



National Bank
of the Republic of North Macedonia

ANNUAL REPORT 2022

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National Bank of the Republic of North Macedonia



Annual Report 2022

Skopje, April 2023

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Governor's foreword

Dear Sir/Madam,

Last year, 2022, is of great significance for us in many aspects. In 2022, we celebrated the 30th anniversary of monetary independence. We marked three decades of building the vital pillar of statehood - monetary sovereignty. Over the years, we have witnessed crises and ordeals, which in virtue of the commitment of the generations before us, contributed towards strengthening of the National Bank as an institution. However, this year brought us also a new global economic challenge, reminding us that as macroeconomic policy makers, we should continuously and vigilantly monitor the movements in order to provide timely reaction.

Thus, after a decade of low global inflation, during which despite the enormous liquidity the inflation remained below the central banks' targets, in the second half of 2021 this trend ceased, after which inflation began to move upwards, mainly influenced by global risks and the energy crisis. With the outbreak of the war in Ukraine in the first months of 2022, global insecurity has risen even more, affecting the primary commodities prices on the world market. Consequently, in 2022, inflation has reached the historic peak in almost all economies, especially in the less developed ones. Thus, in the Central and Southeast European region, the average inflation reached 13.3%, and in our country it reached 14.2%, against 9% in the European Union.

In this context, bearing in mind that inflation reduces the real disposable income of households, especially those with lower incomes, increases the uncertainty and the risk premium, thus adversely affecting both consumption and investment decisions, i.e. the environment for economic growth, the central banks, including the National Bank, although not being a standard demand shock, have no other choice but to tighten the monetary policy. Moreover, the global uncertainty and the present risks imposed the need for adequate policy reaction to curb inflationary expectations.

Given our monetary strategy of a stable exchange rate of the denar, our monetary policy setup depends on two key factors - conditions on the foreign exchange market and pressures on the exchange rate, as well as inflationary movements and expectations. The first pressures in these two segments were registered at the end of 2021 when the energy crisis emerged, since when our reaction has begun. Firstly, we started to gradually reduce liquidity through interventions on the foreign exchange market, and then, from April 2022, we continued increasing the policy rate (8 times by 350 basis points, bringing the interest rate to the level of 4.75% at the end of the year). At the same time, the interest rates on overnight and seven-day deposit facilities, marginal lending facilities, and the interest rate on repo operations also increased. On several occasions, we made changes to the reserve requirement instrument, in order to encourage denarization process and green financing, all for the purpose of supporting economic stability.

As a result of our measures, together with the measures of other policy makers, as well as the stabilization of the prices of primary products, a gradual slowdown in inflation has already been registered since November 2022. At the same time, towards the end of year, improvements have also been evident in the deposits' currency structure, with positive movements in both denar and longer term deposits. In the conditions of a gradual reduction of the energy crisis pressures on the foreign exchange market, in the second half of the year a net purchase was made on the foreign exchange market. Registering inflows based on the government borrowings abroad and a simultaneous notable growth of inflows based on

foreign direct investments, the foreign reserves increased. Although at slower pace, the economy, however, is growing, owing also to the solid credit support from the banks (in December, the growth of total credits reached 9.4%), which was and will be a prerequisite for preserved financial stability.

In the context of financial stability maintenance, in 2022 the National Bank adopted several measures to boost the resilience of the banking system's balance sheets, having in mind the prolonged uncertainty in both domestic and global economic environment. In such an environment, when future risks are possible, it was assessed that the banks have to be cautious in managing credit risk and planning their capital positions. For this purpose, in July, a decision was made to introduce a rate of countercyclical capital buffer for the bank exposures in the domestic economy, in the amount of 0.50%. The countercyclical capital buffer rate increased by 0.25 percentage points up to 0.75% in December, presuming further environmental uncertainties and increasing cyclical systemic risks, particularly as a result of higher real estate prices accompanied with growth of housing loans. Along with this macro prudential measure, a decision was passed, which defines more meticulously the way of calculating the indicators of credit demand quality, in order to ensure greater uniformity in the method of calculating those indicators by all banks. These credit demand indicators are in conformity with the Law on Financial Stability adopted in 2022, as well as in accordance with the relevant European practice.

The indicators of the banking system condition show that its resilience has been successfully maintained, as well as the ability to provide credit support in future. The solvency of the banking system improved, with the capital adequacy ratio increasing by 0.4 pp to a ten-year high of 17.7% at the end of 2022. The bank liquidity evident through the participation of liquid assets in total assets remained at a satisfactory level of 30% at the end of the year. Although the environment in which the banks have operated abounds with vagueness and a lot of challenges due to Russia - Ukraine military conflict, intensification of the energy crisis and inflationary pressures, there were no negative effects on the banks' balance sheets, which preserved the good quality of the credit portfolio. Thus, the rate of non-performing loans was 2.9% and was significantly lower compared to the pre-pandemic period.

The commitment of the National Bank to maintain price and financial stability in 2022 was acknowledged by the International Monetary Fund in the Report on the approval of funds under the Precautionary and Liquidity Line. Namely, according to the IMF, the National Bank always conducts adequate policies and reacts appropriately to various shocks, successfully maintaining stability and defending the exchange rate of the denar. In terms of financial stability, the IMF indicated that the banking system is well capitalized and resilient to shocks. All of this is complemented by the effective supervision, which operates according to high international standards, has a strong legal and regulatory framework and adequate operating practice. Also, as the IMF emphasized in the Report, while exercising its functions, the National Bank applies strong accountability and high transparency standards in operations.

The work and decisions of the National Bank were also recognized by the European Central Bank (ECB), which decided on extending the opportunity for the National Bank to use the repo line until 15 January 2024, thus enabling the central bank to have at its disposal foreign currency liquidity of Euro 400 million for almost another year. The repo line is just another buffer, given the high level of foreign reserves and the high liquidity of banks, which guarantee both denar and macro financial stability. The access to this instrument also substantially underpin the policies that our central bank conducts.

The European Commission, within the [Annual Progress Report towards EU membership in the European Union](#), concludes that overall, the monetary policy setup in 2022 is in line with economic fundamentals, responding appropriately to market expectations for further inflation growth, while mitigating the negative impact on the economy caused by the pandemic and the energy crisis.

The National Bank team worked relentlessly and comprehensively. Dealing with price pressures and ensuring stability of the denar, we not only continued with current projects, but also intensified our efforts to keep pace with other central banks and operate according to European standards.

During 2022, the central bank undertook numerous activities to create preconditions for the implementation of the new Law on Payment Services and Payment Systems, the implementation of which began at the beginning of 2023. The provisions of the new regulatory framework clearly regulate the obligations of payment service providers and improve the rights protection of the payment services users. The Law on Payment Services and Payment Systems transposes a large number of directives and regulations of the European Union in the field of payments, whereby expecting that there will be significant changes in terms of the expansion of the list of payment services providers and the set of payment services, as well as in terms of distinguishing the relations between the payment services providers and the payment services users. The National Bank prepared and adopted 25 by-laws intended for banks, which operationalize the application of the Law.

Taking into account the need to provide detailed and comprehensive data on financial instruments, the National Bank started publishing new statistical data on the debt securities indicator. This indicator shows the financial links between the sectors of the national economy, as well as between the sectors of the national economy and the foreign sector, based on debt securities. The preparation of the debt securities indicator is another step for the National Bank towards providing the necessary indicators within the highest statistical data dissemination standard of the International Monetary Fund-SDDS – Plus.

On its website, among the data and indicators for the banking system, the National Bank has started to publish quarterly data on green financing credits approved to households and non-financial corporations. The publication of this data is one of the activities of the National Bank that contributes to the creation of "green" and sustainable economy. At the beginning of 2022, the National Bank conducted a survey on the risks of climate change, according to which 40% of domestic banks and savings houses have introduced products and services as a reaction to climate change, while 80% of respondents answered that they are considering introducing new products and services as response to climate change.

On the initiative of the National Bank, and in order to create conditions to support the development of the FinTech sector, the financial regulators - the National Bank (NB), the Ministry of Finance (MOF), the Securities Exchange Commission (SEC), the Agency for the Supervision of Fully Funded Pension Insurance (MAPAS) and the Insurance Supervision Agency (ASO), concluded a Memorandum of Understanding. The Memorandum establishes a system through which the regulators will act in a coordinated manner, each in their own competence, in relation to the implementation of the national Strategy for the FinTech sector, the first version of which has already been prepared by the National Bank.

