneficial length of service), they had the right to choose whether to extend the membership in a mandatory pension fund by submitting a written statement no later than 30.11.2019. In this category, the membership was terminated by 4,308 individuals and 432 persons signed a statement for extension of the membership. In total, on all grounds determined by the legal changes, 24,708 persons had their membership in the mandatory pension funds terminated.

[211] The other grounds, because of which transfer of funds from the mandatory pension base to PDIF may arise, are: when exercising the right to disability or family pension, refund of previously paid contribution due to technical errors or overpayment by the employer and when terminating membership contracts or canceling allocation of members. Source: MAPAS report on the fully funded pension insurance in 2019.

[212] Source: audited financial statements

[213] The total change of the net assets of the mandatory pension funds due to the transactions with the accounting units in 2019 amounted to Denar 4,324 million (annual decrease of about 36%), while the inflows from paid contributions in 2019 amounted to Denar 11,227 million (Denar 6,920 million in 2018), while the outflows from membership change, including legal termination of membership and transfer of funds to PDIF amounted to Denar 7,066 million (Denar 147 million in 2018).

[214] The growth of the paid contributions in the voluntary pension funds in 2019 equals 1% (i.e. Denar 3 million), while in 2018 it was 11.4% (i.e. Denar 30 million).

transfers due to change of membership, as a result of the use of the right of the member to change membership from one pension fund to another or due to legaly prescribed obligation to change of the membership, as was the case with the outflows from the mandatory pension funds to PDIF during 2019. In addition to payment based on statutory pension rights, it is possible to pay the funds of the members in the private pension funds to their successors due to acquired rights.

Outflows **from the mandatory pension funds** on all grounds can be made through: programmed withdrawals of retired members[215], one-time payments based on old-age pension[216], one-time payments based on inheritance[217], otflows for transfers in the PDIF when exercising the right to disability pension[218], outflows for transfers in the PDIF when exercising the right to family pension of family members of a deceased member of the mandatory pension funds [219], outflows for transfer of funds to another pension fund when a member choses to change the membership and payment of the difference up to the minimum pension[220]. **Voluntary pension funds** can make payments based on programmed withdrawals, multiple payments, one-time pension payments, one-time inheritance payments, one-time disability-based payments, transfer of funds to another pension fund and return of erroneous payments.

Although the law provides for the possibility of payment of pensions or pension benefits through the purchase of annuities from insurance companies, with their financing through the transfer of accumulated funds from mandatory or voluntary pension funds, still this possibility does not work, due to the fact that none life insurance company has received a license to provide insurance from the appropriate insurance classes which include the sale of annuities[221]. Due to this, currently, the pension from the mandatory fully funded private pension funds can be paid only by the pension company through programmed withdrawals. This means that the members of the fully funded pension insurance system, after their retirement or other formal basis for acquiring the right to use the accumulated funds, will continue to be related with the asset allocation of pension funds and their realized rates of return. Pension benefit from voluntary fully funded private pension funds can be paid by the pension company through programmed withdrawals and through single payments or multiple payments. There

[215] Programmed withdrawals are a type of pension payment or pension benefit paid by the pension company for the rest of their life or while there are funds in the account of the pension fund member. The amount of the programmed withdrawals is calculated for the first time at the realization of the pension or the pension benefits, and then it is recalculated every 12 months. The payment of the programmed withdrawals ceases if the funds that the pension beneficiary has in its pension funds account are used, while in case of death of the pension beneficiary, if he still has funds in these accounts, they are subject to legal inheritance procedure.

[216] A single payment in case of an old-age pension is possible only by the mandatory fully funded pension insurance, i.e. when a member of the mandatory pension fund will not acquire the right to old-age pension according to the Law on Pension and Disability Insurance because he has not completed a minimum years of service of at least 15 years. Thereby, if the calculated pension amount calculated only from the accumulated funds in his mandatory pension funds' accounts, is less than 40% of the amount of the minimum pension, the pension company is obliged to make a one-time payment of the total accumulated funds, while if the calculated pension amount from the mandatory pension funds is greater than or equal to 40% of the amount of the minimum pension, the member has the right to choose between one-time payment or a pension only from the funds from the second pillar. This right is exercised at the age of 65 by a statement certified by a notary, that the member waives the right to a first pillar pension and the right to the lowest amount of pension.

[217] This case of one-time payment is possible when the deceased member of the mandatory pension fund does not have family members who are entitled to family pension, where the funds in the member's account become part of the inheritance and are treated in accordance with the Law on Inheritance.

[218] If the member has exercised the right to disability pension, the total amount of funds on the account of that member in the mandatory pension funds are transferred to the PDIF and the full payment of the disability pension is paid by the PDIF. An exception to this exists if the accumulated funds on the account of the member in the mandatory pension fund are higher than the amount required for the payment of the determined disability pension in accordance with the Law on Pension and Disability Insurance. In that case, the member may choose to use a pension from the mandatory pension funds.

[219] In case of death of a member of the mandatory pension fund, and members of his family are entitled to family pension, the total amount of funds on the account of that member in the mandatory pension funds is transferred to the PDIF and the full payment of the family pension is paid by PDIF. As an exception, if the accumulated funds on the member's account are higher than the amount required for the payment of the determined family pension in accordance with the Law on Pension and Disability Insurance, then the beneficiary of the family pension may choose to use a pension from the mandatory pension fund instead of that pension.

[220] If the sum of the pension through programmed withdrawals and the pension from the PDI Fund is less than the minimum pension amount in accordance with the Law on Pension and Disability Insurance, the pension company is obliged to increase the payment through programmed withdrawals, so that the sum of programmed pensions withdrawals and the first pillar pension to be equal to the amount of the minimum pension amount. The payment of the programmed withdrawal with this surcharge up to the amount of the minimum pension amount is made as long as there are funds on the individual account of the pension beneficiary in the mandatory pension funds.

[221] These are the life insurance classes defined in Article 5, paragraph 1 item 22 of the Law on Insurance Supervision - Tontina Insurance and Article 5, paragraph 1 item 23 of the Law on Insurance Supervision - Insurance of payment funds.

is also larger flexibility regarding the time when the payments of the funds in the voluntary pension insurance can start, i.e. the member can start using the funds at the earliest ten years before the age for acquiring the right to old age pension (currently 52 years for females, i.e. 54 years for males), and at the latest by the age of 70. In addition, the pension allowance can be used in case of general incapacity for work, regardless of the age of the member, as well as in case of death of the member as an inheritance in accordance with the law. At the same time, if the member has an individual and professional account, he / she may request merging of the funds from the two accounts for the purposes of payment of the pension compensation.

According to the data published by MAPAS, the total number of payment cases from the mandatory pension funds in 2019 was 245 (in 2018 there were 314 payment cases), of which most are family pensions with 104 cases (in 2018 this number equaled 135), one-time payment due to inheritance in 93 cases (in 2018 there were also 93 cases), disability pensions in 30 cases (in 2018 there were 51 cases) and one-time payment to member in 18 cases (in 2018 there were also 18 cases). In 2019 there were no new cases of payment of old-age pensions through programmed withdrawals (in 2018 there were 17 cases), but regarding the mandatory pension funds, so far a total of 31 members use programmed withdrawals as a method of payment of old-age pensions, which is neglectable compared to the total number of members. In the case of voluntary pension funds, the number of payment cases of pension benefits in 2019 equals 271 (in 2018 there were 281 cases). Of these, most, i.e. 198 cases are one-time payments to members (in 2018 there were 259 cases), 58 cases are multiple payments (in 2018 there were 9 cases), and in 15 cases the payment was inherited due to the death of a member (in 2018 there were 13 cases).

According to the data from the audited financial statements of the mandatory private pension funds, during 2019, the total amount of payments based on pensions of their members is 49.3 million of Denars (54.4 million of Denars in 2018), which is 0.4% of inflows from contributions during 2019 (0.8% of inflows from contributions in 2018). From the beginning of the functioning of the system of mandatory fully funded pension insurance (2005), until the end of 2019, the total amount of pension payments from the mandatory pension funds is Denar 277.8 million. The moderate amount of pension payments is that in the past ten years can be confirmed by the fact that their amount ranged from 0.03% to 0.08% of the total assets of the mandatory pension funds (on average 0.06%).

In voluntary pension funds, due to the more flexible payment options, the amount of paid pension benefits is somewhat larger. According to the data from the audited financial statements of the voluntary pension funds, during 2019, the total outflows due to pension benefits is 40.7 millions of Denars (59.9 millions of Denars in 2018), which is 13.7% of inflows from contributions during 2019 (20.3% of inflows from contributions in 2018). From the beginning of their functioning (2010), until the end of 2019, the total amount of payments due to pension benefits is Denar 176 million. The annual amount of such payments as a percentage of the total assets of the voluntary private pension funds ranged from 0.4% to 3.9% (average 1.8%).

The modeраtе relative size of the outflows from the private pension funds shows that they do not need much liquidity to settle the payments to the membership and that without much effort they can ensure it from the current collection of contributions.

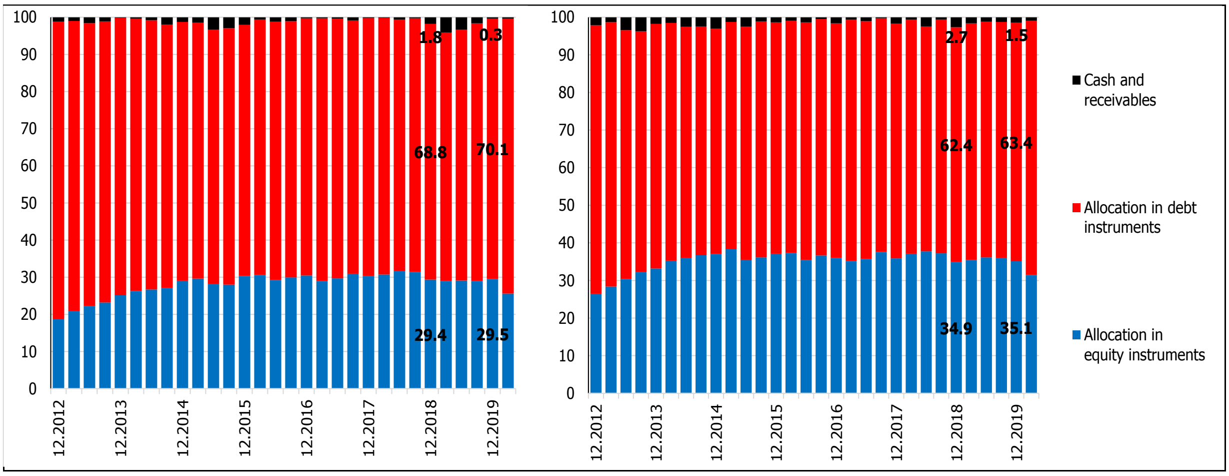
The moderate need for liquiduty, combined with the long investment horizon of pension funds and the fact that they do not make maturing transformation of liabilities during their activities, confirms that their risk ability is far greater than their risk willingness. Although in part this is a result of decisions made by pension companies in the management of pension funds, in a significant part arises from the set of regulatory requirements for investment of funds, which lead to insufficient degree of diversification of portfolios by classes of funds.

The strategic asset allocation is of key importance in the asset management of the private pension funds, and thus for the achiving of the goals of the fully funded pension insurance system. The investment policy of private pension funds, guided by the prescribed investing restrictions, primarily is aimed at investing in two general asset classes -

a portfolio of debt instruments and a portfolio of equity instruments (and in a "residual" category of operating character, consisting of the pension funds' receivables[222] and the cash with the bank that acts as custodian[223]).

The structure of assets of private pension funds as of 31.12.2019, as well as its dynamics over the years, leads to the conclusion that pension funds apply a similar strategic asset allocation, and thus have a similar exposure to investment risks. Mandatory pension funds follow the allocation between the two general asset classes in an approximate ratio of 70%: 30% in favor of debt instruments, while voluntary pension funds show a slightly higher bias for investments in equity instruments (about 35%). In the last seven years (according to the quarterly data frequency from 31.12.2012 to 31.12.2019), the allocation in equity instruments averaged 28.1% and 35.2%, for the mandatory and voluntary pension funds, respectively (with standard deviation of this share of 3.2 and 2.7 percentage points). On the other hand, for the same period, the allocation in debt instruments at the mandatory and voluntary pension funds averaged 70.6% and 63.1%, respectively (with standard deviation of the share of 3.3 and 2.5 percentage points). At the end of 2019, the pension funds increased their exposures in the two general asset classes compared to the end of the previous year, with this increase being slightly higher in the exposure to debt instruments.

Chart 133
Dynamics of the strategic asset allocation of the mandatory (left) and voluntary (right) pension funds
in %



Source: Internal National Bank calculations based on MAPAS data.

For comparison, according to the latest available data for 2018 on the structure of pension funds in the European Economic Area and the euro area, the share of the equity instruments is significantly larger[224], debt instruments have a much larger share of corporate bonds with a minimal share of bank deposits, and the alternative asset classes have a significant share, as

[222] The pension funds receivables mostly refer to the claims by the PDIF, but they can also be claims based on investments (for example: selling transactions of securities for which the settlement cycle has not been completed, given advances, accrued but unpaid interest, other accrued income, etc.) or claims on other pension funds (due to the transfer of assets upon change of membership).
[223] The collected contributions by the members are collected on the special purpose account for contributions opened with the custodian bank. The pension funds at the custodian bank also have special purpose accounts for investments in denars and in foreign currencies, on which the cash leg on the investment transactions in financial instruments in the country and abroad are performed.
[224] According to the latest available data from the EIOPA Financial Stability Report from December 2019, the share of equity instruments in the structure of pension funds' assets in the European Economic Area at the end of 2018 is 30%, and for the euro area it is 34%.

well[225], but are completely absent in the domestic pension funds. Thereby, the average share of the government securities portfolio in the assets structure is significantly lower[226], in contrast to the domestic private pension funds where they are the dominant instrument. These differences arise from the different approach to investment and management of pension funds by domestic pension companies compared to pension companies in EU or OECD countries, including more up-to-date regulations concerning pension funds in individual EU or OECD countries, which takes into account differences in the characteristics and preferences of individual members and the need for greater flexibility in the management of pension savings. As a result, **there is a significantly higher degree of diversification of pension funds' assets in EU member states compared to domestic pension funds, where the concentration of assets, and thus the risk factors that determine their performance, is quite pronounced.**

Within individual asset classes, the allocation of debt financial instruments by type of financial instrument shows similarities between mandatory and voluntary pension funds. Dominant part of the investments in debt securities are in domestic government bonds, with participation in the total portfolio of debt instruments at the end of 2019 of 83.9% in the mandatory pension funds (annual growth of the share by 0.5 percentage points), i.e. 74.7% in the voluntary pension funds (annual decrease of the share by 0.7 percentage points)[227]. Second by volume are the deposits at domestic banks with participations of 15.6% and 23.6% of the total portfolio of debt instruments of the mandatory and voluntary pension funds, respectively (with annual change of -0.5 and 0.3 percentage points, respectively)[228]. At the end of 2019, the structure of the portfolios of debt instruments lacks investments in foreign government or foreign corporate bonds, while only a small part of the assets are invested in foreign investment funds that invest in bonds[229], as well as in domestic investment funds that invest in instruments on the money market[230]. With the emergence of corporate bonds in the domestic capital market, some of the pension funds "enriched" the structure of the portfolio of debt instruments in 2019, by investing in domestic corporate bonds[231].

[225] Alternative asset classes include investments in assets that does not represent equity instruments or conventional debt instruments, such as investments in gold and other precious metals, other commodities, direct investment in real estate, hedge funds, infrastructure funds, direct investment in loans, real estate investment funds, etc.). According to the latest available data from the EIOPA Financial Stability Report from December 2019, the share of alternative asset classes in the structure of pension funds' assets in the European Economic Area, as well in the euro area, at the end of 2018 is 16%.

[226] According to the latest available data from the EIOPA Financial Stability Report from December 2019, the share of government bonds in the structure of pension funds' assets in the European Economic Area at the end of 2018 is 34%, and for the euro area is 27%.

[227] The share of domestic government bonds in the total assets on 31.12.2019 equals 58.9% in the mandatory pension funds and 47.4% in the voluntary pension funds.

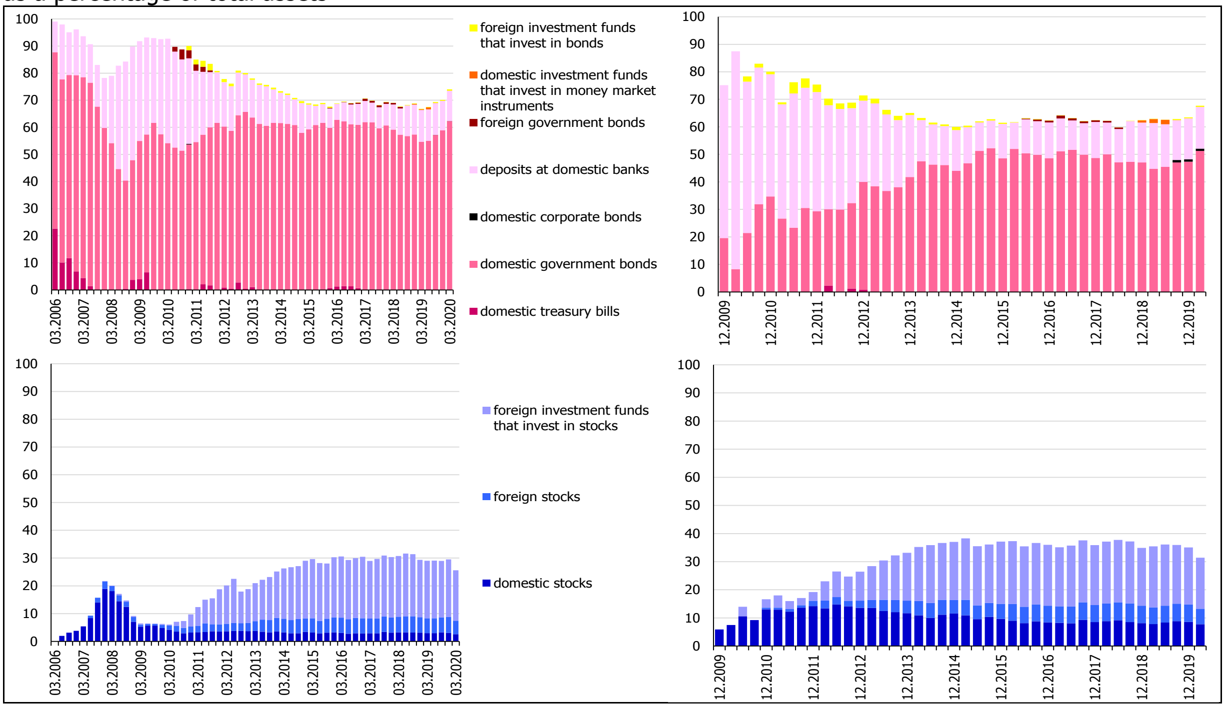
[228] The share of deposits at domestic banks in the total assets on 31.12.2019 equals 10.9% in the mandatory pension funds and 14.9% in the voluntary pension funds.

[229] The share of foreign investment funds that invest in bonds in the total portfolio of debt instruments on 31.12.2019 equals 0.5% in the mandatory pension funds and 0.5% in the voluntary pension funds.

[230] The share of domestic investment funds that invest in money market instruments in the total portfolio of debt instruments on 31.12.2019 equals 0.03% in the mandatory pension funds, while the voluntary pension funds on 31.12.2019 do not have such investments.

[231] The share of investments in domestic corporate bonds in the total portfolio of debt instruments on 31.12.2019 equals 0.01% in the mandatory pension funds, i.e. 1.28% in the voluntary pension funds. It is a perpetual bond (i.e. a bond with no maturity), which, by its essential characteristics, is closer to a share than to a conventional bond. This bond is issued by a domestic bank and for the purposes of calculating the capital adequacy meets the prescribed conditions for inclusion in the additional Tier 1 capital. The bond is an unsecured, non-cumulative, non-convertible, transferable and subordinated bond, with a semi-annual fixed interest rate of 9% for the first five years after its issuance, i.e. 11% after the expiration of this term, the interest payment can be canceled on a basis of discretionary decision of the issuer, and in the event of a predefined so-called critical event its principal also may be reduced.

Chart 134
The portfolio of debt instruments of the mandatory (top, left) and voluntary (top, right) pension funds and the portfolio of equity instruments of the mandatory (bottom, left) and voluntary (bottom, right) pension funds
as a percentage of total assets



Source: Internal National Bank calculations based on MAPAS data.

At the end of 2019, within the portfolio of equity instruments, the prevailing postion have investments in foreign investment funds that invest in stocks, with participations of 70.3% and 57.8% in the total portfolio of equity instruments of mandatory and voluntary pensions funds, respectively[232] (with an annual change of 0.1 and 1.1 percentage points, respectively). The remaining part of the portfolio of equity instruments is allocated directly in stocks, with the mandatory pension funds having a slightly higher portion of shares from foreign issuers, while the voluntary pension funds have larger portion of domestic issuers' shares.[233]. The dominance of the investment fund investments in the total equity instruments actually is reflection of the pension companies' choice to apply mostly passive equity portfolio management[234]. In the portfolio of equity instruments, there is a more pronounced bias to invest in domestic equity instruments with voluntary pension funds compared to mandatory ones. This to some extent can be explained by the moderate investment capacity of voluntary pension funds, which makes the costs per unit invested (transactional costs and management costs of investment funds) relatively significant.

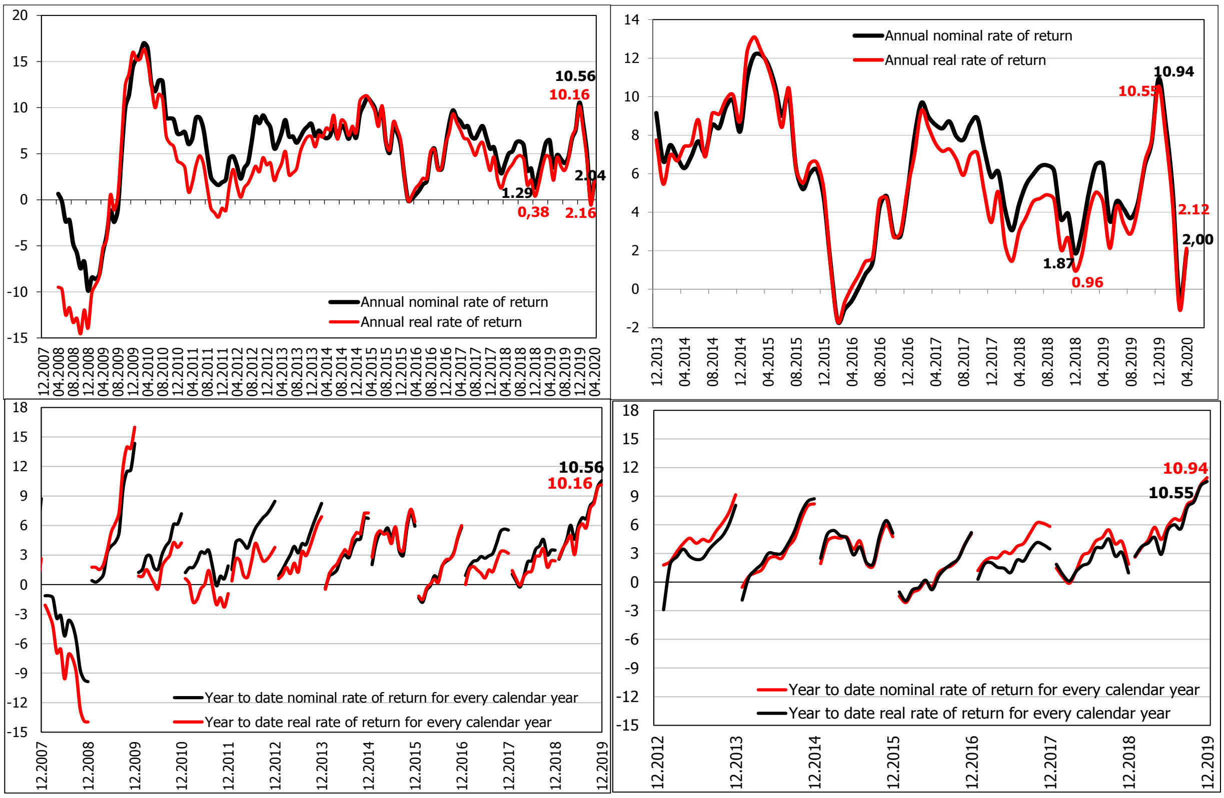
[232] The share of foreign investment funds that invest in stocks in the total assets of pension funds on 31.12.2019 equals 20.8% for the mandatory and 20.3% for the voluntary pension funds.
[233] The share of stocks by foreign issuers in the total portfolio of equity instruments on 31.12.2019 equals 19.4% for the mandatory pension funds and 17.7% for the voluntary pension funds, while the share of stocks by domestic issuers equals 10.3% and 24.5% for the mandatory and voluntary pension funds, respectively.
[234] For illustration, one of the pension companies, for both pension funds it manages the entire portfolio of foreign equity instruments had allocated in investments in investment funds. On the other hand, another pension company directly invests part of the funds' assets it manages in stocks by foreign issuers, which shows that for a part of the foreign owned financial instruments it applies active equity portfolio management. The third pension company started managing a mandatory pension fund in the second quarter of 2019, hence, manages a relatively small volume of assets compared to the other two pension companies. This explains the moderate share of the equity instruments (comprised by domestic stocks) in the total assets of pension funds only by 0.4% as of 31.12.2019.

The growth of the prices of equity instruments in 2019 had a positive impact on the movements of the pension funds' rates of return[235]. During 2019, the annual rates of return of pension funds increased significantly, so that at the end of the year, for the first time since the crisis of 2009, both nominal and real rates of return were in double digits. Namely, the movements on the global markets for equity instruments, especially the fact that the last quarter of 2018 had downward correction of price levels, and the last quarter of 2019 had accelerated price growth, led to the annual weighted[236] nominal rate of return on mandatory pension funds of 10.56% at the end of 2019 (which is an increase of 9.27 percentage points compared to the end of 2018), and voluntary pension funds of 10.94%[237] (which is an increase of 9.07 percentage points compared to the end of 2018). Given the low inflation rate in 2019, the real annual yield also had accelerated growth up to 10.16% and 10.55% for the mandatory and voluntary pension funds, respectively[238].

Chart 135

Dynamics of nominal and real realized annual rates of return, for mandatory pension funds (top left) and for voluntary pension funds (top right) and year to date return rates for the calendar years, for mandatory (bottom left) and voluntary pension funds (bottom right)

in %



Source: Internal calculations of the National Bank according to the value of the accounting unit published in the monthly and quarterly statistical reports of MAPAS.

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235 The Law on Mandatory Fully Funded Pension Insurance and the Law on Voluntary Fully Funded Pension Insurance stipulate that the nominal return is equal to the change in the value of the accounting unit in the analyzed period. The real rates of return are obtained when the nominal rates of return in the analyzed period are reduced by the realized inflation rate for the same analyzed period.

236 The share of the assets of the individual pension funds in the total assets is used as a weight in the calculation of the rates of return.

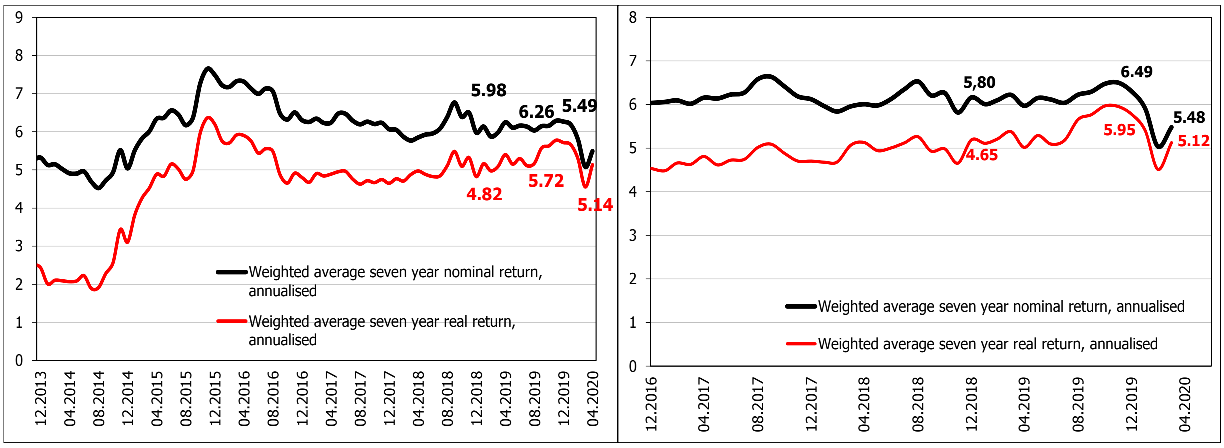
237 By individual pension funds, the annual nominal rates of return are: 10.69% for "Sava Pension Fund", 10.99% for "KB First Mandatory Pension Fund", 10.93% for "Sava Pension Plus" and 10.82 % for "KB first voluntary pension fund". "Triglav Pension Fund" started operating in 2019.

238 By individual pension funds, the annual real rates of return are: 10.3% for "Sava Pension Fund", 10.59% for "KB First Mandatory Pension Fund", 10.54% for "Sava Pension Plus" and 10.43 % for "KB first voluntary pension fund".

Nominal rates of return, calculated for a period of seven years and annualised, on 31.12.2019 are equal to 6.28% for mandatory and 6.49% for voluntary pension funds[239], and compared to the end of 2018, they increased by 0.30 and 0.69 percentage points, respectively. The real return calculated for a seven-year period and annualised, at the end of 2019 equals 5.72% and 5.95% for the mandatory and the voluntary pension funds, respectively[240].

Given that pension funds have long-term investment horizons, the effects of the turmoil in the financial markets due to the consequences of the global pandemic of COVID-19, it is best to be analyzed through the decrease in seven-year yields reduced on an annual basis in the first quarter of 2020. Thus, the mandatory pension funds has registered quarterly decrease in the seven-year nominal return annualised, (31.3.2020 compared to 31.12.2019) by 1.19 percentage points, while for voluntary pension funds this decrease is 1.46 percentage points. However, in April 2020 already, the first signs of recovery in the global financial markets are registered, which is reflected adequately on the dynamics of the rates of return of the pension funds.

Chart 136
Dynamics of the nominal and real realized rates of return for a period of seven years, annualised, for the mandatory pension funds (left) and for the voluntary pension funds (right)
in %



Source: Internal calculations of the National Bank according to the value of the accounting unit published in the monthly and quarterly statistical reports of MAPAS.

For the entire period of functioning of the mandatory pension funds, since their founding (in January 2005) until 31.12.2019, they have realized nominal and real weighted rate of return, annnualised, of 5.64% and 3.83%[241], respectively. On the other hand, slightly higher are the weighted nominal and real rates of return of voluntary pension funds, from the beginning of their founding (second half of 2009) until 31.12.2019, annualised, which equals 6.14% and 4.75%, respectively[242]. The reason for this difference in yield rates, in addition to small deviations in the strategic allocation by asset classes, stems from the fact that voluntary pension funds "skipped" the period of the global financial crisis.

[239] By individual pension funds, the nominal rates of return, calculated for a period of seven years and annualised, on 31.12.2019, are equal to: 6.32% for "Sava Pension Fund", 6.30% for "KB first mandatory fund", 6.80% for "Sava Pension Plus" and 6.18% for "KB First Voluntary Pension Fund".
[240] By individual pension funds, the real rates of return, calculated for a period of seven years and annualised, on 31.12.2019, are equal to: 5.77% for "Sava Pension Fund", 5.75% for "KB first mandatory fund" , 6.24% for "Sava Pension Plus" and 5.64% for "KB First Voluntary Pension Fund ‟.
[241] By individual mandatory pension funds, the nominal and real rates of return from its founding until 31.12.2019, reduced on an annual basis are: 5.57% and 3.76% for "Sava Pension Fund", 5.73% and 3.92 % for "KB First Mandatory Pension Fund" and 2.10% and 2.00% for "Triglav Pension Fund".
[242] By individual voluntary pension funds, the nominal and real rates of return from its founding until 31.12.2019, reduced on an annual basis are: 6.20% and 4.87% for "Sava Pension Plus" and 6.08% and 4.62 % for "KB First Voluntary Pension Fund ‟.

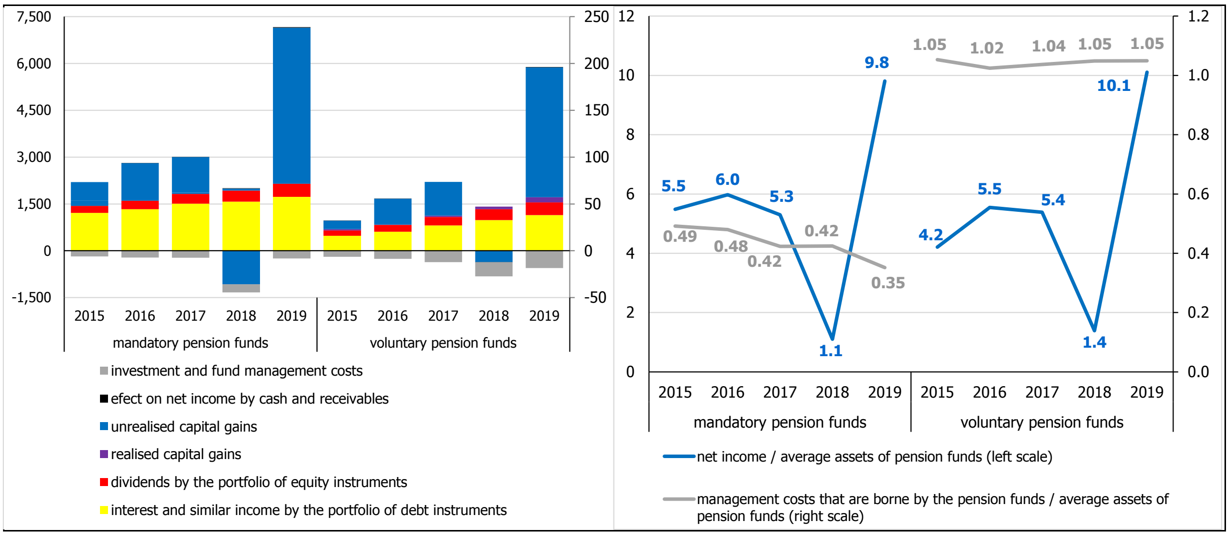
However, this trend of growing returns ceased in 2020 due to the shock caused by the global COVID-19 pandemic on the movements in the financial markets, primarily in the equity markets. The strong reactions of the monetary authorities from the developed countries regarding the liquidity were aimed at stabilizing the movements in the global markets and gradual recovery. Nevertheless, the uncertainty about the extent and duration of the global economy recession due to the pandemic is extremely high, so there is a high probability of significantly lower returns of the pension funds in the current 2020 compared to 2019, and may even be negative. Still, as already mentioned, one should have in mind that the natural investment horizon of pension funds is long-term, so that the current negative market movements and return reductions should not be a risk factor that would jeopardize the long-term results of the funds. The greatest risk of global market developments in 2020 and their effects on pension fund assets could actually be felt by those members of the system who would eventually retire during this calendar year or for any other reason their assets would be paid from pension funds. **By following a single strategy for investing and allocating assets by classes for all members, domestic pension funds do not take into account the change in the preferences of individual members depending on how the remaining time until retirement of members changes.** Consequently, the investment of assets is not adjusted according to the change in the human capital of individual members[243] in a function of time. The most common practical approach to overcome this is the creation of lifecycle funds, in which the portfolio of assets is automatically adjusted[244], in paralel with the shortening of the time horizon available for investing. Thus, the negative market episodes themselves may be the reason and motive for introducing innovations and modern experiences in the regulation, which would increase the protection of the interests of the members as they approach the retirement age.

In the structure of the net income of the pension funds, in 2019 there were significant shifts towards increase in the contribution of unrealized capital gains. Unlike last year, when market movements caused unrealized capital losses from pension fund investments, in 2019, unrealized capital gains formed 67.9% and 78.0% of the total profit of mandatory and voluntary pension funds, respectively. The other components of the net income of the pension funds show a relatively stable contribution in its formation, and both in the mandatory and voluntary pension funds, as the second most important component in the formation of the net income, are interest and similar income from the portfolio of debt financial instruments.

[243] The time left until retirement is an important parameter for the formulation of investment strategies because it has a proportional relation with the human capital of the person. Theoretically, at the time of retirement, the human capital of each individual is considered to be fully spent, i.e. equal to zero.

[244] This automatic adjustment means that the total pension funds' assets are structured in several sub-portfolios depending on the years left until the retirement of the members and the expected risk of each sub-portfolio decreases as the members of the respective group (so-called cohort) approach their expected date of retirement. This approach takes into account the indisputable fact that the aging process of individual investors leads to a change in their personal wealth with the decline of their human capital, and as a result, their attitude towards investment risk changes in the direction of increased aversion.

Chart 137
Components of the net income of the pension funds (left) and indicators for the investing results and asset management of the pension funds (right)
in %



Source: Audited financial statements of mandatory and voluntary pension funds for 2019.
Note: The net income of the pension funds does not include the effect of revaluation of financial instruments measured at fair value through other comprehensive income. Average assets are calculated as the average for the so-called trailing twelve months period (TTM), based on a series of quarterly data.

The increase of the unrealized capital gains from the investments of the pension funds during 2019, caused improvement of the ratio of the net income with the average assets as a basic indicator for the return on assets (the ratio is analogous to the ROAA at the banks). At the end of 2019, with mandatory pension funds this rate of return on assets reached 9.8% (annual growth of 8.7 percentage points), and 10.1% with voluntary pension funds (annual growth of 8.7 percentage points). Thus, in 2019, the three-year trend of reducing the return on assets of pension funds ceased. Thereby, the ratio of the asset management costs that are borne by the pension funds[245] with their average assets, in 2019 decreased in the mandatory pension funds (by 0.1 percentage point), while in the voluntary pension funds remained at the same level as in the previous year. This shows **that the improvement of the return on assets was not accompanied by an equal degree of improvement in the operational efficiency of the asset management at individual pension funds**, and, especially with voluntary pension funds, there is significant room for its further improvement.

Analyzed by separate asset classes, the largest contribution to the formation of the return on assets of private pension funds in 2019 had the portfolio of equity instruments. On the other hand, the portfolio of debt instruments, although has a relatively more stable contribution in the creation of return on assets of private pension funds, primarily due to the reduction of coupon rates on government securities, still recorded a downward trend.

[245] The Law on Mandatory Fully Funded Pension Insurance, as well as the Law on Voluntary Fully Funded Pension Insurance, regulate the distribution of costs for investment and asset management between pension funds and the pension companies (companies that manage with pension funds), i.e. determine which costs are borne by the pension fund.

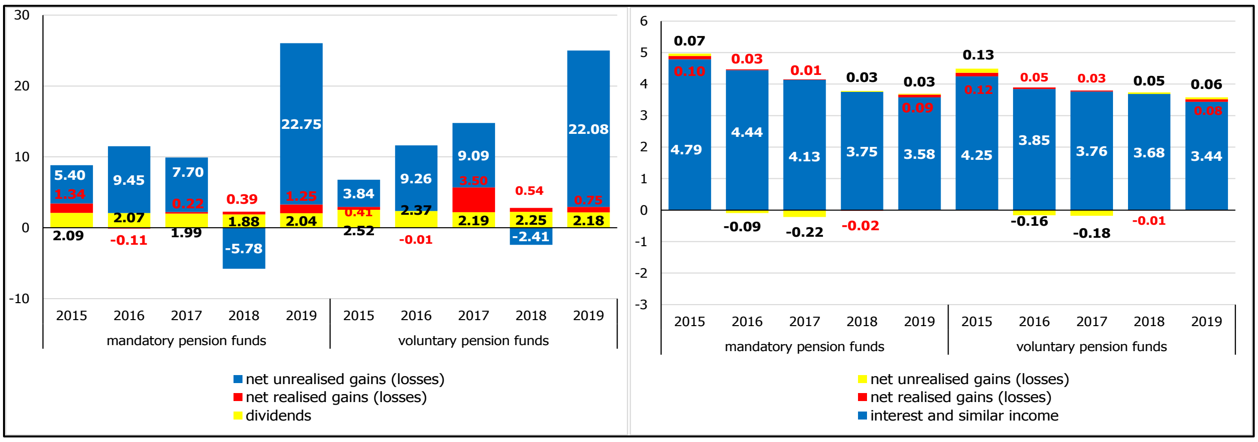
Table 6
Decompoition of the rate of return of private pension funds, by asset classes
in %

Contribution in return of average assets of pension funds by assets classes	Mandatory pension funds					Voluntary pension funds				
	2015	**2016**	**2017**	**2018**	**2019**	**2015**	**2016**	**2017**	**2018**	**2019**
contribution in ROAA of the portfolio of equity instruments	2.57	3.44	2.99	-1.08	7.60	2.49	4.24	4.17	0.14	8.88
contribution in ROAA of the portfolio of debt instruments	3.41	3.01	2.73	2.58	2.53	2.76	2.33	2.27	2.30	2.25
efect to ROAA by cash and receivables	0.00	0.01	0.00	0.03	0.02	0.01	0.01	-0.02	0.00	0.02
negative efect to ROAA from management costs	-0.49	-0.48	-0.42	-0.42	-0.35	-1.05	-1.02	-1.04	-1.05	-1.05
Net income / Average assets of pension funds	**5.48**	**5.98**	**5.30**	**1.10**	**9.81**	**4.21**	**5.55**	**5.39**	**1.39**	**10.11**

Source: Internal calculations of the National Bank, based on the published data from MAPAS and data from the audited financial statements of the mandatory and voluntary pension funds.
Note: The contribution in the creation of the rate of return on assets classes is calculated using average assets of pension funds, and the average is done with trailing twelve months on a series of quarterly data. The calculation does not include the effect of revaluation of financial instruments measured at fair value through other comprehensive income.

Different drivers influence the creation of the return on certain asset classes of private pension funds. Thus, in the portfolio of debt instruments, the return primarily arises from the share of interest income that on a regular basis arises from the instruments included in this portfolio, primarily government securities and deposits. In contrast, in the portfolio of equity instruments, the greatest effect on return arises from unrealized capital gains or losses, which shows the importance of price risk, i.e. market movements in global and domestic capital markets. In 2019, the dividend yield from equity instruments equaled 2.04% in the mandatory pension funds and 2.18% in the voluntary pension funds, which is within the average of dividend yield in the last five years. According to the type of financial instruments included in the portfolio of debt instruments, government securities have the largest contribution to the return (86.3% at mandatory and 75.5% at voluntary pension funds in 2019), followed by deposits (12.7% at the mandatory and 22.2% at the voluntary pension funds in 2019). In the portfolio of equity instruments, most of the return is a result of investments in foreign equity instruments (89.1% at the mandatory and 79.4% at the voluntary pension funds in 2019).

Chart 138
Decomposition of the rate of return on individual asset classes by appropriate components that contribute to its creation, for the mandatory pension funds (left) and for the voluntary pension funds (right)
in %



Source: Internal calculations of the National Banks based on the published data from MAPAS and the data from the audited financial statements of the mandatory and the voluntary pension funds.
Note: The contribution of the individual components in the creation of the return on assets classes is calculated using average investment of pension funds by asset classes, and the average is done with trailing twelve months on a series of quarterly data. The calculation does not include the effect of revaluation of financial instruments measured at fair value through other comprehensive income.

The higher realized rates of return on equity instruments are mainly due to investments abroad, but quite expected, they also show significantly higher volatility. Pension funds have the lowest rates of return on investment in deposits in domestic banks.