In 2022, the National Bank intensified its activities in the field of financial education, which contributes to raising financial literacy and financial inclusion of the population in our country. At the same time, the activities for the implementation of the Strategy for Financial Education

and Financial Inclusion, adopted in July last year, continued. Last year, the National Bank paid special attention to the strengthening of consumer protection within the banking sector, so in the first quarter, new organizational unit was established, aimed at consumer protection and financial education. In addition to the preparation of internal acts, the establishment of a record system, the verification of the findings of consumer complaints to the banks and their response, data collection and analysis of the position of the banks in the area of consumer protection were also fields of interest.

European perspectives are still of great strategic importance for the National Bank. As a part of the initial screening, in the second half of 2022, representatives from the National Bank took part in the bilateral phase meetings for analytical review of several chapters that involve the National Bank.

This year has been of great significance for us in many aspects. In 2022, we also celebrated the [jubilee 30 years of monetary independence](#). The National Bank celebrated this anniversary by encompassing it into its activities thus reminiscing the past. For this nationally important anniversary, we held a Ceremonial Academy and Research Conference of the National Bank, organized in partnership with the European Investment Bank (EIB), which was attended by the Governors of the central banks from the region and from Europe, as well as by representatives of international financial organizations, the scientific community and the banking sector. To mark the 30th anniversary of monetary independence, i.e. the functioning of our independent central bank, the National Bank issued the paper titled [30 Years of Independence of the National Bank: Challenges, Reforms and Operations Promotion](#). In the Museum of the National Bank, the exhibition [Worths and Values was officially opened](#), which enabled our citizens, for a period of six months, to witness our cultural heritage translated into the Macedonian banknotes. Within the activities related to the museum exhibition, the National Bank organized a debate, in order to promote the scientific and artistic thought, to encourage discussion on values from various professional perspectives, in retrospect of the developments and experiences during the monetary independence of the country and the creation of the modern economic system, as well as to encompass future perspectives in the context of the current global economic developments. As part of numerous events dedicated to mark the 30th anniversary of our monetary independence, a debate was organized where journalists of all media covering economic issues discussed the transparency of the National Bank, emphasizing the previous cooperation and openness in communication, as current as well as future imperative for quality economic journalism and support of transparency for efficient implementation of monetary policy.

And precisely this year, 2022, when we marked the significant anniversary, it was proven that the investments in human capital, which is a regular practice of the National Bank for the last few decades, enabled to win the victories over the past 30 years, in crises, as well as in successful times. All these years, including this one, we maintained the denar stability, one of the symbols of our statehood and the anchor of stability of our economy.

Dear Sir/Madam,

Highlighting all the efforts and the success when marking each passing year is a professional and moral satisfaction for us. The Annual Report is an occasion to look back to our permanent commitment to achieve our main goal – price stability maintenance, even in such conditions of an exceptional challenges for monetary policy. Moreover, the National Bank will further closely monitor the macroeconomic developments to undertake further steps to ensure the medium-term price stability, which is also a prerequisite for sustainable economic growth and better life of citizens.

This past year was a difficult year for everyone. For the National Bank, it was a challenge to which we responded professionally and competently.

28 April 2023
Skopje

Governor
and Chairperson of the National Bank Council
Anita Angelovska Bezhoska

I. Monetary policy in 2022

Maintained stability of the denar exchange rate

Inflation slowdown at the end of the year

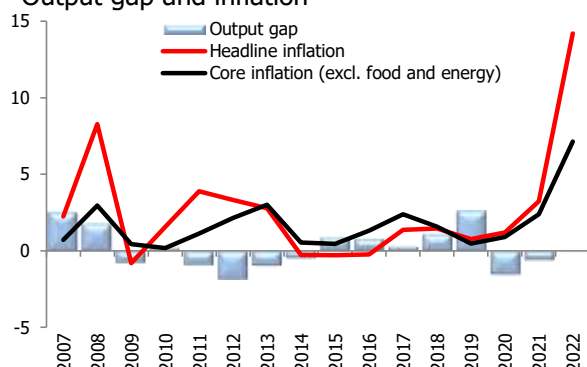
Maintenance of adequate level of foreign reserves

1.1. Monetary policy objectives

The price stability maintenance is the primary legally defined objective of the National Bank's monetary policy. Another objective, which is subordinate to the primary goal, is to contribute to a stable and competitive market-based financial system. The National Bank also supports the general economic policies without endangering the achievement of the ultimate objective and in conformity with the principle of open market economy and free competition. From a strategic point of view, since October 1995, the National Bank has applied the strategy of maintaining stable nominal exchange rate of the denar, first against the deutsche mark (until 2001) and then against the euro.

At the beginning of 2022, the domestic economy faced a new, unexpected and non-economic shock, which complicated even more the environment for conducting monetary policy. The war in Ukraine that began in February 2022 and the sanctions and trade restrictions placed on Russia have again increased the uncertainty in the global economy and caused further price shocks in the world energy and food markets. Given the high openness and import dependence of the domestic economy, the effects of the global environment reflected on the domestic economy, which still recovering from the consequences of COVID-19, faced with high inflation, deepening of external imbalances and pressures on the foreign exchange market. **Adhering to the main legal provisions, in 2022, the National Bank carefully monitored the changing environment and adjusted the monetary policy accordingly, in order to attain the legally prescribed objectives.** In conditions of a strategy of "de facto" fixed exchange rate of the denar against the euro, such shifts imposed the need for changes in the monetary policy by stabilizing the inflation expectations and inflation in the medium term, maintenance of the stability of the domestic currency, while complying with the changes in the monetary policy of the European Central Bank. For that purpose, since the end of 2021 the National Bank has started to gradually normalize monetary policy, which was performed through appropriate liquidity management, as well as by gradually increasing the policy rate on several occasions, starting from April 2022. The tightening of the monetary policy contributed to curtail the inflationary expectations, to stabilize the foreign exchange market, and towards the end of the year, the inflation, as well. Average inflation in 2022 was 14.2%, which is a more pronounced upward movement of domestic prices on an annual basis. The higher price level is mainly a reflection of factors on the supply side and the historically high growth of import prices, causing a growth of the domestic energy and food price component, and to a more moderate extent, of the core inflation. Despite the changeable environment and the higher price level in 2022, the stability of the exchange rate was successfully maintained, and foreign reserves stood at the appropriate level according to the international standards, and remained in the safe zone. In 2022, financial stability was successfully maintained, and several macro prudential decisions were made that contributed to further strengthening of the banks' capital base and their resilience to shocks.

Chart 1
Output gap and inflation*



Source: SSO and NBRNM.

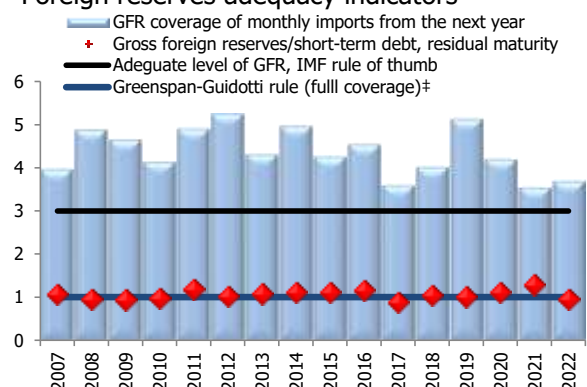
*Productivity gap is an indicator of the cyclical position of the economy and it is calculated as the deviation of the actual from the potential level of GDP relative to the potential level of GDP (output gap = (actual GDP - potential GDP)/potential GDP). In headline and core inflation an average annual growth is presented (in %).

Chart 2
Gross Foreign Reserves



Source: NBRNM.

Chart 3
Foreign reserves adequacy indicators



‡ The short term debt doesn't incorporate repo operations.

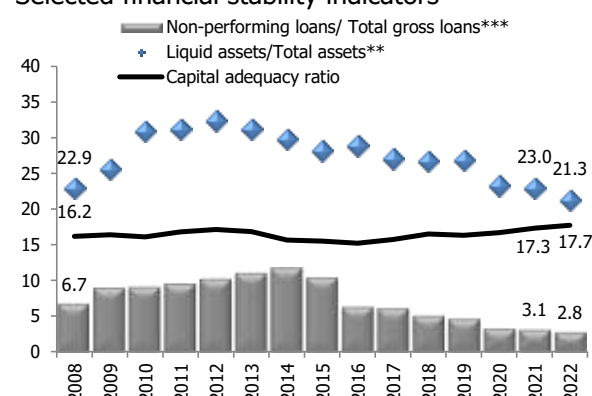
* According to the Greenspan-Guidotti rule, the country needs to keep full coverage of short-term debt (residual maturity) with foreign reserves.

** Liquid assets consist of highly liquid assets and short-term deposits with foreign banks. Total assets do not include assets with domestic banks.

*** The indicator refers to loans to the financial and non-financial sector, with data for 2016 including changes arising from regulatory changes.

Source: NBRNM and SSO.

Chart 4
Selected financial stability indicators



1.2. Monetary policy setup

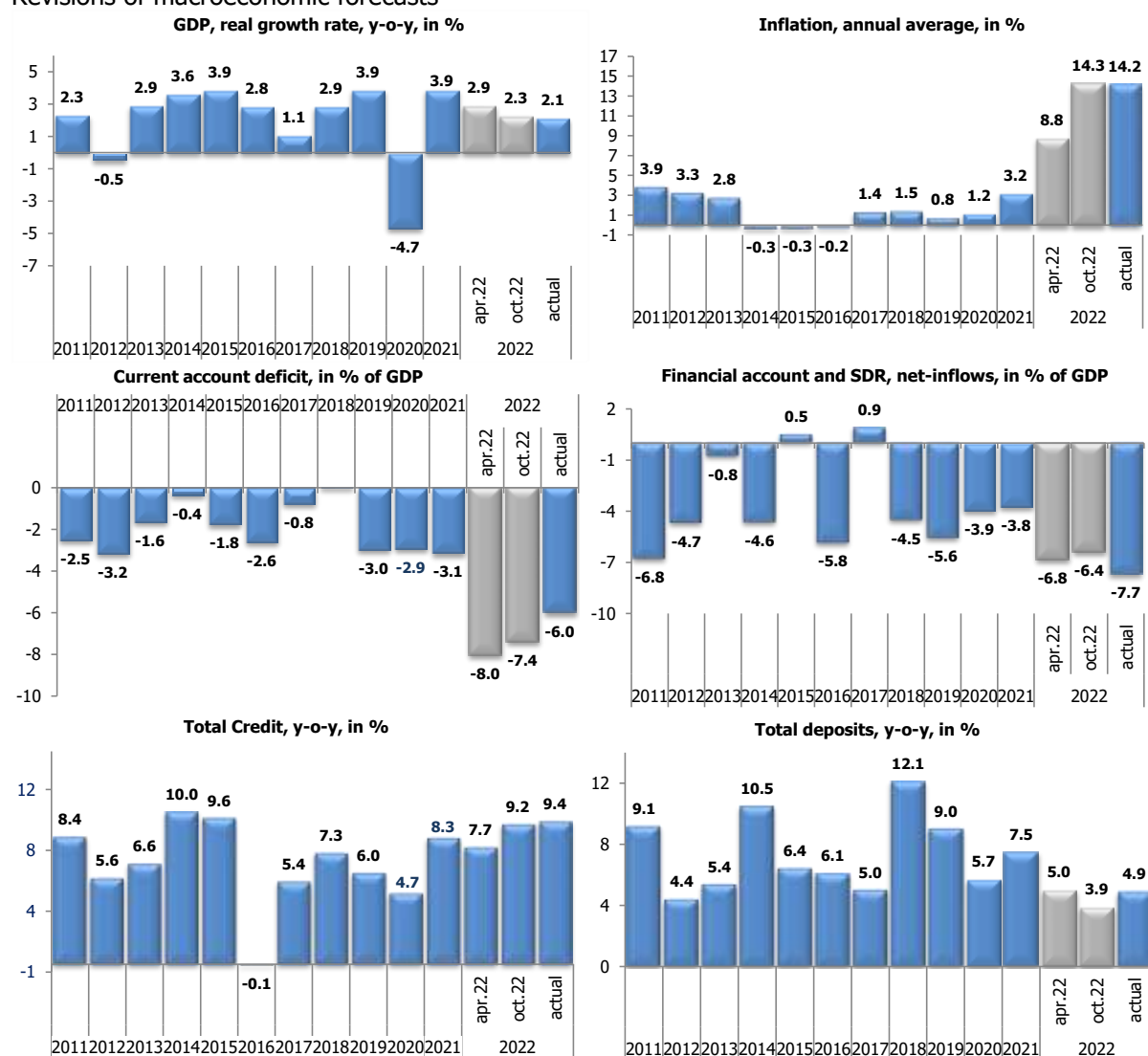
Also during the last quarter of 2022, the National Bank normalized the monetary policy, a process which started from the end of 2021. Namely, in response to the upward movements in inflation and inflationary expectations, from April 2022 the National Bank started to gradually increase the policy rate on several occasions, up to the level of 4.75% at the end of 2022, while simultaneously maintaining the bid amount of CB bills at the level of Denar 10,000 million. At the same time, the interest rates on the overnight and seven-day deposit facilities increased up to 2.65% and 2.70%, respectively. Given the monetary strategy of a stable exchange rate of the denar against the euro, the changes in the domestic monetary policy also follow the changes in the monetary policy of the European Central Bank. Such monetary setup was also supported by additional measures, i.e. changes in the reserve requirement aimed at reducing the euroization, as well as encouraging the lending to projects for renewable energy sources. Such a monetary policy setup also contributed to alleviate the pressures on the foreign exchange market and to maintain the stability of the exchange rate.

During 2022, macro prudential measures were also adopted, such as the introduction of the countercyclical capital buffer for exposures in the Republic of North Macedonia and for exposures to other countries, which further strengthens the banking protection mechanisms. Total deposits continue to grow on an annual basis, but at a slower pace and in conditions of uncertainty. The risks to the global and the domestic economy in both short and medium run remain pronounced, while the war in Ukraine remains the main source of risk, especially on the energy and food product markets. The National Bank continues to regularly and carefully monitor the key economic parameters and the potential risks from the domestic and external environment, in order to adjust the monetary policy adequately and maintain the medium-term price stability.

The macroeconomic environment in 2022 imposed the need for further normalization of the monetary policy, with a gradual tightening of financial conditions, in order to stabilize price pressures and inflationary expectations. These changes also refer to the stabilization of the foreign exchange market, which in the first half of the year was under larger pressure, primarily as a reflection of the energy crisis, and partly influenced by the preference for holding foreign currency. Namely, at the beginning of the year, the foreign exchange market faced with increased foreign currency needs by the companies due to the higher energy imports, in conditions of significant growth of the world prices of these products. During the second half of the year, these pressures decreased significantly as a result of the solid movements in the balance of payments, and partly as a result of the use of a wide range of instruments by the National Bank.

The price level in the domestic economy in 2022 registered an average annual growth of 14.2%, which is mostly associated with higher energy and food prices, caused by global supply shocks. However, with rising inflationary expectations, present risks in the conditions of wage growth, as well as perceptions of more pronounced transmission effects on other prices, the National Bank acted by introducing restrictive monetary policy, in accordance with the global monetary restrictions cycle.

Chart 5
Revisions of macroeconomic forecasts



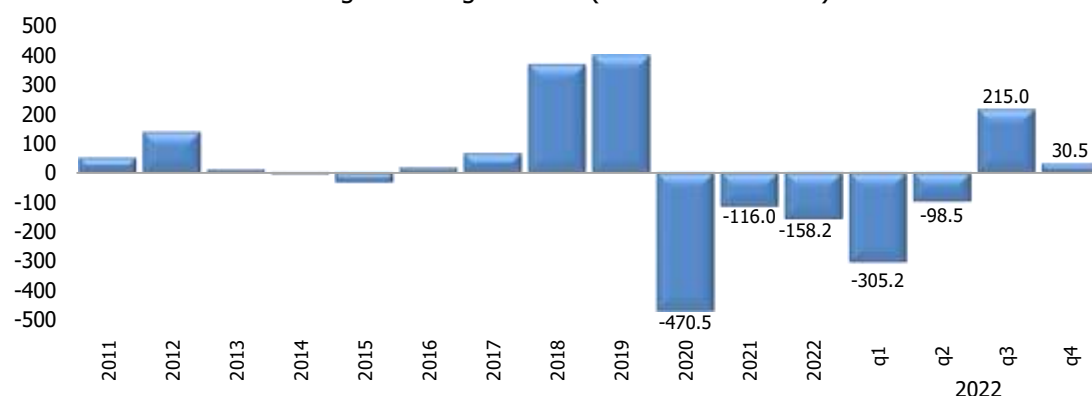
Source: NBRNM and SSO. Forecasts for all indicators refer to the macroeconomic forecasts of the NBRNM.