Table 7
Rates of return of selected types of financial instruments in which private pension funds invest
in %

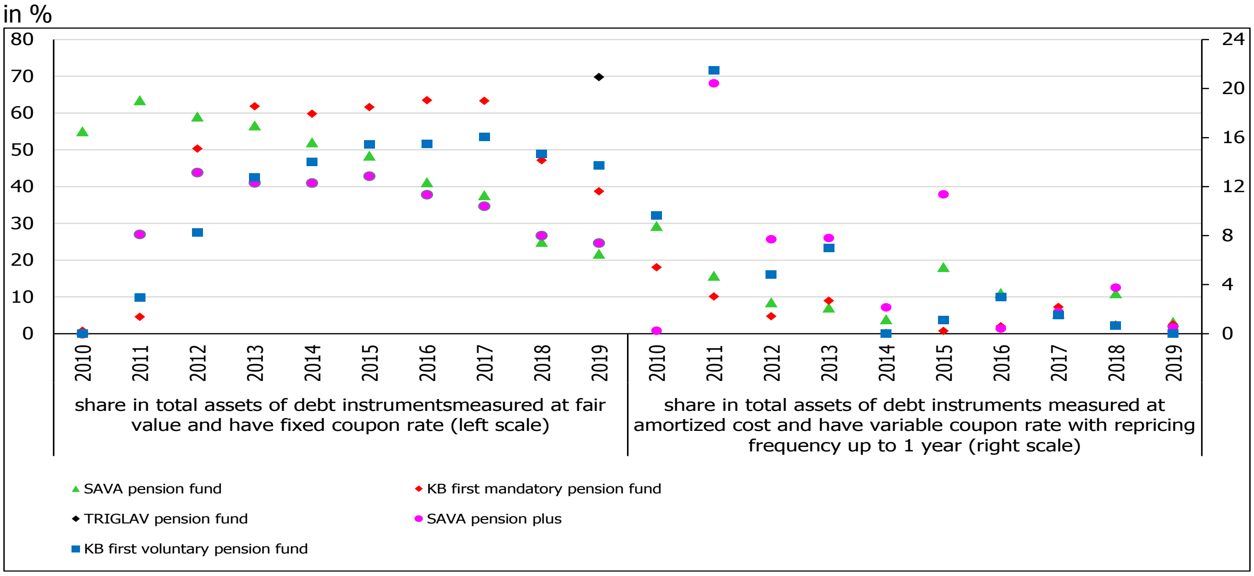
Rate of return	Mandatory pension funds					Voluntary pension funds				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
domestic government securities	5.02	4.47	4.12	3.95	3.84	4.43	3.90	3.84	3.97	3.74
deposits in domestic banks	4.56	3.45	3.04	3.00	2.81	4.41	3.08	3.06	3.11	3.34
domestic stocks	5.10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

Source: Internal calculations of the National Banks based on the published data from MAPAS and the data from the audited financial statements of the mandatory and voluntary pension funds.
Note: The rate of return of particular types of financial instruments is calculated using average investment of pension funds by type of financial instrument, and the average is done with trailing twelve months on a series of quarterly data. The calculation does not include the effect of revaluation of financial instruments measured at fair value through other comprehensive income.

For the portfolio of debt instruments of domestic pension funds, their accounting classification and measurement (by amortized cost or by fair value) has a specific significance. Namely, the accounting classification and measurement determines on which risk factors the value of the debtor financial instruments will depend on, i.e. the pension funds' performance. If the amortized cost is used as a basis for measurment of the debt instruments' value, the key risk factor that determines the performance in fact is the credit risk of the instrument' issuer, while changes in the market yield curve are irrelevant in determining the amortized cost of the debt instruments. As a contrast, if the fair value is used as the basis for measurment of debt instruments, the changes of their value depends on the changes of bond market prices, due to which the movements in the market yield curve and changes in market risk premiums become key risk factors that affect performance. **The structural**

characteristics of domestic pension funds' portfolio of debt instruments according to the accounting classification and measurment, and thus according to the impact of changes in market interest rates on their value, show larger share (55.2% at the end of 2019) of the instruments that are measured at amortized cost, which indicates greater importance of the credit risk in the overall risk profile of these entities.

Chart 139
Share of the debt instruments portfolio in the total assets, by pension fund, in terms of interest rate risk exposure

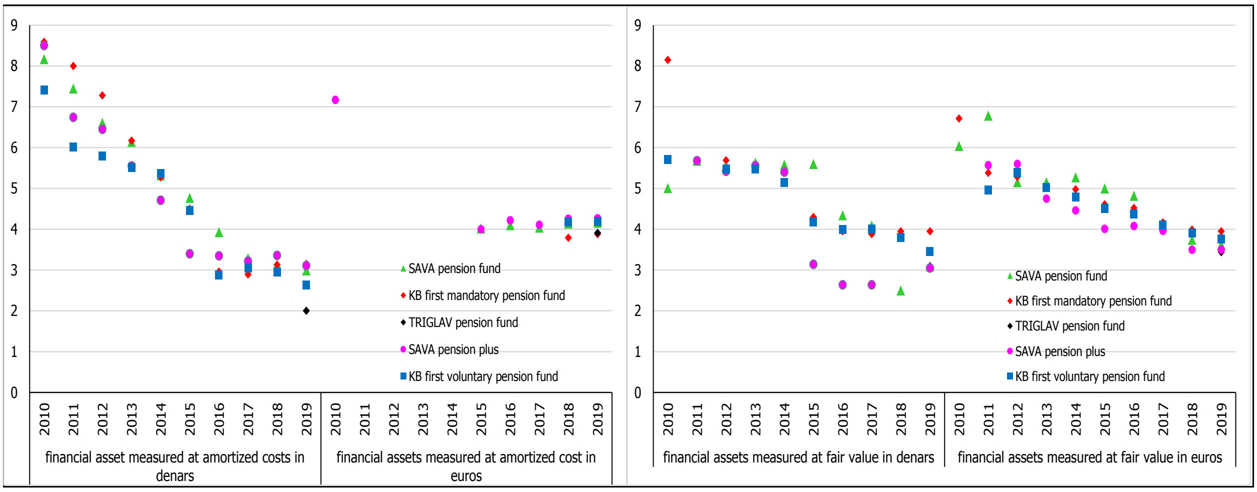


Source: Internal calculations of the National Bank according to the regular periodic data disclosures by the pension companies

The direct effect of the interest rates changes on the pension funds' portfolio of debt instruments would be reflected on the its part which is measured at fair value. From the aspect of the relative exposure to interest rate risk, in 2019 there is a visible continuation of the downward trend of the share of the debt instruments measured at fair value with a fixed coupon rate in the domestic pension funds' total assets, **reflecting domestic pension funds' preferences for reducing the riks exposure to value changes of portfolio of debt instruments due to market interest rates' movements**. However, the interest rate changes may also have an indirect effect on the volume of interest income expected from new pension funds' investments. Due to this, the interest rates level has an indirect impact on the outcome of the management of the part of the debt instruments portfolio held to maturity, primarily due to the reinvestment risk. Although this risk does result in direct effects from the market interest rates' changes on the portfolio value due to its recording at amortised cost, it still reduces the amount and relative importance of interest income. In domestic pension funds, a relatively small part of the portfolio of debt securities measured at amortized cost has a variable coupon rate with repricing frequency within one year. Hence, the reinvestment risk is more significant with the new inflows of contributions that with inflows realized from the current portfolio of debt instruments measured at amortized cost. **On the other hand, given that most of the portfolio of debt instruments measured at amortized costs has fixed coupon rates (97.3% and 99.1% for mandatory and voluntary pension funds, respectively), it may be concluded that domestic pension funds prefer to clasify debt instruments in a way that would optimize the level of acceptable risk of direct change in the portfolio value due to market interest rates movements.**

The effective yields on the portfolio of debt instruments are higher, for those instruments measured at amortized cost. Given that in 2019 the trend of decreasing interest rates on the primary market of domestic government securities continued, there is a constant decrease in effective yields on debt instruments in denars. At the same time, the effective yileds on debt financial instruments in denars are lower than the effective yields on debt instruments in euro. This can be explained by the fact that most government bonds with original maturities of 10 years, 15 years or 30 years, and which have higher coupon rates compared to other debt instruments, are nominated in denars with euro clause and consequently, cause higher effective yields in euro compared to denar effective yields.

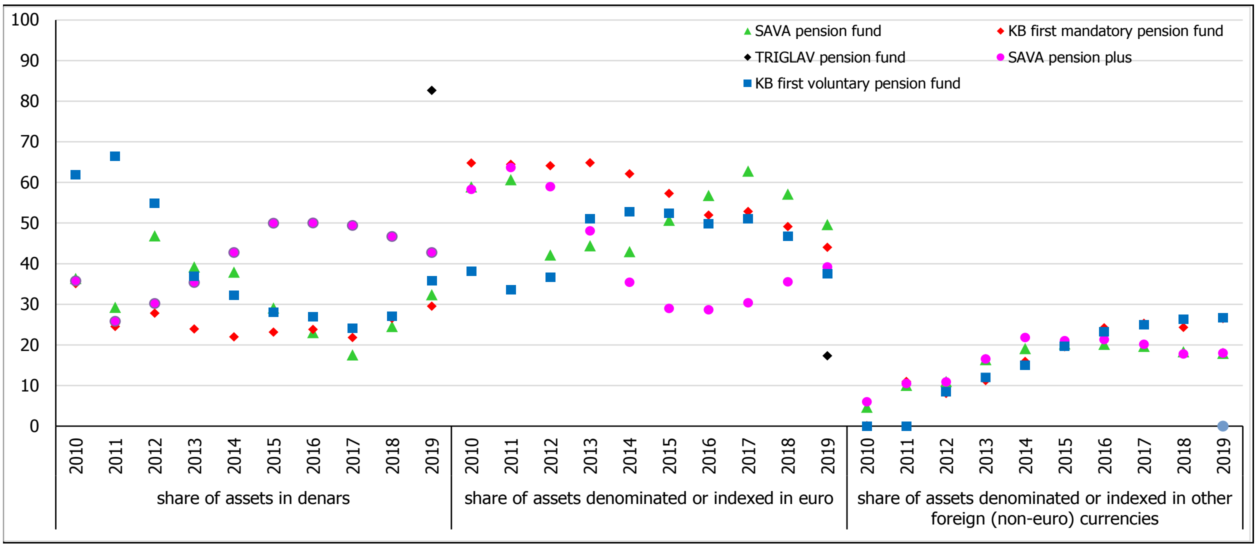
Chart 140
Effective yields on debt instruments, by currency and by individual pension fund, for those debt instruments measured at amortized cost (left) and for those debt instruments measured at fair value (right)
in %



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

The most common currency in the total assets of domestic pension funds is the euro (including positions in denars with a euro clause). The exposure to currency risk is slightly higher at mandatory pension funds, compared with voluntary pension funds. With the exception of the newly formed mandatory fund, among the others, between 37.5% and 49.7% of the net assets are euro-denominated or indexed in euros. Thereby, most of the assets in euros belong to domestic bonds in denars with euro clause (90.2% and 86.1% in the mandatory and voluntary pension funds, respectively). The potential materialization of the currency risk is minimal, given the maintenance of a de facto fixed exchange rate of the denar against the euro. Besides the euro, the second currency by imporatance for pension funds is the US dollar, whose exposure arises mainly from investments in equity instruments. Unlike the assets in euros, for the assets in dollars, there is always the possibility for materialization of the currency risk, because the exchange rate of the dollar against the euro, and thus with the denar, fluctuates in the market. Exposure to other currencies in pension funds is moderate.

Chart 141
Domestic pension funds' exposure to currency risk
in %



Source: Internal calculations of the National Bank according to the regular periodic data disclosures by the pension companies.

Pension funds, like any other financial institution, face two dimensions of liquidity risk. The first is related to the funding liquidity risk, and the second is related to the market liquidity risk. Exposure to liquidity risk associated with the need to secure cash outflows from pension funds is quite low, primarily due to the continuous and stable inflows from contributions collected, as well as due to the relatively low average membership' age[246]. In contrast, the market liquidity of the financial instruments in which pension funds' assets are invested is a more important issue from the aspect of asset management. Namely, with the most common debt instrument in the portfolio of pension funds - domestic government bonds, there is no active and frequent trading on the secondary market, which is a rather important limiting factor for the management of pension funds' assets. On the one hand, the insufficient liquidity of this instrument hampers any need to rebalance the portfolio of debt instruments and limits the opportunities for greater or rapid change in the strategic allocation by asset classes. On the other hand, the biggest risk of weak liquidity in the secondary market for government securities is the inability to valuate precisely this portfolio, because the market value of these securities is not a direct source of their fair value.

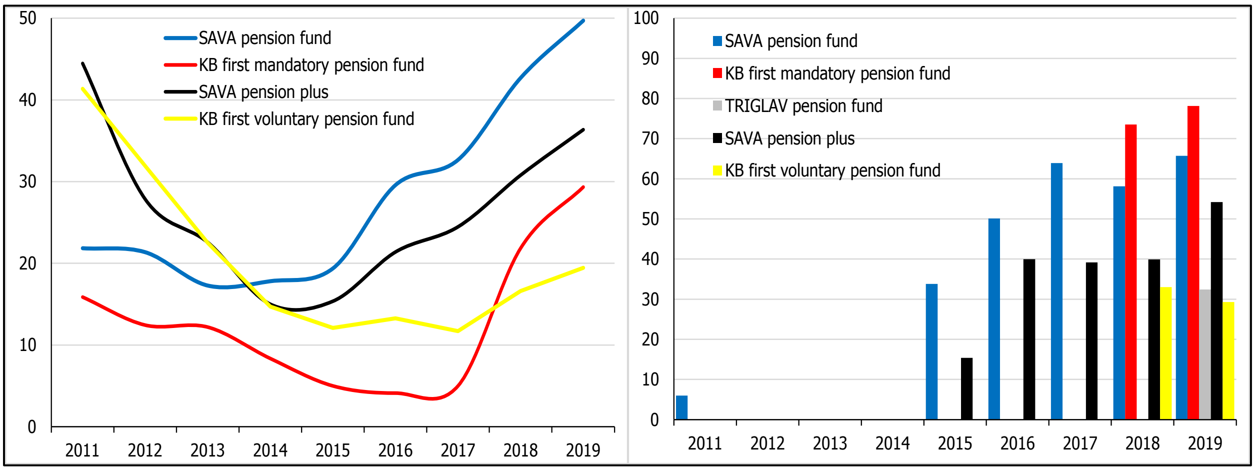
Thereby, there is a trend of increasing the share of assets that are measured at amortized cost, with this share being slightly higher in the mandatory compared to voluntary pension funds. It is reasonbly to expect these assets to be kept until their maturity[247]. From the aspect of the structure of these assets according to the residual maturity, in all pension funds, most of the pension funds' portfolio of debt instruments consists of bonds that have an original maturity of

[246] The average age of members in mandatory pension funds is about 35 years, which practically means that so far no significant pension-based outflows are expected. In voluntary pension funds, liquidity pressure can arise if there is a significant outflow of funds through one-time payments for those members who are entitled to use the pension benefit, i.e. are at least ten years younger than the legal retirement age. On 31.12.2019, according to the disclosed data by MAPAS on the age structure of the members of the voluntary pension funds, about a quarter of the male members and approximately 40% of the female members have the right to withdraw the accumulated funds on their individual or professional accounts. The average age of members of voluntary pension funds is about 45 years.

[247] In case pension funds might need liquidity, the pension companies could theoretically use such debt instruments that are measured at amortizes cost, as pledge collateral for taking loans (for bank deposits) or as collateral for borrowing through market transactions (for securities). However, it should be borne in mind that the laws also set a limit on the maximum volume of borrowing in the behalf of and at the expense of the pension funds, as well as on providing guarantees with the assets of the pension fund, up to 5% of the assets of the pension fund.

ten years or more[248], and given that such bonds have started to be issued in the last five years[249], all of them have a relatively long residual maturity. Such a structure of the portfolio of debt instruments, in the absence of a developed secondary market on which they would be traded[250], means reduced flexibility of pension companies for rabalncing of the investments, and thus, of the exposure to various risk factors, which acts as a limiting factor for more active management of pension fund assets.

Chart 142
Assets measured at amortized cost / total assets of pension funds (left) and pension funds' assets measured at amortized cost with a residual maturity above five years / total assets at amortised cost (right)
in %



Source: Internal calculations of the National Bank according to the regular periodic data disclosures by the pension companies.

Credit risk exposure of domestic pension funds in 2019 did not register significant changes compared to last year. Having in mind the moderate investments of domestic private pension funds in foreign government bonds and investment funds that invest in debt instruments[251], the credit risk is mostly taken through direct investment in domestic debt instruments, mainly domestic bonds. Thereby, most of the investments of the domestic pension

[248] As of 31.12.2019, 83% of the portfolio of debt financial instruments of the mandatory pension funds consists of domestic government bonds with original maturity of 10 years or more (13% are bonds with original maturity of 10 years, 60% are bonds with original maturity of 15 years and 10% are bonds with an original maturity of 30 years.). In voluntary pension funds, 74.6% of the portfolio of debt financial instruments consists of domestic government bonds with original maturity of 10 years or more (18.7% are bonds with original maturity of 10 years, 46.9% are bonds with original maturity maturity of 15 years and 9% are bonds with an original maturity of 30 years.)

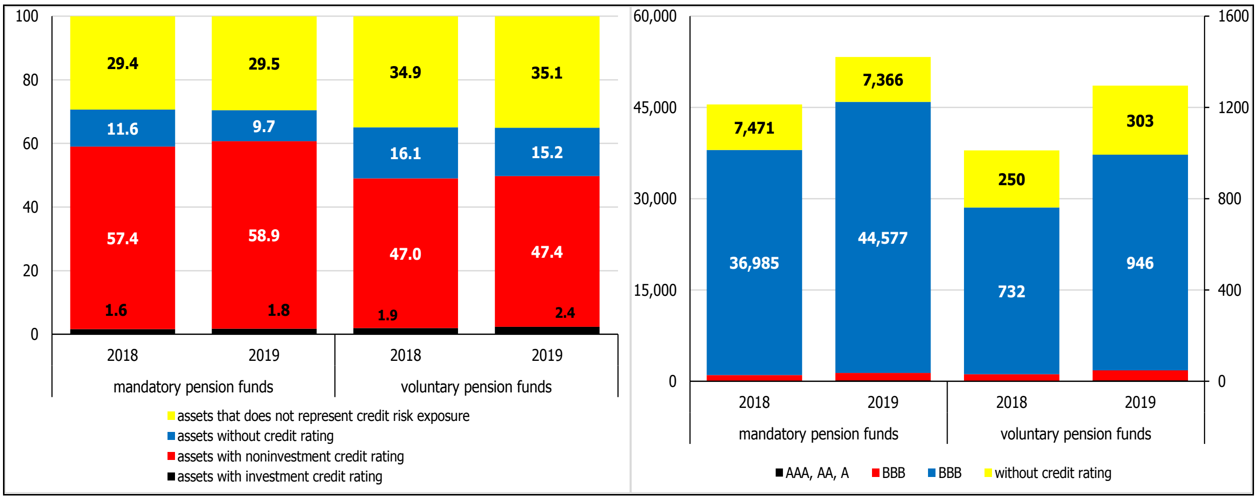
[249] Domestic long-term bonds with an original maturity of 10 years were first issued in January 2014, with an original maturity of 15 years in February 2015, and with an original maturity of 30 years in April 2018.

[250] During 2019, there were total of 37 transactions with continuous government bonds on the OTC market (out of which four transactions are with bonds with original maturity of 10 years, 15 transactions are with bonds with maturity of 15 years and 15 transactions are with bonds with a maturity of 30 years). Thereby, the traded amount of government bonds with original maturity of 10, 15 and 30 years reached 84% of the total trading on the OTC markets in 2019 (which amounts to Denar 2,161 million). From the beginning of 2019, in addition to government bonds issued for structural purposes (i.e. denationalization bonds), regulary issued continuous government bonds, also started to be listed on the domestic stock exchange, whereby in 2019 there were only two transactions with 15-year bonds.

[251] According to the Law on Mandatory Fully Funded Pension Insurance and the Law on Voluntary Fully Funded Pension Insurance, up to 50% of the private pension funds' assets may be invested abroad. Under this limit, up to 50% may be in foreign government bonds issued by European Union member states or OECD member countries. Also, within the limit for investing abroad, up to 30% of the assets can be invested in debt securities that have investment credit rating according to international credit rating agencies, and are issued by non-state foreign legal entities from the European Union member states or OECD member countries. Total investments in foreign investment funds with a seat in the European Union member state or OECD member countries, no mater whether these funds invest in equity or debt instruments listed on the stock exchanges in those countries, can amount to up to 30% of the pension funds' assets. In addition, investments in foreign shares issued by legal entities that have an investment credit rating according to international credit rating agencies, and which are traded on stock exchanges in the European Union member states or OECD member countries, can amount to up to 30% of the pension funds' assets.

funds are in debt instruments issued by their home country[252], whose share in the total assets of the pension funds that carry credit risk, at the end of 2019 is about 83% in the mandatory and 72% in voluntary pension funds. Compared to last year, these shares have increased. A significant part of the assets that represent credit risk exposure for pension funds are invested in deposits in domestic banks.

Chart 143
Structure of pension funds' assets by credit risk (left) and allocation of pension fund assets by credit risk according to the credit rating of the issuer of the instruments (right)
in millions and in %

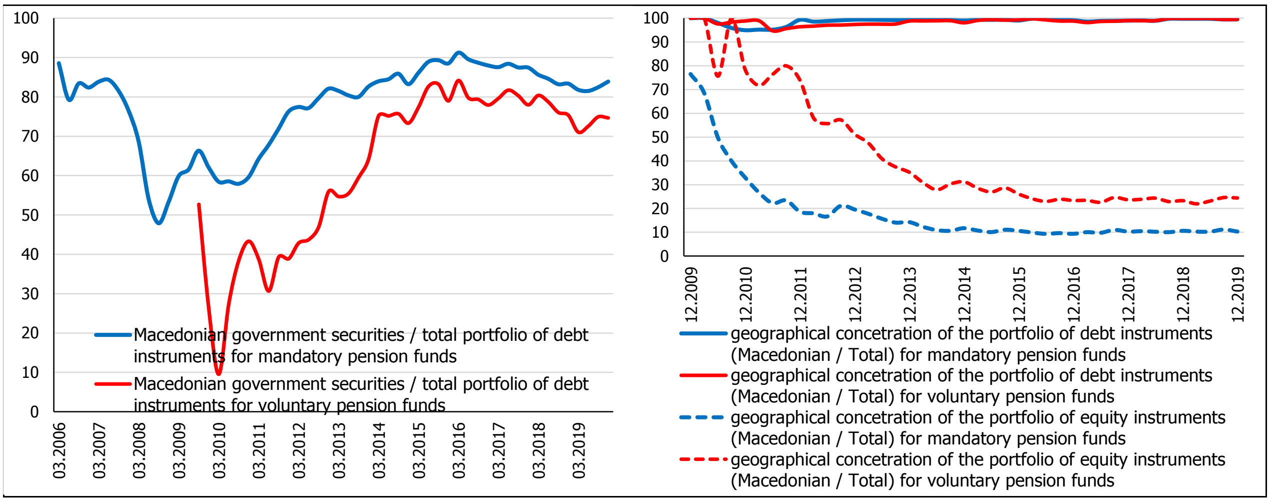


Source: National Bank calculations based on MAPAS disclosures, audited financial statements of the funds and publicly available data on the credit rating of financial instruments issuers.
Note: Assets that do not represent credit risk exposure are an equity instruments. All instruments that imply credit risk exposure, are classified according to the credit rating of their issuer or debtor obtained by the international credit rating agency Fitch. When determining the credit rating of investments in foreign investment funds that invest in debt instruments, an approach of identifying the structure of their investments according to the credit rating and appropriate distribution of the total market value of such investments of the pension fund (so-called look-through approach) is applied.

An important component of credit risk exposure for domestic pension funds is the concentration of the portfolio of debt instruments, both in terms of individual issuer (due to the dominance of domestic government securities) and in terms of geographical exposure (due to the dominance of domestic investmentsi within this portfolio). The absence of diversification in the debt portfolio especially emphasizes the importance of the so-called tail risk[253] for the value of pension funds' assets. This is reflected through most of the realized return that exceeds the so-called "risk-free" interest rate (market yields on government bonds issued by euro area government issuers with AAA credit rating). This shows that the dynamics of the credit risk premium embedded in the investments in the domestic government securities in fact is the main driver of the realized, but also of the expected return of the domestic pension funds.

[252] Our country has a non-investment credit rating (BB- with a stable outlook from the International Credit Rating Agency "Standard & Poor's", ie BB + with a negative outlook from the international credit rating agency "Fitch").
[253] The term "tail risk" usually refers to events that have an extremely low probability of occurrence, but would cause extremely large consequences if they occur. In other words, these risks are found in the "tail" of the corresponding probability distributions.

Chart 144
Concentration indicators for the portfolios of debt instruments of mandatory and voluntary pension funds, by issuer (left) and geographical concentration (right)
in %



Source: internal National Bank calculations based on MAPAS data.

Unlike debt instruments, **in the portfolio of equity instruments, there is a significantly lower concentration** per issuer and there is a higher degree of diversification, primarily due to the legally prescribed investment limits by a specific financial instrument or issuer[254]. Also, the geographical concentration of the portfolio of equity instruments is significantly lower. However, this portfolio also shows a significantly higher orientation towards investments in the domestic capital market, i.e. home bias, confirmed by rather large share of domestic equity instruments in the structure of the portfolio of equity instruments, compared to the relative importance of the domestic financial market within the global market for equity instruments.

By type of private pension funds, the concentration of the portfolio of debt instruments is slightly lower in voluntary pension funds. In contrast, the geographical concentration of the portfolio of equity instruments is slightly higher in voluntary pension funds. **However, the high degree of concentration whithin individual asset classes shows that domestic pension funds, both mandatory and voluntary, still have considerable room to enlarge asset diversification, and thus to expand the risk factors that determine the expected return.**

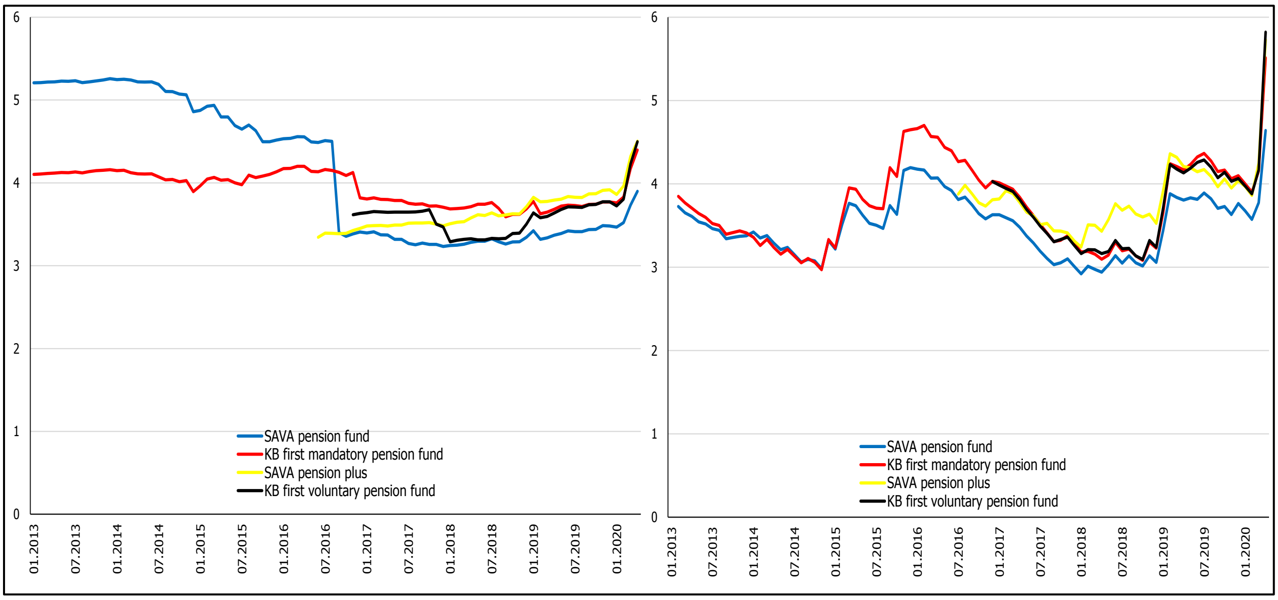
Having in mind that the individual financial risks which are typical for pension funds' investments inevitably have a degree of mutual correlation, it is necessary to present certain quantitative measures for the riskiness of the pension funds, primarily the historical volatility of rates of return. Rates of return for domestic pension funds have relatively moderate historical volatility[255]. The relatively low volatility is a due to the absence of a liquid market and the

[254] Pursuant to the Law on Mandatory Fully Funded Pension Insurance and the Law on Voluntary Fully Funded Pension Insurance, the pension funds may invest in securities of the same issuer up to 10% of the nominal value of an individual security issued by that issuer. The restriction does not apply to bonds issued or guaranteed by the Republic of North Macedonia or by any of the European Union member states or OECD member countries. Also, the pension funds may invest in financial instruments issued by the same non-state private legal entity, up to 5% of their assets (except in deposits and certificates of deposit for which the limit is 3% of the funds), and may invest in financial instruments issued by several interrelated legal entities up to 7.5% of their assets (except deposits and certificates of deposit for which the limit is 5% of the funds). In The pension funds may invest up to 15% of their assets in shares and stocks of foreign investment funds issued or managed by the same management company from a European Union member state or OECD member country, while up to 5% of the funds can be invested in an individual investment fund. Up to 2.5% of the pension fund assets can be invested in stakes and shares of domestic investment funds issued or managed by the same management company, while up to 1% of the funds assets can be invested in a single investment fund.

[255] To illustrate, the historical volatility of stock indices is usually above 10%, while that of individual stocks is usually above 20%. The volatility is low, no mater whether is calculated using the ordinary average or the exponential weighted moving average.

opportunity for regular valuation of domestic government securities owned by the pension funds, and partly due to the relatively high presence of bank deposits in the investment' structure. For all such instruments, regardless of their accounting classification and measurment, as well as regardless of any other risk factors they possess, there is a specific risk, and that is the occurrence of the so-called stale prices, i.e. their valuation through "stale" historical values that do not reflect the current fair value of the financial instrument (if measured at fair value) or inadequate expected credit risk losses (if measured at amortized cost). The possible negative effects of the so-called stalled prices are especially pronounced in conditions of unfavorable market movements in the credit market, i.e. when the market credit risk spreads manifest expansion, which may lead to blurring or underestimation of the real degree of pension funds' riskness or riksness of certain segments of their portfolio.

Chart 145
Dynamics of the historical variability of the domestic private pension funds' return, calculated by applying the ordinary average for a period of 84 months (left) and by applying an exponential weighted moving average for a period of 84 months (right), annualised
in %



Source: Internal calculations of the National Bank based on MAPAS data. For one of the mandatory pension funds, the historical volatility of its rate of return, has not been calculated, due to its short history.

Pension funds' performance measures

In order to evaluate the successfulness of domestic pension companies in investing and managing the pension funds' assets, some risk-adjusted performance measures measures are presented that refer to the).

Given that pension companies have disclosed a benchmark used for monitoring and comparing their returns, it is possible to assess their so-called **active risk, i.e. tracking error.** For that purpose, the ex-post[256] tracking error[257] was calculated, using the absolute return benchmark selected by the pension companies themselves, as well as a customized benchmark with appropriate adjustments as a

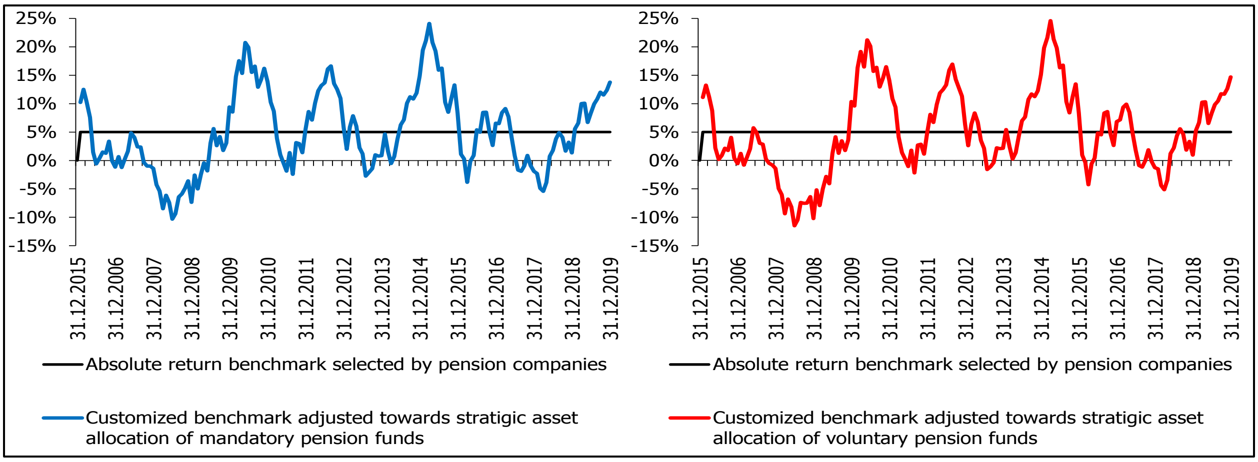
[256] As a rule, the ex-post form of active risk is used to identify the sources that lead to certain performances or for evaluating the skills of the entities that manage certain assets.
[257] Ex post tracking error is defined as the average standard deviation of the difference between the return of the pension fund and the choosen benchmark that the return of the fund is expected to follow. The lower the value of the ex post tracking error, the higher is the similarity of the risk profile of the pension fund or any individual portfolio with the risk profile of the choosen benchmark.

combination of 70% of the yield of Bloomberg Global Aggregate total return index value unhedged EUR and 30% of the MSCI WORLD EUR return for the mandatory pension funds, or as a combination of 65% of the Bloomberg Global Aggregate total return index value unhedged EUR and 35% of the yield of the MSCI WORLD index for the voluntary pension funds. The weights of these two indices are a reflection of the strategic allocation by asset classes, which according to the analysis of the current structure of pension fund assets and its historical dynamics, can be assumed, with a high degree of certainty, that are the goal of pension companies. However, this change in the weights of the individual indices does not cause large differences in the dynamics of these constructed benchmarks.

Chart 146

Dynamics of absolute return benchmark selected by the pension companies and the customized benchmark adjusted towards the strategic asset allocation of pension funds of 30% equity instruments and 70% debt instruments

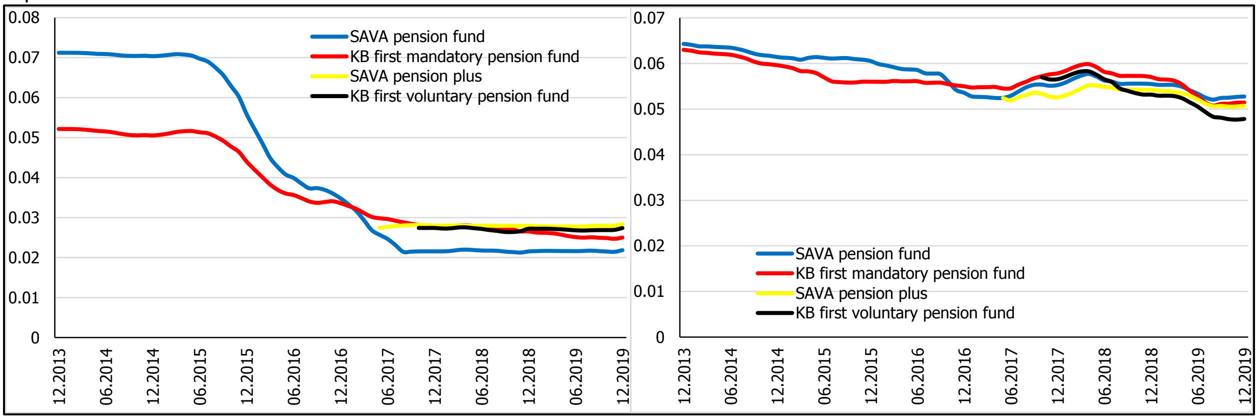
in %



Source: Internal calculations of the National Bank, according to data published in "Bloomberg" for Bloomberg Global Aggregate total return index value unhedged EUR and for the MSCI WORLD EUR index. The calculated benchmarks refer to the nominal annual rate of return.

There is a strong relationship between the chosen benchmark and the tracking error. The change of the benchmark in the calculation, from the absolute return benchmark selected by the pension companies themselves to a customized benchmark in accordance with the weights of the asset classes in the strategic allocation, shows a significant increase of the active risk in both mandatory pension funds and voluntary pension funds.

Chart 147
Dynamics of active risk, i.e. tracking error for the benchmark of the domestic pension funds, calculated on the basis of a moving data series of 84 months, by comparison with the absolute return benchmark of 5% selected by the pension companies (left) and by comparison with the customized benchmark adjusted towards the strategic allocation of the mandatory and voluntary pension funds (right)
in points



Source: Internal calculations of the National bank, based on data published by MAPAS.

From the quantitative measures that take into account the relationship between the return and the level of risk taken, the ex-post Sharpe ratio[258] **is analyzed as an absolute measure of the ratio between risk and return, and the so-called ex-post information ratio[259], as a relative measure of the risk-return ratio.** The asset management skills can be evaluated also by the fact that higher value of the ratio means that asset management has brought higher returns per unit of risk. Practically, companies that manage financial assets strive to achieve the highest possible return per unit of risk, because it distinguishes them by the relative success in the management of assets. The Sharpe ratio is positive for all pension funds, no mater whether it is calculated for a period of seven years or for the entire period since the individual funds begun with operations. This practically means that the pension companies add a premium over the risk-free rate of return with the investing and managing of pension funds' assets, and for the entire period from beginning of their operations until 31.12.2019, they are somewhat more successful in managing the voluntary pension funds.

[258] The Sharpe ratio has received its name after Nobel laureate William Sharpe, one of the founders of the Capital Asset Pricing Model (CAPM), the theoretical setup on which the ratio itself is based on. The Sharpe ratio is a measure of the average return on the pension fund assets above the average "risk-free" rate of return, per unit of risk taken with investing. It is calculated according to the following formula: $S_a = \frac{\overline{R_p} - \overline{R_f}}{\widetilde{\sigma_p}}$; where $\overline{R_p}$ is the average return of the pension fund assets, $\overline{R_f}$ is the average "risk-free" interest rate and $\widetilde{\sigma_p}$ is the volatility of the fund's return. The yield of one-year German government bond is taken as a "risk-free" rate of return for the calculatoin of the Sharp index.

[259] The ex-post information ratio is a measure of the average return on pension fund assets above the appropriate selected average benchmark per unit of active risk taken with investing. It is calculated according to the following formula: $IR = \frac{\overline{R_p} - \overline{R_b}}{\widetilde{\mathrm{TE}}}$; where $\overline{R_p}$ is the average return of the pension fund, $\overline{R_b}$ is the average return of the appropriate selected benchmark and $\widetilde{\mathrm{TE}}$ is the active risk, i.e. tracking error.

Table 8
Sharpe ratio and Information ratio for domestic pension funds, calculated as of 31.12.2019
in percentage points

pension fund	SAVA pension fund	KB first mandatory fund	SAVA pension plus	KB first voluntary fund
Sharpe ratio				
for the whole period from the beginign of the pension funds' operations	0.87	1.17	2.35	2.26
for the last 84 months	2.89	2.55	2.34	2.25
Information ratio, calculated with usage of absolute return benchmark of 5% selected by the pension management companies				
for the whole period from the beginign of the pension funds' operations	0.08	0.14	0.38	0.37
for the last 84 months	0.48	0.44	0.48	0.33
Information ratio, calculated with usage of customized benchmark adjusted towards the strategic asset alocation of pension funds				
for the whole period from the beginign of the pension funds' operations	0.10	0.13	-0.13	-0.07
for the last 84 months	0.10	0.11	0.08	-0.01

Source: Internal National Bank calculations based on MAPAS data and disclosures of pensions funds.

On the other hand, the information ratio shows a significant degree of sensitivity according to the period for which it is calculated and what type of benchmark would be chosen for its calculation, and there are noticeable and more pronounced differences between mandatory and voluntary pension funds. Voluntary pension funds have a better information ratio compared to mandatory pension funds, when it is calculated with usage of an absolute return benchmark and for the entire period of pension funds' operation, which is probably due to the fact that the voluntary pension funds skipped the period of the global financial crisis. However, if the information ratio is calculated with usage of a constructed benchmark that reflects the strategic asset allocation, the pension companies show better results in the management of the mandatory pension funds, while in the case of voluntary pension funds the information ratio gets even negative values. This actually means that pension companies cannot provide a better return on managed pension fund assets compared to the return on such a benchmark.

1.6 Insurance sector[260]

The insurance sector, as the third segment of the domestic financial sector, in 2019 maintained both stability and safety of operations, which contributed to financial stability maintenance. The total activities of the insurance sector increased on an annual basis, supported by the growth of gross premiums written in both insurance segments. Non-life insurance continues to prevail in the structure of the domestic insurance market, as opposed to the structure of the insurance sector in EU countries, where life insurance is more important. Such characteristics include the domestic insurance sector in the ranks of smaller insurance sectors, which gives enough space for its further growth and development.

The insurance sector continues to have high coverage of technical reserves and maintains an adequate solvent position, which several times exceeds the regulatory minimum. Insurance companies' investments are mostly in liquid and less risky instruments, which limits the exposure to risks due to volatility of the financial markets. The exposure of the domestic insurance sector is highest towards the state and the domestic banking sector, which makes these two sectors crucial for the stability of the insurance sector. During the year, the profitability indicators of the domestic insurance sector deteriorated, which is assessed as a temporary shift, mainly driven by the need for regulatory adjustments in two non-life insurance companies.[261]. These activities, although with a one-time adverse impact on the financial result, followed by qualitative changes in the ownership and management structure, are expected to contribute positively to the stability of companies in the medium and long term by increasing prudence and improving the overall risk profile. Both companies recapitalized during the year and strengthened the capital base, which further contributes to the long-term sustainability of operations, and thus to the health and sustainability of the overall insurance sector. However, for the sustainable profitability of the sector in the long run, it is necessary to improve the operational efficiency and control of insurance implementation costs, which are maintained at a high level, significantly above the average of EU countries.

The risk of creating and spillovering the risks from the insurance sector to other segments of the domestic financial system is still small and limited, primarily due to the small size of the sector and the still weak connection with other segments of the system, but also due to the absence of complex financial instruments and services in this sector and in the domestic financial market in general. However, in the recent period, the activity of banks in the field of banking insurance is characteristic, as a potential channel for transmission of risks through the financial sector, which imposes the need for closer monitoring of the situation and timely identification of risks in the insurance sector.

The key risks for the operation of the insurance sector in the next period are related to the emergence and spread of the new COVID-19 viral infection from the beginning of 2020, which was reflected through reduced premium collection and difficult liquidity management by insurance companies. It is assessed that the insurance sector has the capacity to deal with the challenges of the crisis, due to the sound foundations the system is based on, with an adequate level of liquidity and

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[260] The analysis of the insurance sector is in accordance with the data submitted by the Insurance Supervision Agency of the RNM as of May and June 2020.

[261] For more details on the profitability of the insurance sector see in the section Profitability and efficiency of the financial system in this Report.

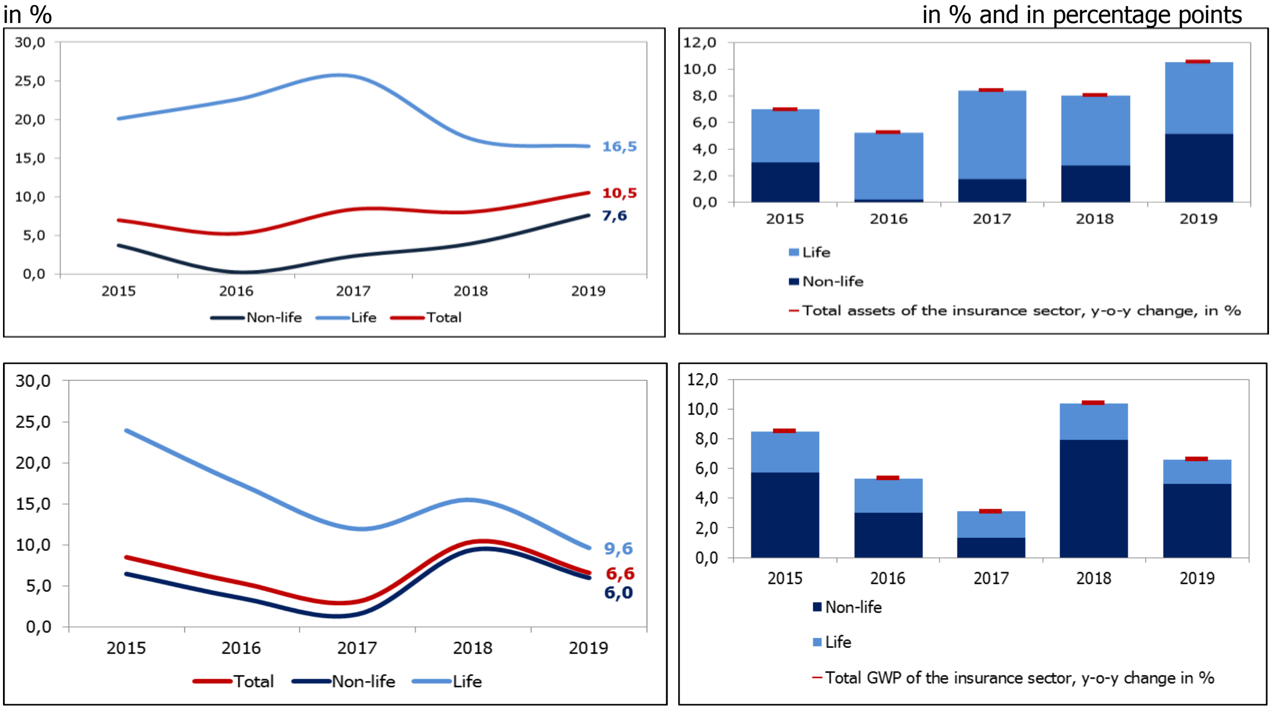
solvency and very limited exposure to movements in international markets. The measures taken by the Insurance Supervision Agency as a competent regulator, in response to the crisis, are expected to contribute to mitigate the risks and ensure continuity in the operation of insurance companies. However, the high uncertainty related to the duration and strength of the Covid-19 crisis, as well as the dynamics of the post-crisis recovery, introduces uncertainty in the operations of insurance companies, which for policy makers means constant vigilance and readiness to take appropriate measures if necessary to preserve the health and stability of the insurance sector. The newly established, Financial Stability Committee[262] with expanded composition compared to the previous one, also within its competencies, closely monitors the situation in the financial sector, including the insurance sector, in order to timely identify risks and prevent and reduce their impact on the financial sector.

1.6.1 Characteristics and risks of insurance sector

During 2019, the insurance sector continued to grow and to increase its importance for the domestic financial sector. The total assets of the insurance sector increased by 10.5% on an annual basis, which is its highest growth rate in the last five years. The life insurance segment continues to register higher growth rates of assets, although at a slower pace in the last two years, unlike non-life insurance, which has an accelerated upward trend. However, for the first time in 2019 the two segments of the insurance sector have a similar contribution to the assets growth of the insurance sector. The total gross written premium (GWP) of the insurance sector in 2019 on an annual basis increased by 6.6%, for which the non-life insurance had a greater contribution, with further growth of life insurance premiums. Non-life insurance continues to prevail in the structure of the domestic insurance market with a share of 65.4% in total assets and 82.7% in total GPW of the insurance sector. This situation is the opposite of developed countries, where life insurance is more important, measured by GWP and total assets[263].

[262] The new Financial Stability Committee was established in the second quarter of 2020 (the previous one dates from the end of 2009), in which besides the previous members - the National Bank and the Ministry of Finance, other regulators of the financial system participate, and if necessary the Deposit Insurance Fund. The expanded composition of the Committee strengthens the cooperation between the regulators in monitoring the situation in the financial system and further timely and efficient identification of systemic risks and taking appropriate measures and activities to prevent and reduce their impact on the financial system, for the purpose of smooth and effective maintenance of the stability of the entire financial system.
[263] IMF Global Financial Stability Report: Potent Policies for a Successful Nornalization, April 2016.

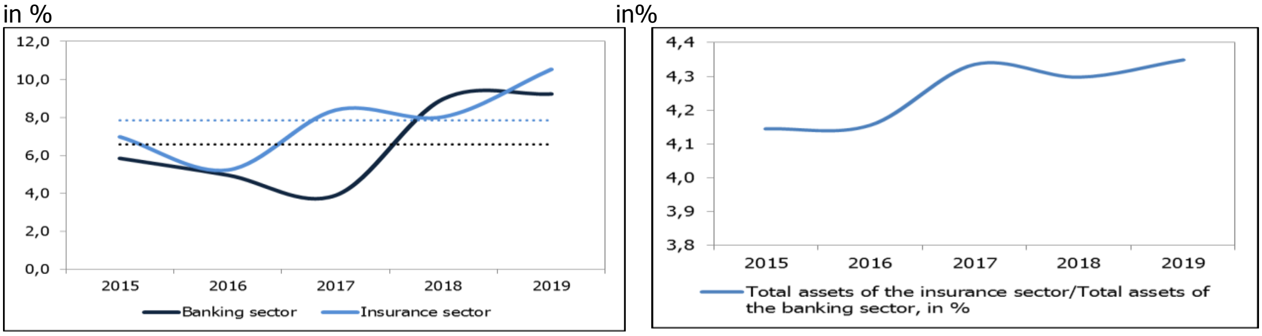
Chart 148
Annual rates of change and contribution to the annual growth of assets (top) and GWP (bottom) of the insurance sector
in % in % and in percentage points



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

In the last five years, the insurance sector registers a growth at a higher average rate compared to the banking sector. The asset growth in the last three years exceeds the historical average for the previous ten-year period, which is a positive indicator for the development of the insurance sector. **However, compared to the banking sector, the size of the insurance sector remains small, which limits the importance of the sector as a source of risks to financial stability.**

Chart 149
Annual growth rates of assets of the insurance and banking sector (left) and ratio of assets of the insurance and banking sector (right)
in % in%

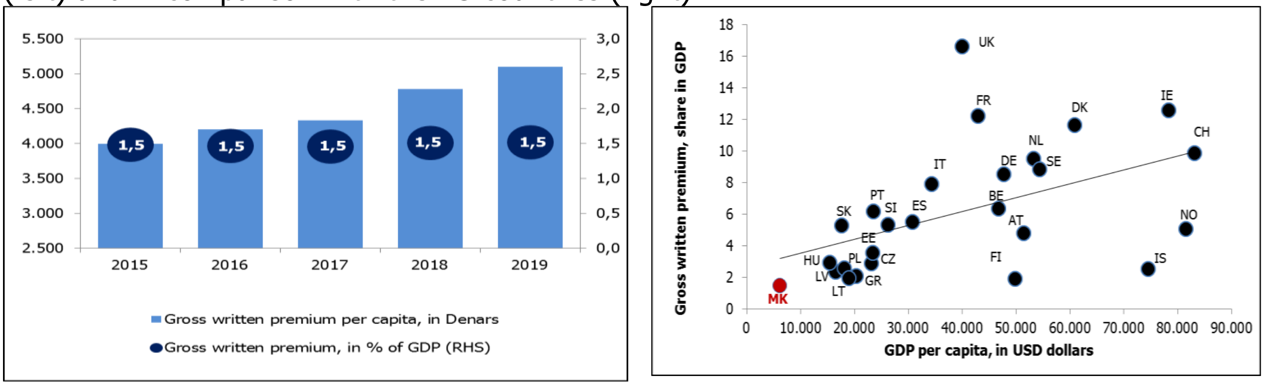


Note: The dashed lines on the chart to the left show the average asset growth of the insurance and banking sectors, respectively in the last ten years.
Source: National Bank, based on data from banks and the Insurance Supervision Agency

At the end of 2019, the assets of the insurance sector participate with 3.4% in GDP, as opposed to 78.8% which is the share of the assets of the banking sector. With a degree of insurance penetration of 1.5% of GDP and a degree of insurance density of Denar 5,099 (or Euro 82.9) per capita in 2019, the Macedonian insurance sector is

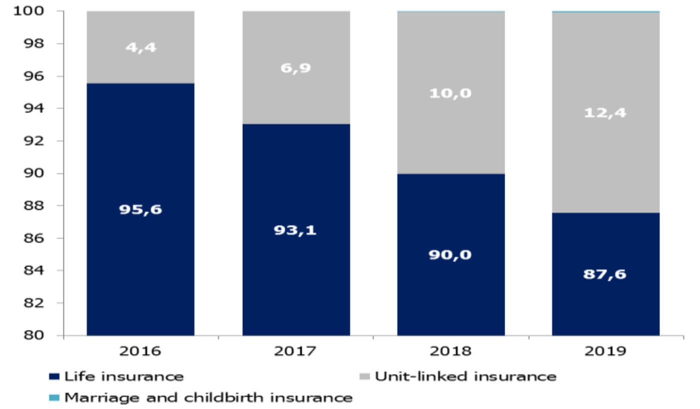
among the smallest and least developed markets, compared to the more advanced European economies, as well as the countries in the region. International comparisons show a link between the size of the insurance sector and the degree of development of the economy, with more developed economies tending to have larger insurance markets and vice versa. Hence, in order to use the potential for growth of the domestic insurance sector, which is undoubtedly high and exists, an important factor is the dynamization of economic growth, which will support the growth of disposable income of the population, but also building a culture of insurance among domestic entities.

Chart 150
Indicators for the development of the insurance market in the Republic of North Macedonia (left) and in comparison with the EU countries (right)



Note: The data in the chart on the right, for all countries, including RNM, refer to 2018.
Source: National Bank, based on data from the Insurance Supervision Agency and the OECD.

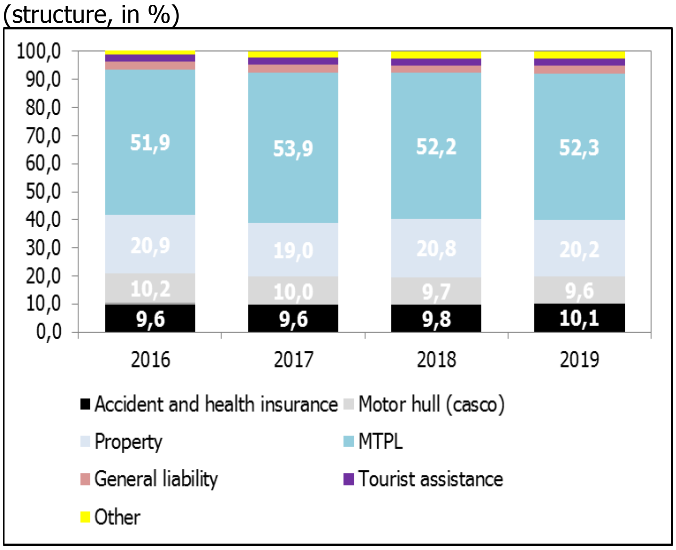
Chart 151
Gross premiums written according to life insurance classes (structure, in %)



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

The life insurance segment of the domestic economy is still developing and covers a very small part of the domestic financial sector. At the end of 2019, the total assets of life insurance companies participate with 34.6% in the total assets of the domestic insurance sector, and the share in GDP is 1.2%. The offer of life insurance companies consists of traditional products, which are dominated by traditional life insurance with a share of 87.6% in total GWP at the end of 2019 and is the main driver of its growth (with a contribution of 62.7%). The trends from the previous years continue such as the growth of life insurance when the investment risk is borne by the insured, which contributed to further increase of its share in the total GWP up to 12.4%. The increased attractiveness of this type of insurance in the last period may be due to the insured's search for return in conditions of low interest rates, which is attained through the investment component of

Chart 152
Gross premiums written bu non-life insurance classes
(structure, in %)



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

this type of insurance.[264]. Higher returns entail increased exposure to market risk and vulnerability of policyholders to changes in returns and shocks in the capital market. However, the representation of this type of insurance in the total financial assets of households is very small (0.1%), which so far limits its importance as a possible source of risks to the financial stability of the households. The last two years are characterized by interest in marriage or childbirth insurance, which is a positive indicator of the spread of insurance culture among domestic entities, despite the very small share of this insurance class in the total GWP (0.1%).

Within non-life insurance, motor third party liability insurance (MTLP) dominates as a mandatory insurance class (with a share of 52.3%), which in 2019 is the main driver of the growth of total non-life insurance GWP (contribution from 53.2%). The second most important is the property insurance, which participates with 20.2% in the total GWP and still mostly refers to the property insurance of legal entities. Property insurance of individuals in 2019 participates with 35.9% in the total GWP for property insurance (or 7.3% of the total GWP), and agricultural insurance is relatively underrepresented with a share of 3% in the total GWP. Health insurance, as a newer class of insurance in the supply of insurance products, still has a low share (2.2%) in the total GPW, but is constantly increasing and in 2019 contributed 12.7% to its growth. Credit insurance (0.1% of the total GWP) is also minimal, with a small share of both guarantee insurance and financial loss insurance (0.8%). In 2019, 21% of GWP of non-life insurance was

[264] Life insurance when the investment risk is borne by the insured most often refers to life insurance in relation to shares in investment funds, when the insured assumes the investment risk related to the change in the value of investment coupons or other securities of investment funds.

transferred to reinsurance companies, while in life insurance the transferred risk was 5%. Such situations are similar to the insurance sector in the EU, in which the GWP transferred to reinsurance in 2019 is 23% of the total GWP in non-life insurance and 9% of the GWP in life insurance[265].

The solvency of the insurance sector as an indicator of the stability of the sector is still high, based on the high capitalization of the sector, which exceeds the regulatory minimum several times. By the end of 2019, the level of capital of the insurance sector exceeds the level of the solvency margin by four times in non-life insurance and by 3.7 times in life insurance. Insurance companies show also adequate coverage of the guarantee fund[266] with capital and the net technical reserves with investments in allowed asset categories. In 2019, the Insurance Supervision Agency adopted regulatory changes, [267] which contributes towards improvement in the quality of insurance companies' own funds and thus strengthening their solvency, through "more real" valuation of capital investments in real estate[268]. The amendments regulate the manner of recognition, recording, subsequent measurement and disclosure of certain items of the financial statements of insurance companies (land, buildings, other tangible assets and acquisition costs) that were not subject to regulation in the main bylaws. Thus, the possibility of "recapitalization" based on the revaluation of real estate was limited, which was stated as a weakness in the past. Also, the amendments to these bylaws provided greater consistency in the way of costs recognition, with the related operating income and hence their greater comparability within the financial statements of the entire insurance sector. Alignment of domestic legislation with the European Solvency 2 Directive, which is expected to be implemented in the next period, should contribute to further strengthening of the solvency of the domestic insurance sector, given that the Directive, inter alia, implies strengthening of capital positions and introduction of capital risk-based requirements[269], as well as improving risk management and increasing the transparency of insurance companies. In this

[265] According to data from the European Insurance and Occupational Pensions Authority (EIOPA),

[266] The guarantee fund is defined in Article 77 of the Law on Insurance Supervision. According to the Law, the guarantee fund consists of the items that are included in the calculation of the capital of the insurance company, which consists of Tier 1 and Tier 2 capital), calculated in accordance with the Law. The guarantee fund must not be lower than one third of the required level of the solvency margin, calculated in accordance with the Law. In addition to this provision, the guarantee fund of the insurance company must not be lower than: 1) Euro 2 million if the company performs insurance activities in certain insurance classes in the group of non-life insurance; 2) Euro 3 million, if the company performs insurance activities in all classes of insurance in the group of non-life insurance, i.e. in certain insurance classes referred to in Article 5, items 10, 11, 12, 13, 14 and 15 of the Law; 3) Euro 3 million if the company performs insurance activities in one or all insurance classes in the life insurance group and 4) Euro 4.5 million if the company performs reinsurance activities. In case the insurance company covers risks of two or more classes of non-life insurance, when determining the amount of share capital, the prescribed amount of the guarantee fund will be taken into account for the insurance class with the highest amount of guarantee fund.

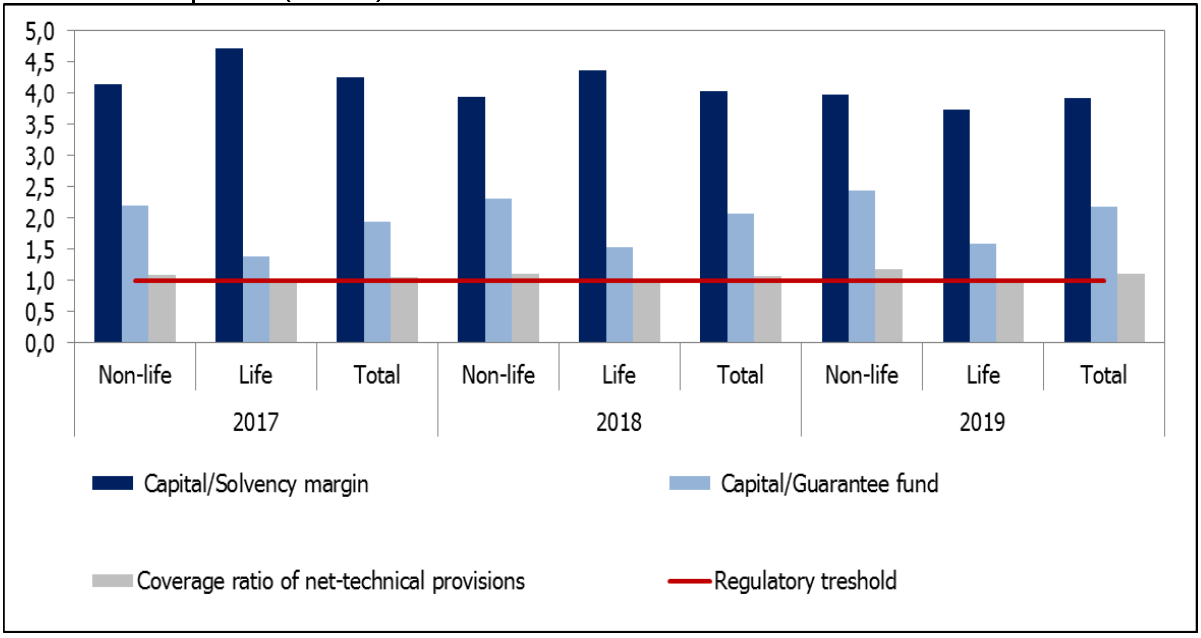
[267] The amendments refer to bylaws in the field of accounting and financial reporting of insurance and / or reinsurance companies, as follows: Rulebook on chart of accounts of insurance and reinsurance companies ("Official Gazette of the Republic of North Macedonia" no. 170/2019) and Rulebook on the form and content of the financial statements and detailed content of the annual report on the operations of the insurance and / or reinsurance companies ("Official Gazette of the Republic of North Macedonia" no. 170/2019).

[268] According to the Law on Insurance Supervision, insurance companies have the opportunity to invest up to 60% of their capital in real estate, as well as capital investments in other insurance companies, financial institutions and other legal entities. Real estate accounts for a small portion of total assets of the insurance sector (below 10%) and their (re)valuation has not caused systemic problems with the solvency of the sector as a whole, with the exception of some isolated cases. However, to reduce any possibility of overestimating the value of capital positions, and thereby present an inadequate picture for the companies' solvency, amendments to the bylaws were made.

[269] According to the current regulation, which is based on the European Solvency I Directive, the solvency margin of insurance companies is calculated on the basis of insurance risk, i.e. by applying the premium rate method or the loss rate method, depending on which will give a higher result.

regard, activities for the implementation of accounting reporting standards are needed, namely IFRS 9 standard.

Chart 153
Coverage rates at the required level of solvency margin and technical provisions of insurance companies (in times)



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

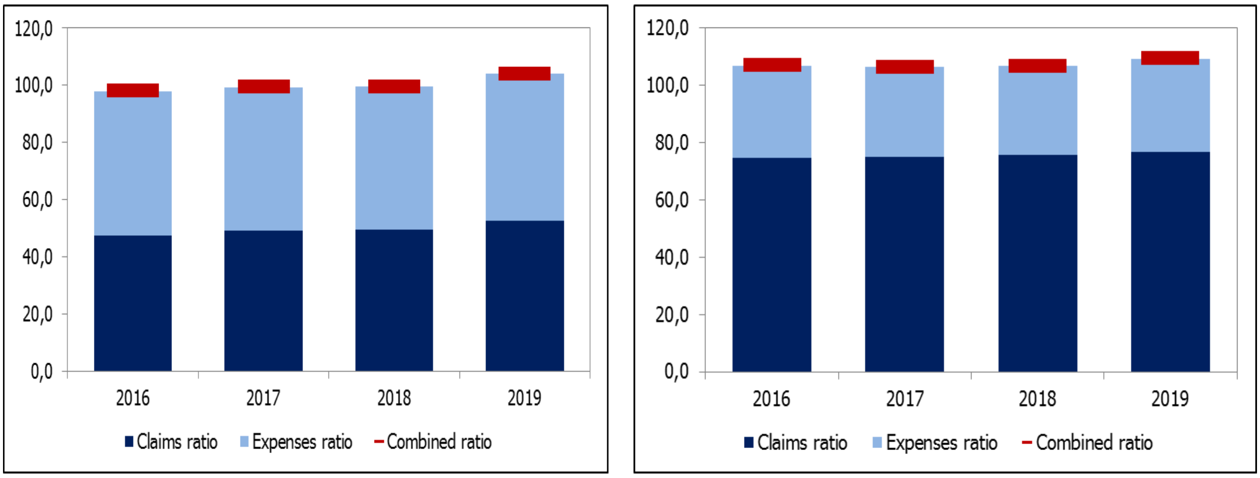
The deterioration of the profitability indicators of the insurance sector in 2019 is temporary, and influenced by one-time factors that caused losses in the operation of two non-life insurance companies[270]. In 2019, these companies were recapitalized, thus strengthening their capital positions and largely offsetting the effects of capital losses. Also, the measures taken by the affected companies during the year in order to comply with the supervisory standards, contribute to strengthening of the insurance sector stability, and thus the capacity for activities growth in the next period.

However, for the sustainable profitability of the domestic insurance sector in the long run, it is important to improve the operating efficiency, which is deteriorating throughout the year. The analyzes show high insurance companies operating costs for conducting insurance, which in 2019 registered growth in both segments of insurance. The high costs for conducting insurance in part may reflect the competitive pressure on the market, whereby in order to maintain or increase market share, insurance companies compete with each other by offering high discounts and / or high commissions for insurance intermediaries. In addition to such perceptions is the growth of commission costs, which in the segment of non-life insurance, by the end of 2019 reached 24.6% of total administrative costs and costs for conducting insurance, i.e. 11.4% of total GWP (22.6% and 10.3%, respectively in the previous year). Most of the commission costs refer to the indirect sales channels (banks, insurance agencies and insurance brokerage companies) which in 2019 jointly participate with 9.2% of the total realized GWP of non-life insurance companies. Within them, the share of commissions of brokerage insurance companies is the highest (7%), followed by insurance agencies (1.8%) and banks (0.3%). These three indirect sales channels account for just over a

[270] The negative financial result that these two non-life insurance companies registered is mainly due to the harmonization of operations with supervisory standards. For more details on the profitability of the insurance sector see in the section Profitability and efficiency of the financial system of this Report.

third of the total non-life insurance GWP[271]. High commissions can be a limiting factor for the growth of profitability in the segment of non-life insurance in the next period, especially if we take into account the current environment of low interest rates that limits the investment income of insurance companies. Thus, the rate of return on investment (ROI) of the non-life insurance sector has a downward trend and in 2019 it was reduced to 1.4% compared to 3.1% in 2018.

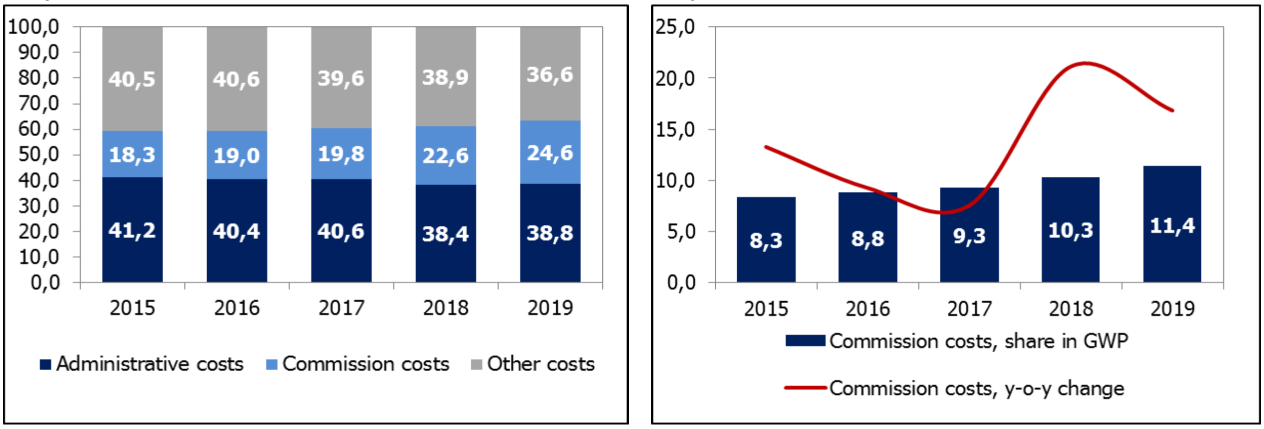
Chart 154
Technical coefficients of the domestic insurance sector
in %
Non-life Life



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

In the non-life insurance segment, the cost ratio[272] in 2019 increased and amounted to 51.5% of the realized net premiums, which follows after a several year maintenance of this ratio at a stable level. The non-life insurance claims ratio[273] increased by 3.1 percentage points on annual basis and amounted to 52.5%.

Chart 155
Structure of administrative costs and costs for conducting insurance (left) and commission costs (right) of non-life insurance
in % in %



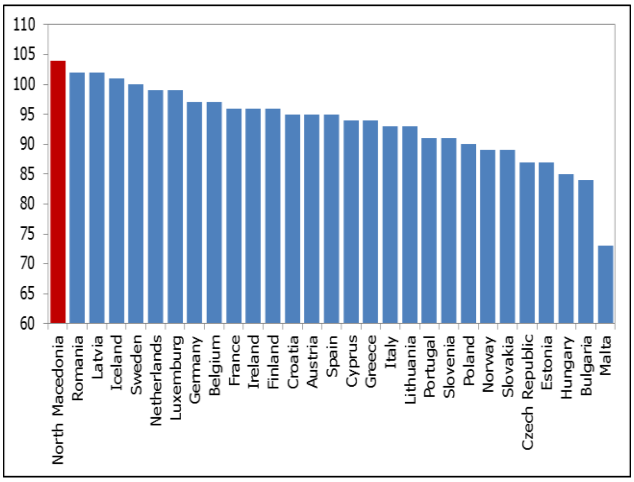
Source: National Bank, based on data from the Insurance Supervision Agency

[271] In relation to the GWP realized through each of these channels, the commissions range from 22.9% in the insurance companies, over 24.8% in the banks, to 26.3% in the insurance brokerage companies
[272] Cost ratio is the ratio between i costs for conducting insurance and net premium. The combined coefficient represents the sum of the cost coefficient and the claims coefficient.
[273] The claim coefficient is calculated as the ratio between incurred claims in the period and net premium written.

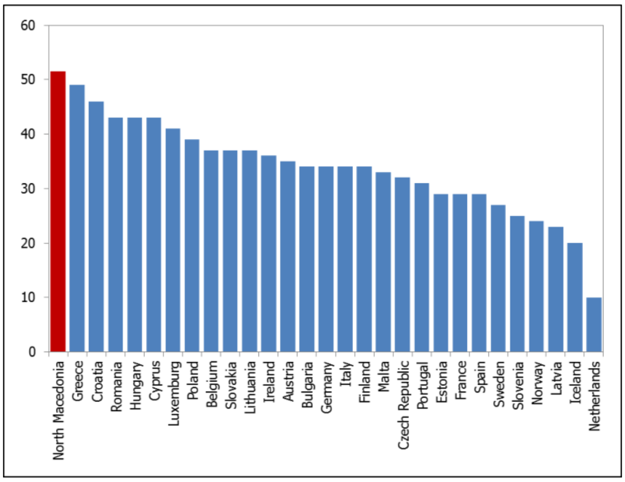
The limited cost efficiency of the domestic insurance sector has been proven through the comparative analysis with EU countries and the region. The analysis emphasizes the domestic non-life insurance sector as the sector with the highest insurance implementation costs and the highest total costs analyzed through the level of the combined coefficient. With the share of costs for conducting insurancein the realized net premium of 51.5% in 2019, the domestic non-life insurance sector significantly exceeds the EU average (33.4%) and the SEE countries[274] (38.9%).

Chart 156
Comparative analysis of the technical coefficients in the non-life insurance segment, in 2019, in percent

Combined coefficient



Cost coefficient

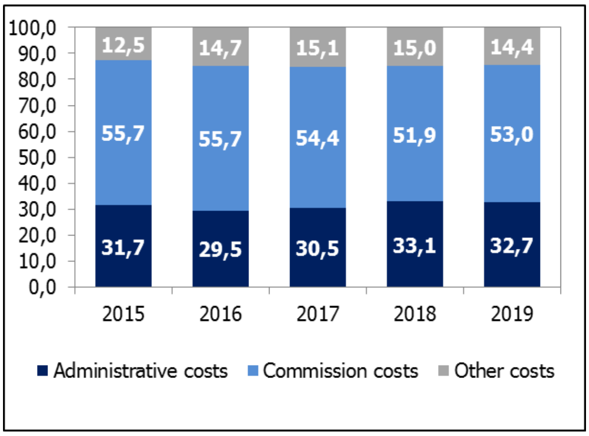


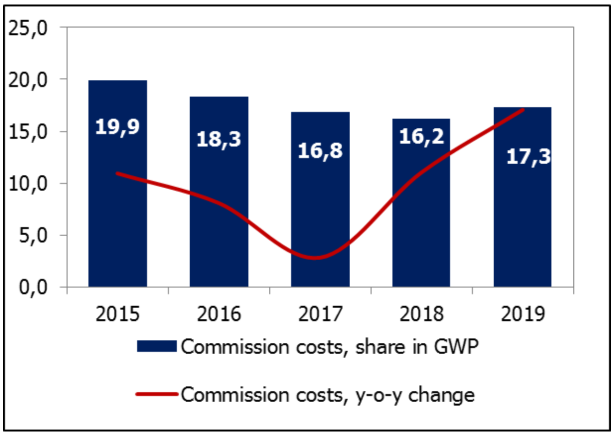
Source: National Bank, based on data from the Insurance Supervision Agency and the EIOPA.

High expenses for conducting insurance are also features of life insurance, which increased the cost ratio to a level of 32.7%. High commission costs are even more pronounced in life insurance and account for more than half of total administrative costs and expenses for conducting insurance, i.e. 17.3% of the total GWP in 2019. The Insurance Brokerage companies have the largest share within these expenses (7.5%), followed by banks (5.7%) and insurance agencies (3%). Such developments point to a need for higher control of expenses in the operations of domestic insurance sector and improvement in operational efficiency to provide long-term sustainable profitability of the sector.

[274] The average includes Croatia, Hungary, Romania, Hungary, Poland, Slovakia, Bulgaria, Czech Republic, Slovenia and North Macedonia.

Chart 157
Structure of administrative costs and expenses for conducting insurance (left) and commission cost (right) of life insurance





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

The insurance companies maintain appropriate coverage of net technical and mathematical provisions[275] by investing in approved funds and categories over the legal minimum of 100%[276]. At the end of 2019, the net technical and mathematical provisions coverage with approved categories of funds accounted for 117.3% with non-life insurance companies and 102.8% with life insurance companies. Such indicators imply that the

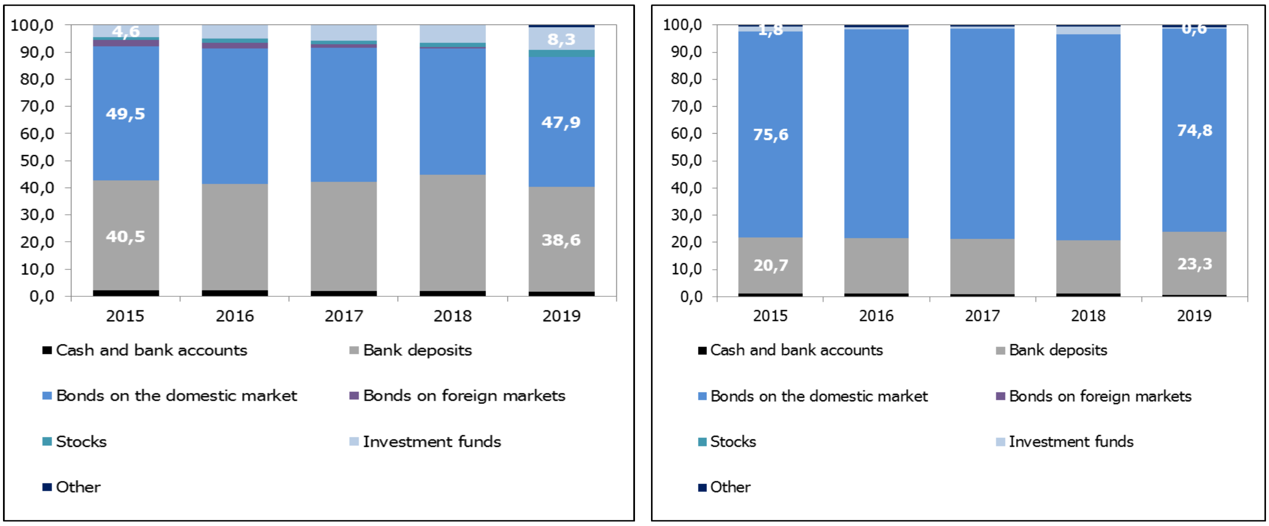
[275] Gross technical reserves reduced by reinsurance compose the net technical reserves. Namely, For the purpose of permanent ensuring to perform the duties from the insurance contracts, the insurance company shall be obliged to form technical provisions, consisting of:: 1) reserves for transferable premiums, 2) provisions for bonuses and discounts, 3) damage provisions and 4) other technical provisions. With a previous consent from the Insurance Supervision Agency, the insurance companies can allocate equalization provisions in relation to those insurance classes in which according to the statistical data there can be a significant deviation in the annual amount of incurred damages. The equalization reserve stands out due to equalizing the uneven claims occurrence, i.e. equalizing any kind of technical deficit or above average claims coefficient. The insurance company insuring life and/or other insurances to which the probability charts refer to and calculations similar to life insurance shall also allocate mathematical provision in certain percentage of paid premiums for this insurances. The insurance company that concludes insurance contracts in which the investment risk is borne by the insured shall also allocate certain funds related to these insurance policies that cover technical provisions. Reserves for transferable premiums are allocated for the amount of the premium share that is tranferred in the next accounting period in proportion between the expired insurance period and the remaining period until the expiration of the insurance contract. Provisions for bonuses and discounts are allocated for the amount which the insured are entitled to receive on the basis of: 1)right to participate in the profit and other rights arising from insurance contracts (bonuses); 2) right to a partial reduction of the premiums (discounts) and 3) right to return a part of the premium which refers to the unused period of insurance due to the premature termination of the insurance (cancelation). Damage reserves are allocated in the amount of the estimated liabilities which the insurance company is obligated to settle, based on the insurance contracts where the insured event occured by the end of the accounting period, regardless whether the event is reported, including all the costs arising from the untimely performance of the duty of insurance companies upon completed indemnification claims. Damage reserves, besides the estimated liabilities for reported and still unsettled claims, include as well the estimated liabilities for incurred yet not reported damages. Mathematical provision is allocated in the amount of the the present value of the estimated future liabilities of the insurance company arising from insurance contracts, net of the present value of future premiums payable on those contracts. The mathematical provision is calculated by using appropriate actuarial estimates, taking into account all the future liabilities of the insurance company arising from individual insurance contracts including the following: 1) guaranteed payments to which the insured are entitled; 2) bonuses to which the insured are entitled, individually or together with other insured regardless of the type of bonuses; 3) all rights the insured can choose based on the insurance contracts and 4) costs, including commissions. The mathematical reserve must be calculated for each insurance contract, and is applicable to other contracts only when it is obvious that the result derived from them will be approximately the same as the one from the individual calculation. Other technical reserves will be allocated to future planned liabilities and risks from greater damages arising from the insurance coverage for the liability of the pharmaceutical priducers, earthquakes, floods, as well as other liabilities and risks from the insurance contracts that are not covered with the basic technical reserves.

[276]Assets covering technical reserves are the assets of the insurance companies that serve to cover future liabilities arising from insurance contracts and to cover possible losses from the risks, associated with insurance activities that requires from insurance company to allocate funds for covering the net technical reserves. The insurance company is bound to invest funds in the amount that is at least equal to the value of technical reserves- net of reinsurance, according to the provisions of the Law on Insurance Supervision and according to the Regulations on types and characteristics of the assets covering technical reserves and assets covering mathematical reserves as well as a detailed placement and limitation of these investments and their evaluation.

insurance sector provides complete coverage of future liabilities which arise from insurance contracts and possible losses in terms of risks related to insurance performances, which is a significant factor for the stability and resilience of the sector to shocks. **The assets covering the technical and mathematical provisions are mostly consisted of Government securities issued on domestic market and bank deposits,** which together account for 86.5% of total non-life insurance investments and 98% in life insurance investments. The share of domestic debt securities is higher, participating with 47.9% in total shares of non-life insurance at the end of 2019 and 74.8% of total investments in life insurance, which is close to the legally allowed limit[277]. The share of bank deposits is 38.6% in non-life insurance and 23.3% in life insurance[278].**Providing lower risk exposure and high liquidity of investments of domestic insurance sector is the positive aspect of such structure of investments. On the other hand, it emphasizes the concentration risk, whereas both, the stability of the domestic banking sector and public finances sustainability have a key role for healthy and stable domestic insurance sector.** In an environment of low interest rates, in the last several years, there is a characteristic increase of the share of investments in shares and stocks to investment funds registered in the Republic of North Macedonia, which is more of a tendency of non-life insurance. Still, the share of these riskier instrument classes is so far low and is 8.3% of the total investments of non-life insurance, which points to a low exposure of insurance companies to market risk. The equities have insignificant share in the structure of investments of insurance companies. Non-life insurance companies direct a very small part of their investments to foreign financial instruments (2.5% in 2019), while such investments almost do not exist in life insurance companies, although allowed by Law, with certain limitations[279].

[277] According to the Law on Insurance Supervision, article 88 and 89, up to 80% of the value of assets covering the technical reserves can be invested in bonds and other securities issued or guaranteed by the RNM on the domestic market.
[278] The legal limit on the value of assets covering the technical reserves that can be invested in deposits with banks holding a license issued by the Governor of the National Bank is 60%.
[279] According to the Law on Insurance Supervision, up to 20% of the assets covering technical reserves can be invested in instruments from foreign issuer outside the RNM.

Chart 158
Investments of the technical and mathematical provisions
(structure in %)
Non-life Life



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

The cross-sector analysis indicates a limited significance of the insurance sector as a source of risk to financial stability so far, primarily because of the weak connection with other segments of the system. The insurance sector has a high exposure to the state and the banking sector. Yet, given the small size of the sector, its significance as a source of funding for the state and banks is limited, despite the generally upward trend in the last period. With the end of 2019, the insurance companies participate with 8.2% in the ownership structure of government securities, which is significantly below the share of pension funds and banks (42.1% and 32.6%, respectively). This indicates limited influence of the insurance sector as institutional investor on the government securities market. Given the marginal importance of equities in the structure of total investments of the sector, the importance of the insurance sector for the movements in the domestic capital market is small.

Chart 159
Ownership structure of government securities
in %

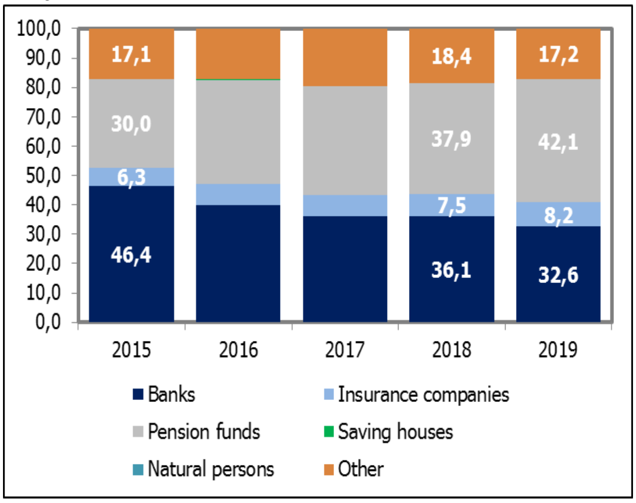
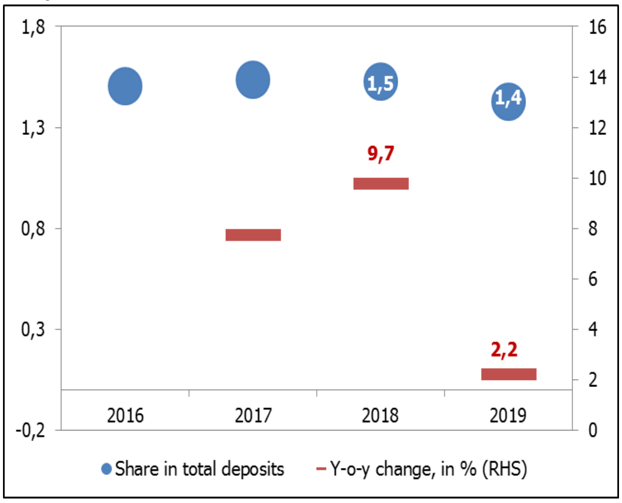


Chart 160
Deposits of insurance companies in banks
in %



Source: NBRM, based on the data from the Ministry of Finance and data submitted by banks.

The banks' funding sources originating from insurance companies are still small and generally refer to bank deposits. The insurance companies' deposits, as of the end of 2019, take up for 1.4% of total bank deposits[280], and the level of credit exposure of the banking sector towards the insurance sector is still modest. Loans approved by banks to insurance companies participate with 3.2% in total loans approved to financial entities, i.e. with only 0.1% in total loans of banks (approved to non-financial and financial entities).

Chart 161
Share of bank loans to insurance companies in total loans of banks (to financial companies and in total, to financial and non-financial entities) in %

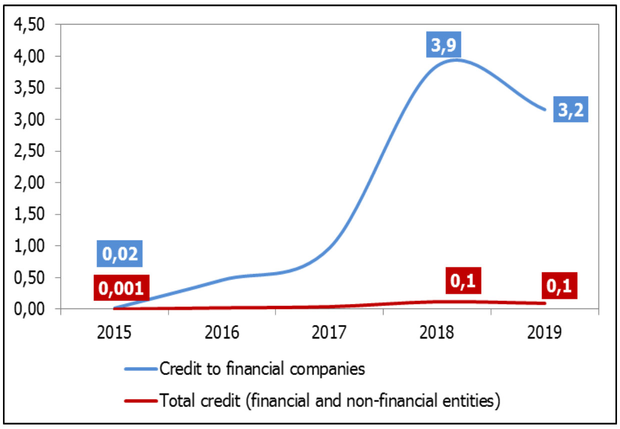
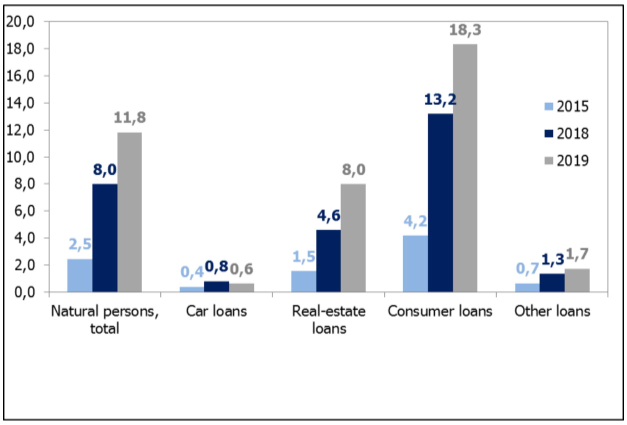


Chart 162
Banks' credit exposure covered with life insurance policies, as a percentage of total credit exposure to natural persons



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

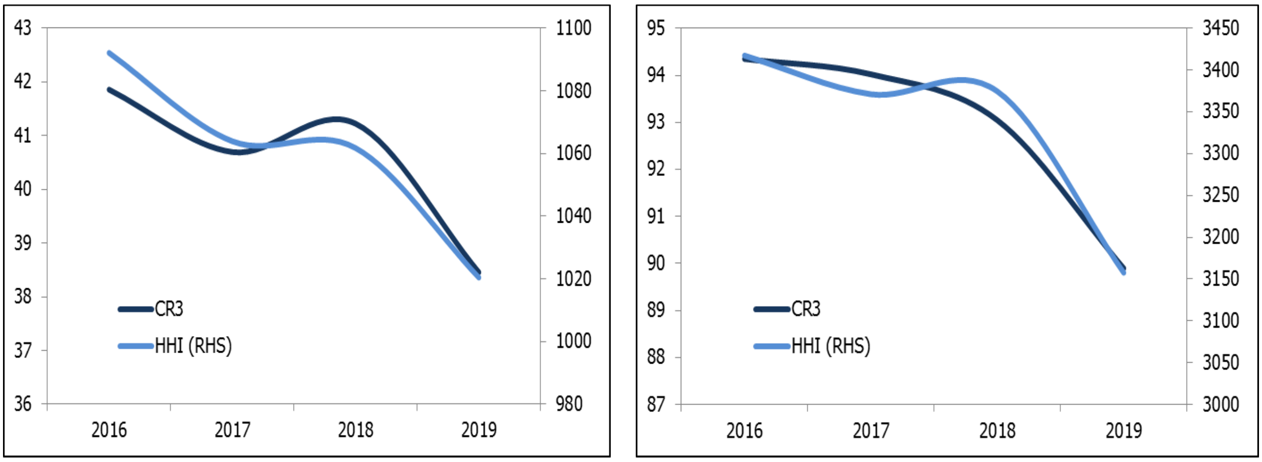
Increased activity of banks in the area of bank insurance is specific lately, which is a potential channel for risk transmission between the banking and insurance sector. The importance of the banks as channels for insurance sale continuously increases, and in 2019 it is 4.6% of the total GWP. **The banks are particularly active in the area of life insurance (share of 20.4% of the total GWP), which is linked to the increased offer of credit products for households covered with a life insurance policy.** The credit exposure of banks to households covered by life insurance policies takes up for 5.5% of the total credit exposure and 11.8% of the banks' total credit exposure to natural persons in 2019, which is an increase compared to the previous year and is five times higher compared to 2015 (share of 1% in total credit exposure and 2.5% in total credit exposure to natural persons). The increase of the exposure covered with life insurance policies is characteristic for all credit products, mostly pronounced in the consumer loans segment, followed by housing loans. When it comes to bank insurance, the spillover of risks is bidirectional, i.e. it can be realized by insurance activation by the banks thus increasing the gross claims paid by insurance companies and increased banks' exposure to credit risk in case of late or inefficient resolution of claims incurred by the insurance companies. However, these risks are mainly limited, taking into account the type of insurance coverage, which is additional collateral for the bank only in case of the borrower's death[281]. **Another linking channel between the banking and insurance sector is the credit insurance, as a type of non-life insurance to protect banks from credit risk materialization, whose share in the**

[280] In the structure of insurance companies' deposits, the long-term deposits prevail in banks (with a share of 82.8%), followed by short-term deposits (9.1%) and sight deposits (8.2%).