In 2022, the foreign reserves registered an increase, remaining in the safe zone during the entire year. The increase in the foreign reserves is mostly a result of the transactions on the behalf of the Government.¹ On the other hand, the National Bank intervened with a net sale of foreign currency on the foreign exchange market, slightly more often compared to 2021, due to the events in the first half of the year, when the effects of the increase in energy and food prices globally, caused by since the war in Ukraine, were the most pronounced. However, the solid positive financial flows within the financial account of the balance of payments, especially in the second half of the year, enabled full financing of the high current account deficit and further increase in the foreign reserves.

¹ The borrowing of the Government on the foreign market through a bond for the German financial market issued at the end of September 2022 in the amount of Euro 250 million and the withdrawal of the first tranche of the Precautionary and Liquidity Line (PLL) approved by the International Monetary Fund in November 2022, in the amount of Euro 110 million (out of a total of Euro 530 million approved by the arrangement).

Chart 6

NBRNM interventions on the foreign exchange market (in millions of euros)



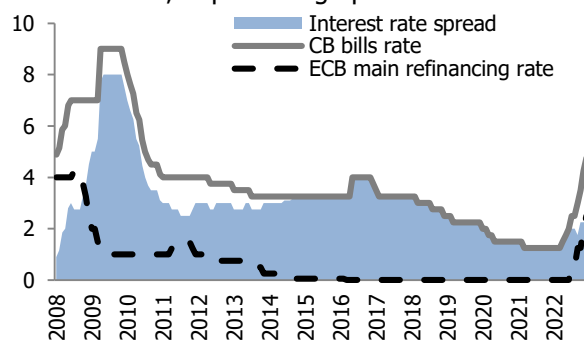
Source: NBRNM.

The private sector deposits have been growing during the year, but slowly, due to the uncertainty caused by the emergence of a new geostrategic crisis, which affected the currency, term and sector structure of the deposits. The annual growth of the total deposits in 2022 equaled 4.9%. Observed by sector, the growth is primarily a result of the increased household deposits, amid lower annual growth of corporate deposits. Regarding the currency, the growth stems from the foreign currency deposits, which grew intensively in the first half of the year, although in the second half of the year the growth of denar deposits (including demand deposits) also accelerated. From the perspective of the term structure, the increase primarily stems from the most liquid component of deposits, that is, the increase in demand deposits, registering also a growth of short-term deposits, while the long-term deposits recorded a slight decline. However, it should be emphasized that towards the end of the year, both denar and long-term deposits incremented, which is a sign of improved confidence in the domestic currency and the banking system, owing partly to the monetary changes made by the National Bank.

From the aspect of the *corporate loans*, their growth intensified in 2022, reaching 9.4%. Observed by sector, the growth results from the positive contribution of corporate loans, given lower positive contribution of household loans. Regarding the currency structure, positive contribution was made by both domestic and foreign currency loans (including denar loans with currency clause).

Given the application of stable nominal exchange rate of the denar against the euro, changes in interest *rates* in the euro area, as the anchor economy, play an important role in the monetary policy setup in the country. During 2022, the European Central Bank (ECB) began to tighten monetary policy, whereby at the end of the year the policy rate reached the level of 2.5%, and the spread between the interest rates of the National Bank and the ECB was 2.25 pp. Regarding the interest rates of the banks in the domestic economy, the spread between the interest rate on denar and the interest rate on foreign currency deposits in 2022 registered a minimal widening (from 0.6 pp to 0.7 pp), as a result slightly more evident upward movement of the interest rate on denar deposits, relative to the increase in the interest rate on foreign currency deposits, which is in conformity with the undertaken National Bank measures.

Chart 7
Spread between the policy rates of the NBRNM and the ECB, in percentage points

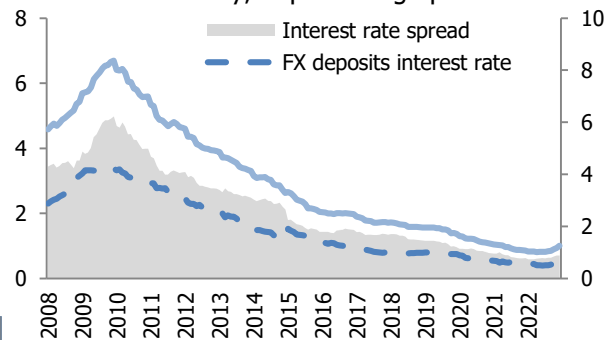


Source: NBRNM and ECB.

NBRNM policy rate: interest rate on CB bills.

ECB policy rate: interest rate on ECB's main refinancing operations.

Chart 8
Interest rate spread of the banks in the domestic economy, in percentage points



Source: NBRNM.

II. International environment²

At the beginning of 2022, the global economy faced with another non-economic shock with wide economic consequences. The military invasion on Ukraine has caused a risen uncertainty, reduced confidence, and price shocks in global food and energy markets, which, together with slowed supply chains due to the pandemic, have led to global inflation not seen in decades. In this context, the central banks, including the globally important ones, started to tighten the monetary policy, which significantly restricted the conditions of the financial markets.

Given the unfavorable environment, in 2022 the global economic growth is estimated at 3.4%, which is a significant deceleration compared to 2021 (6.2%). The slowdown in economic growth is worldwide, but a stronger slowdown is observed in developed economies, which on average registered twice lower growth rates compared to 2021.

Global economic growth would further slow down in 2023 and would be accompanied by high uncertainty. The worsening of the military situation in Ukraine continues to be the main source of vulnerability for the global economy, especially for European and low-income countries, mirrored by a possible rebound in energy and food prices, with negative consequences on real income, consumption and global trade. The same impact would have the endurance of the high inflation levels, the worsening of debt problems in the context of tight global financial conditions, the possible worsening of problems related to supply chains and the strengthening of geopolitical fragmentation. On the other hand, possibly a faster fall in inflation, and thus looser global financial conditions, as well as stronger growth in aggregate demand, may have a favorable effect on global economic growth.

Chart 9
Global economic growth (in %)

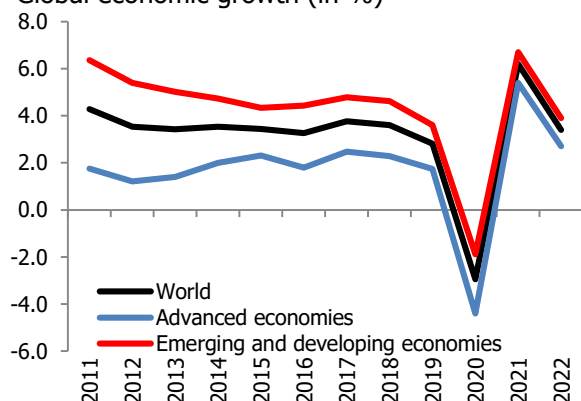
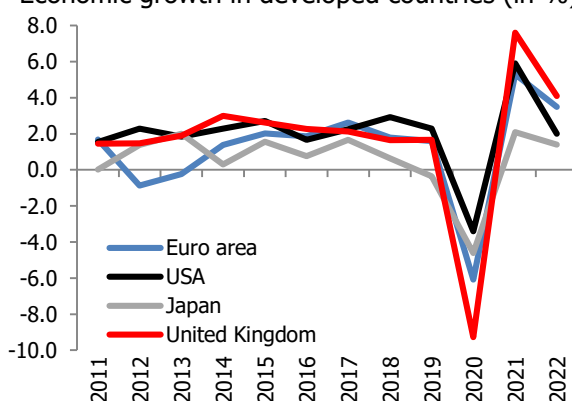


Chart 10
Economic growth in developed countries (in %)



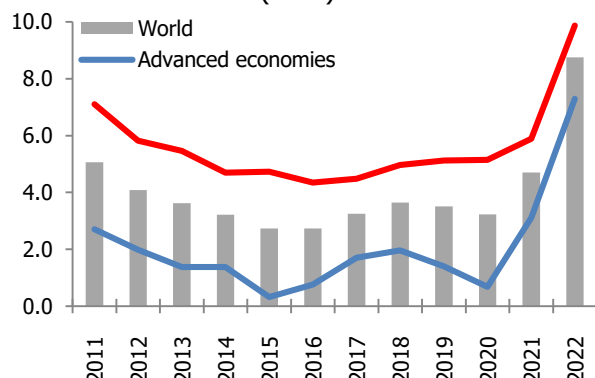
Source: World Economic Outlook, October 2022 and updated report dated January 2023, IMF

In terms of global inflation, the price growth, which began to accelerate at the end of 2021, continued strongly in 2022 and reached 8.8% (4.7% in 2021). The accelerated price growth is mainly a reflection of rising energy and food prices, in line with price movements in world stock markets, influenced by the Russian - Ukrainian military conflict and in conditions of decelerated supply chains. Looking at groups of countries, in 2022, the inflation rate in developed economies is 7.3% (3.1% in 2021), and in emerging and developing economies, inflation rose to 9.9% on average (5, 9% in 2021). However, in the last months of the year,

² The analysis is based on the IMF's 'World Economic Outlook, updated in October 2020 and January 2021; the World Bank's World Economic Outlook, January 2018; the quarterly reports of the National Bank.

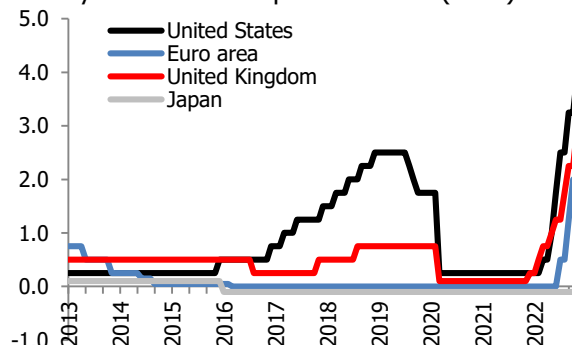
under the influence of reduced prices of primary commodities, global inflation recorded a downward path, which would be characteristic for the next period, as well.

Chart 11
Global inflation rate (in %)



Source: World Economic Outlook, October 2022 and updated report dated January 2023, IMF

Chart 12
Policy rates in developed countries (in %)



Source: central banks.

Relative to the quantitative indicators that depict the external environment of the Macedonian economy, the growth in the foreign effective demand is estimated to slow down in 2022, while the foreign effective inflation significantly accelerated. Namely, the evaluations point to a growth in foreign effective demand of 2.6% (against the growth of 4.3% in 2021), in conditions of economic growth in all trading partner countries, with the largest positive contribution of Germany, Greece and Bulgaria. The slower growth of foreign effective demand is mainly a reflection of the deteriorating global economic environment due to the negative spillovers due to the war in Ukraine, most evidently in the German economy, which is our most important trading partner. As for foreign effective prices for 2022, on average, they registered a high growth of 9.6% (against growth of 2.7% in 2021), reflecting the price growth in all countries, with the largest contribution being made by Germany, Serbia and Bulgaria³.

Chart 13
Foreign effective demand

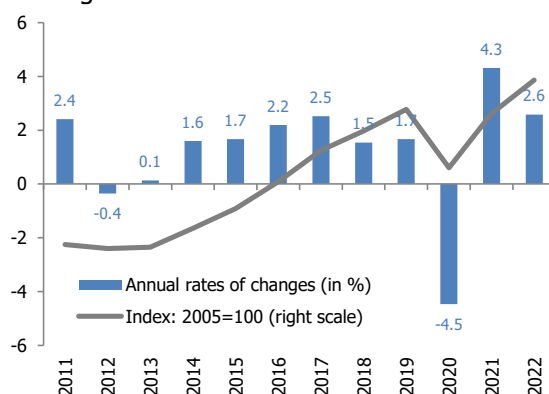
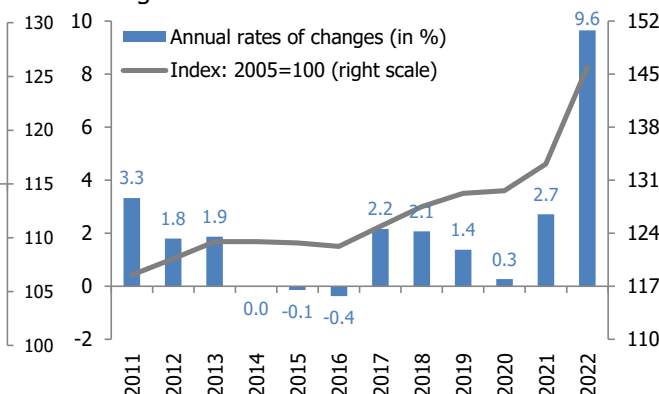


Chart 14
Foreign effective inflation



Source: National statistical offices and calculations of the NBRNM⁴.

³ Inflation in Serbia, Croatia and Poland was adjusted for the changes in the exchange rate.

⁴ Foreign effective demand is the sum of weighted GDP indices of the major trading partners of our country. The index calculation includes: Germany, Greece, Italy, the Netherlands, Belgium, Spain, Serbia, Croatia, Slovenia and Bulgaria. The weights are calculated on the basis of the share of exports to these countries in the total export. The foreign effective inflation is the weighted sum of consumer price indices of the countries that are major partners of our country in the field of import of consumer goods. The weight structure is based on the normalized shares of nominal imports from each country in the total nominal imports in the period 2016–2018. The calculation of this indicator includes: Germany, Greece, France, Italy, Spain, Austria, Slovenia, Bulgaria, Poland, Croatia and Serbia.

In 2022, price growth, on average, was registered in the primary commodities markets compared to 2021, as a result of the strong price growth in the first half of the year due to the escalation of the war in Ukraine. In June, oil prices peaked at 111.4 euros per barrel, after which they followed a mostly downward path, amid rising fears of a global recession and weaker demand for oil from China due to restrictive measures related to COVID-19. Consequently, the average price of crude oil in 2022 is 94.1 euros per barrel and is 56.8% higher than in 2021 (60.0 euros per barrel). In 2022, the prices of basic food products in the world stock markets also recorded a significant growth of 28.1%, influenced by the effects of the war in Ukraine, while the growth of the prices of basic metals was smaller and equaled 5.7%.

Chart 15
Monthly movement of prices of primary energy and non-energy sources (euros, index: 2010=100)

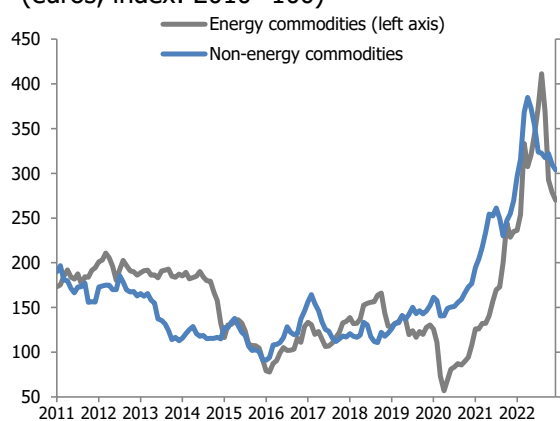
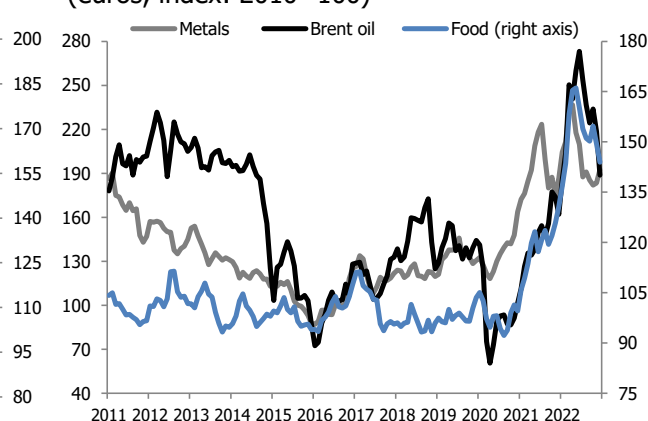


Chart 16
Monthly movement of prices of crude oil, metals⁵ and food (euros, index: 2010=100)



Source: IMF's database on the primary commodities prices.