[281] In credit life insurance, the life insurance policy allows insurance coverage for the remaining amount of the loan in terms of adverse event: 1) death as a result of an illness or by accident; and 2) permanent disability due to accident, indicating a slight possibility of massive risk realization, having impact on the operation of the insurance and banking sector, which could happen only in case of greater unexpected changes in the death and life expectancy rates.

activities of the insurance companies is rather small so far. It is a new class of insurance, introduced in 2017 for the first time and for the time being it is offered by three insurance companies which have written gross premium in the amount of 0.1% of the total GWP on non-life insurance in 2019. In 2019, one claim is paid on the grounds of credit insurance in the amount that corresponds to about 0.03% of total amount of gross claims paid on the grounds of non-life insurance during the year. The banks also collaborate with the insurance companies in the area of property insurance which they use as collateral for approved loans to households and corporate sector. According to 2019 data, almost 60% of the credit exposure to households which is collateralized with property is covered with property insurance policies, while 40% belong to non-financial companies.

Chart 163
Indicators of concentration of the domestic insurance sector measured by GWP
Non-life Life



Note: The CR3 indicator shows the share of the three insurance companies holding highest amount of GWP in the total GWP in percentage. HHI is an indicator for Herfindahl-Hirschman index calculated with the formula HHI= $\sum_{j=1}^{n}(S_j)^2$, where S is the share of each insurance company in the total amount of GWP and *n* is the total number of companies in the system. The index is shown in index points, where the value of the index lower than 1000 points indicates a low level of concentration; the value of HHI between 1000 and 1800 points indicates moderate concentration; while the value over 1800 points indicates high concentration in the system.
Source: National Bank, based on the data submitted by ISA.

Regarding the non-financial sector, the still underdeveloped culture for insurance of domestic entities contributes to a small threat of spillover of risks from the insurance sector to corporate sector and households, as users of the insurance services. Despite the high increase in the last couple of years, the life insurance policies still have a relatively small portion of the total financial assets[282] of households with a share of 1.4% in 2019. In the non-life insurance segment, the compulsory MTPL insurance still dominates. The share of insurance products to non-life insurance that contribute to households' social security (such as health and property insurance) is still low, but growing, which indicates the need for monitoring the risks related to such instruments. **An additional factor that contributes to reduced exposure of non-financial sector to risks from the insurance sector is the concentration level of the sector.** In 2019, the Herfindahl-Hirschman index in non-life insurance is 1020 index points (calculated by GWP), which indicates low to moderate concentration level, while the three companies with the highest value of GWP (CR3 index) take up for something more than one third of the market (38%). Such conditions indicate a current competition in the sector, as well as its capability for sustainable servicing of the insurance market in the event of unforeseen shock with individual insurance company. Having sufficient

[282]For more details on the households' financial assets please see the Households section of this report.

number of competitors with similar range of replaceable products, such as the non-life insurance domestic market, is considered as favorable market position which is able to provide continuity of the insurance coverage in the event of problems with certain company. In the life insurance segment, high concentration is characteristic, yet with a declining trend in the last period, which is explained with the development phase in which the sector is, with small number of companies existing on the market.

The Insurance Supervision Agency measures and activities on mitigating the effects by the Covid-19 pandemic upon the operations of the insurance sector

The spread of the new Covid-19 infection since the beginning of 2020 has set up new challenges in the domestic insurance sector operations. The early information from the Insurance Supervision Agency, gathered through regular communication and surveys with the insurance companies, show that the pandemic reflects the operation of the sector by stagnation in the sale of policies for both, life and non-life insurance. In the segment of non-life insurance, the travel, border and MTPL (domestic and international) insurances were mostly affected amid undertaken measures to prevent the spread of coronavirus, including movement restrictions in and out of the country. The insurance companies reported delays in the matured premiums by the insured, which altogether leads to decrease of the cash inflows and difficulties in liquidity management. On the other hand, the conservative policy of investments by the domestic insurance companies, with a dominant share of domestic securities and bank deposits, limits the risk of losses from investment due to low exposure to international financial markets.

Following the conditions in the domestic economy as well as the recommendations by the European Insurance and Occupational Pensions Authority (EIOPA), the Insurance and Supervision Agency (ISA) as an authorized supervisor and regulator of the domestic insurance sector, reacted timely and undertook measures and activities to lower the risks, consequences and effects of the pandemic upon the sector's operations. The first measures adopted in March 2020, eased the operations of entities on the insurance market by delaying the previously planned on-site supervisions of the insurance companies and other entities supervision, and temporary postponement of the initation of misdemeanor procedures towards supervision entities, as well as increased flexibility in communication with ISA by temporary prolonging the deadlines for submitting regular reports to the Agency. In terms of strengthening the resilience of the sector to shocks and complete protection of the rights of insured, the ISA required the supervision entities to undertake all possible measures for maintaining their capital and solvency at an appropriate level and gave them recommendation to refrain from distribution of corporate profits in the form of dividends or other bonuses to members of the management bodies as well as to refrain from spending assets to unproductive expenses, during the period of crisis. The ISA appeals to high awareness of the insurance companies and proper treatment of their clients and postponed the organization of trainings and exams for insurance agents and brokers.

After perceiving the initial effects from the pandemic and the problems that insurance companies are facing in their operations, a second set of measures was adopted in the middle of April, in order to provide continuity in the operations of insurance companies and mitigation of the risk caused by the crisis, through regulatory facilitation and adjustment of the supervisory regulations and standards. The regulatory amendments are aimed at temporary facilitation in:

1. The regulation on types and characteristics of assets that cover technical and

mathematical reserves, as well as detailed placement and limitation of these investments and their evaluation, where 10% of the assets for covering technical reserves are allowed to be from the due and undue receivables up to 30 days until 31.12.2020.

2. The regulation on the method for valuation of balance sheet items and preparation of corporate balances where the recognition of impairment of claims is allowed to be shifted for additional 60 days until 31.12.2020. The amendment aims to mitigate the impact on the financial result of the insurance companies due to reduced collection of claims based on insurance premium, which will contribute to faster return to "normal" functioning of insurance companies after the crisis ends.

3. The regulation on minimum content from the records and manner of registration, reservation and liquidation of claims by the insurance companies, where as long as the state of emergency is in power, it is allowed to shift the recording of registered claims for 5 days. With this measure, given the state of emergency and flexible work management, ISA enabled the insurance companies to have additional period for processing the claims and thus protect the rights and interests of the insured.

4. The decision on the manner of valuation of claims' provisions of the insurance companies and/or reinsurance during the state of emergency, where it is defined that in the valuation of technical reserves for the second and third quarter of 2020 despite the slower claim settlement/claim report in the current state of emergency, not to affect the valuation of technical provisions. This amendment aims at providing stability for the "insurance" sector, as well as protection for the insured, through realistically defining the reserves of the insurance companies.

1.7 Financial leasing

The leasing companies continued to grow with a solid double digit rate annually, although with a slower pace compared with the previous year. Despite the strong growth in the last three years, the leasing sector remains small and relatively underdeveloped, mostly aimed at vehicle leasing. The leasing sector realizes certain types of linking with other segments of the financial system, without a risk for the financial stability, given the relatively small size of this sector. In addition, the debt of households and corporate sector to leasing companies has a relatively small significance in total debt of these two sectors on aggregated level, although the risk of over-indebtedness of individual entities and natural persons is still present. The most important risk in the operation of these companies is the credit risk. Despite the low and declining share of active leasing contracts with non-financial status (where the collection delay is longer than 90 days), a good portion of the portfolios of leasing contracts is still collected with a certain time delay. This is particularly important in the context of currently deteriorated environment for all market participants, including the leasing companies, as a result of the COVID-19 pandemic which will probably cause increased exposure to credit risk[283]. The COVID-19 pandemic is also expected to affect the demand of services of leasing companies given their preferred orientation towards vehicle leasing. In terms of exposure to liquidity risk, there are relatively significant negative gaps between assets and liabilities with residual maturity of three months to one year, which could widen in the forthcoming period given the taken measures for easing the debt burden of the lessee. Leasing companies generate short currency position, the level of which is important in comparison to the equity and reserves, and almost all leasing contracts are in denar with currency clause, which emphasizes the significance of the fixed currency policy of denar to euro for the stability of these institutions. The solvency records moderate decrease given the low reinvestment rate of the realized gains in equity positions of the leasing companies.

In 2019, the assets of leasing companies continued to grow, but at a slower pace than in the previous year. Namely, in 2019 the leasing companies' assets increased by Denar 703 million or by 14.3% which is a weaker performance compared to the growth of assets in 2018 (Denar 982 million or 24.9%). Among the non-banking financial institutions dealing with loans and leasing, the leasing sector still holds the biggest assets, although the

[283] In order to ease the debt burden of natural persons and entities as lessees, in conditions of COVID-19 pandemic, in the beginning of April 2020, a Decree with force of law was adopted on the application of the Law on Leasing during state of emergency ("Official Gazette of RNM" No 90/20). According to the provision of this regulation, for the period April 1 to June 30 2020, the leasing companies are bound to offer natural persons –lessees (AS OF 31.03.2020) a reduction of the monthly annuities of at least 70%, for which they must not calculate and charge fees, costs, commissions and/or penalties. These liabilities will be equally arranged to rest of annuities or the payment may continue for at least 90 days. The offers from the leasing companies on facilitating the debt burden were accepted by 60.4% of total natural persons-lessees. The leasing companies may ease the terms from the leasing contracts with legal entities concluded as of 31.03.2020, on the request of the legal entity- lessee submitted in the period from 01.04-30.06.2020. The terms of 27.9% of the total number of legal entities were eased on this grounds. The lessees with contracts concluded from 01.04-30.06.2020 have a right to ask for grace period of up to three months, in which the leasing companies may calculate only contractual interest.

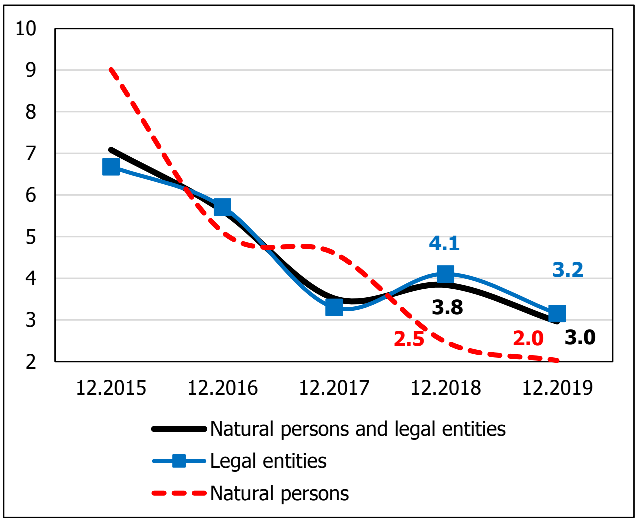
financial institutions are more and more converging to it year after year. However, banks and savings houses are the biggest competition to leasing companies (particularly in conditions of low and declining interest rates), primarily, giving services to natural persons, especially due to the fact that the object of lease becomes the property of the lessee only after the lessee has fully paid the obligations under the lease contract. **Unlike the previous year, when a new leasing company was incorporated, in 2019 the number of companies operating on the market remained unchanged (7).** Although the activities of the leasing companies grew at a slower pace in 2019, still the annual growth rate is solid and double digit, and if it weren't for the COVID-19 pandemic in 2020, the period of saturation and continuous decline in this segment of the financial system, present from 2012 to 2016 can be considered as already past. However, the relative underdevelopment of the leasing sector still remains, and is mostly oriented to vehicle leasing (travel and trailer), with rudimental development of leasing of machinery and equipment, and completely undeveloped leasing of property. Practically, part of the vehicle distributors that also incorporated leasing companies, are amongst the major market players in the leasing sector[284]. Besides selling new vehicles, the distributors also work with secondary vehicle sale, which is very favorable for easier operation of the business model of leasing companies in their ownership (enabling them the option of selling new vehicles for the exchange of old ones, with surcharge, etc.). Hence, the performances of the leasing in the domestic sector are mostly determined by the performances on the vehicle market, where significant consequences caused by the coronavirus pandemic are expected in the forthcoming period. Besides that, a company whose major business model is managing, for the purpose of liquidation (closing) the portfolio of non-functional leasing contracts is present on the leasing

[284] One leasing company, owned by a domestic bank, has a significant market share. Besides vehicles, they also offer equipment and machinery, as well as vessels in its leasing services.

market, after which this company is expected to enter the market. **The share of leasing companies to total assets of the financial system is marginal, amounting 0.8% on 31.12.2019, which is unchanged compared to the end of the previous year.**

The leasing sector establishes certain connections with other sectors in the financial system. Individually, three leasing companies have established ownership relation with one bank, financial company and insurance company. Specifically, one domestic bank owns a leasing company, and two other leasing companies are part of foreign financial groups, which also participate in our market with a financial and insurance company. Furthermore, there is an inherent relation between the leasing sector and insurance sector, due to the regulatory obligation to insure the leased asset in certain insurance company (unless determined otherwise in the leasing contract). Finally, the leasing companies also establish certain connection with the banks, through their deposits, i.e. loans they use as funding source for their activities. The leasing companies' deposits with banks take up for 2% of these companies' assets (around 90% of these deposits are for transaction purposes), and represent only 0.03% of total bank deposits. Besides that, bank loans used by the leasing companies participate with 4.3% of their total funding sources, i.e. make up 0.1% of the total banking loans. However, we should take into account that bank loans are almost completely concentrated at one leasing company, where around 69% of the funding sources accounted for bank loans (mostly from one bank). Hence, loans from one bank are a rather important financing source for the activities of this leasing company (the approved loans of the leasing company participate with only 1% in the bank's total assets).Yet, there are no risks for the financial stability from the previously stated connections, given the relatively small scope of business of the leasing sector. Analyzed by individual institutions there is a possibility for a spillover of risks and problems from one institution to another, depending on the size

Chart 164
Shares of active leasing contracts with clients uncollected on any bases longer than 90 days, calculated from the maturity date, to total value of active leasing contracts
in %



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

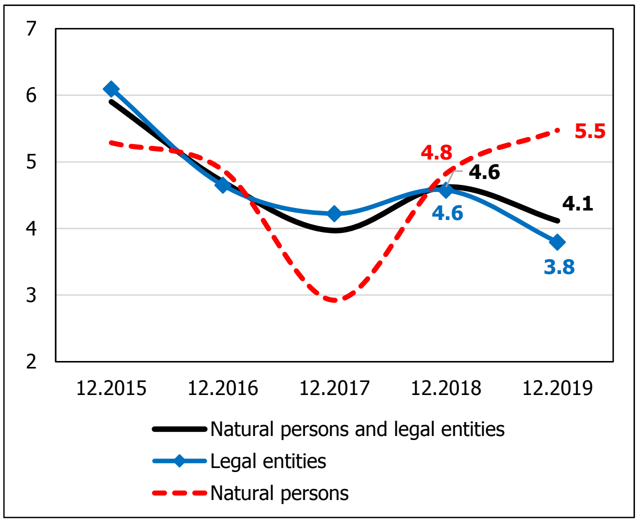
of each one, links and relations between them (ownership, debtor-creditor etc.) and the nature of possible problems which could occur in the future.

Growth of the companies' activities in 2019 was based on the increase of value of concluded leasing contracts, for both natural persons and entities[285]. The value of active leasing contracts concluded with natural persons increased by Denar 155 million, or by 13.1%, while leasing contracts with entities increased by Denar 635 million, or by 12.6%. The entities have the largest share in the leasing contracts portfolio, accounting for 80.9% of the total value of active leasing contracts. The debt of households and corporate sector based on leasing contracts has marginal share in the total debt (0.7% of the households debt, i.e. 1.2% of corporate debt), still not excluding the possibility for over-indebtedness of individual natural persons and entities. As it was previously mentioned, most of the companies' activities are aimed at vehicle leasing (88.5% of the value of active leasing contracts), followed by equipment and machinery leasing (2.1%) and other movable items (9.4%). In the maturity structure of leasing contracts, the share of maturity contracts between one and five years is the highest (76.1%), followed by those concluded with maturity longer than five years (23.5%).

Credit risk is the major risk the leasing companies are exposed to throughout their operations. The share of contracts with delayed collection in the total value of active leasing companies is not small and on 31.12.2019 is 33.4% (in the last five years this share ranges between 30% and 40%). However, in more than half of these leasing contracts, the delay is up to 30 days (i.e. leasing contracts where the collection delay is up to 30 days, take up for 19.4% in total leasing contracts[286]). On the contrary, the active leasing contracts collected with a delay

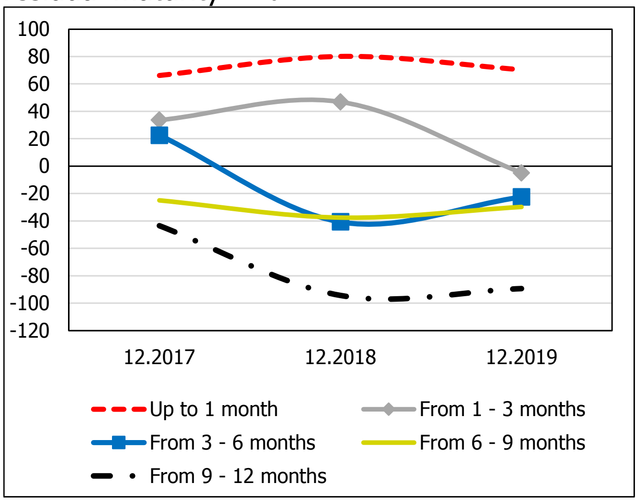
[285] The liabilities based on leasing contracts account for 73.2% of leasing companies' assets. The material assets follow, with 22.6% of the leasing companies' assets.
[286] The share of leasing contracts where the payment delay is between 60 and 90 days is somewhat higher to the total value of active leasing contracts (10% on 31.12.2019).

Chart 165
Shares of the value of terminated leasing contracts during the year, to the value of active leasing contracts at the end of the previous year
in %



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

Chart 166
Shares of gaps between financial assets and liabilities to total financial assets, by individual maturity buckets, according to contractual residual maturity in %



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

longer than 90 days accounts for modest 3% with a continuous decline in the last five years. An important indicator for materialization of credit risk in leasing companies is the share of value of the terminated[287]leasing contracts in the current year to the value of active leasing contracts at the end of the previous year. This indicator records a general downward trend in the past five years and by the end of 2019 was 4.1%, for the total portfolio of leasing contracts. The impairment cost of leasing contracts in the income statements of leasing companies is not that big and accounts for 9.4% of the total profit of the companies in 2019. The indirect exposure of credit risk, which stems from the presence of leasing contracts with currency component is important, given that 99.2% of the active leasing contracts of these companies are in Denar with currency clause (in leasing contracts with entities, the share of contracts in Denar with currency clause is 99.8%, while with natural persons this share is 96.3%).

Exposure to liquidity risk of the leasing companies is generally under control. The analysis of residual maturity of their financial assets and liabilities indicates an existence of significant liquidity gaps in maturity buckets from three months to one year. Analyzed by contractual original maturity, the assets with original maturity up to one year are by 2.6 times higher than liabilities with original maturity of up to one year (this ratio was 1.9 times at the end of 2018). Moreover, the most liquid part of the leasing companies assets (cash and cash equivalents) cover 25.7% of total short-term liabilities. Analyzed by contractual residual maturity, the gap between assets and liabilities is positive only in maturity buckets up to one month. A small negative gap is registered in the maturity bucket from one to three months, which significantly deepens in the maturity buckets that follow, all up to one year. The significant

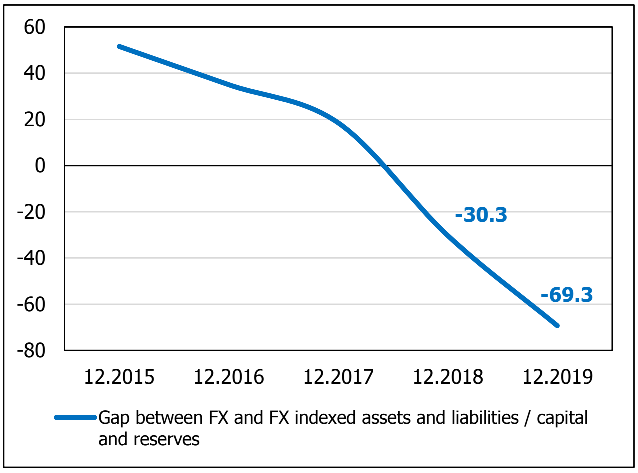
[287] It should be taken into account that the termination of the leasing contracts is not always due to non-fulfillment of obligations according to the leasing contracts by the lessees, but it could also be due to non-fulfillment of obligations by the lessor (leasing company).

negative gaps between assets and liabilities of leasing companies with residual maturity between three months and one year indicate the need for more careful management of assets and liabilities, primarily from the aspect of their residual maturity. Namely, next year, the leasing companies need to cover this negative gaps by restructuring the sources of assets (recovery, refinancing of part of fund sources, new borrowing to cover old debt and similar) and/or by cutting the maturity of new leasing contracts. Having negative gaps between assets and liabilities according to their residual maturity is particularly important in context of facilitations by the leasing companies for their clients in order to ease the debt burden for their lessees in times of coronavirus pandemic. Such facilitations in the next couple of months mean reduced collection of claims based on leasing contracts, which could deepen the liquidity gap. In the leasing companies' liability structure, the share of liabilities to foreign banks is the largest with 45% followed by liabilities to related entities with a share of 41% (liabilities to domestic banks participate with 5.3% in total liabilities). The structure of interest costs used to cover the liabilities based on credits and borrowings is 1.75 for 2019[288], which indicates the use of relatively cheap funding sources (at least from the aspect of the interest rate[289]). In comparison, the interest income[290], that leasing companies earn from concluded leasing contracts is 5.6% in 2019.

The exposure of leasing companies to currency risk is important. In the last two years, on aggregated bases, the leasing companies' segment has a short currency position (amounting 69.3% of the leasing companies' equity and reserves for 2019), which exposes them to a risk of possible devaluation of the Denar and emphasizes the meaning of de facto policy of fixed Denar exchange rate against the euro. In the last two years, the transformation of the long

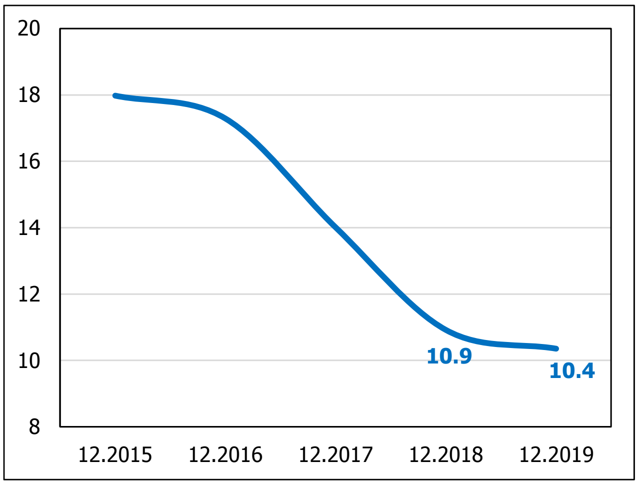
[288] The rate of interest expenses is a ratio between the interest expenses and the in 2019 and the average stock of liabilities based on loans and borrowings of leasing companies.
[289] There is no data on expenses based on commissions and fees for liabilities from loans and borrowings, which could increase the rate of costs of financing sources significantly over the determined rate of interest expenses.
[290] It is a ratio between interest expenses in 2019 and the average amount of liabilities based on the leasing contracts.

Chart 167
The share of the gap between financial assets and liabilities with currency component in capital and reserves
in %



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

Chart 168
The share of capital and reserves to total assets
in %



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

currency position into short one stems from the higher growth of liabilities with currency component compared to the growth of assets with currency component. The growth of liabilities with currency component completely stems from the growth of liabilities to non-residents.

Capitalization ratio of leasing companies as a share of capital and reserves to total assets was 10.4%[291]. The decrease of this ratio (by half percentage point), compared to last year, is due to the rapid growth of assets (14.3%) compared to the growth of equity and reserves (8.4%). Namely, the use of change in equity and reserves in 2019, which stems from retaining the profit, i.e. covering the claims in 2018 accounts for 30.1% of the total profit in the leasing sector for 2018, which indicates a relatively low rate of profit reinvestment by the leasing companies in their capital positions.

[291] Leasing companies do not have special regulation for keeping a certain capitalization or solvency rate, but only a regulatory request for a minimum amount of the share capital for establishing the financial leasing issuer, of denar 6 million (the share capital of the leasing company should not be reduced below this amount during the operation.

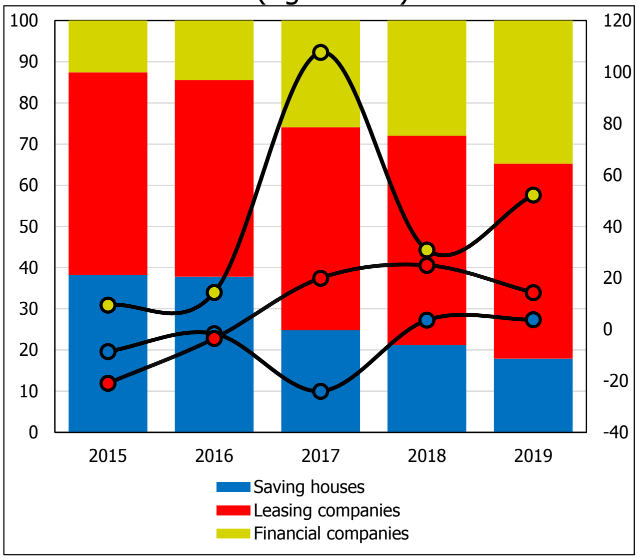
1.8 Financial corporations

Financial corporations are the youngest and the most dynamic segment of the financial system, which by using their credit activity, provide higher levels of financial inclusion of individual categories of natural persons and entities with difficulties in their access to loans from depository financial institutions. Although they operate almost ten years on the market, they still make one of the highest growth rates, and the interest for incorporating new financial companies in recent years is rather big. Despite the rapid growth, they are still on the margins of the financial system, not establishing any significant connection with other segments of the system, and the debt they make to households and corporate sector, on aggregated level, still has a slight relative significance, measured by the shares in total debt or total assets of both non-financial sectors. However, their orientation towards clients with weaker creditworthiness, that are usually not qualified for loans from depository financial institutions, as well as high prices (rates and other charges), part of which the financial corporations collect from approved loans, creates a risk from over-indebtedness of individual households or entities. Besides that, the implementation of unfair practices and standards in business relations with clients makes a bad reputation for some financial companies, not only for them, but also for the complete segment of financial institution dealing with credit activity. The credit risk is the most important risk in these companies' operations. In 2019, it records an aggravated materialization, when a relatively large part of the credit portfolio received a non-performing status or is collected with a certain delay. This creates significant costs to non-financial companies, which on its own could be a reason for introducing high risk premiums in the prices of credit products. Liquidity risk exposure of financial companies is controlled, but mostly depends on the successful collection of receivables from clients, contractual scope and dynamics. The financial companies realize a short currency position, whose level is important compared to capital and reserves, emphasizing the meaning of de facto fixed exchange rate policy of the denar against the euro for the stability of these institutions. Compared to the previous year, although moderately decreased, the solvency is still by three times higher compared with the legal minimum.

The negative transmission effects from the global health and subsequently economic crisis, which burst at the beginning of 2020, will be mostly manifested as an increased materialization of credit risk in financial companies'[292] operations. However, a significant increased demand for loans could occur from these companies in the forthcoming period, amid possible decreased credit offer and tightened credit standards by depository financial institutions.

[292] In order to ease the debt burden of natural persons and entities as lessees, in conditions of COVID-19 pandemic, in the beginning of April 2020, a Decree with force of law was adopted on the application of the Law on Leasing during state of emergency ("Official Gazette of RNM" No 90/20. According to the provision of this regulation, for the period April 1 to June 30 2020, the leasing companies are bound to offer natural persons –lessees (AS OF 31.03.2020) a reduction of the monthly annuities of at least 70%, for which they must not calculate and charge fees, costs, commissions and/or penalties. These liabilities will be equally arranged to rest of annuities or the payment may continue for at least 90 days. The offers from the leasing companies on facilitating the debt burden were accepted by 59.4% of total natural persons-lessees. The leasing companies may ease the terms from the leasing contracts with legal entities concluded as of 31.03.2020, on the request of the legal entity- lessee submitted in the period from 01.04-30.06.2020. The terms of 6.8% of borrowers, legal entities were eased on this grounds. The borrowers have a right to ask for grace period of up to three months, in which the leasing companies may calculate only contractual interest for the loans approved from 01.04-30.06.2020.

Chart 169
Structure of assets of certain types of non-banking financial institutions which operate with crediting and leasing (left scale) and annual rates of this assets (right scale) in %



Source: National Bank calculation, based on the data from the Ministry of Finance and data submitted by savings houses.

In 2019, the financial companies' assets continued the multiannual trend of dynamic growth and registered the highest change rate between individual segments of financial system. Namely, in 2019 the financial companies' assets increased by 52.2% (or by Denar 1.414 million), which is a significantly rapid growth compared with the previous year (30.9% or Denar 639 million). In the group of non-bank financial institutions which deal with lending and leasing[293], the financial institutions assets is twice bigger than the savings houses liabilities, and is getting closer to the size of leasing companies, which are still the largest within this group of institutions. The number of licensed financial companies increased by five, and by the end of 2019 reached 27 companies (out of which, two[294] were inactive on 31.12.2019). The trend (of transformation of savings houses into financial companies) present at the very beginnings of establishing and developing this segment of the financial system is already drained and in the recent years the number of newly incorporated financial companies with domestic and foreign capital has increased. However, since the occurrence of first financial companies in our country (2011), several institutions enter and leave this segment of the financial system in a relatively short time period, which indicates lack of certain significant barriers to entry and exit this part of the credit market. Thus, in the last year only six new companies were incorporated, yet one financial company, incorporated at the end of 2018, no longer operates in 2019, while another financial company incorporated in 2019, has a revoked license for operating in 2020. Despite the easy entry into this segment of the financial system, the relatively high prices of services offered by financial companies and probably the expectations for realization of high profit margins[295], are

[293] According to the regulation, the financial companies may deal with approving loans, issuing and administering credit cards, factoring, issuing guarantees, giving advice in relation to the previous activities and renting movable property and real estate to third parties, including operating lease. However, the credit activity dominates in the activities of financial companies, with a share of around 95% to total liabilities based on active contracts with clients.
[294] The Ministry of Finance revoked the license for operating to one company (in the beginning of 2020), while issued one to another company by the end of 2019.
[295] In 2019, the profit margin of financial companies was 19.8%, which is by far higher compared to the profit margin of the savings houses (5.9%), as well as leasing companies (12.1%), yet it is far below the profit margin of the banking system, which was 28.8%.

another significant reason for the high interest in operating in this part of the market, which is one of the largest according to the number of financial institutions (right behind the segment of insurance-brockerage companies, where a total of 35 companies operate). Despite the current significant dynamics in the segment of financial companies, they remain with rather small, even marginal share of assets in total financial system (0.6% on 31.12.2019, i.e. 0.4% at the end of 2018).

Among domestic financial institutions, the financial companies have somewhat greater connection with banks, yet not big enough to cause a spillover of possible negative effects from one sector to another, in both directions. Namely, the deposits of financial companies with banks are 6.9% of their assets (one third of these deposits go for transactional purposes), i.e. only 0.1% of total banks' deposits. Despite that, the share of bank loans disbursed by financial companies is 2.5% of their total funding sources, i.e. 0.03% of total bank loans. Hence, domestic banks hardly participate in financing the operation of financial companies, nor there is any alternative form of connectivity between these two sectors. The European Banking Authority and the European Systemic Risk Board indicated that in certain countries, in attempt to bypass the strict regulatory requirements, the banks transfer part of their activities to other entities, which are incorporated and operate under relaxed regulatory and supervisory standards and rules[296].

Also, in 2019, the largest part of the growth of financial companies' activities stems from crediting, primarily of natural persons. Thus, the approved loans to natural persons increased by 75.9% or by Denar 1.050 million (total financial companies' activities with natural persons increased by 74.2% or by Denar 1.060 million). The approved loans to entities also recorded solid growth of 48.6% or by

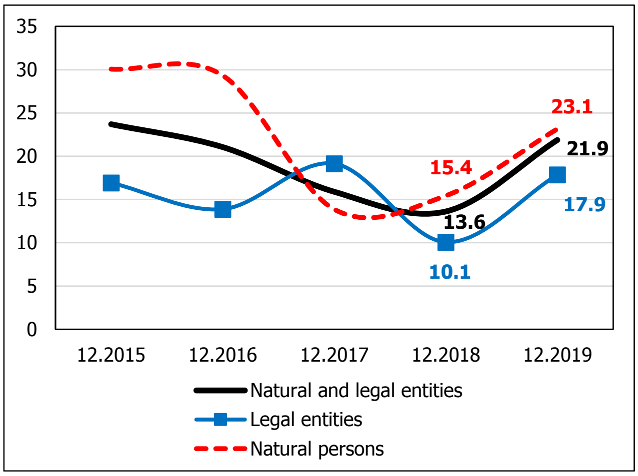
[296] More details on the shadow banking are presented in the Financial Stability Report of 2018.

Denar 265 million (total activities with this entities increased by 41.3% or by Denar 280 million). Hence, the faster growth of financial companies' activities with natural persons strengthened the already dominant share of these activities in total liabilities to clients (from 67.9% on 31.12.2018, to 72.3% at the end of 2019). The maturity structure of loans is dominated by loans approved with maturity over one year (53.7% of loans to natural persons and 63.6% of loans to entities), even though the share of approved short term loans is not small either. In their operations, the financial companies are mostly aimed at those segments of the credit market which have a heavier approach to loans from deposit institutions and do not meet the respective credit standards of banks and savings houses. Some of the financial companies apply an aggressive marketing approach in providing new clients, so they operate online and successfully use the new achievements in the digital technology, offering the clients easy, simple and fast loan approval procedures. Therefore, the financial companies implement high premiums on risk in the prices of their products (mostly loans), due to risks which arise from the orientation towards fast servicing of clients with lower creditworthiness and without appropriate thorough analysis (due diligence), which significantly increases the price collected from borrowers. Although the maximum height of both, the interest rate and the interest rate of total costs for loans they approve are regulated[297], part of the financial companies show that unfair practices and standards are applied to clients. Namely, by embedding certain clauses in loan contracts, part of the financial companies impose almost impossible obligations to their clients, whose most probable non-realization by the counterparty (client) allows them to collect additional fees outside the scope of the regulated rate of total costs.

[297] In the second half of 2019, the maximum height of the interest rate for loans in which at least one of the parties is not a trading company (loans to natural persons) was set up to a level of 10.25% (in the first half of the year, the maximum height of this rate was 10.5%). On the other hand, the maximum height of total costs to these loans (to loans approved by consumer loans issuers, to be exact) could be five times higher at the most than the previously mentioned rate (i.e. 51.25% for the second half of 2019 and 52.5% for the first half of 2019). The level of realized rate of total costs for 2019 was 48% (it is an approximate calculation as a ratio between the sum of interest and commissions' revenues and financial companies' fees for 2019 and the average amount of claims by active contracts with clients.

Hence, the loans approved to financial companies, although on aggregated basis, are marginally small share of the total debt to households, their financial assets[298] and total property, yet the risk of over-indebtedness of individual segments of population and entities still remains. The latter is especially important given the fact that a significant share of expensive loans to financial companies are aimed to segment of population with lower creditworthiness, including natural persons which are not qualified to receive a loan from a bank or savings house, or their indebtedness to depository financial institutions has reached the maximum level allowed under the prudent standards of these institutions. The occurrence of unfair practices and standards in the business relation with clients creates a negative reputation for both, financial companies and overall segment of financial institutions which deal with credit activities.

Chart 170
Shares of claims per active contracts with clients, uncollected for longer than 90 days, on any basis, from the day of maturity, to total claims in %



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

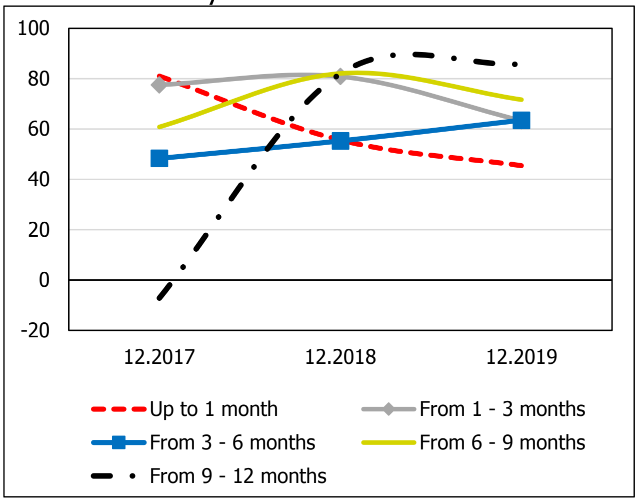
Credit risk is the major risk the financial corporations are exposed to throughout their operations. Despite the high diversification of credit portfolio, given the predominant approval of small amount loans, the share of loans with delayed collection is relatively high. Namely, at the end of 2019, the share liabilities based on active contracts with delayed collection longer than 90 days, counted from the maturity day, is 21.9%. The overall analysis shows that almost 80% of financial corporations' liabilities are collected with certain delay, and the share of liabilities which are collected with a delay of up to 30 days is the highest (49.3% on 31.12.2019). Therefore, not only that the financial corporations are inherently exposed to credit risk, but the level of risk materialization is rather high, and it can lead to embedding high risk premiums in the price of their services, as in order to compensate the high costs caused by risk materialization. Hence, in 2019, the impairment cost in active balance sheet claims in financial corporations' income statements amounts around 90% of this segment's profit (in other

[298] No more than 1%.

words, the financial corporation's realized profit is almost twice as lower compared with profit prior the impairment cost). The indirect exposure to credit risk, which stems from the loans with currency component, is insignificant, given the fact that 81.3% of liabilities by clients to these corporations are in denar (share of denar liabilities to total liabilities equals 86.3%, with natural persons, while somewhat lower with entities, amounting to 68.2%).

The financial companies' exposure to liquidity risk is controlled. Analyzed by contractual original maturity, the assets with original maturity up to one year are by 1.7% higher than liabilities with original maturity up to one year (this ratio was 1.6 times at the end of 2018). The most liquid share of financial companies' assets (cash and cash equivalents) covers 14.1% of total short-term liabilities. Analyzed by contractual residual maturity, in all analyzed maturity buckets up to one year, the gaps between corresponding assets and liabilities are positive, which indicates to financial companies' solid liquidity, under the assumption that the collection of claims and the payment of liabilities goes according to contracted dynamics and volume. Namely, having in mind that around 90% of the financial companies' assets accounts for claims from clients, the liquidity of these companies is mostly determined by the success of claim collectability, as agreed. On the side of liabilities, the structure seems relatively diversified. Namely, the liabilities to foreign banks have the largest share of 34% followed by liabilities to related entities with a share of 27.3% (liabilities to domestic banks have a share of 3.8% in total liabilities). The rate for debt servicing costs is 8.3% in 2019 (the rate of interest expenses on debt servicing is 6.3% for 2019)[299], which in conditions of historic low interest rates, seems relatively high and is probably a reflection of more significant risks undertaken by financial companies in their

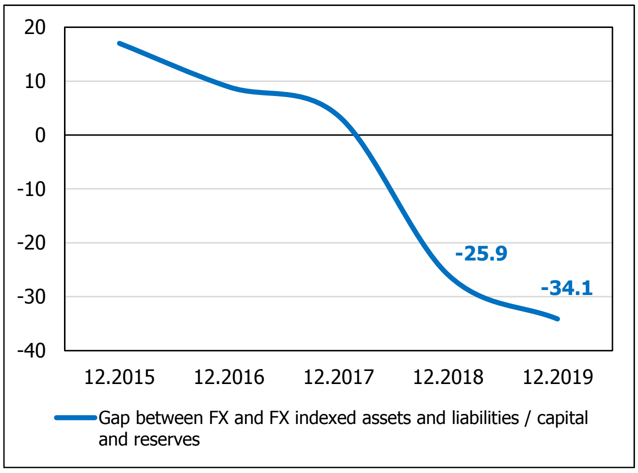
Chart 171
Shares of gaps between financial assets and liabilities to total financial assets, by individual maturity buckets, according to contractual residual maturity in %



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

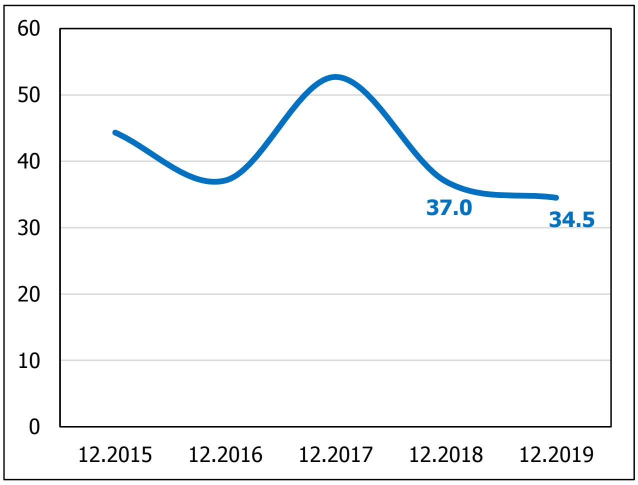
[299] The rate of debt servicing costs is a ratio between the sum of interest and commission and fees expenses in 2019 and the average condition of liabilities to financial companies. In the calculation of the rate of interest expenses, only the amount of interest expenses is taken into account.

Chart 172
Share of the gap between financial assets and liabilities with currency component to capital and reserves
in %



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

Chart 173
Share of capital and reserves to total assets
in %



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

activities, not excluding the motive for profit within related entities.

The financial companies' exposure to currency risk is significant. In the last two years, on aggregated basis, the financial companies' segment has a short currency position (in the amount of 34.1% of the equity and reserves of financial companies), which imposes a risk of denar devaluation and emphasizes the meaning of de facto fixed exchange rate of the denar against the euro. The transformation of the long currency position into short one in the past two years is a result of the higher growth of liabilities with currency component compared to the growth of assets with currency component. Around 42% of the increase of liabilities with currency component accounts for the increase of liabilities to non-residents.

Capitalization ratio of financial corporations as a share of capital and reserves to total assets was 34.5%. Reducing this rate (by 2.5 percentage points), compared to the previous year, is due to the faster growth of assets (52.2%), compared to the growth of capital and reserves (42.1%). The total claims of financial companies based on loans, guarantees, factoring and credit cards are 2.6 times higher compared to capital and reserves (2.3 times in 2018), while the legal maximum for this ratio is 10 times (in other words, the capitalization ratio of financial companies is by more than three times higher than the legal minimum, in this field).

1.9 Investment funds

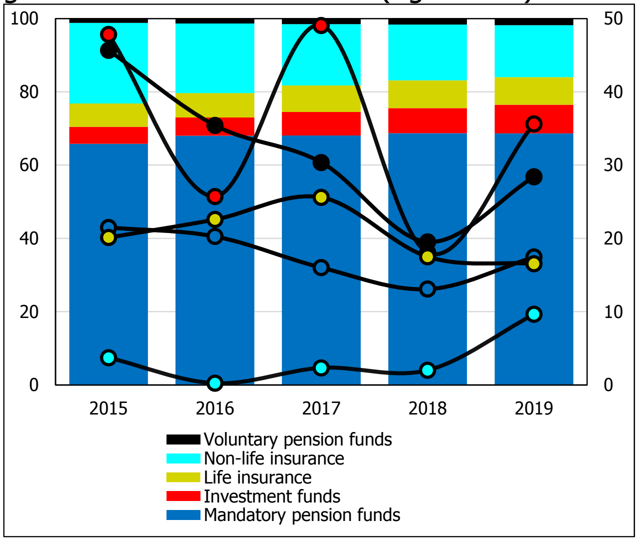
The investment funds[300] are one of the fastest growing financial institutions, but still represent a very small segment of the financial system (1.3% of total assets as of 31.12.2019). The investments of individual domestic investors in investment funds (primarily, non-financial entities and natural persons) are rather small compared to total assets they own on aggregated basis. Hence, possible problems in the performances of investment funds (non-liquid funds, high downward correction of property value, etc.) would not have serious negative spillover effects on domestic entities (on aggregated basis) as investors in these funds. In 2019, the growth of investment funds was doubled, due to high net incomes of assets based on sales of documents for stakes, as well as the high return realized from investing and managing these assets, amid extremely favorable developments on financial markets in 2019.