During 2022, most of the central banks of the developed countries conducted restrictive monetary policy, in conditions of increased inflationary pressures. So in March, the FED raised the policy rate by 0.25 pp, the first increase in more than three years. Earlier, in February, the FED kept reducing the purchase of treasury and mortgage-backed securities, and in March this measure was revoked. In the coming months, amid prolonged price pressures, the FED pursued with more frequent and larger monetary policy tightening. Thus, during the year, the reference interest rate increased by seven times, that is, by 4.25 pp. cumulatively, it moved in a range from 4.25% to 4.5% in December. At the same time, during this period the FED gradually reduced its portfolio of treasury and mortgage-backed securities. The Bank of England, after the initial increase at the end of 2021, continued with a gradual upward correction of the reference interest rate, in four occasions of 0.25 pp. each during the first half of 2022. In the following period, with record inflation rates, monetary tightening continued, that is, by 2.25 pp. cumulatively in the second half of the year, bringing the reference interest rate to 3.5% in December. Also in 2022, the Bank of England began with the performance of the asset sale program by reducing the portfolio of securities on the bank's balance sheet.

The policy rates of the European Central Bank (ECB) remained unchanged during the first half of 2022, but their gradual increase was announced in the second half, following the end of the quantitative easing program (APP), which terminated on 1 July 2022. In addition, until the end of March, the ECB continued purchasing securities based on the Pandemic

⁵ Metals Price Index is a composite index, which includes prices of copper, aluminum, iron ore, tin, nickel, zinc, lead and uranium.

Emergency Economic Support Purchase Program (PEPP), but more moderately⁶. In July, for the first time in more than a decade, the ECB increased the three policy rates (by 0.5 pp), which is also an exit from the negative zone of the interest rate on deposit facilities⁷. In September and October, the ECB continued increasing the policy rates by 0.75 pp, and by 0.5 pp in December. Since the beginning of the normalization process, policy rates have increased by 2.5 pp, thus the interest rate on the main refinancing operations, on marginal lending facilities and on deposit facilities in December equaled 2.5%, 2, 75% and 2.0%, respectively. At the same time, the ECB will continue with the reinvestment of the matured securities within the Asset Purchase Programme (APP) until the end of February 2023, after which portfolio reduction is anticipated by the determined dynamics.

⁶ In March, the extension of the ECB's foreign exchange liquidity repo lines intended for central banks outside the euro area was prolonged until 15 January 2023, and due to continued global uncertainty, in December 2022 their validity was extended until 15 January 2024.

⁷ In July, the ECB decided to introduce an additional instrument called the transmission protection instrument (TPI), for the purpose of effective transmission of monetary policy across all euro area countries during the process of monetary policy normalization, which is expected to be activated in conditions of adverse market movements that would jeopardize the monetary transmission.

III. Macroeconomic developments in 2022

Table 1
Basic indicators for the Macedonian economy

| annual changes, in % | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Real sector | | | | | | | | | | |
| Gross domestic product * | 2.9 | 3.6 | 3.9 | 2.8 | 1.1 | 2.9 | 3.9 | -4.7 | 3.9 | 2.1 |
| Inflation | 2.8 | -0.3 | -0.3 | -0.2 | 1.4 | 1.5 | 0.8 | 1.2 | 3.2 | 14.2 |
| Unemployment rate | 29.0 | 28.0 | 26.1 | 23.7 | 22.4 | 20.7 | 17.3 | 16.4 | 15.7 | 14.4 |
| External sector | | | | | | | | | | |
| Current account balance (% of GDP) | -1.6 | -0.4 | -1.8 | -2.6 | -0.8 | 0.2 | -3.0 | -2.9 | -3.1 | -6.0 |
| Trade balance (% of GDP) | -22.9 | -21.7 | -20.1 | -18.8 | -17.8 | -16.2 | -17.3 | -16.6 | -20.3 | -26.8 |
| Foreign direct investments (% of GDP) | 2.8 | 2.3 | 2.2 | 3.3 | 1.8 | 5.6 | 3.2 | 1.4 | 3.3 | 5.2 |
| Gross external debt (% of GDP) ** | 64.0 | 70.0 | 69.3 | 74.7 | 73.4 | 73.0 | 72.4 | 78.7 | 80.8 | 80.7 |
| Gross foreign exchange reserves (in EUR million) | 1,993.0 | 2,436.5 | 2,261.8 | 2,613.4 | 2,336.3 | 2,867.1 | 3,262.6 | 3,359.9 | 3,643.3 | 3,862.9 |
| Monetary sector | | | | | | | | | | |
| Money supply (M4) | 5.2 | 10.6 | 6.9 | 6.2 | 5.1 | 11.8 | 9.3 | 6.9 | 7.0 | 5.1 |
| Total credits | 6.6 | 10.0 | 9.6 | 6,5*** | 5.4 | 7.3 | 7,6*** | 4.7 | 8.3 | 9.4 |
| Total deposits (including transaction deposits) | 5.4 | 10.5 | 6.4 | 6.1 | 5.0 | 12.1 | 9.0 | 5.7 | 7.5 | 4.9 |
| Fiscal sector | | | | | | | | | | |
| Budget balance (% of GDP) | -3.8 | -4.2 | -3.5 | -2.7 | -2.7 | -1.8 | -2.0 | -8.0 | -5.4 | -4.1 |
| Public debt (% of GDP) | 40.3 | 45.8 | 46.6 | 48.8 | 47.7 | 48.4 | 49.2 | 59.7 | 61.0 | 55.2 |
| Banking sector | | | | | | | | | | |
| Capital adequacy ratio (%) | 16.8 | 15.7 | 15.5 | 15.2 | 15.7 | 16.5 | 16.3 | 16.7 | 17.3 | 17.7 |
| Non-performing loans of the non-financial sector / Gross loans (%) | 11.5 | 11.3 | 10.8 | 6.6 | 6.3 | 5.2 | 4.8 | 3.4 | 3.2 | 2.9 |
| Liquid assets / Total assets (%) | 31.2 | 29.8 | 28.2 | 28.9 | 27.1 | 26.7 | 26.9 | 23.3 | 23.0 | 21.3 |

Source: NBRNM, SSO, Ministry of Finance.

* Preliminary data for 2021, estimate for 2022.

** Excluding liabilities of the monetary authority (without repo agreements)

*** Corrected for the write-offs.

3.1. GDP and inflation

According to the estimated data of the SSO, in 2022 the real GDP increased by 2.1%⁸, which is a deceleration compared to the growth of 3.9% in 2021. Namely, in 2022, the adverse effects of Russia's military invasion of Ukraine came to the fore, which imposed new global challenges related to the energy crisis and high inflation rates, thus leading to a slowdown in the economic growth. These effects caused a fall in the domestic industrial production, primarily in the most energy-intensive segments (the metal industry), as well as larger decrease in construction. Consequently, the economic activity growth, pertaining to production, was driven by the recovery in services (mainly trade, transport, tourism and hospitality). Looking at individual components, from the aspect of domestic demand, the intensified economic activity in 2022 is mostly due to the positive contribution of the gross investments, mainly influenced by inventories. In 2022, the contribution of the private consumption to the growth diminished significantly, while the contribution of the public consumption was negative. The net export component had a high negative contribution, in conditions of a higher growth of imports than the growth of exports, with regard to the growth of inventories.

⁸ In 2022, real GDP was as followed: Q1: 2.2%, Q2: 4%, Q3: 2% and Q4 0.6%.

Chart 17
GDP and foreign effective demand (annual real growth rates, in %)

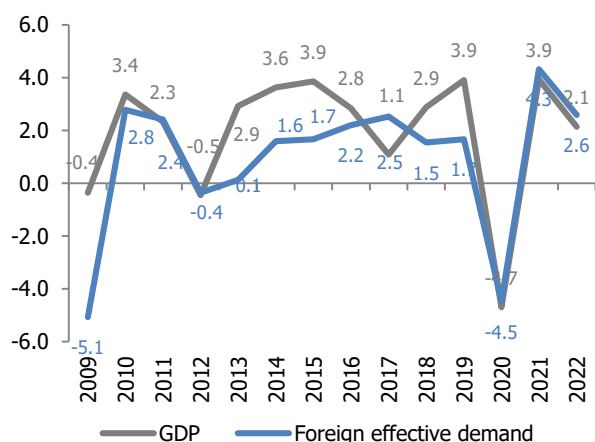
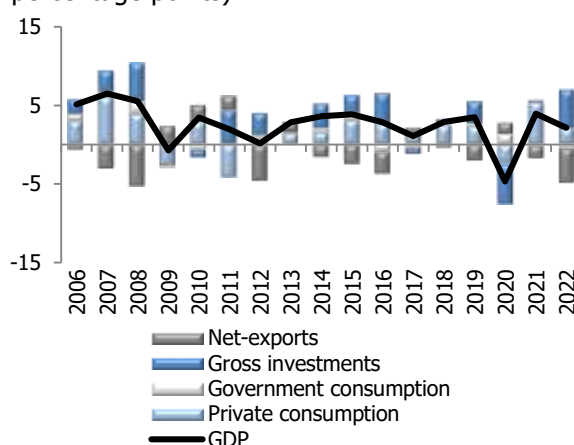


Chart 18
GDP (real growth, in %) and GDP expenditure components (contributions to growth, in percentage points)



Source: State Statistical Office and Eurostat, NBRNM calculations GDP data for 2021 are preliminary, and data for 2022 are estimated.

Analyzing from the aspect of production, the economic growth in 2022 is most pronounced in some segments of the "trade, transport and hospitality" activities group, which is still recovering as the most affected by the pandemic-related crisis. The increase in **trade** is due to the high growth in all three types of trade (retail trade, wholesale trade and motor vehicle trade). Also, according to more detailed data on transported passengers and goods, intensified activity in **transport** is also recorded. A high growth in activity is also observed in the **catering industry**, as one of the sectors that was most affected by the pandemic, with a high growth in the number of tourists and overnight stays, as well as in the total turnover. When it comes to **industry**, analyzed through the index of industrial production, the fall is largely due to the negative contribution of the manufacturing industry, due to the unfavorable performance of some of the traditional activities, such as the production of metals, the production of food products and the production of tobacco products. On the other hand, the manufacturing activities the largest foreign export facilities operating as part of the automotive industry belong to, as well as the production of basic pharmaceutical products and pharmaceutical preparations, had a positive contribution. Also, the energy sector had a positive contribution as a result of the increased domestic production of electricity in the conditions of energy crisis, which also caused greater mining of coal and lignite. The added value in the **construction sector** recorded a decline in 2022 as well, which, seen through high-frequency data, is the result of a decline in both civil engineering and building construction.

Chart 19
Contribution to the real annual GDP change (in percentage points)

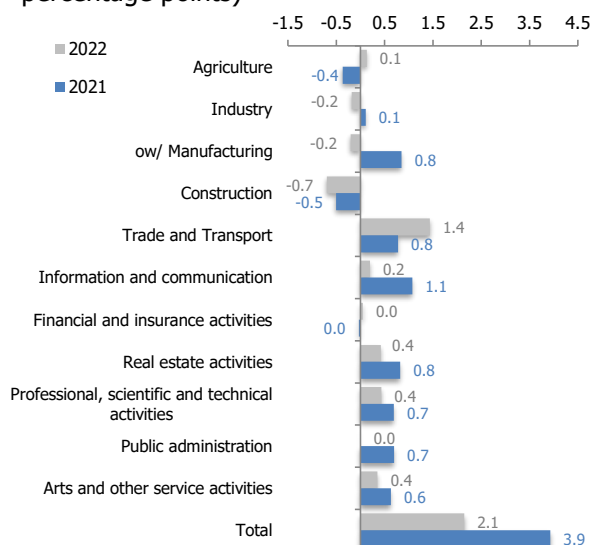
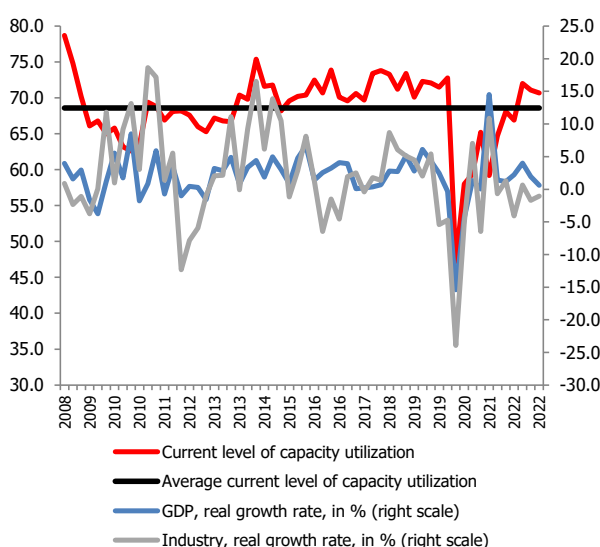


Chart 20
GDP, industry and capacity utilization

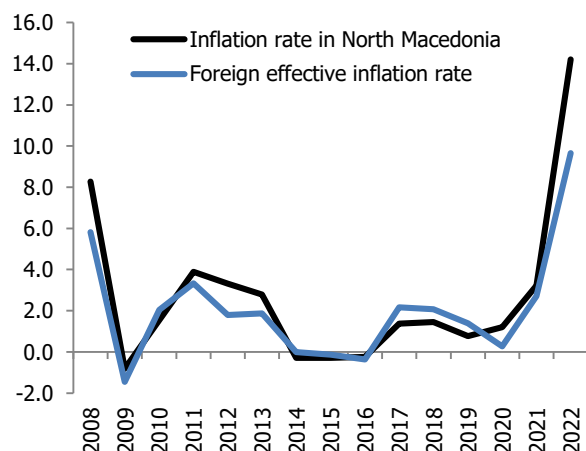


Source: State Statistical Office and European Commission, NBRNM calculations GDP data for 2021 are preliminary, and data for 2022 are estimated.

As for the aggregate demand, in 2022 the growth of economic activity stems entirely from the domestic demand, while the net exports had a negative contribution. Within the domestic demand, the biggest positive contribution was made by **investments**, which is partly the result of the growth of inventories caused by the increased import of intermediate products, raw materials and energy. Building inventories is a common practice during times of uncertainty and volatility in products and services prices and availability, such as the pandemic and military conflicts. The **household consumption** had additional positive contribution to the growth, but much lesser compared to the previous year, given a real drop in wages, slow growth of consumer loans and increased uncertainty. On the other hand, **public consumption** had a small negative contribution. Also, during 2022, exports recorded a relatively high growth, driven by the increased export activity of some of the foreign-owned production facilities. The growth of exports and domestic demand, primarily of inventories, contributed to a high growth of import of goods and services, due to which the net export component registered a negative contribution to the total GDP.

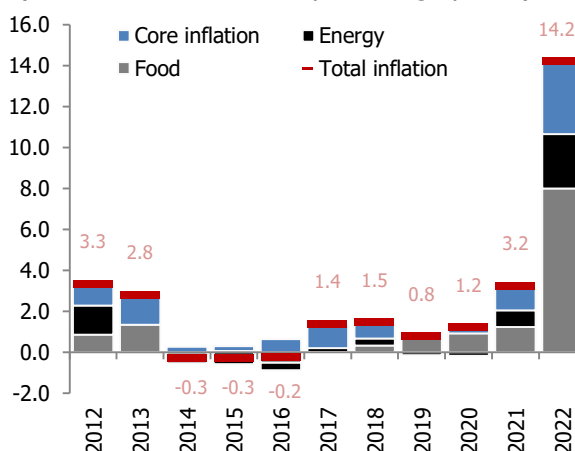
After a long period of low inflation, in 2022 inflation accelerated, with the average inflation rate reaching 14.2%. The main factor for the more pronounced upward movements of domestic prices is the historically high increase in the import prices of food and energy. These changes are mostly associated with the post-pandemic disruption of global supply chains, as well as the effects of the war in Ukraine. Given these developments, the shift in inflation mainly reflects in higher food and energy prices, a direct effect of import pressures, which account for three-quarters of the rise in domestic consumer prices in 2022. Given the duration of these global price movements and the uncertainty thereof, these pressures reflected rapidly on the prices of other products and services in the price index.

Chart 21
Domestic inflation and foreign effective inflation
(growth rates, in %)



Source: State Statistical Office, Eurostat and NBRNM calculations.