Most of the investment funds' assets are invested in deposits in domestic banks and (mostly domestic) debt securities (69.1% of total funds' property), which as instruments with fixed, predetermined payment dynamics and income levels, usually carry lower risks, as well as lower rates of return. Hence, domestic banks' stability and liquidity and interest rates on deposit products are obviously a key factor for the stability, liquidity and performance of the open-end investment funds, given the high share of investment in bank deposits. The second most important thing is the sustainability and efficiency in managing public finances and debt of our country given the relatively high individual share (16.8%) of investment in instruments issued by the Republic of North Macedonia. Although at a slower pace, the trend of growth of the share of placements in equity instruments to total investment funds' property continued, and at the end of 2019 reached 30.1%. The investment funds increased their investment not only in equity instruments issued by domestic market, but as well as in foreign equity instruments, exposing themselves to the risk of changing trends on world market of equity shares, which was materialized in the beginning of 2020, amid global coronavirus pandemic. Namely, with the announcement of the COVID-19 pandemic in the middle of March 2020, the investment funds' annual rates of return reached significant negative values, which in April 2020, gradually started to leave the negative zone, with the imminent calming of the financial markets' condition.

In 2019 the investment funds' assets recorded the highest growth rate among institutional investors, and overall, this segment of the financial system is among the fastest growing this year, followed by financial companies. Namely, in 2019, the investment funds' assets increased by 35.6% (or by denar 2.272 million), which is twice as big as compared to the last year's growth

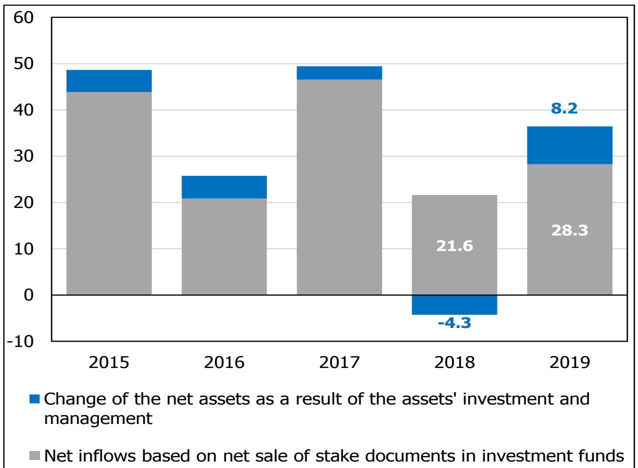
[300] The analysis in this section of the Report does not include private investment funds and private funds management companies, due to lack of data. Namely, pursuant to the Law on Investment Funds ("Official Gazette of the Republic of Macedonia" No. 12/2009, 67/2010, 24/2011, 188/2013, 145/2015 and 23/2016), these financial institutions in the Republic of North Macedonia are exempted from the obligation to submit regular reports to the relevant competent authority (Securities and Exchange Commission). In addition, the operating of these financial institutions is not subjected to any control and supervision by the Securities and Exchange Commission.

Chart 174
Structure of assets of individual non-banking institutional investors (left scale) and annual growth rates of these assets (right scale) in %



Source: National Bank calculations, based on data from MAPAS, ISO and SEC.

Chart 175
Growth structure of net assets of investment funds
in %

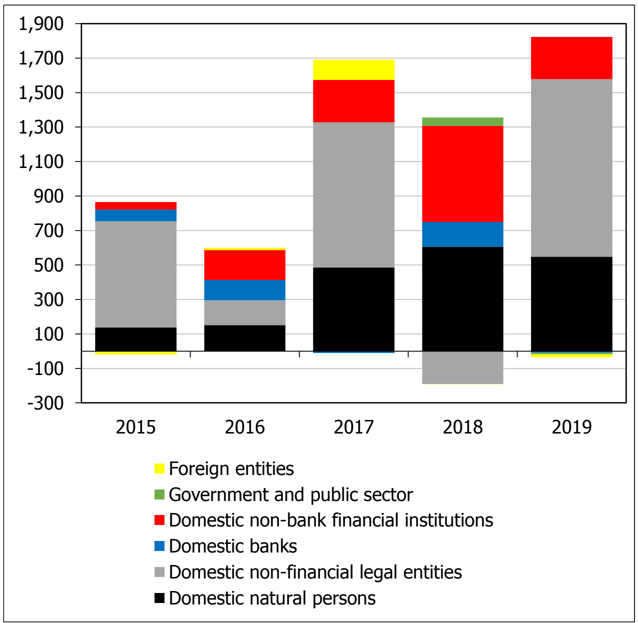


Source:National Bank calculations, based on data submitted by SEC.

(denar 976 million or by 18.1%). Thus, the investment funds' assets exceeded the assets of life insurance companies, for the first time this year, the third largest non-banking institutional investor[301] in the country, after the mandatory pension funds and non-life insurance companies. The number of investment funds increased by one fund [302] in 2019 (there are currently 16 open investment funds operating), and one famous world brand in the area of financial services indirectly entered[303] the market, which only confirms the perspectives for further rapid growth of this segment of domestic financial system. However, the share of investment funds to assets of non-banking institutional investors is still modest (7.9%), while the share to assets of total financial system could be marginal (1.3%)[304]. **The extremely favorable developments of financial markets in 2019 were in favor of the high growth of investment funds' assets.** Thus, the relatively large part of the growth of investment funds' net-assets accounts for the return realized from these funds' investment and management. Namely, on this basis, the net- assets increased by denar 517 million, which is the highest historic amount since the establishing of open-end investment funds in our country. At the same time, the net inflows of assets based on net sales of documents for stakes in funds reached the historic highest absolute amount of denar 1.778 million[305]. Analyzed by investment strategy and policy of certain funds, the cash investment funds gave their biggest contribution, by 53.9% in the annual growth of funds' net assets, followed by debt (27.2%) and ownership funds (18.9%). Hence, despite the rather high rates of return of debt and ownership investment funds in particular in 2019, the largest share of new investors in investment funds are

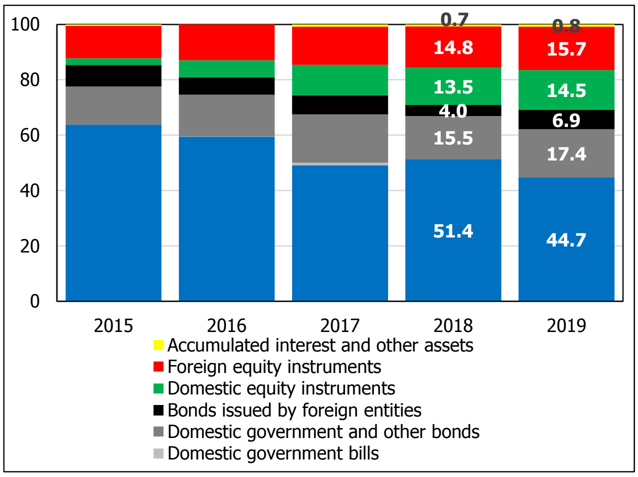
[301] For the needs of this analysis, the mandatory and voluntary pension funds, life and non-life insurance companies and investment funds, are considered as non-banking institutional investors.
[302] The newly opened investment fund is managed by a company which already manages several funds in the country. According to the investment policy, the newly opened investment fund is oriented towards investments in ownership instruments, primarily shares and stocks from foreign investment funds.
[303] More precisely, the group to which one of the investment funds management companies belongs to changed its owner. Afterwards, a rebranding of this company took place.
[304] At the end of 2018, the investment funds had a share of 6.8% to the institutional investors' assets, i.e. 1% to the financial system's assets.
[305] The contribution of the new investment fund, which was established in 2019, is relatively small to the total growth of net-assets of investment funds and accounts for 1.5%.

Chart 176
Structure of net inflows from transactions with unit documents
in millions of denars



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

Chart 177
Structure of property of open-end investment funds by type of instrument
in %



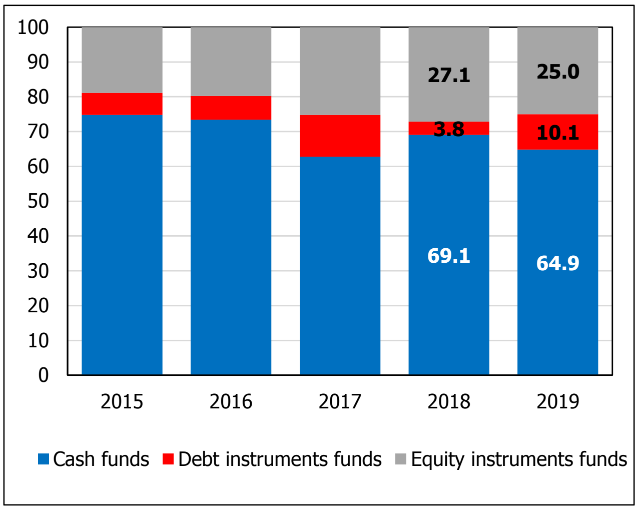
Source:National Bank calculations, based on data submitted by SEC.

drawn by cash funds, which invest in instruments with lower risk and higher liquidity rate. This indicates the lower propensity of domestic investors on taking risk and their general orientation towards efficient management of free cash in order to maintain its value and achieve optimal and stable rates of return from investment in assets with high liquidity.

The largest share of investment funds' net property (98%) is owned by domestic entities, mostly by non-financial legal entities, (42.5%), followed by natural persons (30.3%) and non-banking financial institutions (20.7%). In 2019, domestic non-financial legal entities invested assets mostly in investment funds and realized investments of denar 1.031 million on net basis[306], contributing with almost 60% in total net inflows of assets to these funds from 2019. Domestic natural persons invested denar 548 million on net basis, while non-banking financial institutions invested denar 245 million. Other entities realized net sales of documents for stakes in 2019 in the amount of denar 35 million[307]. Such developments contributed to enhanced share of domestic non-financial legal entities to ownership structure of investment funds' net assets by 2.2 percentage points, amid simultaneous decrease in the share of domestic non-banking financial institutions by 2.9 percentage points. Other investors haven't noted more significant change in the in the shares to total net-property. Analyzed on aggregated basis, the investments of certain types of domestic investors to investment funds are rather low, compared to total assets they own[308]. Therefore, on aggregated basis, possible problems in investment funds' operations (non-liquid funds, high downward correction of property value etc.) would not have more significant spillover negative effects on domestic entities, which are investor to this funds. However, the

[306] It refers to the value of purchased documents for stakes in investment funds reduced by the value of sold documents for stakes in investment funds.
[307] Half of this amount falls for domestic (banks and government and public sector entities), and half for the foreign entities (natural persons and financial institutions).
[308] The investments of domestic non-financial legal entities and natural persons in investment funds participate with less than 0.5% to domestic corporate sector's assets and to financial assets of households, respectively. The investments of non-banking financial institutions to investment funds participate with less than 1.5% of the assets of non-banking financial institutions.

Chart 178
Structure of property of open-end investment funds by their investment strategy
in %



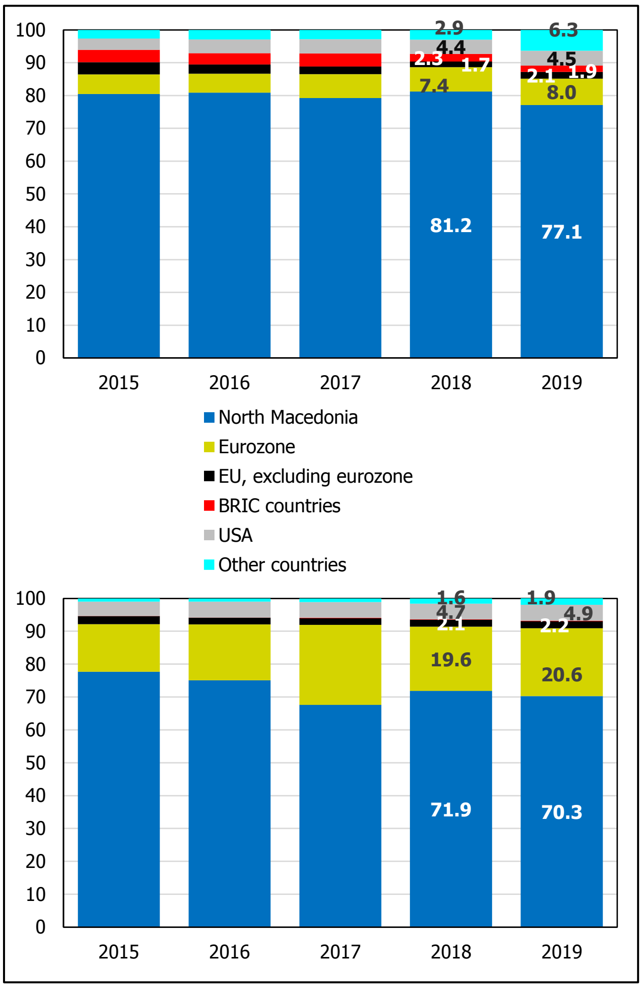
Source:National Bank calculations, based on data submitted by SEC.

possibility for individual entities to undertake higher risk of concentration, due to directing the largest shares of its investments and free assets to certain domestic investment funds.

In 2019, the share of cash, deposits by sight and short-term deposits placed with domestic banks to total investment funds' property kept on decreasing (by almost 20 percentage points in the last five years). Yet, this assets still have the highest individual share to total property of funds, of 44.7%, which is by 6.7 percentage points less, compared to the end of 2018. At the same time, the share placements in debt securities (total bonds) increased by 4.8 percentage points, to a level of 24.3%. Such change in the investment structure of investment funds' is driven by cash investment funds, which in 2019, searching for higher inflows, were more oriented towards long-term placements in bonds, primarily domestic government bonds (cash funds' assets participate with 64.9% to total investment funds' assets). Hence, the assets of the investment funds are dominated by fixed-income instruments with predetermined dynamics of payment, which enable, first of all, the maintenance of the value of the invested assets and efficient management of the investors' cash (in terms of achieving an optimal rate of return on high liquid investment assets). Such investment strategy responds to lower levels of undertaken risk by those investments and subsequent realization of lower inflow rates (for example, compared with potential rates of return from investments in ownership instruments). The stability and liquidity of domestic banks and interest rates on deposit products are obviously a key factor for the stability, liquidity and performance of the open-end investment funds, given the high share of investment in bank deposits. The second most important thing is the sustainability and efficiency in managing public finances and debt of our country given the relatively high individual share (16.8%) of investment in instruments issued by the Republic of North Macedonia.

The growth trend of the share of

Chart 179
Structure of the assets of open-end investment funds, by country of origin of the instrument issuer (up) and by country of instruments trade (down)
in %



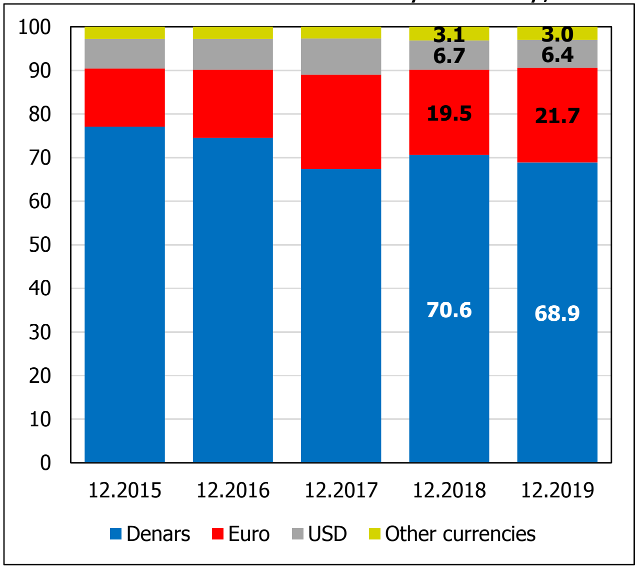
Source:National Bank calculations, based on data from the SEC website.

placements in equity instruments to total assets of investment funds continued in 2019, although at a slower pace (this share is increased by 36 percentage points, i.e. more than double, in the last five years). Thus, at the end of the year, the investments in equity instruments reached 30.1% of funds' total assets, which is higher by 1.8 percentage points compared to 31.12.2018 (the assets of equity funds participates with 25% in total assets of investment funds). Amid falling interest rates, which are a key element of fixed-income instruments, some investors are determined to take greater risks and invest their funds in investment funds whose investments, by rule, carry a higher risk, as well as opportunity for higher rates of return (which was the case in 2019). Thereby, investment funds increase investments not only in equity instruments issued on the domestic market (which currently account for 14.5% of the total assets of open-end investment funds), but also in foreign equity instruments (which account for 15.7% of the total open-end investment funds), thus exposing them to the risk from volatile movements in the global equity markets, which, in fact, materialized in early 2020.

The placements in instruments issued by domestic issuers, traded on domestic market, still prevail in the structure of total assets of investment funds, with shares of 77.1% and 70.3%, respectively. Hence, developments in the domestic economy and the performances and activities of domestic financial instrument issuers (above all, banks and the government) are of utmost direct importance for the performance and risk exposure of open-end investment funds. Next in importance and size are placements of investment funds in financial instruments issued by issuers coming from the euro area[309] (8%), i.e. instruments that are traded on the euro area markets[310] (20.6%).

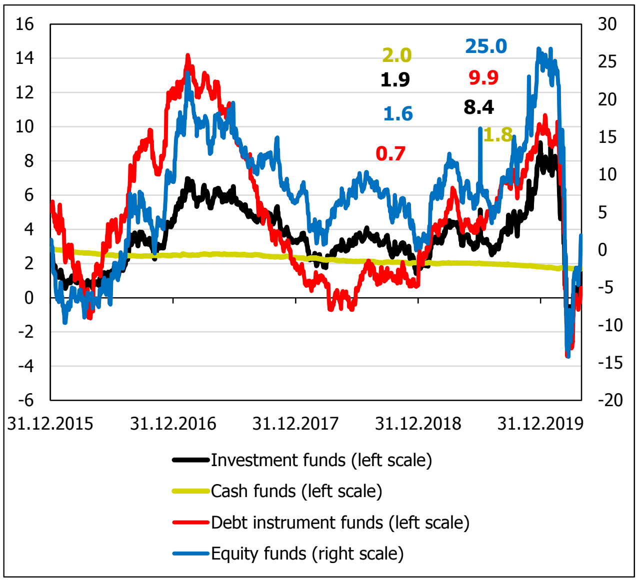
[309] The largest portion from Germany, France and the Netherlands.
[310] The largest portion, on the markets in Luxembourg, Germany and France.

Chart 180
Structure of the funds' assets by currency, in %.



Source:National Bank calculations, based on data from the SEC website.

Chart 181
Annual rates of return on investment funds
in %



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

The largest share (68.9%) of the investments of the open-end investment funds are in Macedonian denars. The dominant share of the domestic currency corresponds to the prevailing share of the investments issued by the domestic issuers. Next in importance are investments in euro denominated instruments, which account for about 20% of the total assets of the investment funds. Hence, the strategy of maintaining a stable nominal exchange rate of the denar against the euro is important for maintaining the value of the invested funds in the open-end investment funds.

The annual rates of return[311] of investment funds highly increased in 2019, mostly in the second half of the year. Analyzed on aggregated basis, the annual rate of return of all investment funds increased from 1.9% at the end of 2018 to a level of 8.4% on 31.12.2019. The equity funds record largest annual growth of rates of return, whose inflow increased from 1.6% (31.12.2018) to 25% (31.12.2019). The debt funds record a significant increase of annual rates where the inflow reached a level of 9.9% at the end of 2019 (opposite to only 0.7% on 31.12.2018). Amid declining interest rates, the cash investment funds record a minimal decrease of annual rates of return of 0.2 percentage points, which at the end of 2019 registered a return of 1.8%. The high rates of return in 2019 are expected, given the exceptionally favorable movements on markets for almost all types and classes of financial instruments. The growth of return of investment funds continued in 2020 and maintained until February, when negative news about the new coronavirus have shaken the world market. The official declaration of the COVID-19 pandemic in mid-March 2020 coincides with the period when annual rates of return of investment funds reached the maximum negative values. However, in April 2020, certain stabilization of the financial market conditions is noted, and the rates of return of investment funds

[311] The annual rate of return of investment funds (for different types as well as at aggregate level) is calculated as a weighted average of the annual rates of change of prices of stake documents in individual funds. The share of each fund net-assets in total net-assets is used as a weight.

gradually started to leave the negative zone. **Despite relatively high rates of return of equity funds in 2019, yet the information ratio –IR of individual analyzed funds is still negative, except in one fund.** Hence, the performances of these funds for the last three years (for which an information ratio is usually calculated), are weaker in comparison to the chosen index (in this case MSCI World Index).

Table 9
Information ratio
in %

	Fund 1	Fund 2	Fund 3	Fund 4	Fund 5	Fund 6	Fund 7
2015	-37.9	-82.2	-86.2	-63.3	-37.2		
2016	25.3	-20.0	-13.3	-28.6	11.3		
2017	85.4	61.8	-5.3	4.3	-0.5		
2018	1.3	74.4	-24.3	-64.4	-32.8	-97.7	-60.1
2019	-18.7	27.6	-22.6	-33.5	-72.4	-43.6	-22.6

Source: Web site of the Macedonian Stock Exchange, MSCI index and National Bank calculations.
Note: The information ratio for each investment fund for each year is calculated as the ratio between the three-year average active return of the fund and the standard deviation of the active return of the last three years. Active return of funds is the difference between nominal annual return, by fund (calculated using the price of a stake document in investment funds) and annual change in a selected benchmark index (in this case, the MSCI World Index).
Only equity funds are included in the calculations.

2. Financial markets

2.1. Money and short-term securities market

The money and short-term securities market in the Republic of North Macedonia has a moderate effect on domestic financial flows, and consequently on the stability and overall financial system in the country. In conditions of increased liquidity of the banking system, the turnover of the interbank deposit market significantly decreased in 2019, and thus its share in the GDP. Amid National Bank's single cut of the core interest rate (CB bills interest rate) by 0.25 percentage points in 2019, the market interest rates did not change significantly and remained at a low and stable level. The favorable shifts in the maturity and currency structure continued on the primary market of treasury bills. In 2019 all treasury bills issues had a maturity of 12 months and were almost fully in denar without a currency clause. On the secondary short-term securities market the turnover noted a decrease, while CB bills transactions were most common.

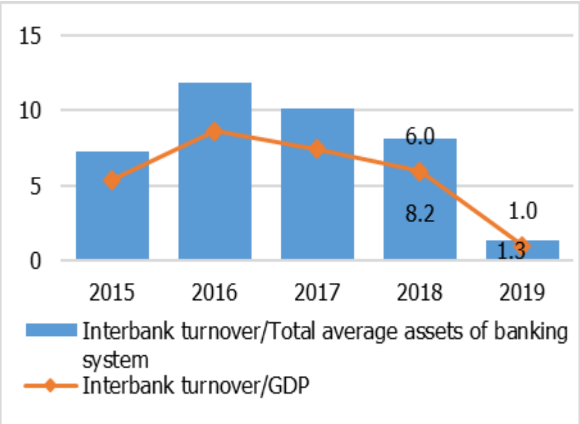
In the first five months of 2020, the largest part of interbank trading happened in March and April, when the preliminary effects of the non-economic shock on the domestic economy were felt. The interest rate of the interbank transactions remained at a low and stable level and averaged 1%.

2.1.1. Unsecured interbank money market

In 2019, the trading on the deposits market significantly decreased. In conditions of excessive liquidity in the banking system, in 2019 the volume of trading on the market of non-collateralized deposits significantly decreased on annual basis.

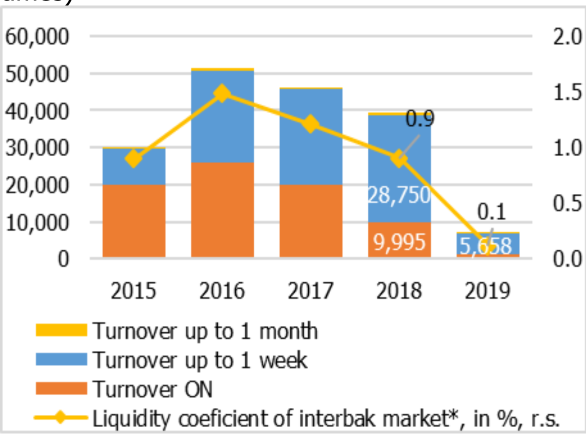
Chart 182

Interbank turnover volume indicator of non-collateralized deposits in %



Interbank turnover by maturity segments and liquidity ratio

in millions of denars ratio (in times)



Source: National Bank.

* The liquidity ratio is calculated as a ratio between the annual turnover on the interbank market of unsecured deposits and the average balance of denar cash, deposit facilities with the National Bank and placements with domestic banks.

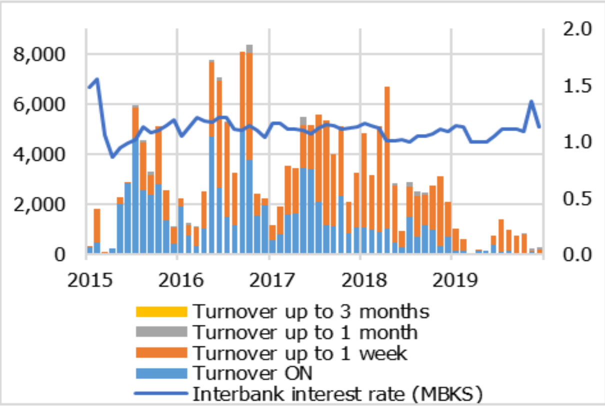
The overall interbank turnover with unsecured deposits in 2019 (denar 7.064 million) was lower by 82% on annual basis, and at the same time it was the lowest realized turnover in the last years. Its share in the GDP at the end of the year was 1.0%, as opposed to 6.0% in 2018, while the share to total average assets of banks was 1.3% and also decreased on annual basis (8.2% in 2018). This year, the banks also made most of the trading with the shortest maturity segment, up to one week. The decreased and occasional trading with short-term unsecured deposits causes no risk for domestic banks of possible liquidity problems spillover from one bank to another.

In the first five months of 2020, a turnover on the interbank market of unsecured deposits amounted denar 1.122 million. Over the year, the largest part of the turnover (82%) was realized in March and April, when the first effects of the COVID-19 were felt. Most of the transactions were with a maturity of up to seven days, and there was also a trading with the shortest maturity segment (overnight). The interest rate of the transactions was 1% and remained at a stable level, compared to the period before.

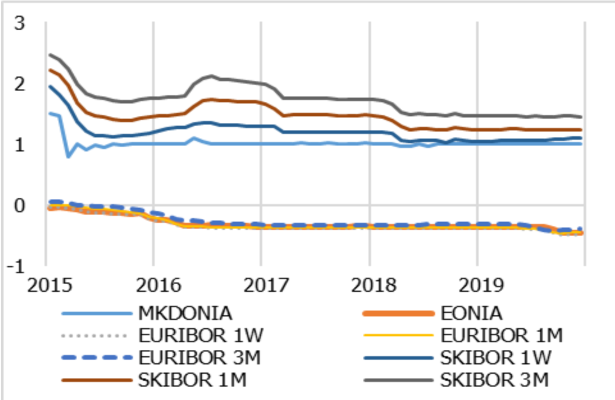
Chart 183

Maturity structure of interbank turnover of collateralized deposits and repo interest rate

in millions of denars in %



Interbank interest rates of non-collateralized deposits in RNM and EU



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

The interbank interest rate on the deposit market remained at a low and stable level. In conditions of a single cut of the core interest rate (CB bills interest rate) in March 2019, by 0.25 percentage points[312], the indicative interest rates for interbank trade with deposits (SKIBOR) showed no significant changes, and the interest rate on deposit market (SKIBOR) remained at a stable level (1.1%). There were also no changes with the interest rate for realized transactions overnight (MKDONIA), which remained at a level of 1%. The interest rates of the interbank market in the Eurozone (EURIBOR and EONIA) during 2019 remained in the zone of negative values.

[312] In the period from January to May 2020, the National Bank cut the interest rate of CB bills three times, by 0.25 percentage points to a level of 1.5%.

2.1.2. Interbank market of collateralized deposits

In 2019 there were no transactions with collateralized deposits. After a long period (of seven years), in 2019 there were no transactions with collateralized deposits. In 2018, the turnover of this segment was denar 4.090 million.

Primary short-term securities market

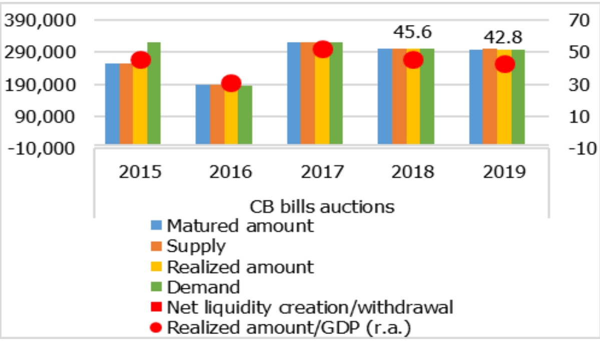
Total amount of short-term debt securities issues show no significant changes on annual basis. At the CB bills and treasury bills auctions in 2019, short-term securities were sold in the total amount of denar 331.414 million, which is moderately lower amount compared to previous year (denar 334.702 million). The total amount of sold CB bills in 2019 participates with 42.8% in the GDP (45.6% in the GDP in 2018) and with 90.0% in total annual issue of short-term securities. In 2019, the due treasury bills were in the total amount of denar 32.649 million. At the auctions for treasury bills during the year, treasury bills in the total amount of denar 33.070 million were offered for sales, and the same amount of treasury bills were sold. The share of total amount of realized treasury bills in the GDP in 2019 is 4.7% (5.3% in the GDP in 2018).

In 2019, the favorable shifts in the currency and maturity structure of the new issues of treasury bills continued. In 2019, all issues of treasury bills were with a maturity of 12 months (in 2018, apart from the ones with 12-month maturity, treasury bills with a maturity of 6 months were also present). In terms of currency structure, almost all issued treasury bills in 2019 were in denar without currency clause (99.4% in 2019 and 97.4% in 2018).

Chart 184

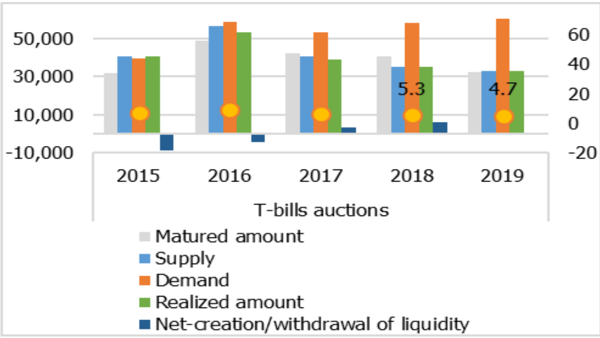
Primary market CB bills auctions and realized amount as percent of GDP

in millions of denars in %



Primary market treasury bills auctions and realized amount as percent of GDP

in millions of denars in %



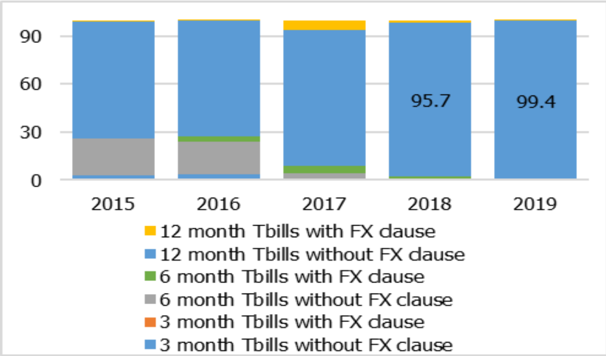
Source: National Bank and Ministry of Finance.

In 2019, the CB bills auctions were almost at a level of the offered amount, so the bid-to-cover ratio was 1, same as the previous year. At the primary market of treasury bills, the demand continuously exceeded the supply, and the bid-to-cover ratio was 2.7 for the entire year. In 2019, amid single cut of the core interest rate by the National Bank in March (by 0.25 percentage points), the interest rate of 12 month treasury bills without foreign currency clause was cut twice (in August and in October) by 0.2 percentage points (from 0.8% to 0.6%).

Chart 185

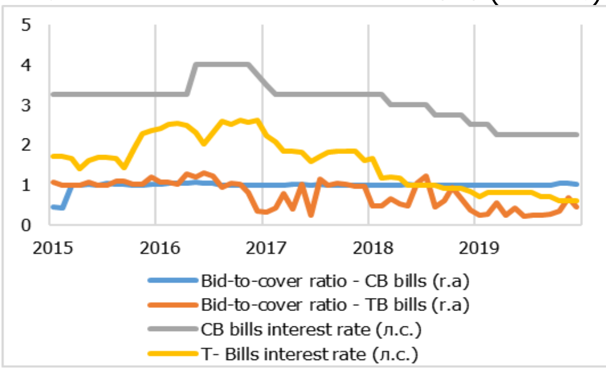
Maturity and currency structure of issued treasury bills on the primary market

in %



Interest rates, supply and demand of CB bills and treasury bills

in % ratio (in times)



Source: National Bank and Ministry of Finance.

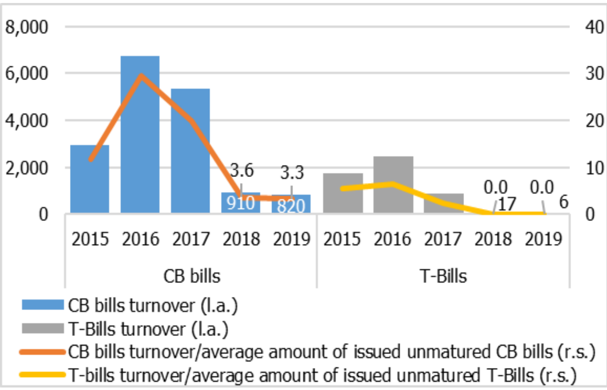
2.1.3. Secondary short-term securities market

The liquidity of the secondary short-term securities market remains low. Short-term securities were traded on the secondary short-term securities market in the total amount of denar 826 million (denar 927 million in 2018) whose share in the GDP was only 0.1%. The structure of turnover, same as in the previous year, was dominated by CB bill transactions with a share of 99% (98% in 2018). The liquidity indicators on the secondary market were also on a low level in 2019. The yields of both, the CB bills and treasury bills on the secondary market also continued to decrease in 2019.

Chart 186

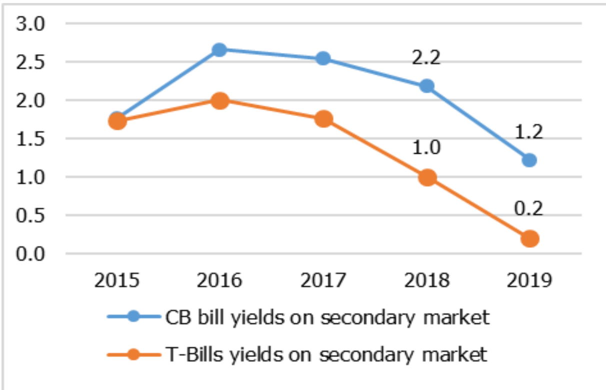
Secondary market turnover of short-term securities and liquidity indicator

in millions of denars in %



Yields from securities traded on this market

in %



Source: National Bank and Ministry of Finance.

2.2. Capital market

The capital market, as an alternative source for a long-term financing, has a significant role for the development of the financial sector and overall economy. The Macedonian capital market is still characterized with a modest offer of securities and small volume of stock exchange trading. The share of issues of long-term securities on the primary capital market as well as the turnover from standard stock exchange trading in the GDP remain on a very low level which determines the minimum contribution of this segment from the financial system to economic progress. The most important issuer of long-term securities remains the government (continuous bonds), while the value of issues of non-government securities (shares and bonds) is still low, although it records growth on an annual basis. The largest investors on the secondary capital market are the domestic entities, while the share of non-residents is low.

The events and information related to the COVID-19 at the beginning of 2020 had influenced the conditions on the Macedonian Stock Exchange, where a significant decline of MBI-10 was recorded. In order to provide continuity in the capital market functioning and maintain its stability, the Securities and Exchange Commission had a proactive role in the changes of the daily price limitations of trading with securities and has also undertaken several activities aimed at providing a completely functional capital market.

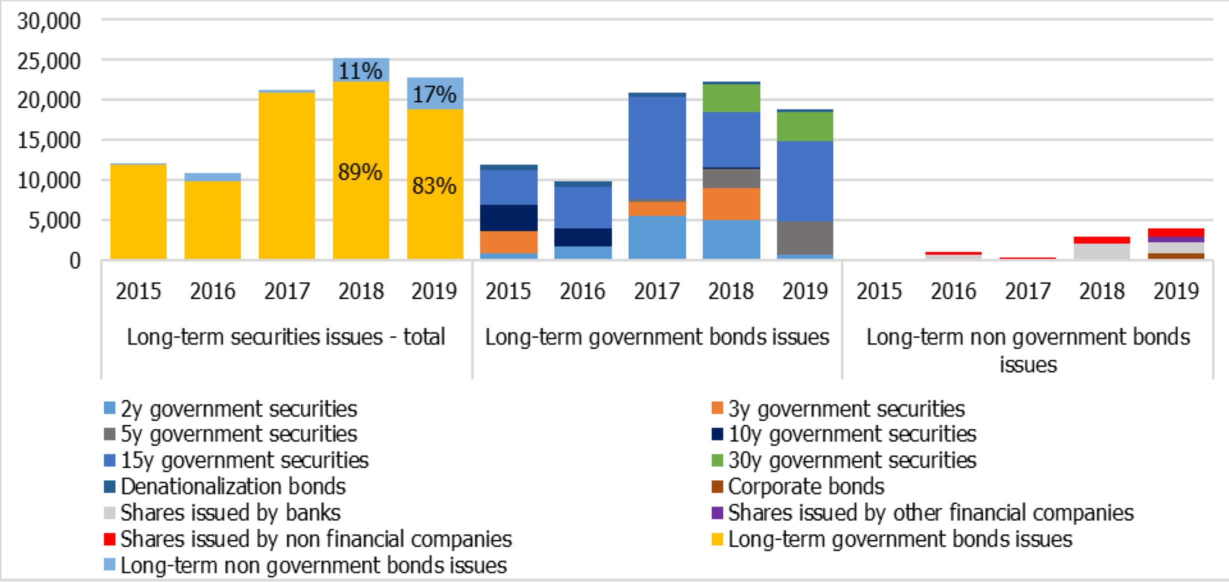
2.2.1. Primary capital market

The issues of the government securities are most common on the primary capital market. The total value of the newly issued long-term securities on the primary capital market in 2019 was denar 22.799 million and was declining compared to the previous year (denar 25.217 million).

In terms of structure, the decrease stems from the lower amount of new issues of government securities (continuous treasury bonds and denationalization bonds[313]), which are still dominant in the total amount of newly issued securities on the primary capital market, with a share of 83% (89% in 2018). The value of the new issues of non-government securities (shares and bonds) remains low, yet compared annually, it increases. The share of these securities to total amount of long-term securities issued on the primary capital market in 2019 was 17% (11% in 2018). In the new issues of non-government long-term securities, apart from the shares issued by banks and non-financial companies, in 2019 the issues of corporate bonds issued by bank also have a share.

[313] Denationalization bonds are registered securities, denominated in euros and unlimitedly negotiable. The bonds bear an interest rate of 2% per annum, and the nominal value and interest are paid for a period of 10 years. The denationalization bonds of the eighteenth issue were issued on 17.6.2019, in denar equivalent of Euro 6.5 million.

Chart 187
Issues of long-term securities on the primary capital market in millions of denars

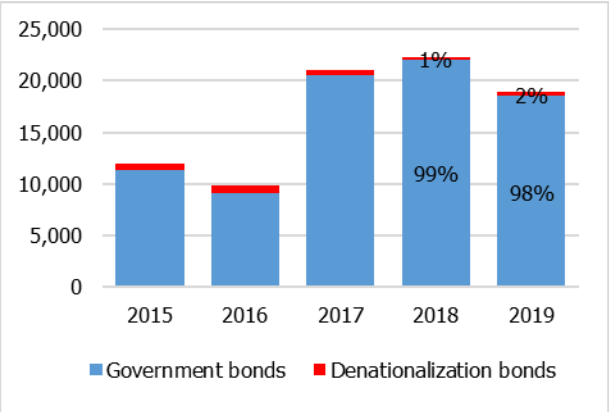


Source: Securities and Exchange Commission

The new issues of government bonds in 2019 were lower annually. The total amount of new issues of treasury bonds in 2019 was denar 18.899 million and almost all (98%) are issues of continuous bonds. The longest maturities (5, 15, 30 years) dominate within the new issues of continuous bonds, while issues with shorter maturity are almost absent.

The lower amount of new issues of treasury bonds in 2019 compared to the previous year corresponds to the lower maturity of the domestic public debt. The newly issued public debt was with combined currency structure, where the largest share i.e. 62% accounted for bonds in denar, while bonds with denar with FX clause accounted for 38%. On 31.12.2019, the newly issued amount of treasury bonds accounted for 7% in the total public debt, i.e. 17% in the domestic debt of the central government (with a share of 8% and 20%, respectively in 2018).[314]

Chart 188
Issues of long-term government securities
in millions of denars in %



Source: Ministry of Finance

The amount of total issues of non-government securities is higher annually, primarily as a result of the newly issued corporate bonds, yet the issued shares prevail. Banks are the main issuers of these instruments. Almost half (49%) of new issued shares are issued by banks, while the value of shares issued by other financial and non-financial companies is lower, with a share in the overall issued new shares of 19.6% and 32% respectively. All newly issued corporate bonds (denar 799 million) are corporate bonds with capital instrument features, which were reissued after several years (in 2017 corporate bonds in

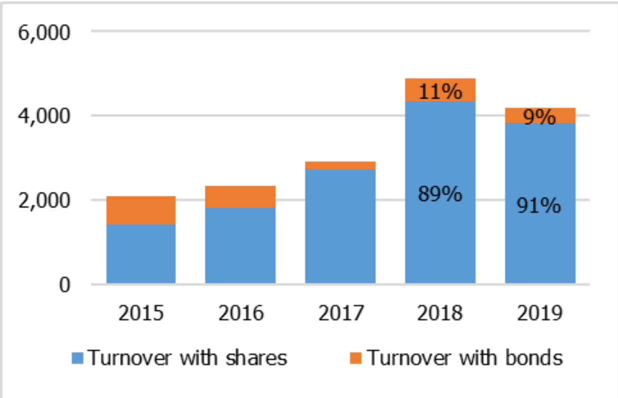
[314] Ministry of Finance is the source of data on the total government debt and the central government's internal debt. The total government debt includes debt of the central government, public funds and municipalities, and the National Bank debt is not included.

the amount of denar 62 million were issued). The bonds are issued by three banks for the needs of capital adequacy, where one of them (in the amount of denar 307 million) are perpetual bonds[315] issued by the bank in order to include them in regular capital base, while the other (in the total amount of denar 492 million) are bonds[316] issued for the needs of increasing the supplementary capital of two banks. The market of corporate bonds in the RNM is almost completely prevailed by banks, while the non-financial companies almost never use this opportunity for debt financing their activities and projects.

2.2.2. Secondary trading on the Macedonian capital market

The standard trading turnover (shares and bonds) on the secondary capital market in 2019 decreased by denar 711 million or by 14.5%. The trading with shares predominates in the structure of the turnover with a share of 91%, while the share of turnover with listed bonds, where the denationalization bonds predominate, is 9%. Annually, the lower turnover of this market segment is mostly due to the decreased trading shares, by denar 539 million, amid decline of trading with listed bonds (by denar 172 million). The share of turnover on the secondary capital market in the GDP is very small amounting to 0.6% (0.7% in 2018).

Chart 189
Trading turnover on secondary capital market
in millions of denars



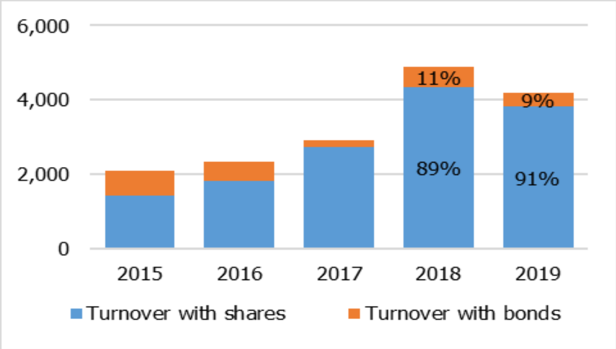
The Macedonian MBI-10 registered a solid growth in 2019. The MBI-10 continued to grow in 2019, and at the end of the year it was 4.648,89 index points, which compared annually is a solid growth of 34%. Observed structurally, all shares that compose the index recorded an annual growth. At the beginning of 2020, the events and information related to COVID-19 had also influenced the conditions on Macedonian Stock Exchange. The upward trend of MBI-10 was ended in March, when the index value recorded significant price oscillations, and in the second half of the month significantly decreased.[317] After the temporary decrease of the MBI-10 value in March, the index recorded an increase in April.

In order to provide continuity in the functioning of the capital market and maintaining its stability, the Securities and Exchange Commission had a proactive role in the changes of the daily price limitations of trading with securities. At the same time, it undertook several activities, **by** implementing systemic switch in the trading on the stock exchange, **easing and speeding the approval procedure for new issues of securities, as well as** other measures on protecting the rights and interests of investors and issuers of securities, protecting the public interest and citizens' health[318].

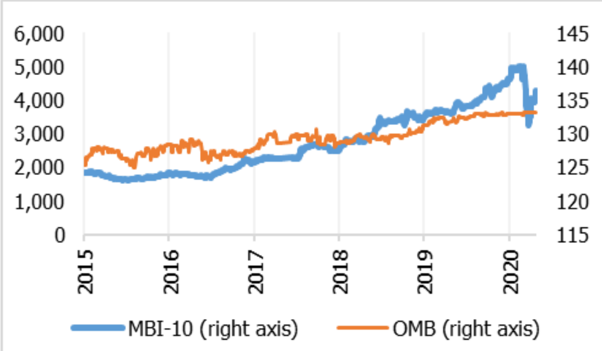
[315]One bank issued 5000 perpetual bonds with nominal value of 1000 euro per bond and fixed interest rate for the first five years of 9%, which grows to 11% after the period of first five years.
[316] One bank issued 5000 convertible bonds with nominal value of 1000 euro per bond with a maturity of 7 years and fixed interest rate of 2.2% for the whole maturity period. Other bank issued 1500 corporate bond twice, with a nominal value of 1000 euro per bond with a maturity of five years and three months and six years, respectively, and fixed interest rate of 3.5% and 2.7%, respectively.
[317] The value of MBI-10 at the end of March 2020 was by 22% lower compared to the end of February.
[318] For more information please visit https://www.sec.gov.mk/Vesti-govori-intervjua/Soopshtenie-do-javnosta.

Chart 190

Stock market turnover in standard trading
in millions of denars in %



MBI-10
in index points



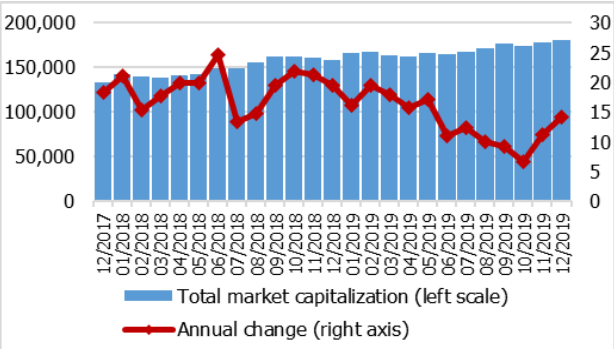
Source: Macedonian Stock Exchange AD Skopje

Trading with continuous bonds on the OTC market significantly grew in 2019 (by 89% or by denar 1.020 million). The realized turnover on this market segment in 2019 is denar 2.161 million, which is a historic highest annual turnover, compared to the period in the past. The increase of the turnover of treasury bonds on OTC market indicated a growth of its share in the GDP, which in 2019 is 0.3% (0.2% in 2018). In comparison, the turnover with continuous treasury bonds realized on the regulated, official market on Macedonian Stock Exchange in 2019 was only denar 1 million[319].

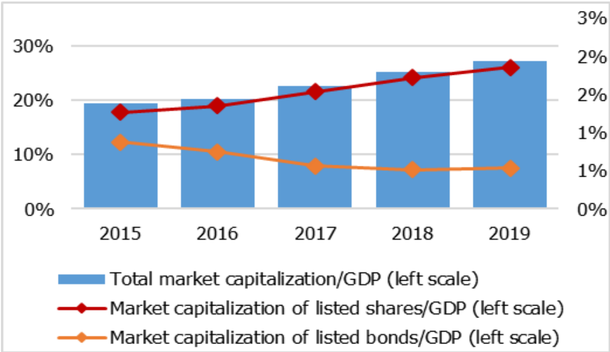
The market capitalization of securities listed on the official capital market continued to increase in 2019 (by denar 22.507 million, i.e. 14.2%, thus its share in the GDP reached 27% (25% in 2018). The growth is driven by the increase of the market capitalization of shares listed on the official market (growth of 23.252 i.e. 14.3% annually). The market capitalization of shares listed on the official market noted a moderate annual growth (from denar 335 million i.e. 10%), whereby its share in the GDP (0.5%) remained unchanged.

Chart 191

Market capitalization of listed companies on the official market of the stock exchange
in millions of denars in %



Capitalization on the official market of the stock exchange by segments and in total and share in the GDP
in %



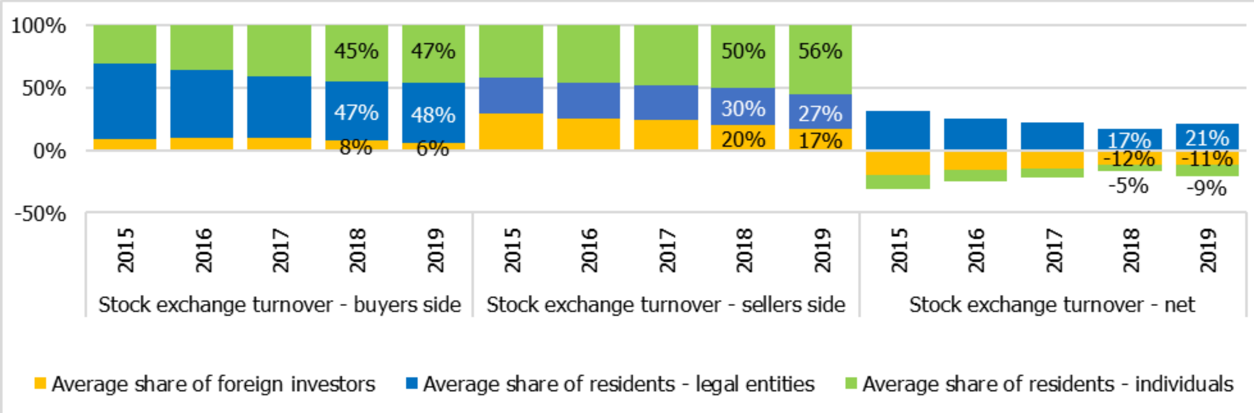
Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Note: The total market capitalization covers the shares listed on the official market, the shares on the market of joint stock companies with special reporting obligations and bonds listed on the official market.

[319] According to the Agreement between the Ministry of Finance and Macedonian Stock Exchange AD Skopje since 19.12.2018 and the Decision by the Management board of the Macedonian Stock Exchange held on 20.12.2018, listing of government bonds on the official market of the "Macedonian Stock Exchange" AD Skopje started on 08.01.2019. This way, government securities were made available to large number of investors, both domestic and foreign.

Domestic legal entities remain dominant investors on the domestic capital market. Their share on the side of purchase in 2019 averaged 48%, while on the side of sale it averaged 27%. In 2019 the net-purchase of securities with domestic entities increased, if compared annually. Foreign investors and domestic natural persons recorded a net-purchase of securities for a longer period in the past, which indicates that they have a greater interest for selling than purchasing securities.

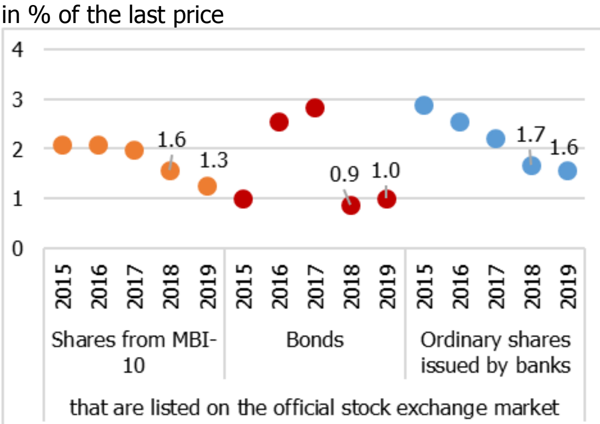
Chart 192
Structure of investors on the capital market



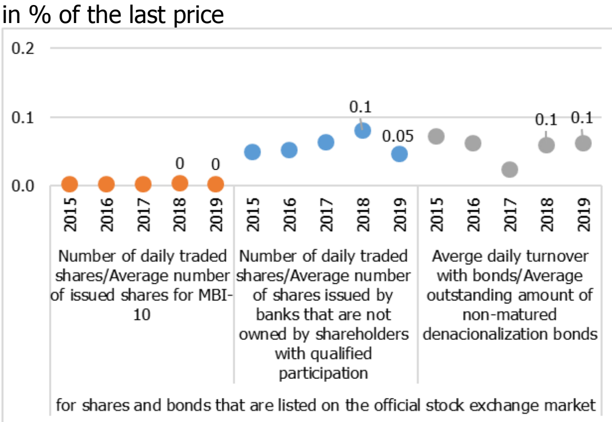
Source: Web site of the Macedonian Stock Exchange and National Bank calculations
Note: The total turnover of the market covers: turnover from trading in BEST, block transactions, turnover from public auctions and public offerings of securities.

The secondary capital market liquidity remains low. The value of turnover indicators of shares and bonds listed on the official stock market generally ranged within their twelve-month moving average and was at a relatively low level. Such developments indicate limited liquidity of these trading segments, i.e. limited opportunity for rapid and easy purchase and sale of securities.

Chart 193
Average annual bid-ask spread
in % of the last price

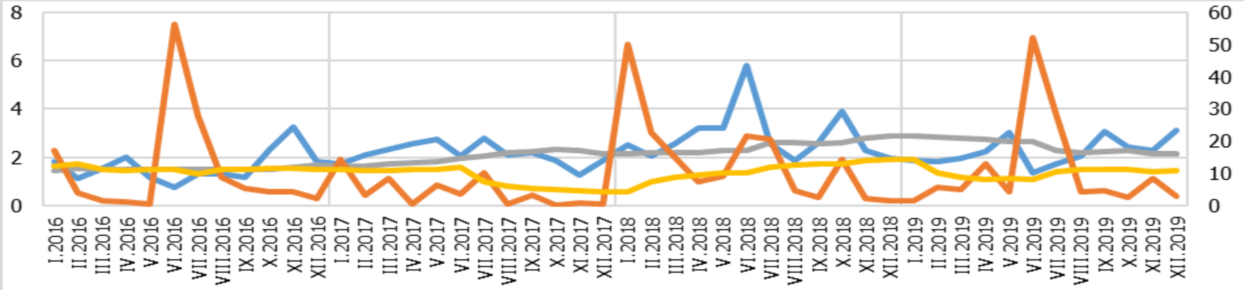


Turnover ratio
in % of the last price



Source: Web site of the Macedonian Stock Exchange and National Bank calculations
Note: The annual averages of the spread between the last bid and ask price are obtained from the weighted average of MBI-10 (the share of trade in each stock in the total trade in stocks is used as a weight), the weighted average for all bonds (the share of trade in each bond in the total trade in bonds is used as a weight) and the weighted average for all stocks issued by banks (the share of trade in each stock in the total trade in stocks is used as a weight) for the dates for which there are quotations.

Chart 194
Shares and bonds liquidity indicator on the official market
in %



Source: Web site of the Macedonian Stock Exchange and National Bank calculations
Note: The larger deviations of the turnover index of bonds listed on the official market from its twelve-month moving average relate to the months when the denationalization bonds were issued.

In 2019, the number of brokerage houses remained unchanged. Total assets of all (five) brockerage houses at the end of the year is denar 147 million and is annually higher by denar 6 million (4.4%). The capital and reserves of the brockerage houses in 2019 increased (of denar 15 million, i.e. by 12%) and on 31.12.2019 accounted for denar 141 million[320]. Overall, the brockerage houses materialized a profit (of denar 10 million)[321] this year too, which compared to the previous year is by 48.1% higher, i.e. by denar 3 million. On the other hand, the income of the brokerage houses on 31.12. 2019 is denar 60 million and is annually lower by denar 1 million, or by 1.5%.

[320] Individually, one brockerage house increased the capital and reserves by denar 22 million (increased objective value and other reserves), while other brockerage house recorded a decrease of capital and reserves by denar 7.7 million, as a result of decreased accumulated profit i.e. paid dividend.
[321] Three brockerage houses materialized a profit of total denar 12 million, while two brockerage houses showed a loss of total denar 2 million.

A N N E X E S

Annex 1

Survey on the assessment of risks to financial stability in the Republic of North Macedonia

Within the activities on realization of the objective for maintaining a stable, competitive and market-oriented financial system, as well as monitoring systemic risks, the National Bank of the Republic of North Macedonia annually conducts a survey on the assessment of risks to financial stability in the Republic of North Macedonia. As of this year, the scope of respondents broadened, whereby, besides the banks which were the only participants so far, the survey was submitted to savings houses, pension fund management companies, insurance companies, financial companies, brockerage companies, investment fund management companies and economic analysts. A total number of thirty five entities (fifteen banks, ten insurance companies, two pension fund management companies, two savings houses, three financial companies, one investment fund management company, and two economic analysts) responded to the survey.

Thus, it is particularly important to mention that the deadline date for submitting the Survey answers was March 3, 2020 (although some of the answers arrived by mid-march), when there was a small number of infected people with the new virus and there were no indications or expectations for lingered duration and intensity of the crisis in our country. Therefore, while reading this analysis, one should take into consideration that probably, the results would have been different, if the Survey had been conducted sometime later in 2020.

This survey aims to show the perceptions of both, market participants and economic experts on the confidence in the domestic financial system and main sources of risks which may arise from domestic and foreign environment, and the realization of which may cause effects on the financial system and economic activity.

The survey contains six questions aimed at all respondents, except the question number 3, in which only the respondents –financial institutions (banks, savings houses, pension fund management companies, insurance companies, financial companies, brockerage companies, investment fund management companies), assess the risks from the aspect of a specific situation. The Survey form is enclosed in this Report.

The Survey results are presented in an aggregated form, while the charts follow the order of the questions in the Survey. The results are presented as a ratio between number of respondents that gave the specific answer and total number of answers, in percentage or/and as a single average score to total answers.[322]

[322]Under each of the charts, there is an explanation for the manner of result interpretation.

Survey result analysis (answers)

In the first group of questions, the respondents were asked to assess the *effect* which the possible realization of the risks listed in the survey would have on the functioning of the domestic financial system. In this question, the respondents rank the risk factors in three groups (risks arising from the foreign environment, domestic environment and other risks) with grades from 1-negligible; 2-low; 3-moderate to 4-high, depending on the effect that the eventual realization of risks would have on the functioning of the domestic financial system.

According to the respondents, risks that mostly affect the functioning of the domestic financial system are the risks which arise from the domestic environment, yet their importance is assessed as moderate on average (the average rank is 2.8). In terms of individual risk factors, the respondents assessed that the possible realization of political risks and risks from domestic economic environment highly affect the functioning of the financial system, (around 40% of the respondents), as well as realization of risks related to creditworthiness of the corporate sector and households (around 30% of the respondents).

The respondents assess the effects of the risk realization from the external environment as lower (average rank 2.4). Therefore, they assessed (50%- 60% of the respondents) the following risk factors as most important: changes in the international financial standards/ regulations, global economic ambience, developments in global financial markets and the environment of low and negative interest rates.

The respondents assessed the third group, other risks with 2.3, i.e. that they have less effects on the domestic financial system. Therefore, in terms of individual risk factors, the respondents (between 20% and 30% of them) believe that the highest effects may arise from the realization of risks related to IT systems and cyber-attacks.

In the second group of questions, the respondents were asked to assess the *probability for* realization of risks listed in the Survey, with such intensity that would have serious negative consequences on the domestic financial system and economic activity. In this question, the respondents rank the risk factors in the same three groups of risks, with grades from 1-almost impossible, 2-less likely, 3-likely to 4-very likely, according to the probability for their realization with the intensity that would cause serious consequences to the domestic financial system and economic activity. The average grades of the three groups of risks move betmeen 2 and 2.3, suggesting respondents' assessment of low probability for their realization with an intesity that would cause serious consequences on the domestic financial system and economic activity. In terms of the individual risk factors related to domestic environment, most of the respondents believe that there is a low probability or it is almost impossible for the individual risk factors to be realized with intensity that would affect the financial system and economic activity. Yet, over 50% of the respondents consider that realization of risks related to domestic economic environment, creditworthiness of the corporate sector and households, political risks and changes in the domestic regulation is probable (rank 3), with an intensity that would seriously affect the financial system and economic activity. At the same time, the respondent believe that there is a very small probability of realization of the individual factors of risk from the foreign environment, with an intensity that would cause serious deterioration in the financial and economic system, but over 45% of them think that the risks related to the dynamics of the global trade activity and global economic environment would probably be realized, with an intensity that would affect domestic system. Most of the respondents consider that the realization of the individual risk factors from the group of other risks is less probable, with the intensity that would affect the domestic system, except for the cyber attacks and IT systems, for which 45.5% and 36.4% of the respondents think that there is a probability to happen with more serious intensity.

The third group of questions are aimed at financial institutions (banks, savings houses, pension funds, insurance companies, financial companies, brockerage houses and investment funds and pension funds management companies), which should **assess the risks, the realization of which would create biggest challenges for the operation of the specific institution.**

The political risks are pointed as risks of greatest importance for the operations of the institutions, with the largest number of answers (half of the responders), followed by the changes in the international and domestic regulation and creditworthiness of households with similar number of answers. Fourteen respondents think that the environment of low interest rates and domestic political environment are also important for the operations of the institutions. In terms of foreign environment, almost half of the respondents consider that the changes in the international standards and regulation are significant. In the group other risks, around 40% of the answers point the risks to IT systems and cyber risks as significant ones.

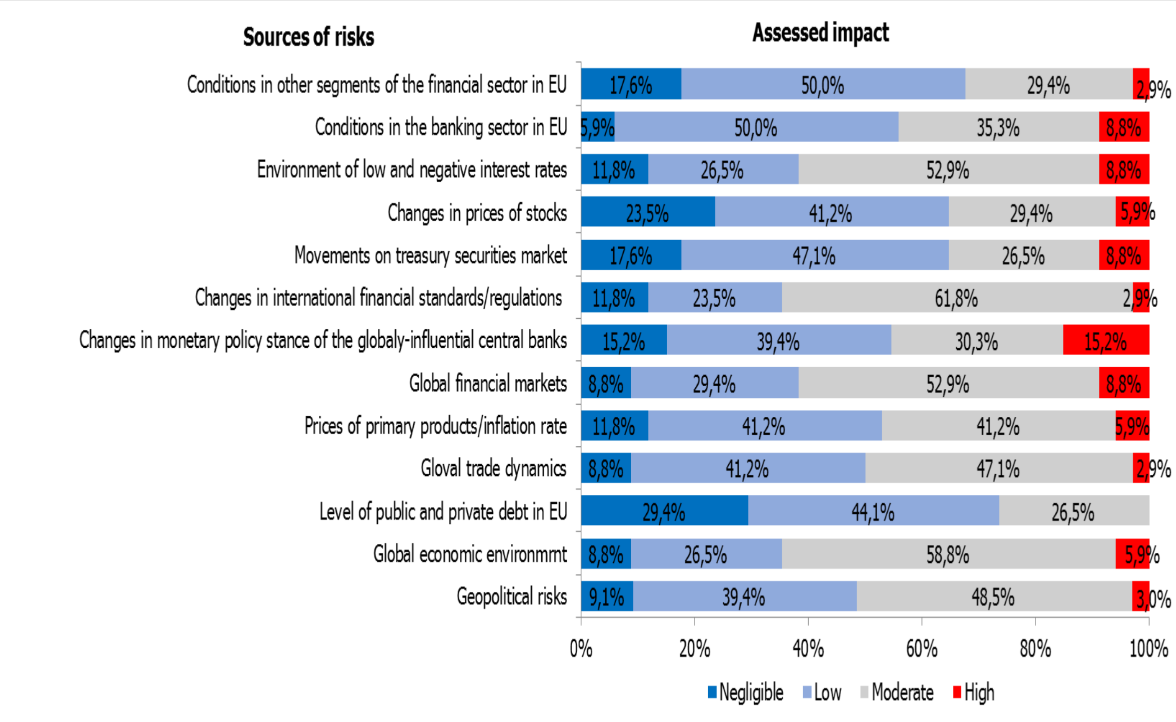
The survey had questions in which the respondents (market participants and economic experts) were supposed to assess the confidence in the domestic financial system as a whole, in the medium term as well as the change in the confidence in the domestic financial system in the last 12 months.

According to the results of the survey, over 70% of the respondents think that the confidence in the domestic financial system is high, and remained unchanged in the last 12 months.

Charts of the aggregate results of the Survey for each question are given below.

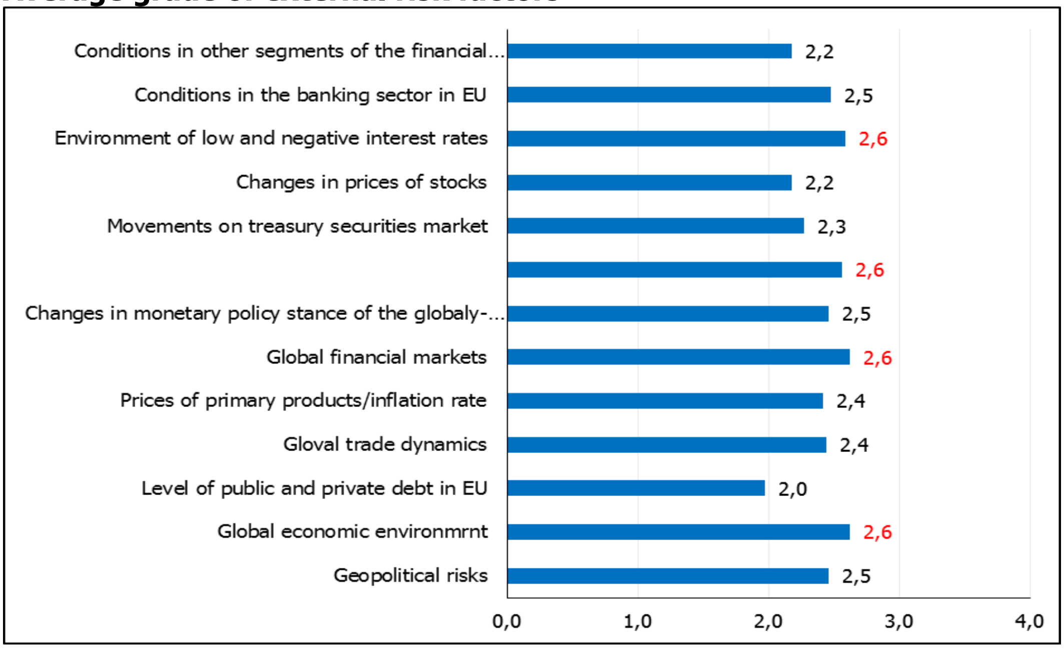
1. Assess the effect that according to you, the possible realization of each risk would have on the functioning of the domestic financial system.
(1 –negligible; 2 – low; 3 – moderate; 4 – high)

Group I. External risks



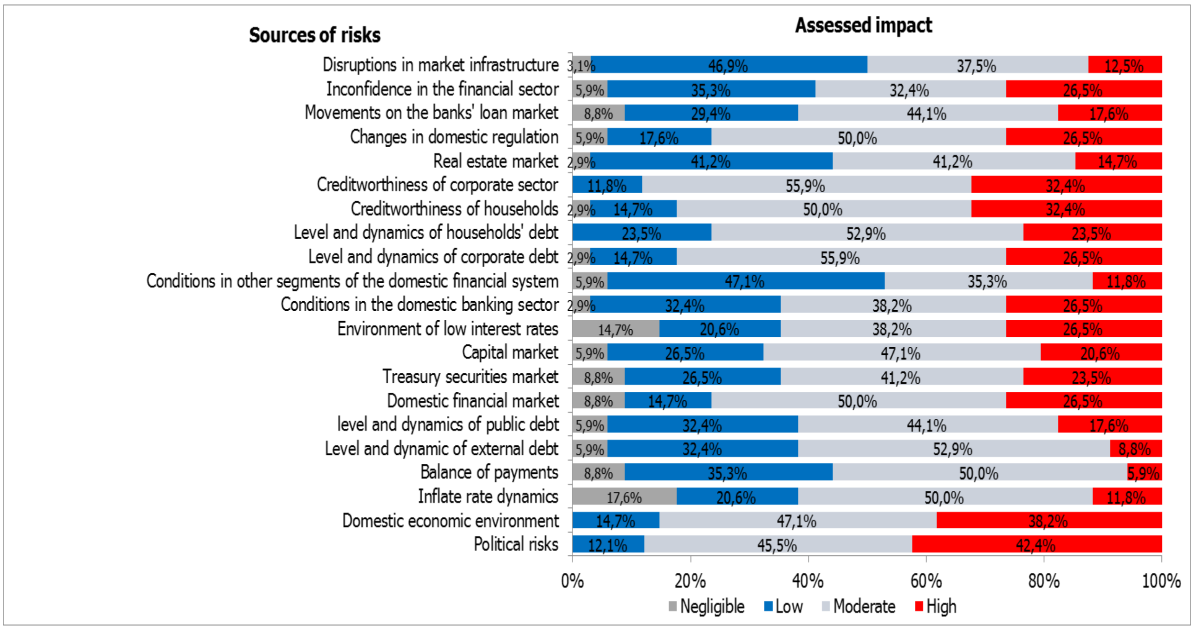
* The horizontal axis shows the ratio of respondents' answers to total number of Answers, in percent.

Average grade of external risk factors



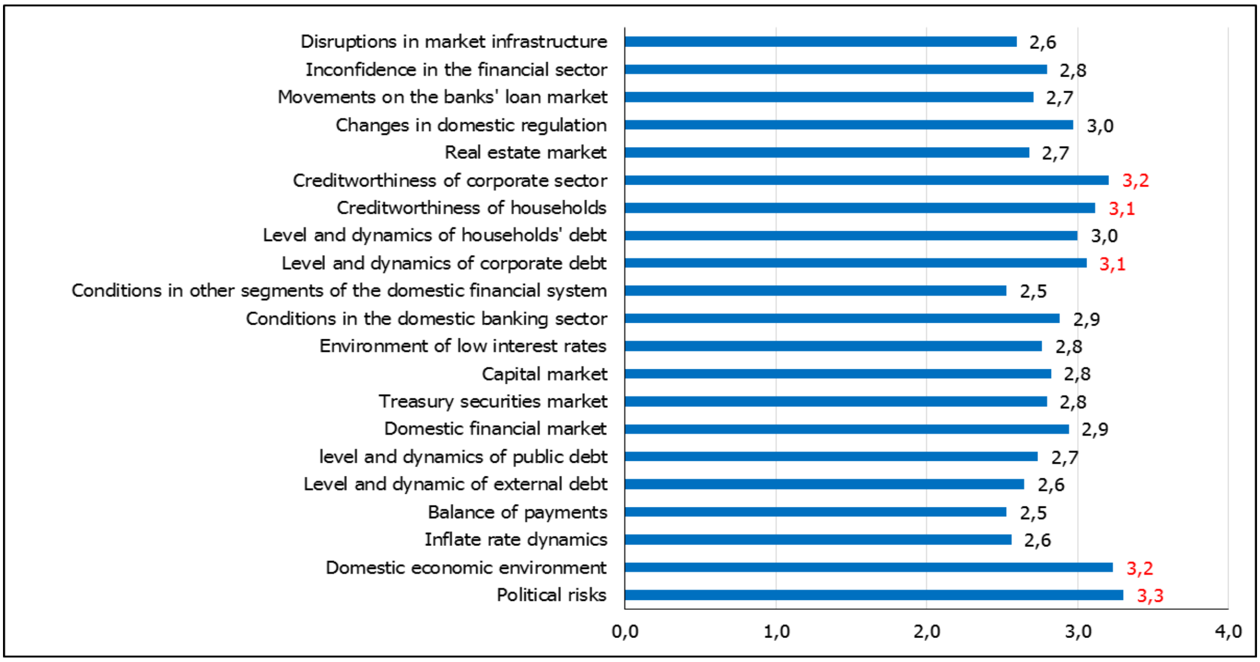
* The average grade is calculated as an average of each risk factor grades given by respondents in the range from 1 (for negligible impact risk factors) to 4 (high-impact risk factors).

Group II. Domestic risks



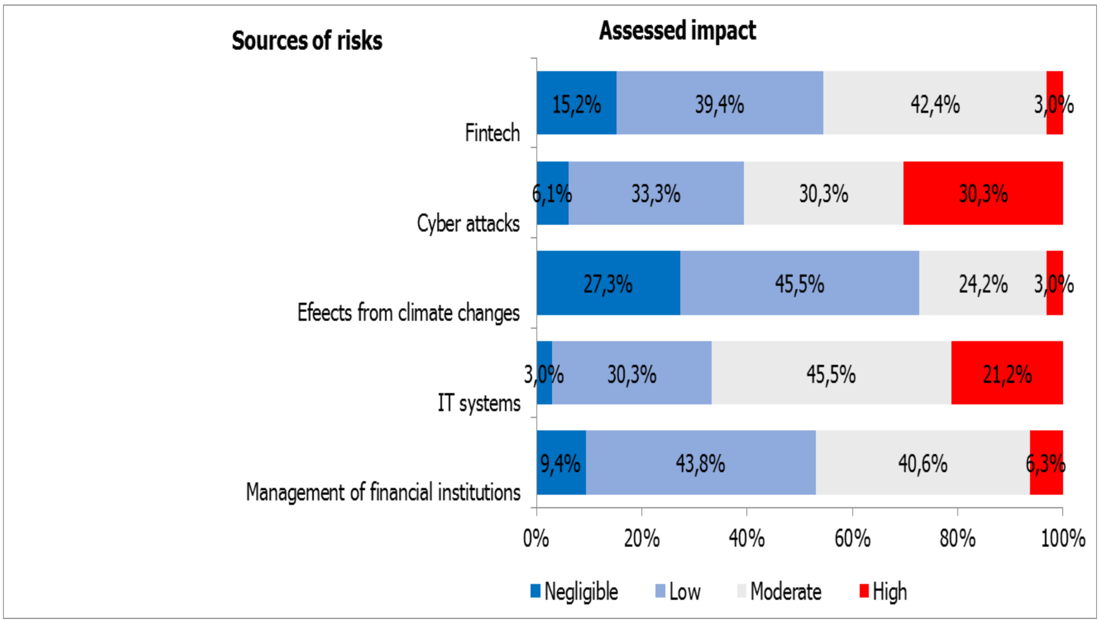
* The horizontal axis shows the ratio of respondents' answers to total number of Answers, in percent.

Average grade of domestic risk factors



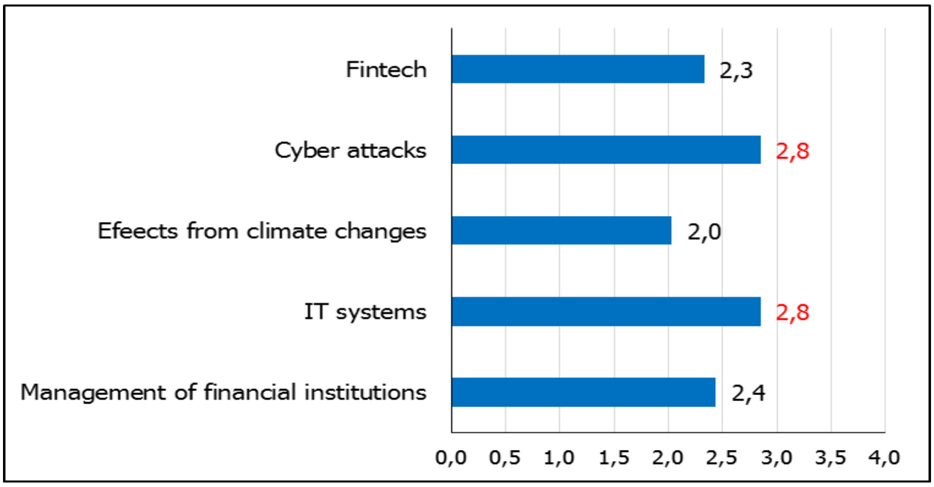
* The average grade is calculated as an average of each risk factor grades given by respondents in the range from 1 (for negligible impact risk factors) to 4 (high-impact risk factors).

Group III. Other risks



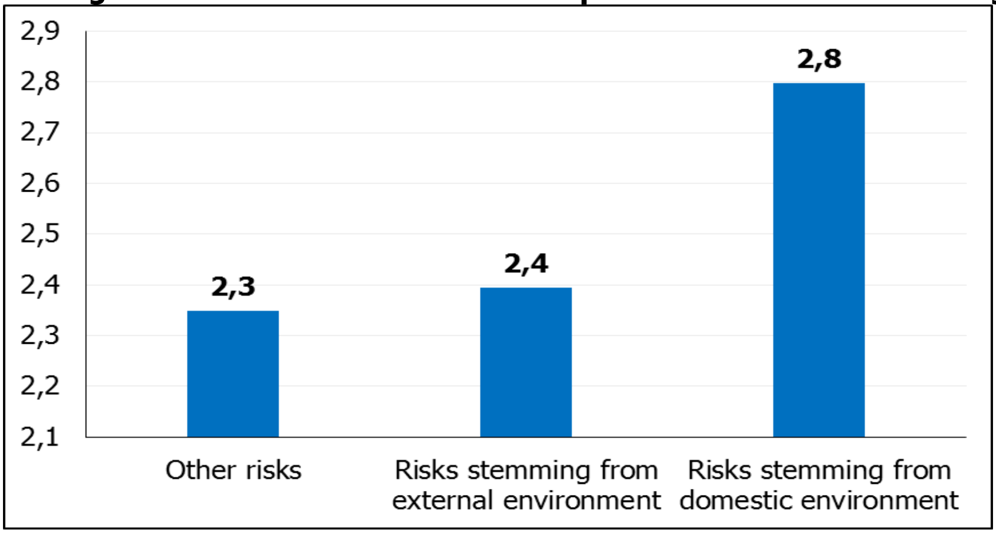
* The horizontal axis shows the ratio of respondents' answers to total number of answers, in percent.

Average grade of the other risk factors



* The average grade is calculated as an average of each risk factor grades given by respondents in the range from 1 (for negligible impact risk factors) to 4 (high-impact risk factors).

Average assessment of the effect from possible realization of each group of risks

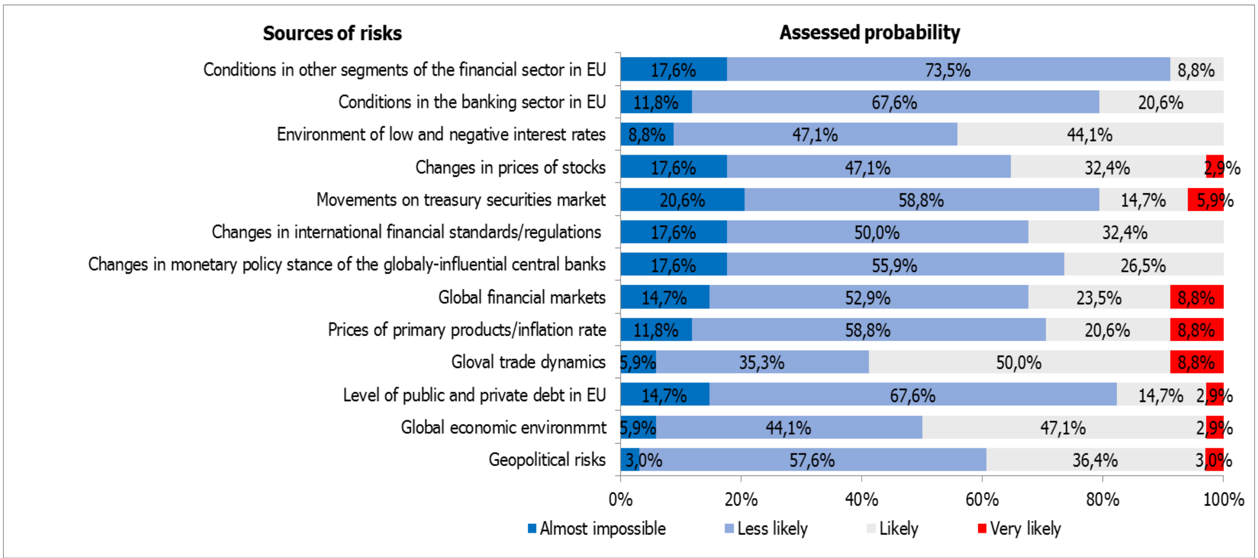


* The average grade is calculated as an average of risk groups grades grades given by respondents in the range from 1 (for negligible impact risk factors) to 4 (high-impact risk factors).

2. According to you, assess the probability for materialization of risks with intensity that would have serious negative consequences on the domestic financial system and economic activity in 2020.

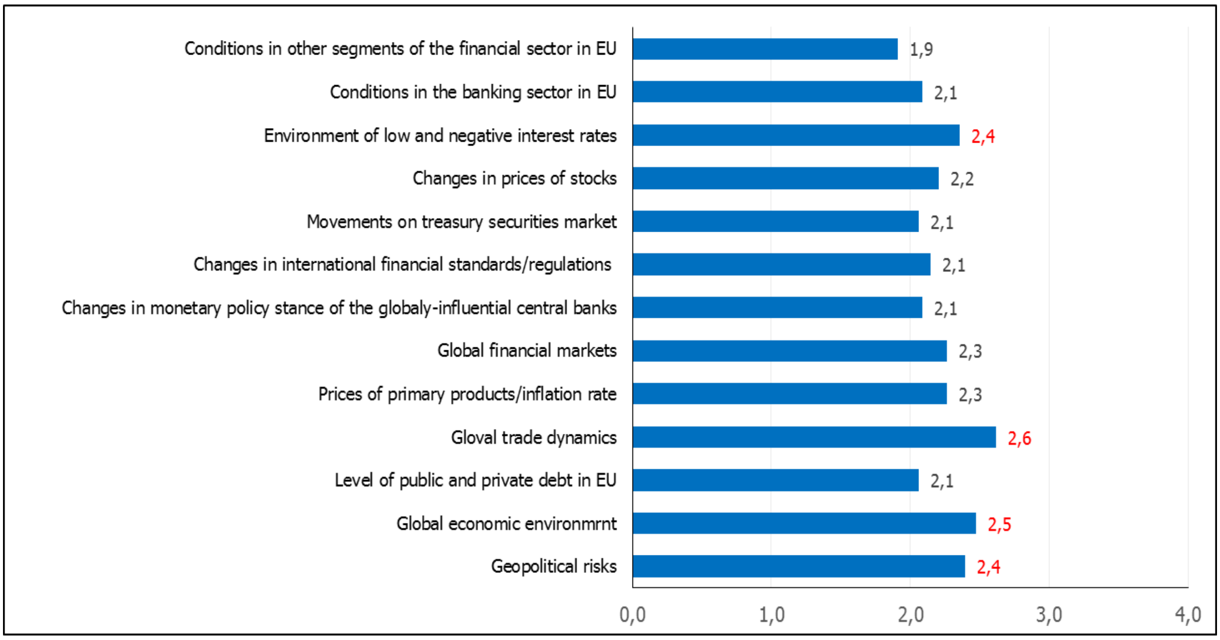
(1- almost impossible; 2 - less likely; 3 - likely; 4- very likely)

Group I. External risks



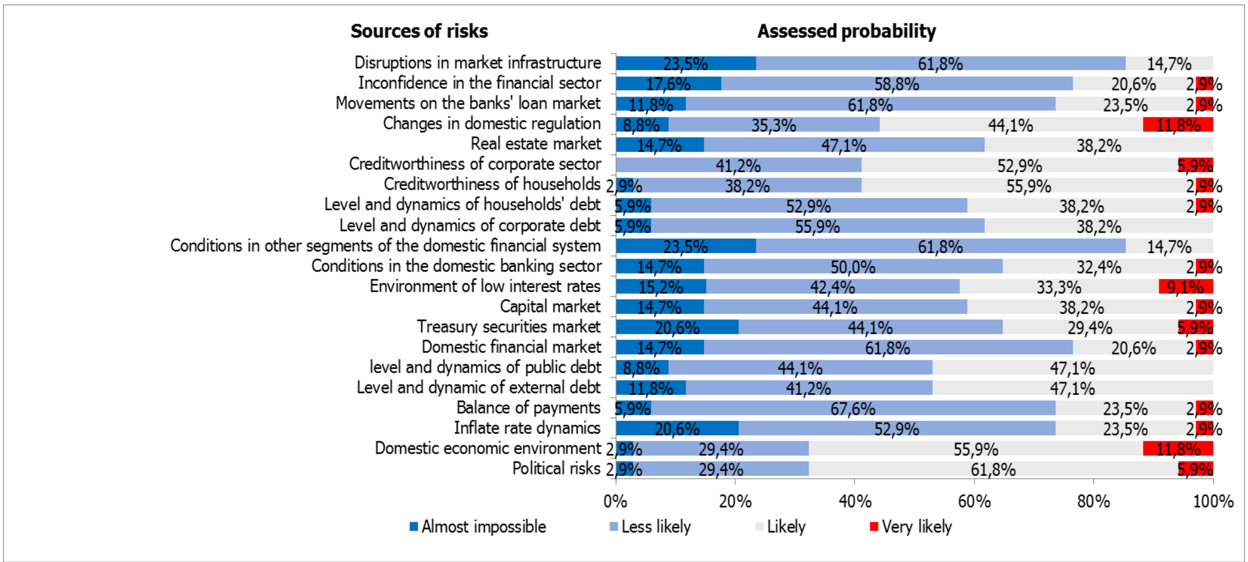
* The horizontal axis shows the ratio of respondents’ answers to total number of Answers, in percent.

Average grade of likelihood for external risk factors to materialize



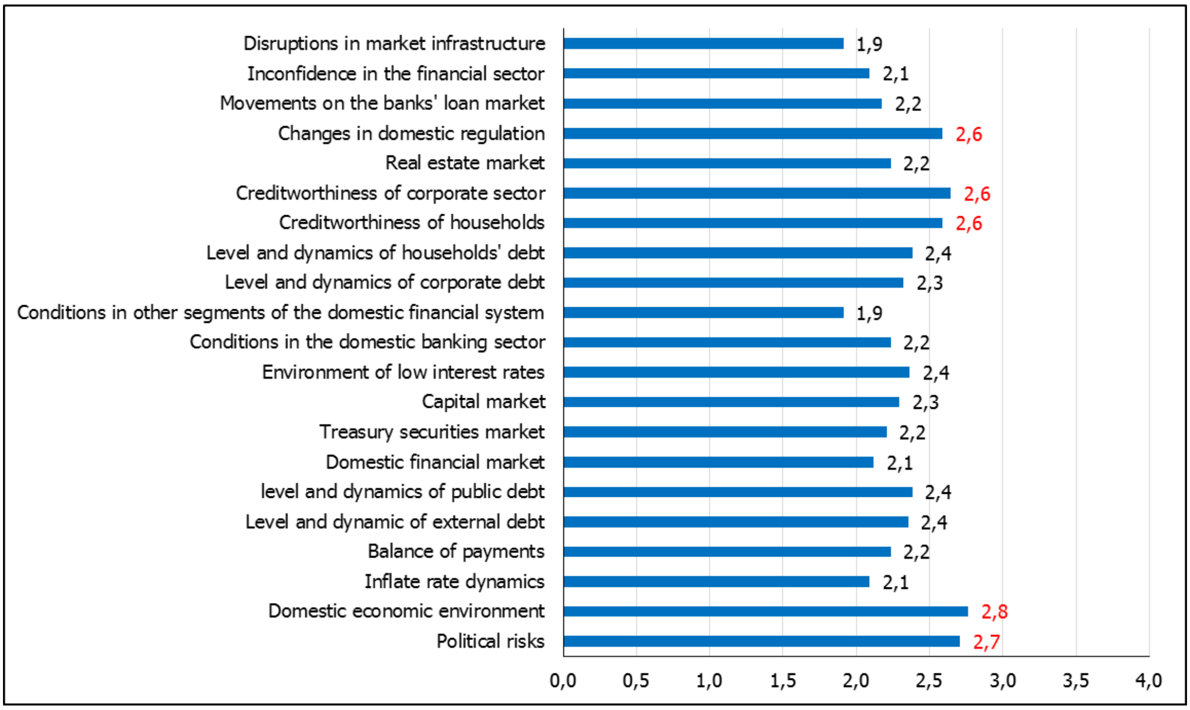
* The grades are calculated as an average of likelihood grades for risk factor materialization given by respondents in the range from 1 (almost impossible) to 4 (very likely).

Group II. Domestic risks



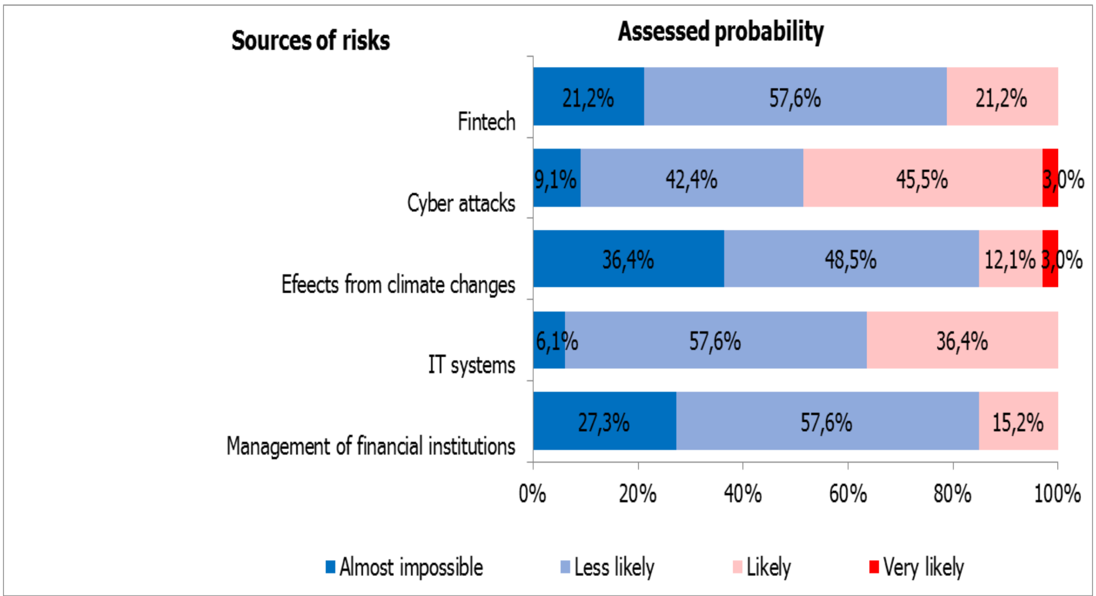
* The horizontal axis shows the ratio of respondents' answers to total number of Answers, in percent.

Average grade of likelihood for domestic risk factors to materialize



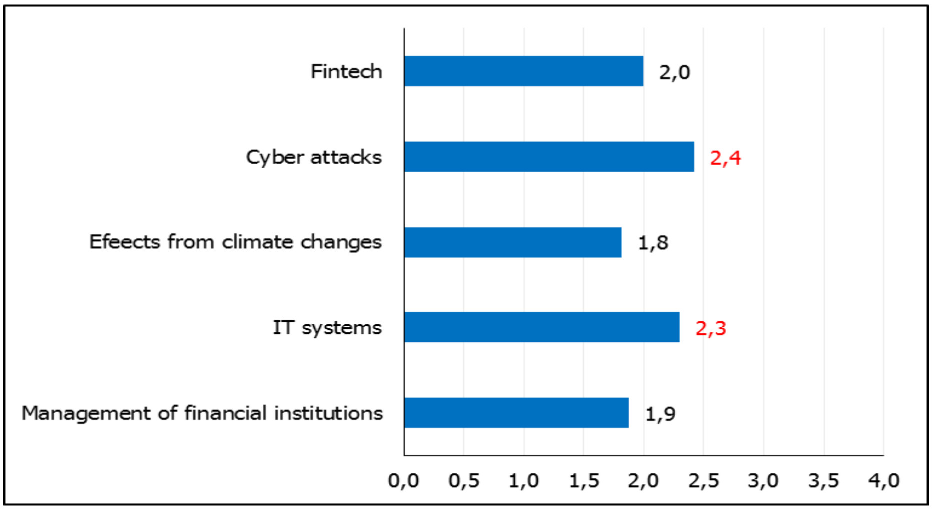
* The grades are calculated as an average of likelihood grades for risk factor materialization given by respondents in the range from 1 (almost impossible) to 4 (very likely).

Group III. Other risks



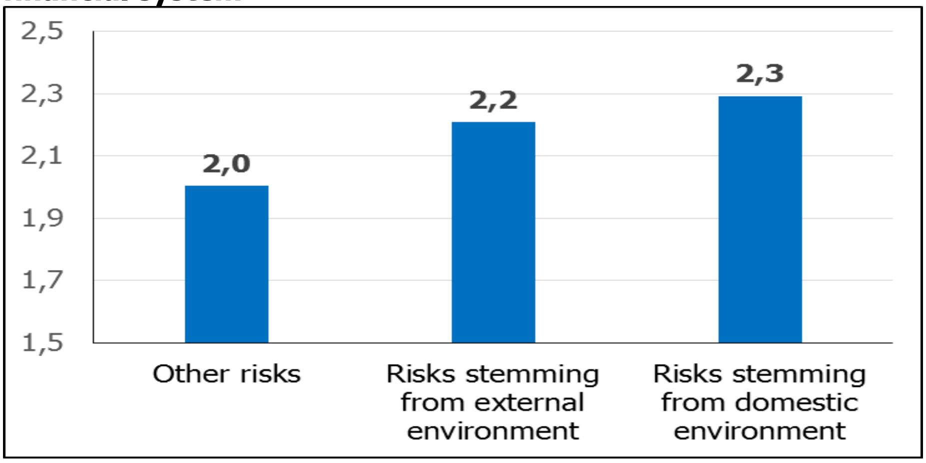
* The horizontal axis shows the ratio of respondents' answers to total number of answers, in percent.

Average grade of likelihood for other risk factors to materialize



* The grades are calculated as an average of likelihood grades for risk factor materialization given by respondents in the range from 1 (almost impossible) to 4 (very likely).

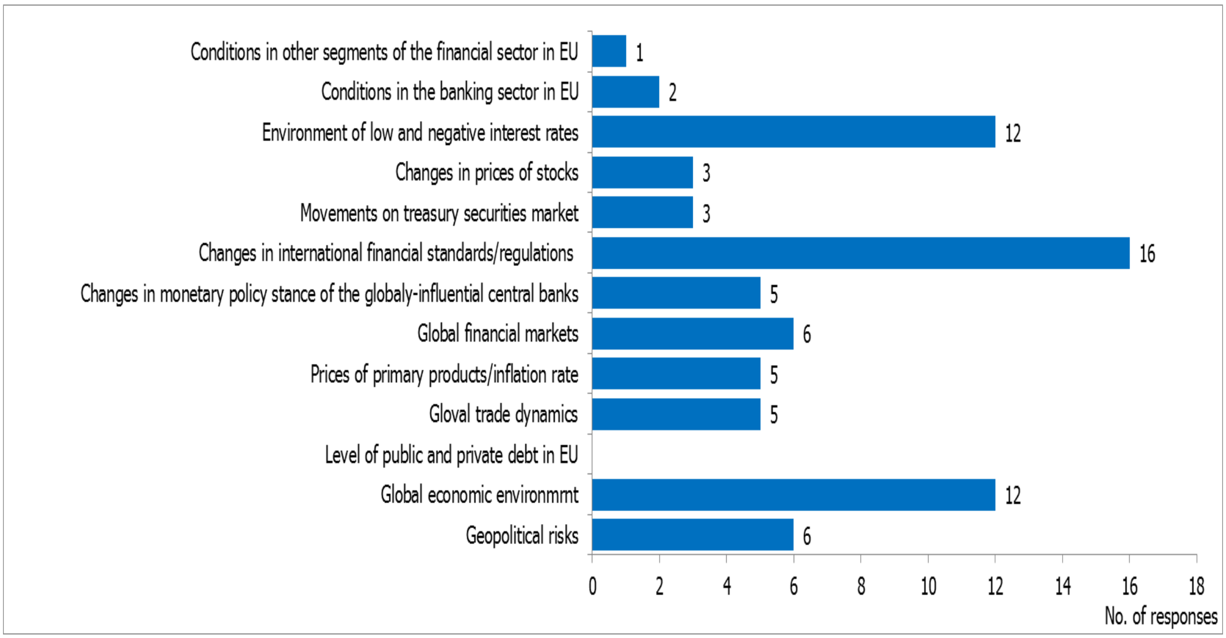
Average grade of likelihood of materialization of the risk groups on the domestic financial system



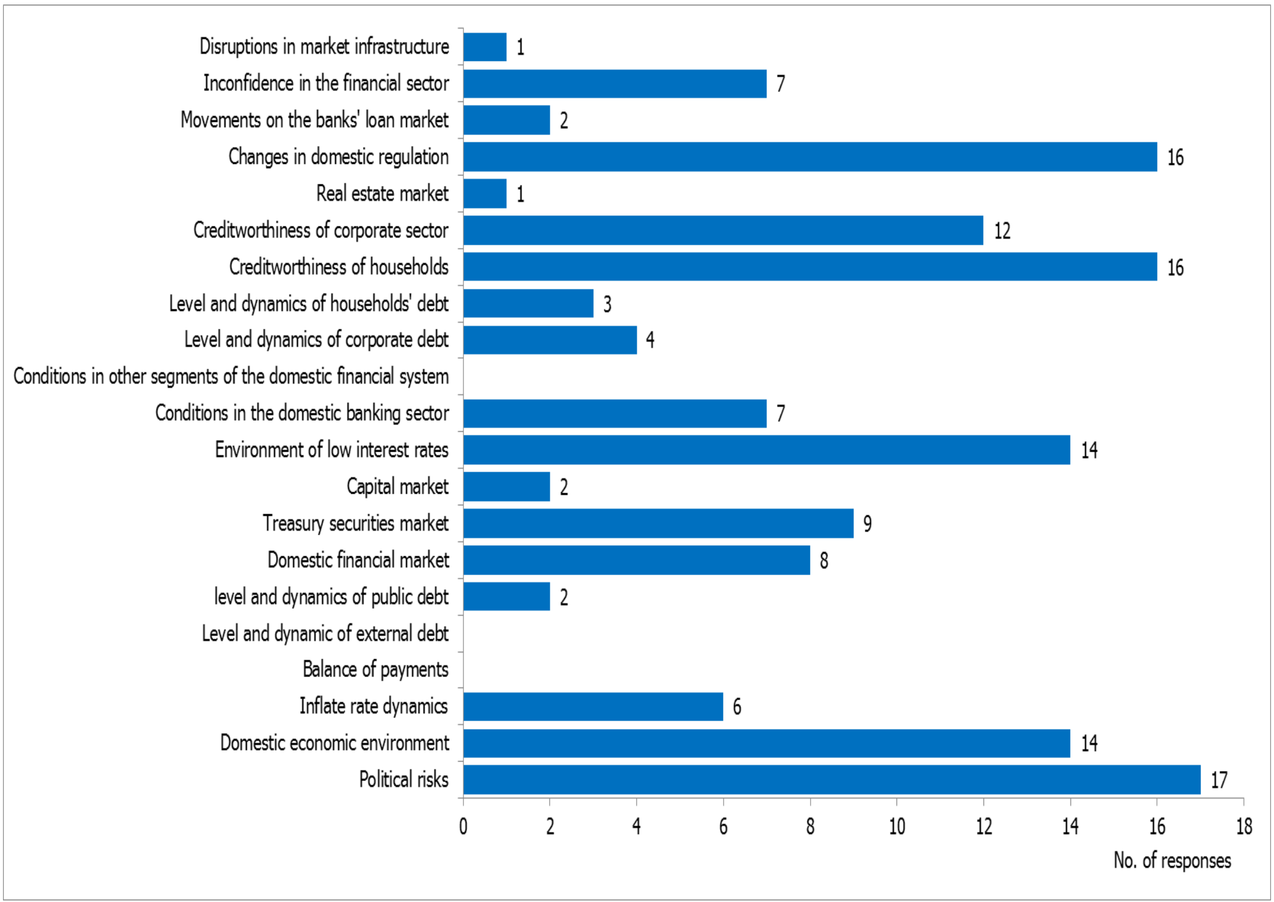
* The grades are calculated as an average of likelihood grades for risk groups materialization given by respondents in the range from 1 (almost impossible) to 4 (very likely).

3. From the list of risks, please select no more than five individual risks, the possible materialization of which would create the largest challenges in the operations of your institution. (To be answered only by financial institutions: banks, savings houses, pension funds, insurance companies, financial companies, brokerage companies and investment fund management companies).

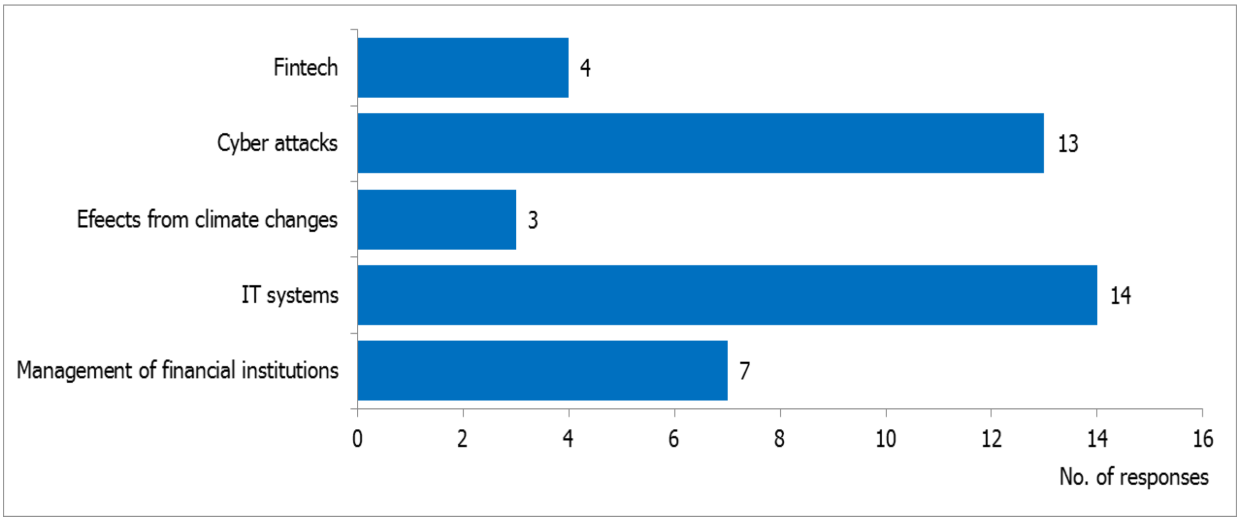
Group I. External risks



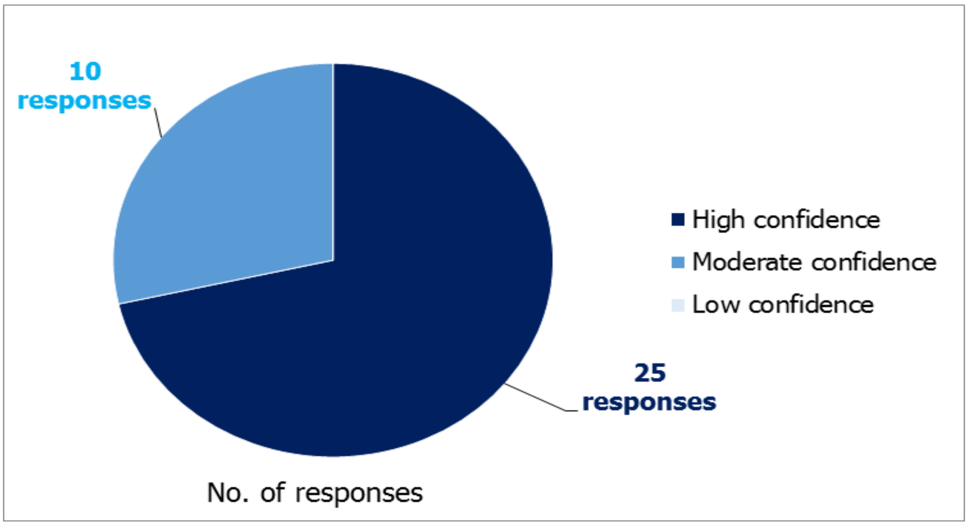
Group II. Domestic risks



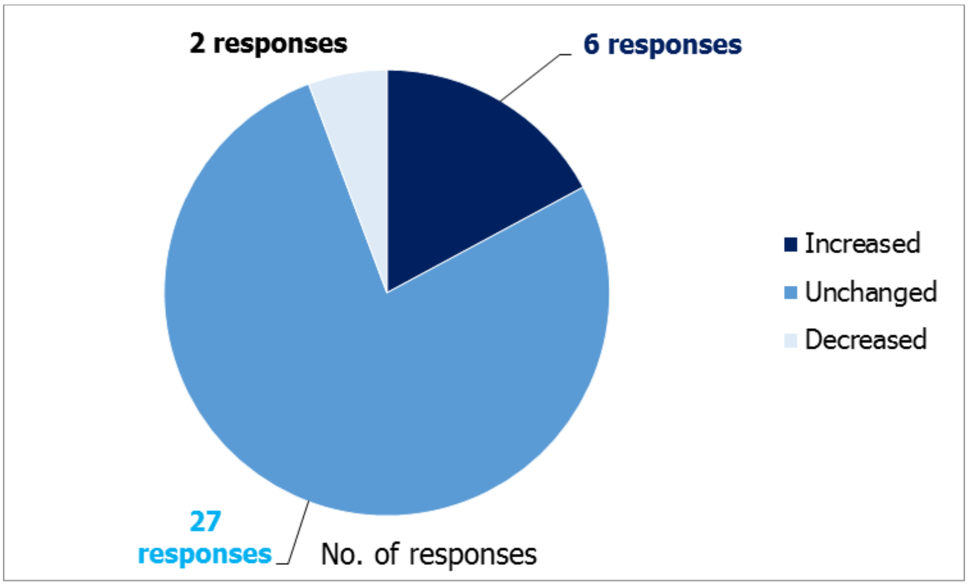
Group III. Other risks



4. Please indicate your level of confidence in the overall domestic financial system in the medium term.



5. Please assess how your confidence in the overall domestic financial system has changed in the last 12 months.



Box 2

Survey of banks' perceptions for their business activities and risks in their operations

The National Bank annually conducts a survey of the perceptions of banks for their business activities and risks in their operations, with certain qualitative improvements throughout the years. The primary objective of the survey is to identify the perceptions of banks on the situation in the domestic banking sector in terms of size and competition, their business models as well as main risks they are facing in their operations. As in the preceding years, the Survey was answered by all banks of the Macedonian banking system (fifteen banks).

In this report is given a review of the results from the survey conducted in 2020, which could serve to inform the general public and improve the decision-making of economic agents in the country. The Survey results are aggregated, while the charts follow the order of the questions in the Survey that was submitted to the banks. The Survey form is enclosed in Annex 1 to this Report. The results are aggregated by presenting the number of banks that gave a specific answer, expressed as a number of banks or percentage of the total number of banks covered by the Survey[323]. For the questions which allow only one answer, every possible difference up to 15 (the number of banks covered by the survey) or up to 100%, is due to banks which have not answered the specific question or have considered it inapplicable to them.

Thereby, it is especially important to mention that the deadline for submitting the survey answers was March 3, 2020 (although some of the answers arrived in mid-March), when our country had only few cases of infected people with the new virus and there were no indications or expectations for a lingered duration and intensity of the crisis in our country. This is exactly why, while reading this analysis, one should take into consideration that the results would have probably been different if the survey was conducted sometime later in 2020.

[323]An explanation of the manner of results aggregation is given under each chart.

The survey consists of two parts and is based on the the survey conducted by the European Banking Association (EBA) with the EU banks. The first part of the survey contains questions related to banks' expectations on profitability, capital position and activities in 2020, while the second part deals with questions on the banking sector and banks' business model.

Analysis of the results

Within the *first part of the Survey,* each bank was expected to list its expectations on profitability, capital position and activities of the bank.

Profitability

Generally, the banks expect improvement of the profitability in 2020. Most banks (ten banks) consider that the return of equity rate up to 12 % provides sustainable operation of the bank, where half of these banks assess that even with a ROAE lower than 10%, they would provide sustainable operation on long term. The other 5 banks consider that in order to have a sustainable operation on long term, they need a return of equity higher than 12%. Same as the last year, most of the banks assessed that their current earnings exceed the cost of equity, i.e. the required rate of return by banks' shareholders, which was assessed at a level lower than 8% by most of the banks.

Amid general assessments of moderate relevance and impact of the surrounding risks on the banks' operations, most banks expect an increase in profitability in the next 6 to 12 months. The gross interest revenues stand out as an income category which would provide growth of profitability in 2020, as assessed by most of the banks, followed by revenues from fees and commissions and other operational revenues. Generally, the banks do not expect changes in the structure of revenues from fees and commissions, expecting the revenues from commissions of payment services to prevail, including the operations with cards, as well as commissions related to crediting. However, the number of banks that expect bigger significance of the revenues from commissions connected to sales of insurance policies increased, from two to six banks.

There are deteriorating expectations from banks in terms of costs. Namely, only three banks expect to improve the profitability by decrease of the operational costs, which is a significantly lower number of banks compared to the last year's survey, when 10 banks expected a decrease[324] of operational costs. Given this, most of the banks consider that operational costs would have a volume that will have decreasing impact on profitability, while the previous year, only one bank had such expectation. Also, significantly higher is the number of banks which expect decrease of profitability, due to larger impairment costs of loans (ten banks, opposite to one in the last survey) and non-financial assets (five banks, opposite to one bank in the previous survey). This year, there is a higher number of banks that expect a growth of both, fees and commmissions and interest expenses. Most of the banks do not expect that the changes in the slope of the yield curve of the interest rates in domestic currency or in the international markets would have significant effects on the financial result.

Sources of financing and capital position

Banks do not expect significant changes in the structure of sources of financing of their activities. In conditions of an appropriate capitalization of the domestic banking sector, only three banks have announced intentions to issue new capital instruments that are eligible for the bank's Common Equity Tier I capital, or in the Additional Tier I capital and Tier II capital. Half of the banks stated that the insufficient experience with issuing such instruments is the

[324] The decrease of the operational costs would be realized through activities for higher automation and digitalization in operations, removing inefficient activities and organizational units in the bank, reducing the general administrative costs.

main limitation factor for issuing this type of instruments, while half of the banks stated that it is the price of this instruments and the insufficient demand by potential investors. Thus, most of the banks stated that they plan to increase the financing of the bank through larger collection of deposits from both the legal entities and the households. Almost all banks answered that they do not intend deleveraging in 2020.

Quality of credit portfolio

According to the group of questions related to the dynamics and quality of loans, in 2020, the banks expect intensified credit support for small and medium enterprises as well as housing loans. Such expectations are based on the belief for a better quality in these segments of credit portfolio. The banks intend to increase the volume of credit activity in 2020, mainly through crediting small and medium enterprises, housing and consumer loans, for which all the banks agreed[325]. The number of banks that expect increase of project financing is also significant (ten banks) as well as commercial real estate loans (eleven banks). However, in 2020 the banks expect to achieve the largest growth in crediting to small and medium enterprises and housing loans. Within the consumer loans, some of the banks expect a decrease of the consumer crediting with maturity over eight years and consumer loans in denar with currency clause. In terms of crediting to large companies, part of the banks announce less crediting, opposite to other banks, which expect the largest increase particularly in crediting large companies. The banks relate the expectation for the largest growth of crediting to small and medium enterprises and housing loans, to the expectations for improvement of the quality of these loans in the following twelve months. On the other hand, in terms of the expectations for deterioration of the quality of credit portfolio, most of the banks stated to expect deterioration of the quality of uncollateralized consumer loans.
Following these expectations on the changes of the volume of crediting and quality of credit portfolio, almost half of the banks expect increase of cost of impairment for the household credit activity, and six banks have such expectations for the credit portfolio of non-financial companies.

Operational Risk Exposure

The results of the survey showed that there are no expectations for significant changes in terms of operational risk exposure by banks. Namely, 80% of the banks answered that they expect the level of exposure to operational risk to remain similar in 2020, and one bank even expects a decrease of this risk. Two banks expect increase of operational risk, pointing out the risk of cyber-attack and data security, problems with IT-infrastructure, using outsourced services and changes in the regulations as main factors for such thing.

Fintech

For the second time in this survey, a set of questions were posed about Fintech-activities of banks. Same as the last year, the results show a relatively modest representation of fintech activities with domestic banks, but with certain positive movements in this field. Namely, in this year's survey almost doubled the number of banks that intend to perform cooperation (seven banks, opposite to four in the last survey) or have already cooperated with a fintech company (eleven banks, opposite to six banks in the last survey). Eight banks (five in 2019) answered that they worked independently, without any cooperation with fintech companies, on the application of the new financial technologies in developing their products and services. Among the banks which have cooperated with fintech

[325] Except DBNM which performs its credit activities through other domestic banks.

companies in some form, the most important motive for cooperation is attracting new clients, followed by keeping current clients, rationalization of costs, increase of revenues, decrease of competition pressure and following market trends. The number of banks that have already implemented some of the new financial technologies is still low. Thus, the most applied (in five banks) are, the use of so called cloud services, using methods of so called big data analysis and algorithms for credit scoring (four banks) and use of biometric properties in terms of identifying users (three banks). There is a small group of banks which are in a phase of planning, development or testing the application of these products and technologies, while most of the banks answered that they have no experience in fintech-activities.

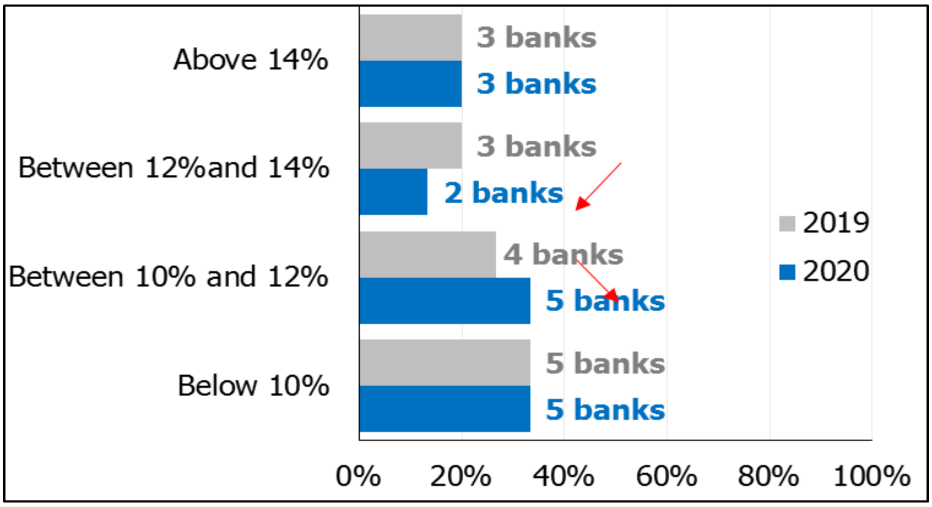
In the second part of the survey, the banks gave their perception on the conditions in the banking sector and their business model. Some of the banks see a need for further consolidation in the banking system, while the level of competition is assessed as high. The banks do not expect significant changes in their business models. Regarding the size of the domestic banking sector per capita, most of the banks consider that a consolidation of the banking system is needed, through bank mergers. The banks point out the insufficient transparency in term of quality of the assets and performances, high costs related to these activities, organizational and cultural aspects of the procedure's complexity as obstacle factors tom the process of mergers and acquisitions). Most of the banks assess the level of competition in the domestic banking system as high. In terms of the business model, only one bank stated its intentions to change the business model, in order to strengthen the profitability. Fintech activities do not have significant importance for banks' business models and profitability. Namely, according to the responses, some of the banks consider that fintech activities would enable decrease of costs in operations with legal entities and natural persons, as well as in payment operations. On the other hand, a small number of banks consider that fintech activities could decrease their revenues from operations, and there are banks which consider that fintech activities could increase their revenues.

Charts of the aggregated results of each question of the Survey are given below.

Section I.
Banks' expectations for profitability, capital position and activities in 2020.

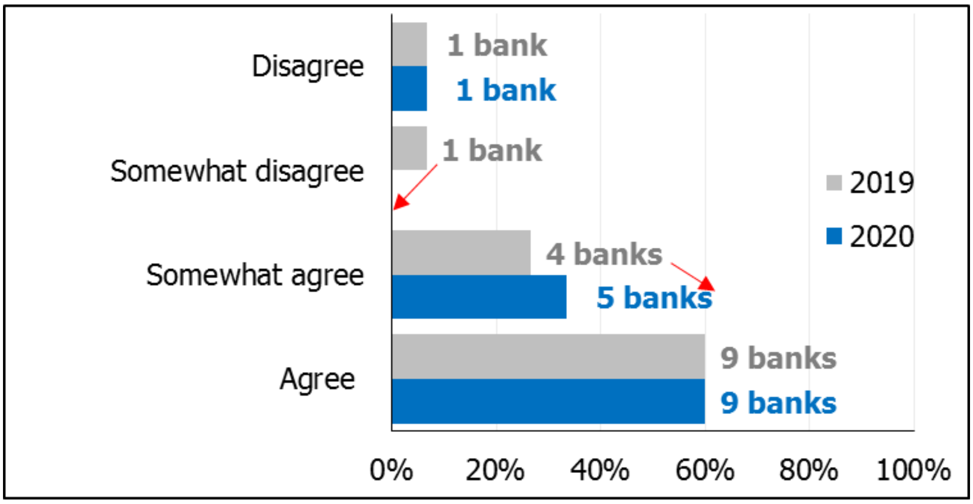
PROFITABILITY

1. According to the bank's assessment, the level of return on equity and reserves (ROAE) that will ensure sustainable operations in the long term is:



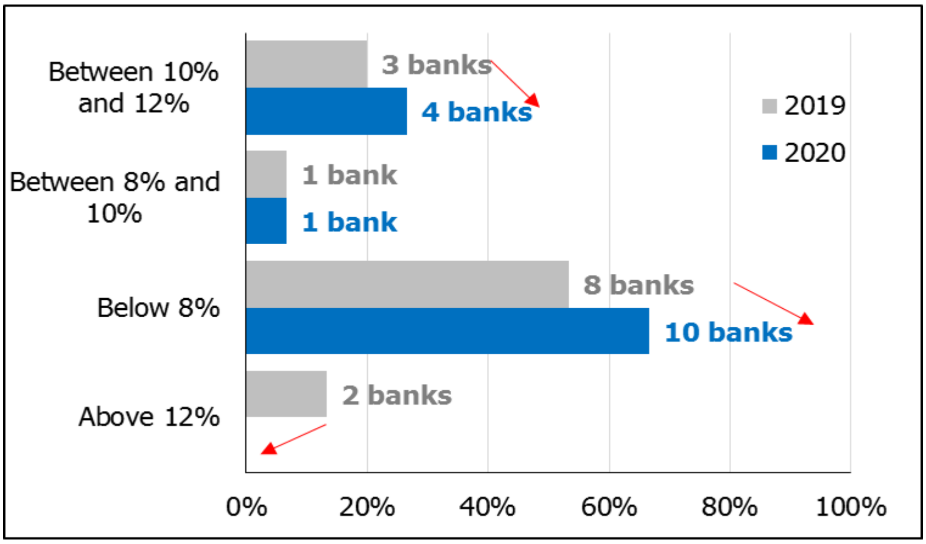
*Percentages (on the horizontal axis) refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

2. Do you expect the profitability of your bank to increase in the next 6 to 12 months?



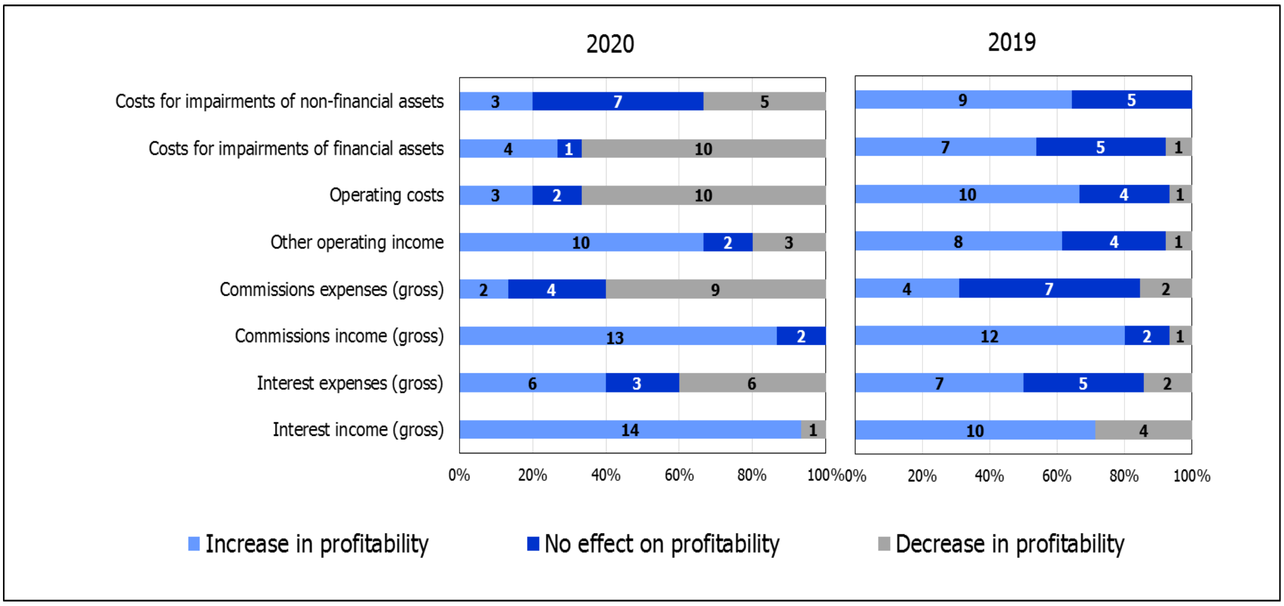
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

3. You estimatethe cost of equity for the period of one year at:



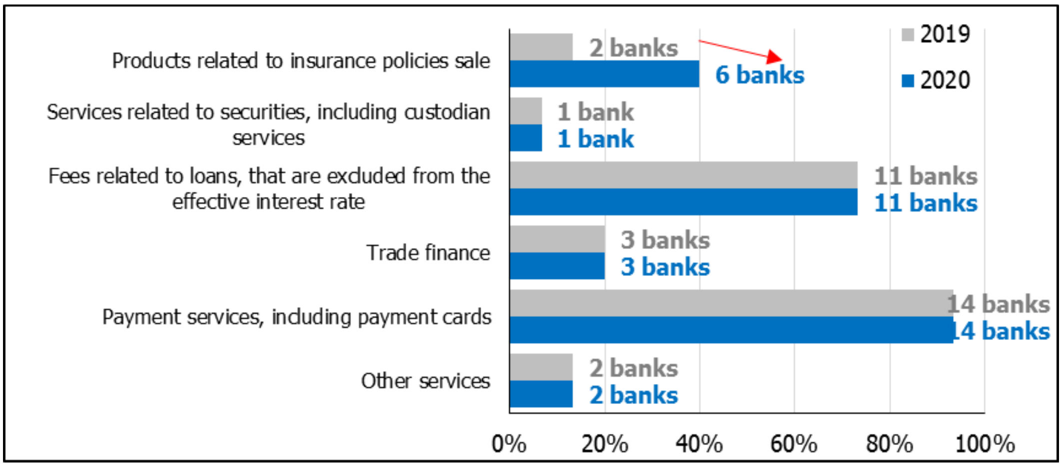
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).
** One bank, from the group of small banks, didn't answer this question for 2019.

4. Impact of income statement categories on your bank's profitability:



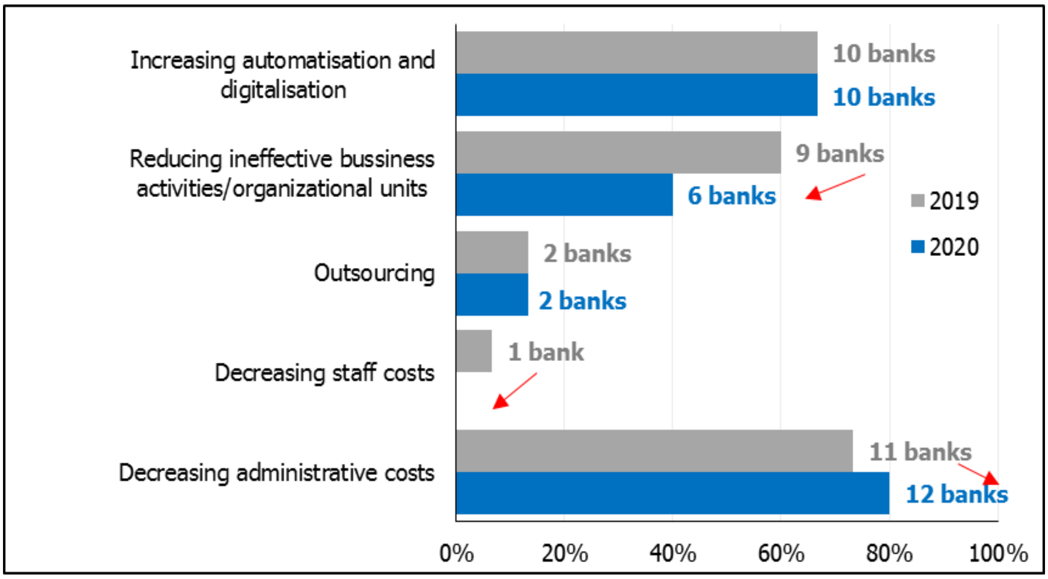
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

5. Contribution of certain types of fees and commissions within the fees and commission income of your bank:



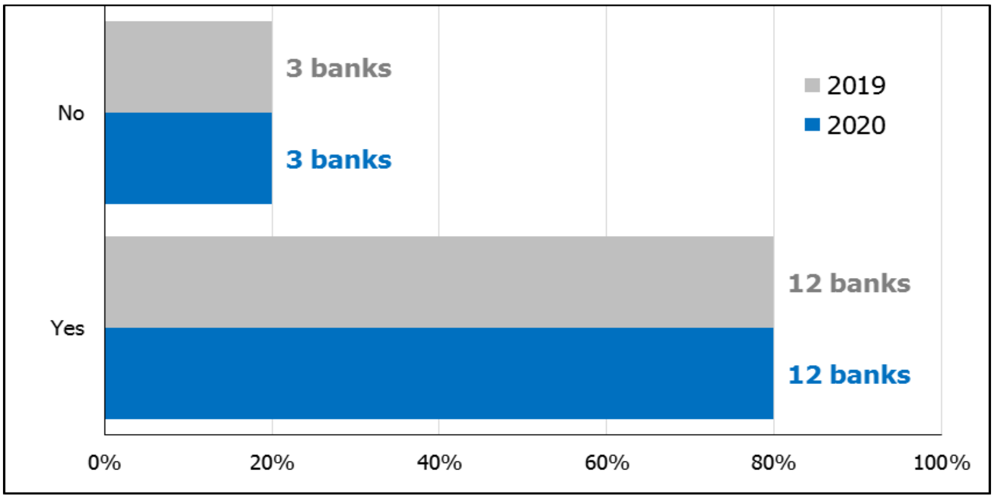
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

6. If planned, you would reduce your operating costs by:



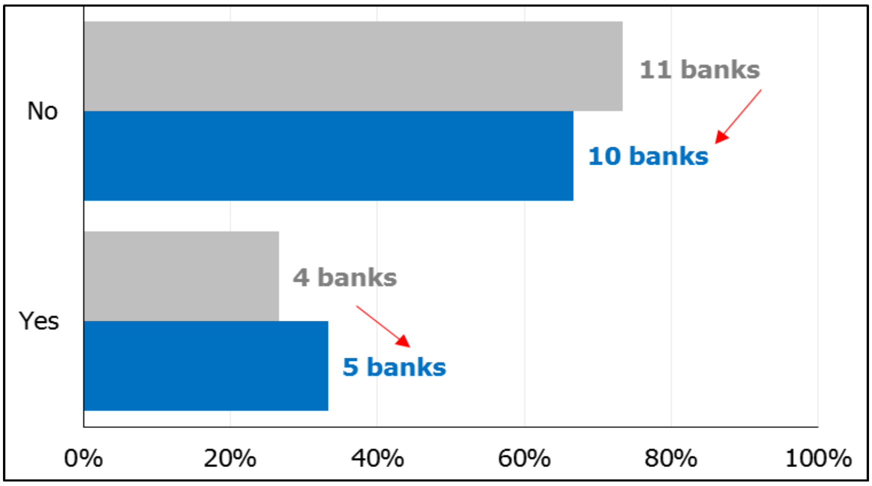
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

7. Does the current profit from regular operations, excluding the effect of the sale of foreclosed property or similar non-recurring activities, annualized, exceed the bank's cost of equity?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

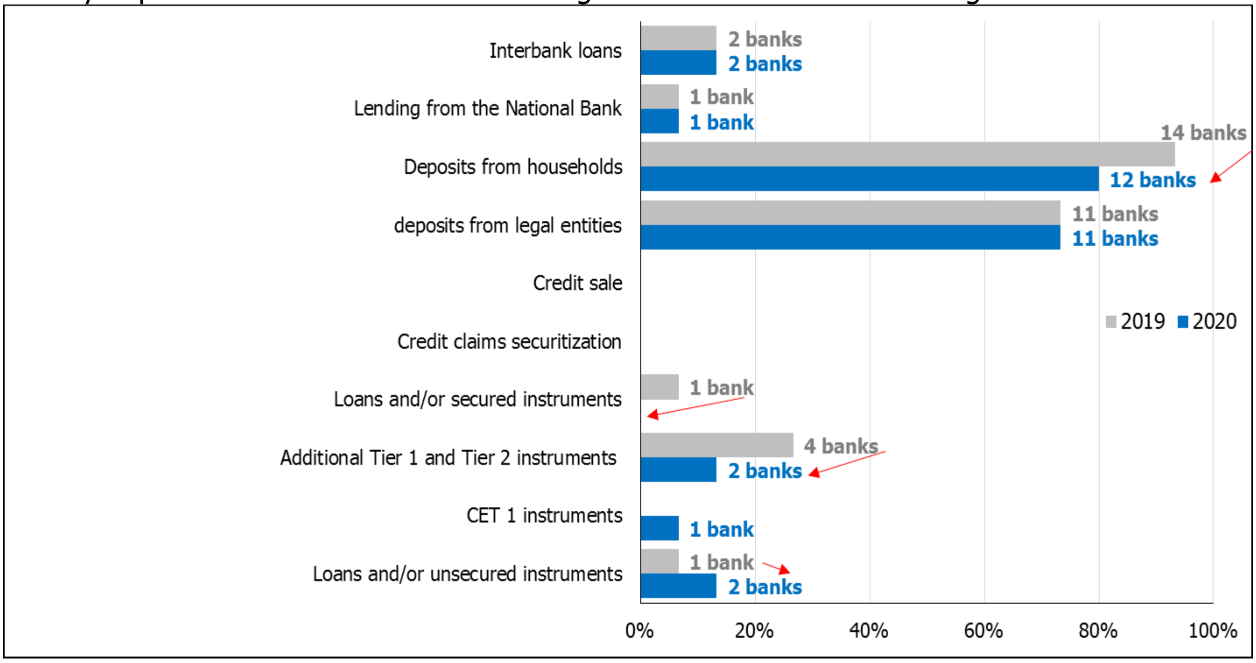
8. Do you expect the changes in the slope of the yield curves of the interest rates in the domestic currency or in the international markets to significantly affect your bank's profit in the next 6 to 12 months?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

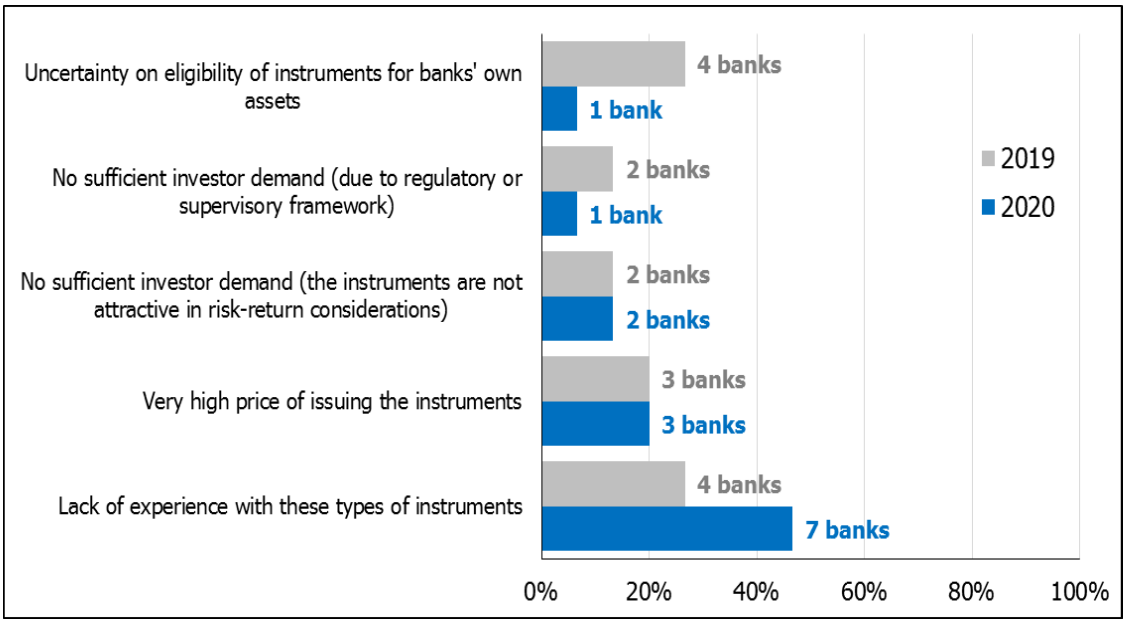
CAPITAL POSITION AND FUNDING SOURCES

9. Do you plan to increase the bank's funding in the next 12 months through?



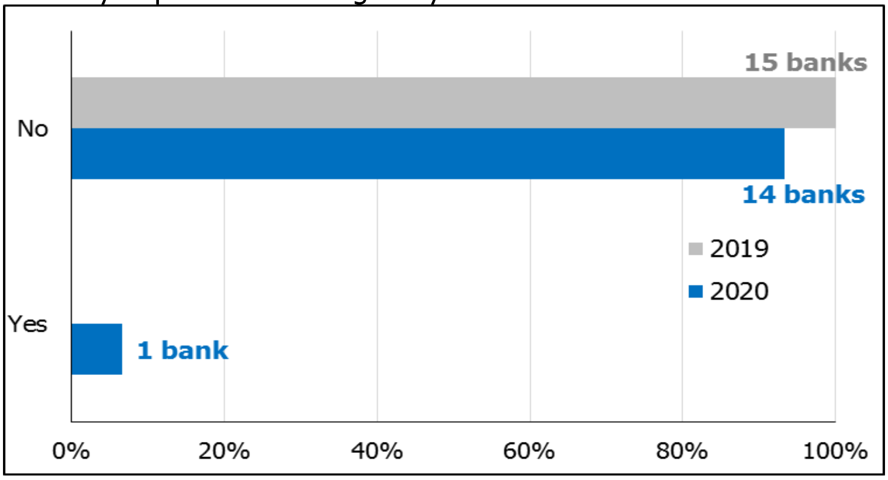
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

10. What are the main constraints for your bank to issue capital instruments eligible for the bank's additional Tier I capital and Tier II capital?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).
** One medium bank and one small bank did not respond to this question for 2020.

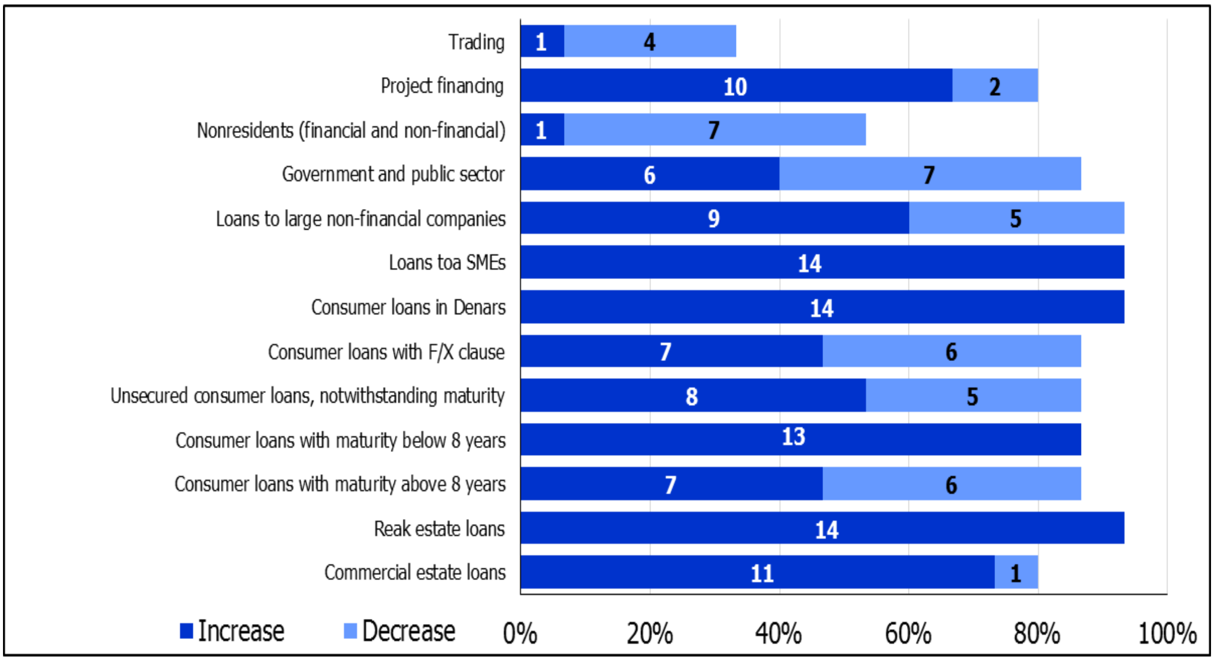
11. Do you plan a deleverage of your bank?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

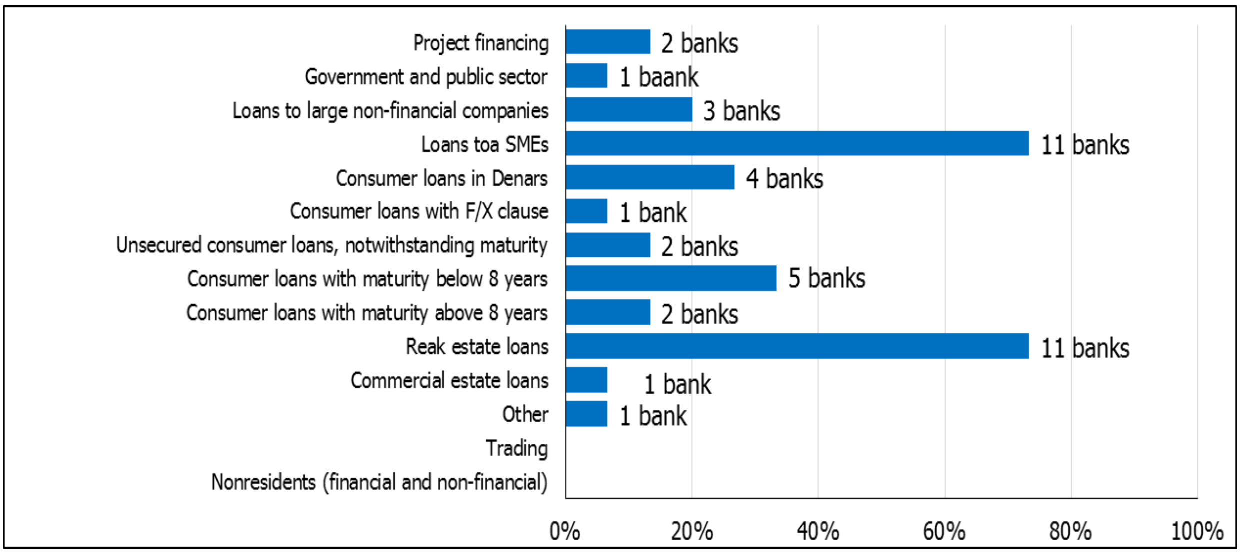
QUALITY OF CREDIT PORTFOLIO

What change do you plan in each of the stated portfolios in the next 12 months?



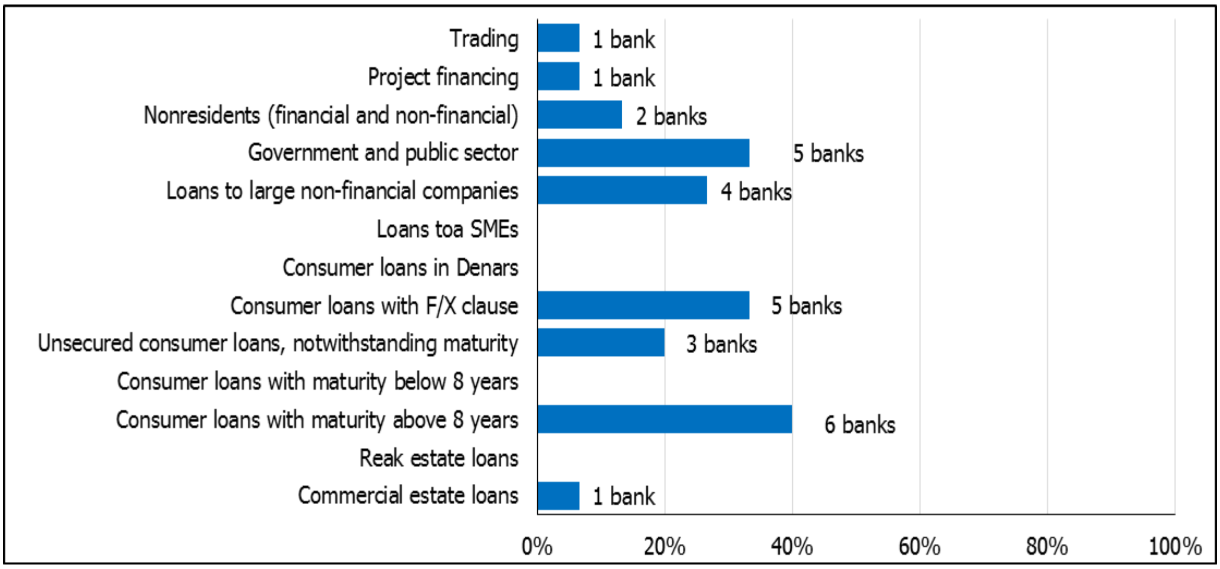
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

12. From the protfolios that you expect to grow in the next 12 months, please mark three portfolios where highest growth is expected:



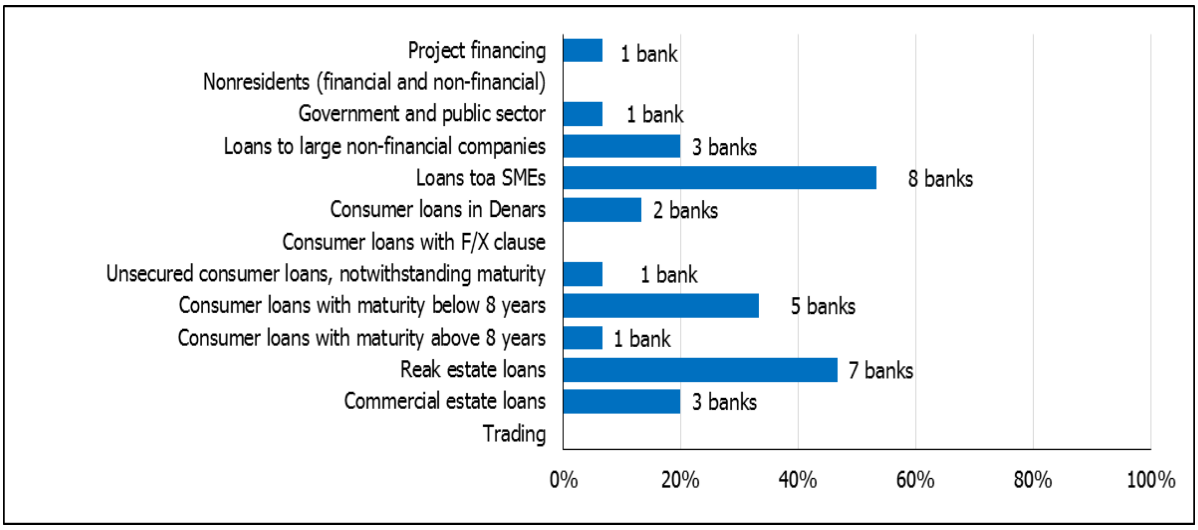
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

13. From the portfolios that you expect to decrease in the next 12 months, please mark the three portfolios where highest reduction is expected:



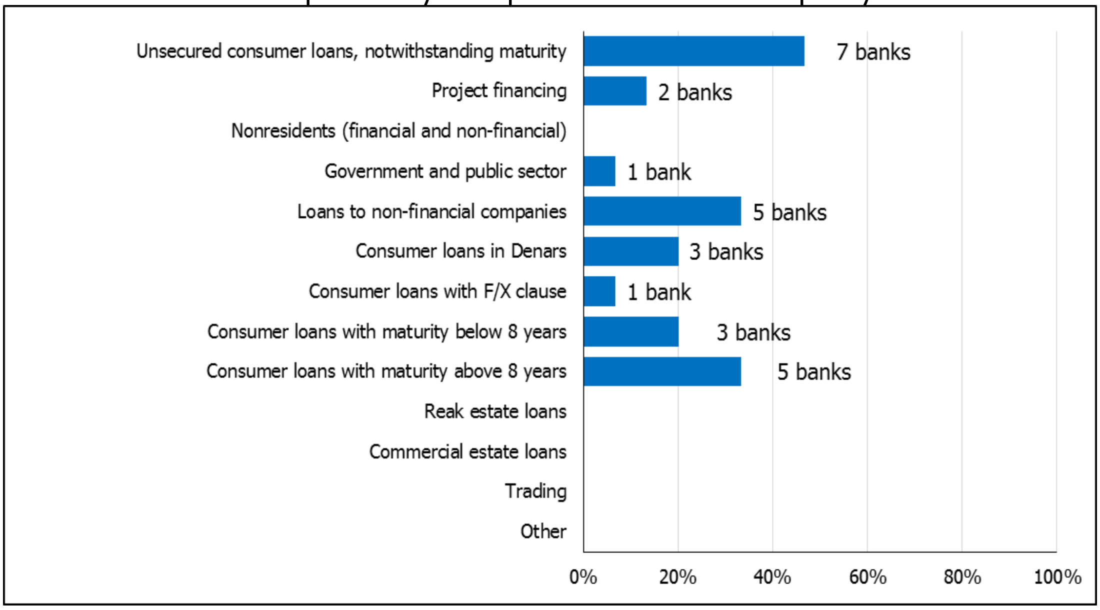
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).
** Three banks didn't answer this question

14. Please indicate the portfolio you expect to improve in quality in the next 12 months:



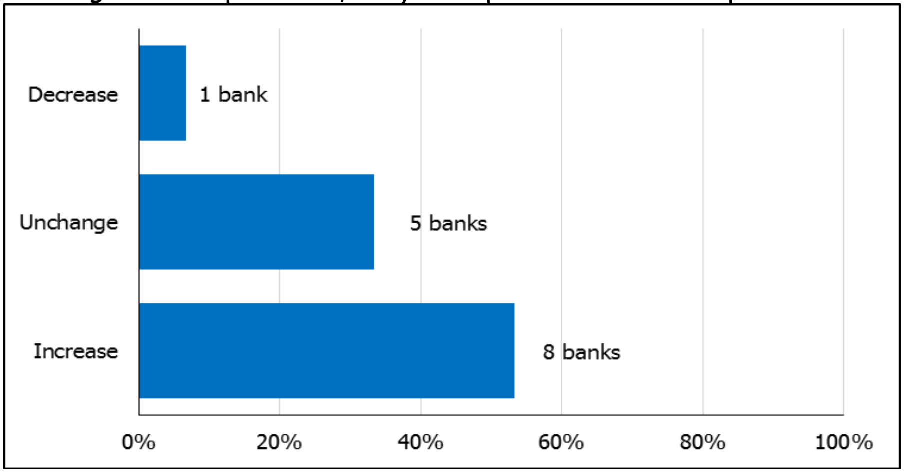
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

15. Please indicate the portfolio you expect to deteriorate in quality in the next 12 months:



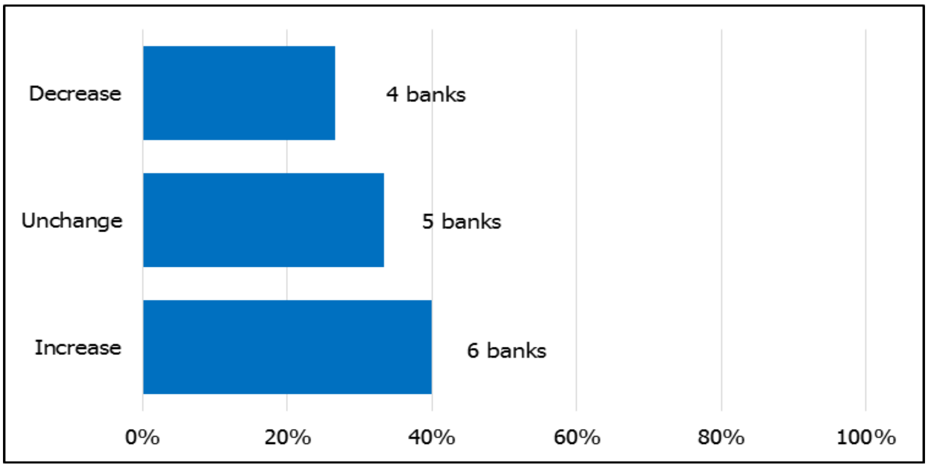
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

16. According to your expectations for the future trend of household lending and the level of coverage with impairment, do you expect the cost of impairment in the next 12 months to:



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

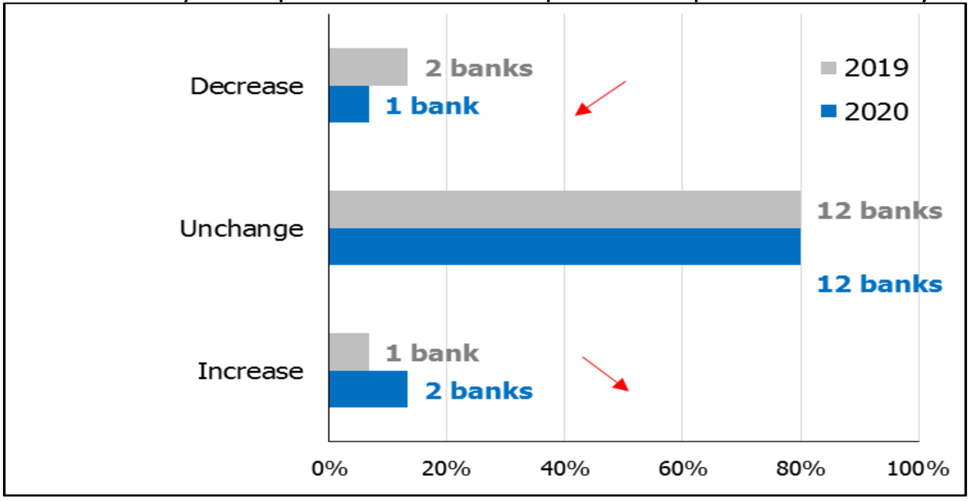
17. According to your expectations for the future trend of lending to non-financial entities and the level of coverage with impairment, do you expect the cost of impairment in the next 12 monthsto:



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

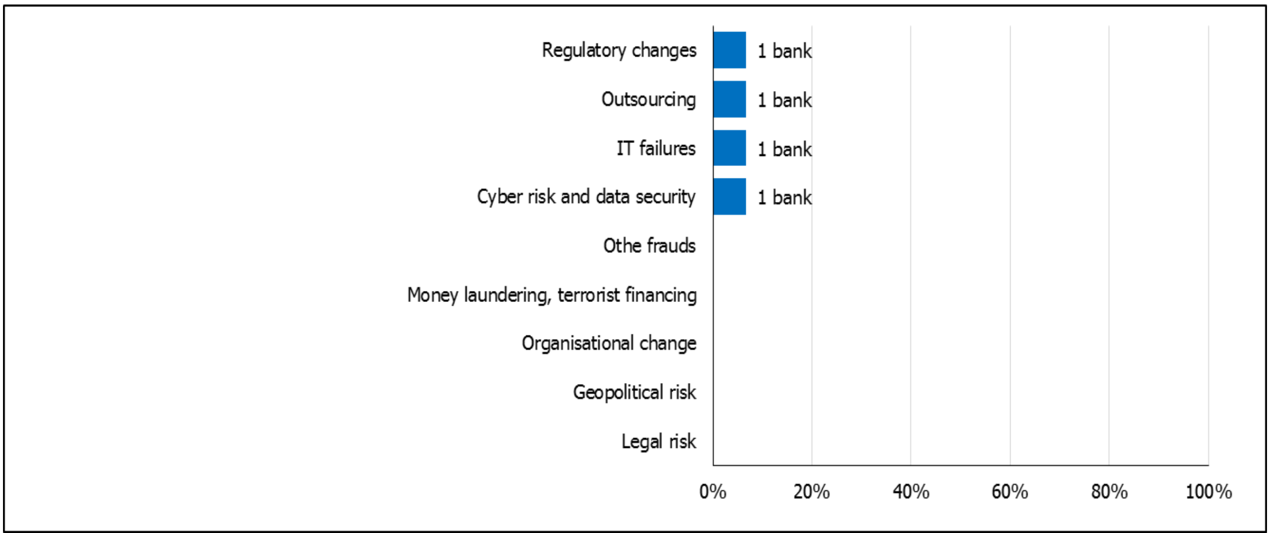
OPERATIONAL RISK EXPOSURE

18. What are your expectations for the exposure to operational risk of your bank?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

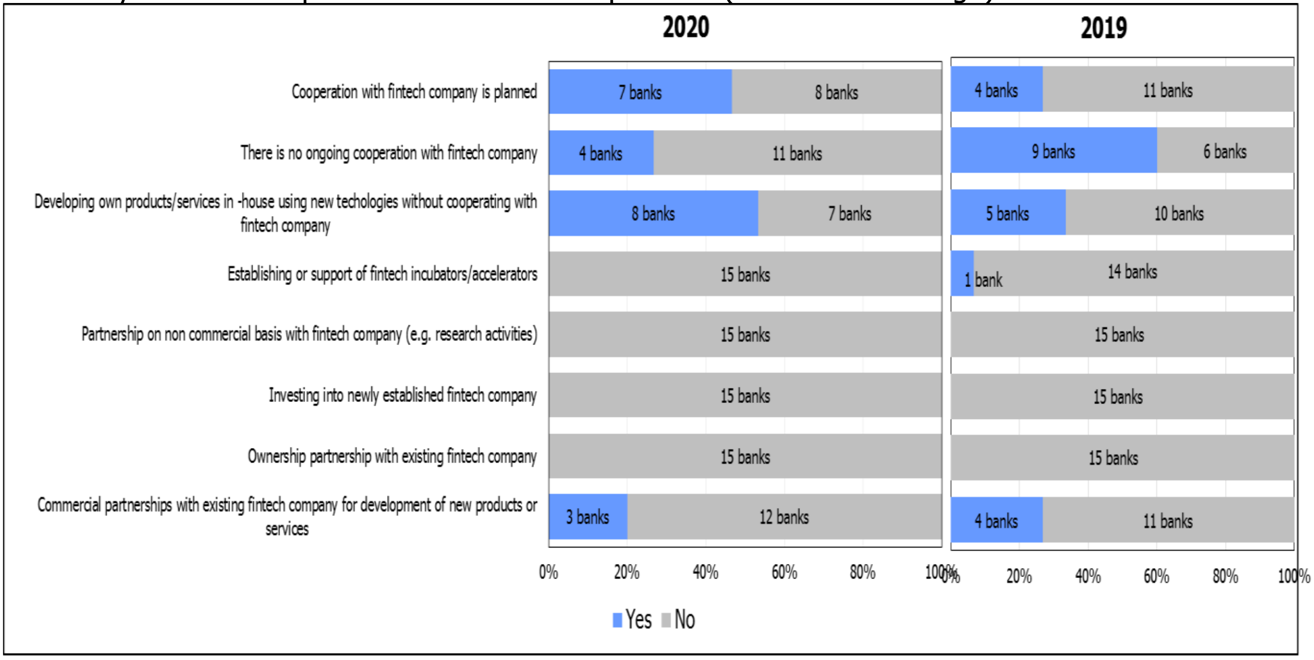
If in your response in the previous question you expect higher operational risk, what are the main factors that cause such an increase?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

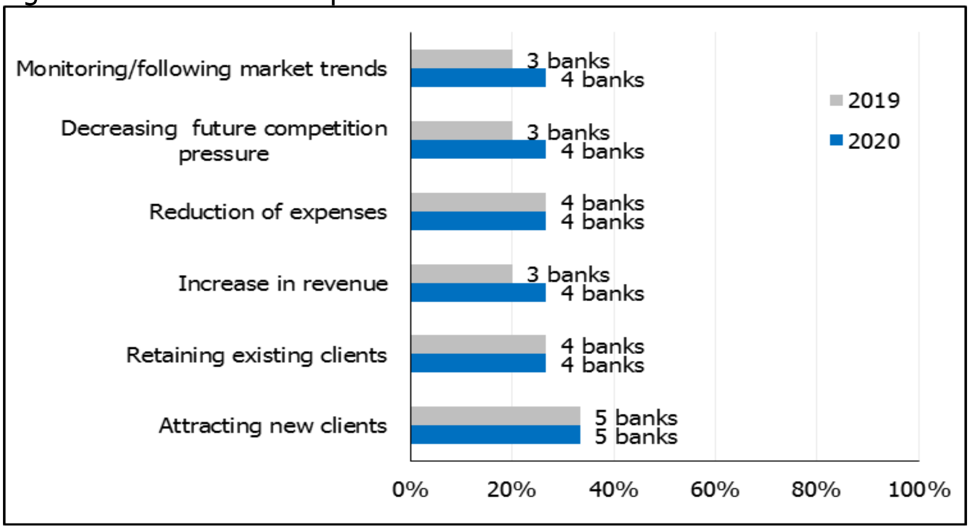
FINTECH

19.Does your bank cooperate with fintech companies[326](domestic or foreign)?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

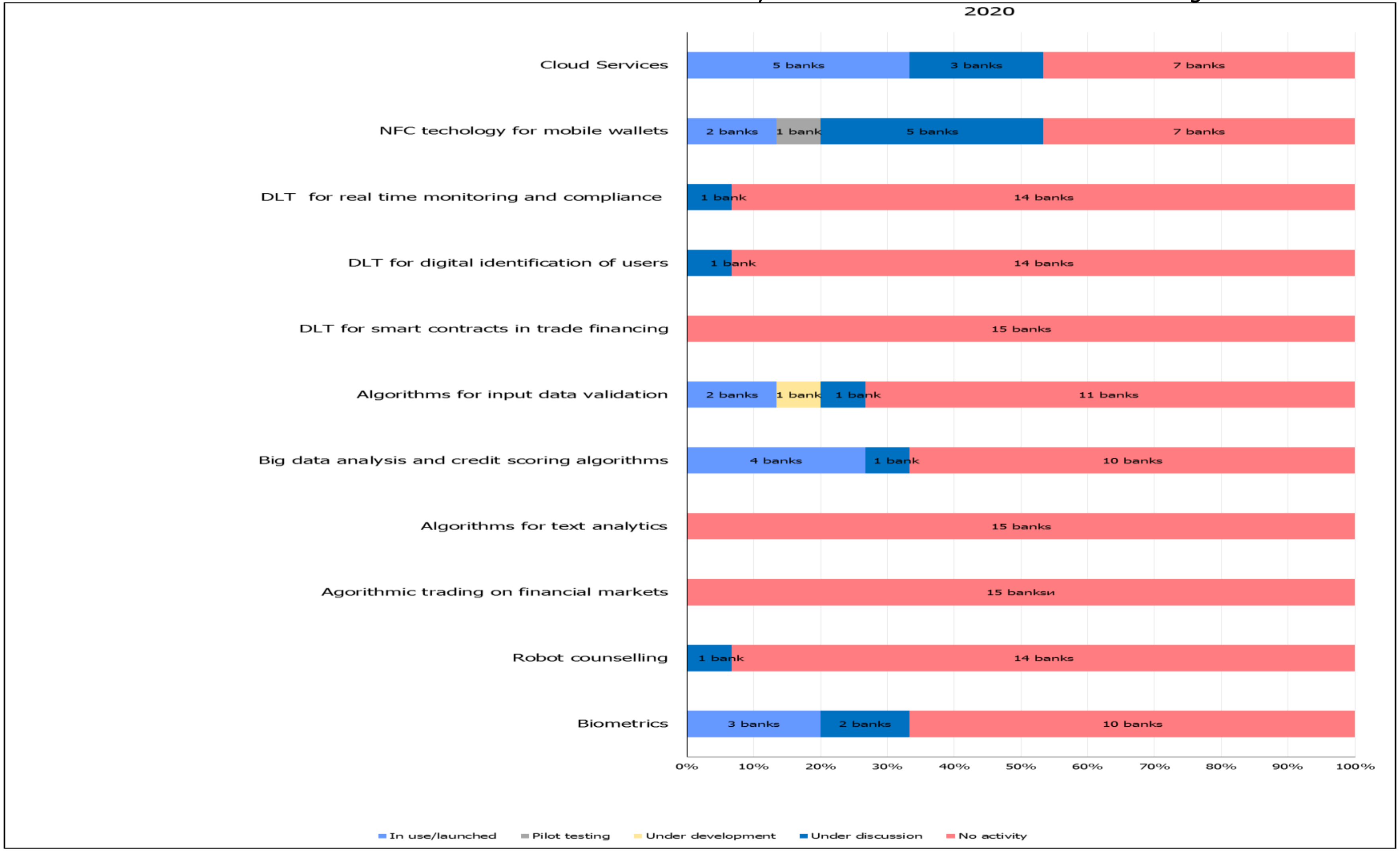
If you agree with one of the last five options of the previous question, please mark the most significant factors for cooperation with FinTechs?



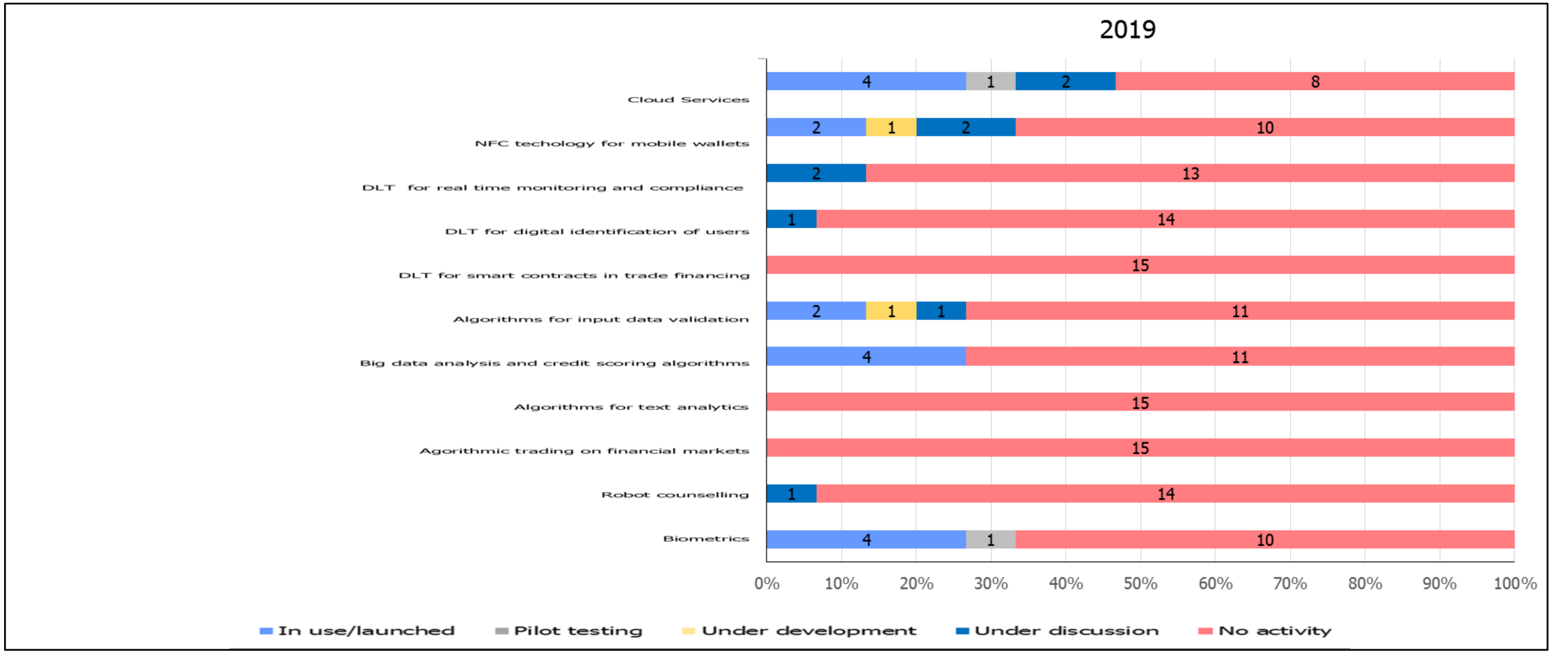
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

[326]FinTech are defined as technological-financial innovation that can lead to new business models, applications, processes or products with an appropriate material effect on the financial markets and institutions as well as on the provision of financial services. Source: Financial Stability Board, Standing Committee on Assessment of Vulnerabilities, "FinTech: Describing the Landscape and Framework for Analysis", 16 March 2016.

20. What is the level of involvement of your bank in the following FinTech activities?

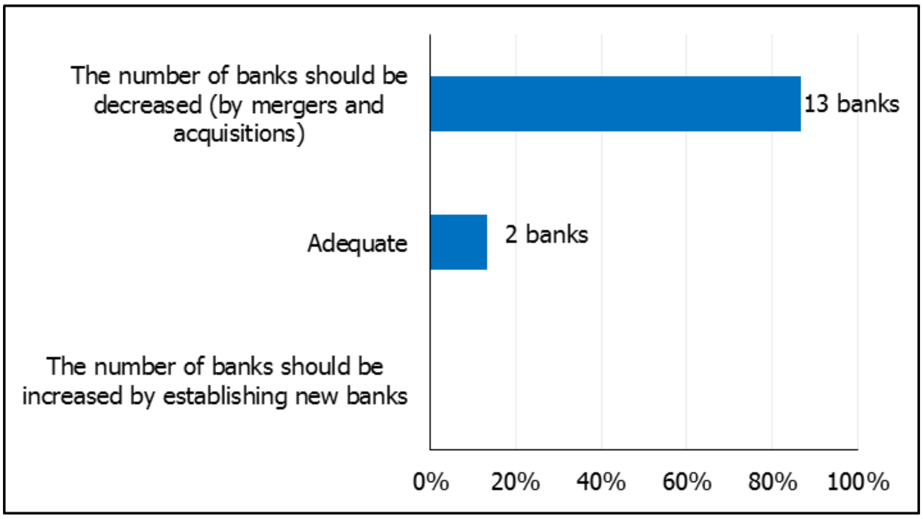


*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).


2019
Cloud Services
NFC techology for mobile wallets
DLT for real time monitoring and compliance
DLT for digital identification of users
DLT for smart contracts in trade financing
Algorithms for input data validation
Big data analysis and credit scoring algorithms
Algorithms for text analytics
Agorithmic trading on financial markets
Robot counselling
Biometrics
4
1
2
8
2
1
2
10
2
13
1
14
15
2
1
1
11
4
11
15
15
1
14
4
1
10
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
In use/launched
Pilot testing
Under development
Under discussion
No activity

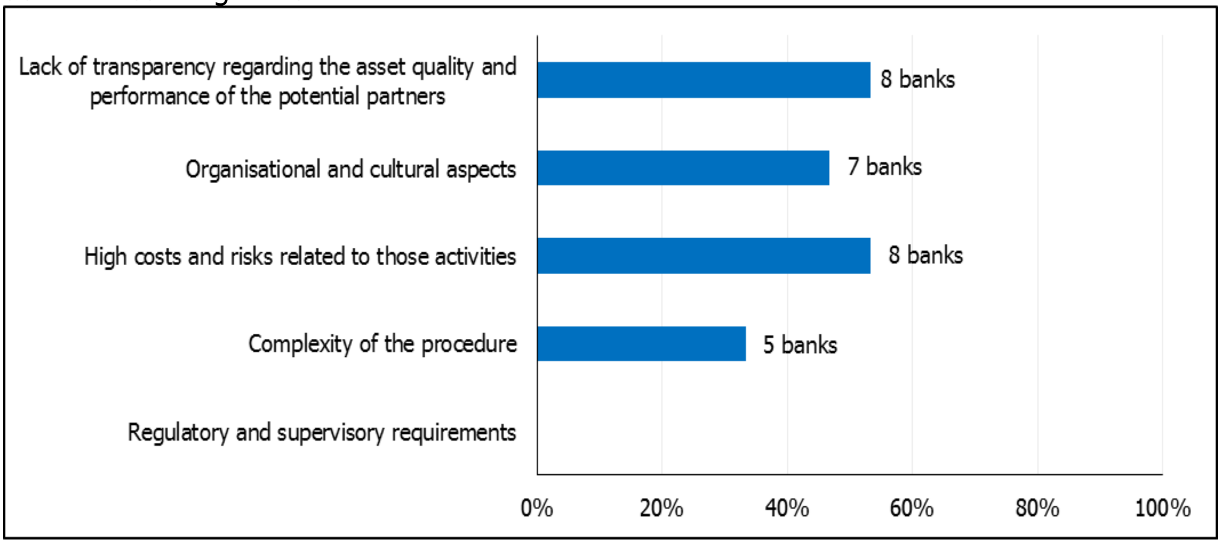
Section II. Questions about the banking sector and the bank's business model

1. How do you assess the size of domestic banking sector in comparison to the number of residents?



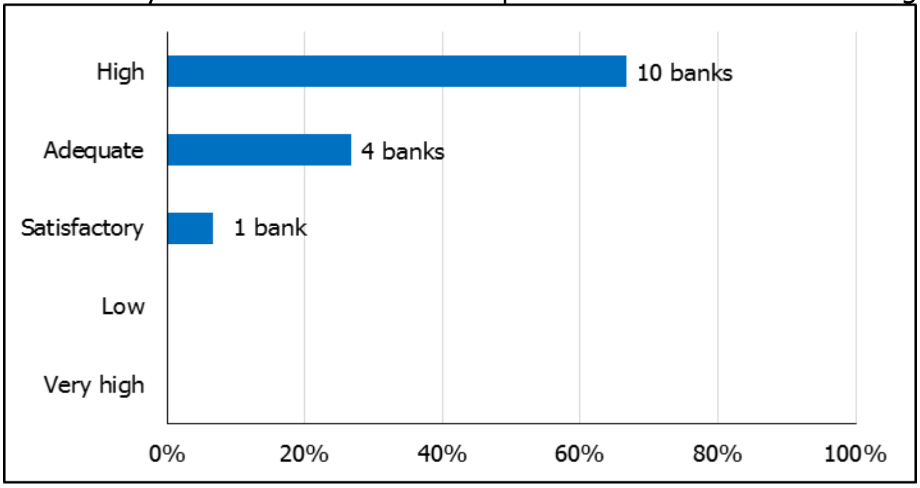
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

2. According to you, which factors prevent the process of mergers and acquisitions in the domestic banking sector?



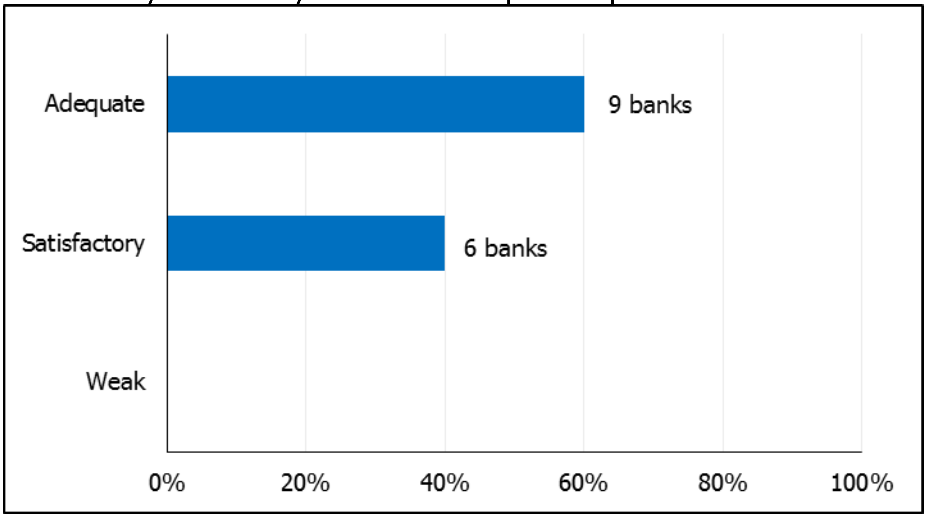
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

3. How do you assess the level of competition in the domestic banking sector?



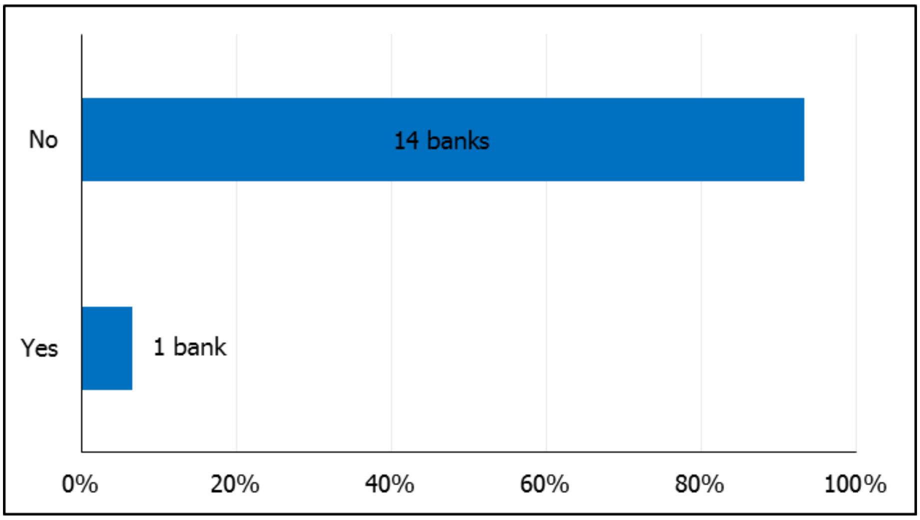
*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

4. How do you assess your bank's competitive position on the market?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

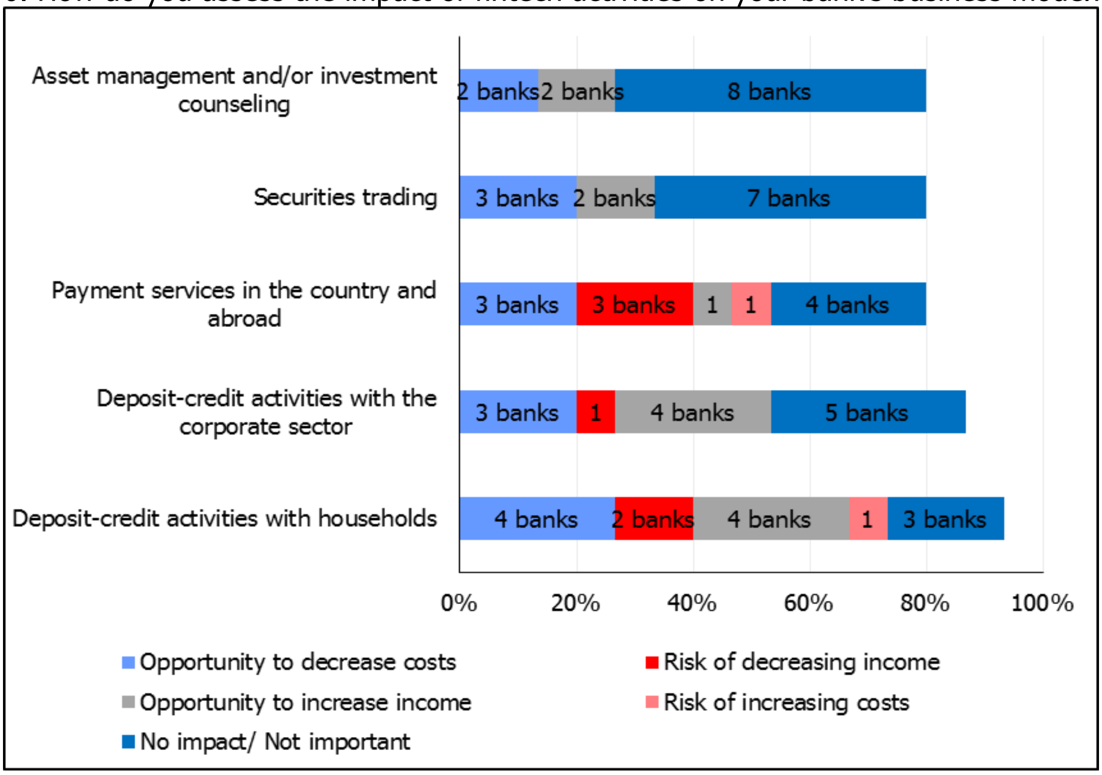
5. Do you intend to change your bank's business model in the next twelve months?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

The bank which answered that intends to change its business model in the next twelve months, as a reason for it stated the need for diversification of the supply of banking products, in order to enhance profitability.

6. How do you assess the impact of fintech activities on your bank's business model?



*Percentages refer to the percentage share of the banks that gave a specific response, in the total number of banks in the system (fifteen).

ANNEXES