Chart 22
Volatile (food and energy) and long-term
component of inflation
(annual contributions, in percentage points)



Food prices contributed the most to inflation in 2022, which incremented by 21.5%, explaining 56.4% of the total increase in consumer prices, given the high participation of the food component in the consumer basket. In conditions of relatively high import dependence, the growth of food prices results mainly from external factors, such as the growth of prices of basic food products on international markets and the transmission effect of higher prices of electricity and oil derivatives on the operating costs of enterprises in the food industry. The increased prices of artificial fertilizers, animal food and other input components in primary production had the same impact, as well as, to a certain extent, the appreciation of the US dollar. From a structural point of view, the price growth is on a broad basis, with the biggest contribution being made by the increased prices of bread, cereals, meat, milk, cheese and eggs. In order to alleviate price pressures on basic food products, several measures were adopted during the year (to freeze the retail and wholesale prices⁹, reducing the preferential VAT rate from 5% to 0% and limiting trade margins¹⁰, restricting exports and abolishing customs duties on some basic food products¹¹, as well as measures related to electricity for

⁹ On 4 December 2021, the Government of the RNM made a decision to freeze the prices of the basic food products (bread, sugar, flour, edible sunflower oil, milk, cheese and cottage cheese, fresh meat and cured meat products, as well as the prices of rice, eggs and pasta in accordance with the list expanded on 14 December) at the level of 1 December, effective until 28 February 2022 (in line with the new decision of the Government from 28 January 2022).

¹⁰ On 9 March 2022, the Government of RNM adopted a package of measures to deal with the increase in food prices. Thus, the preferential VAT rate for basic food products was reduced from 5% to 0%, and the trade margin was limited to the level of 4% in wholesale trade and to the level of 3% in retail trade. These measures were valid until 31 May 2022 and related to the following products: bread, flour (type 400, milk with 2.8%, 3.2% and 3.5% fat, white sugar, sunflower oil, white rice, eggs, meat and other edible offal. On 14 June, the Government made a decision to extend the measure for limiting the trade margins, which was set at up to 5% in wholesale and retail trade, for white bread, white sugar and edible sunflower oil (with the exception of cold pressed), i.e. up to 10% for wheat flour (type 400 and 500), durum wheat for macaroni and spaghetti, Macedonian white rice, long life cow's milk with a fat content of 2.8%, 3.2% and 3.5% and chicken eggs. This measure was initially intended to be effective until 30 September, but afterwards it was decided to be extended until the end of the year. In addition, on 6 October the Government decided to cap the trade margin to 10% for dairy, such as: cottage cheese, cow and mixed white cheese, cheese, sour milk, sour cream and yogurt, valid until the end of the year.

¹¹ Within the package measures of 9 March 2022, the Government made a decision to limit the export of sunflower oil, valid until 31 May. On 20 July, a decision was made to limit the export of wheat and maslin and wheat and maslin flour, and on 11 August, a decision was made to limit the export of sunflower seeds, measures that were supposed to be in effect until the end of the year, but on the 6 October it was decided to terminate their validity. On 9 March 2022, the Government also made a decision on the duty-free import of edible sunflower oil, which was supposed to be effective until 31 May, but on 20 July it was decided to prolong the validity of this measure until the end of the year, while on 30 August, a decision was made to cancel the customs rates for milk and cream, valid until the end of the year.

domestic food producers¹²). By dynamics, the annual growth of food prices started to slow down in the last months of the year, in the conditions of a downward trend in the prices of basic food products on the world stock markets.

Energy prices increased by 20.2%, occupying 18.7% of the total inflation. The growth in the prices of the energy component is mainly due to the regulatory increase in the domestic electricity price for households. Namely, the electricity price for households increased in January and July, with the introduction of scaled pricing for consumption in the high tariff being introduced in July¹³. A high increase was also recorded in the prices of petroleum products, as a result of the higher prices of these energy sources on the international market, an effect which was mitigated only partially by the measures taken¹⁴. Additional pressure on the inflation's energy component was made by the higher solid fuels prices, which was the reason for taking a measure envisaging limited export of firewood and pellets, and introducing a limit on the trade margin¹⁵, and to a lesser extent, increase in the central heating prices¹⁶. According to the dynamics, in the conditions of a downward trend in the oil price on the world stock markets in the second half of the year, the growth of prices in the energy component slowed down in the last quarter.

The intensive growth of food and energy prices, which are the input component in several other products and services, made pressure on the **core inflation**, which increased by 7.1%, thus contributing by one fourth to the total increase in consumer prices. The increase in this component is mostly due to the higher prices in restaurant and hotel services, largely as a result of increased food and energy prices, and to a certain extent probably to the demand maintenance, in conditions of further growth of disposable income. Larger contribution was also made by the prices of soft drinks, road and air traffic due to increase in the number of trips, the prices of personal hygiene products and routine household maintenance, as well as the prices of tobacco, which were also affected by the one-time price adjustments.¹⁷

¹² On 30 October 2022, a decision was made according to which companies that produce basic food products, such as: sunflower oil, bread and bakery, flour, milk and dairy and meat, will be allowed to use the electricity subsidy for the price of 80 euros per MWh, over the electricity supply crisis period, starting from December 2022. Previously, on 9 September 2022 the Government adopted a decision according to which the trade margin cap of electricity for all trade companies and sole proprietors engaged in wholesale and retail trade on the electricity market in the amount of up to 10%, a measure that is expected to last until 15 April 2023.

¹³ In accordance with the decisions of the Energy Regulatory Commission (RKE), the price of electricity for the universal supplier increased by 9.48% in January and on average by 9.9% in July 2022 (the low tariff by 8.8%, and the high tariff by an average of 10.4%). As of 1 July, for the first time, the ERC introduced a gradual tariffing for the high tariff that is a 4 block tariff model. Regarding the single high tariff valid in that time, the electricity price for block 1 is higher by 5.5%, block 2 by 10.3%, block 3 by 18.3% and block 4 by 138.7%

¹⁴ In the part of fuels, within the package of measures from 9 March 2022, the following measures were adopted: reduction of the VAT rate from 18% to 10% in the sale of unleaded petrol, gas oil, liquid petroleum gas and methane and reduction of the excise tax.

¹⁵ The Government of RNM, on 20 July 2022, passed a decision to limit the export of firewood and pellets until the end of the year. Additionally, on 11 August 2022, the Government adopted a decision on determining the highest trade margin in retail trade of firewood and pellet, in the amount of up to 10%, valid until the end of the year.

¹⁶ The final price of delivered thermal energy increased on average by 14.05% in January with the three companies in the City of Skopje, while in August by 14.18% for the consumers supplied by BEG.

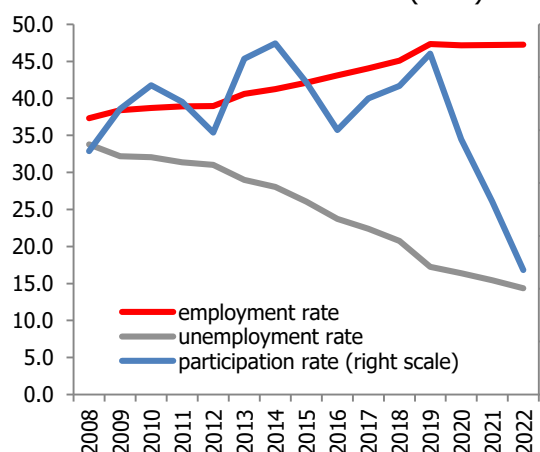
¹⁷ The prices of most cigarette brands and types increased by Denar 10 in February 2022 as a result of the increase in prices of raw materials and energy, primarily gas and electricity, which have a significant share in production, as well as due to the regular annual increase in excise duty (from 2013 until 1 July 2023, the excise duty on cigarettes increases annually by Denar 0.2 per piece).

3.2. Labor market

Consistent with the developments in the external environment and shifts in the domestic economy, most of the labor market indicators¹⁸ point to mainly less favorable trends during 2022, both in terms of demand and in terms of labor supply. Namely, the slower economic growth, amid high uncertainty arising from the war-related developments in Ukraine and the deterioration of the energy market, also affected the demand on the labor market. Thus, the number of employees in 2022 decreased by 0.2%. Analyzed by sector, the decrease in the number of employees is mostly associated with the decrease in the number of employees in the agriculture sector, and to a lesser extent, with the decrease in the number of employees in the service sector. On the other hand, the number of employees in industry is growing. Accordingly, the employment rate stagnates and is being maintained at the level of 47.3%. In 2022, as well, active employment measures¹⁹ were undertaken in order to support the employment in the economy.

Chart 23

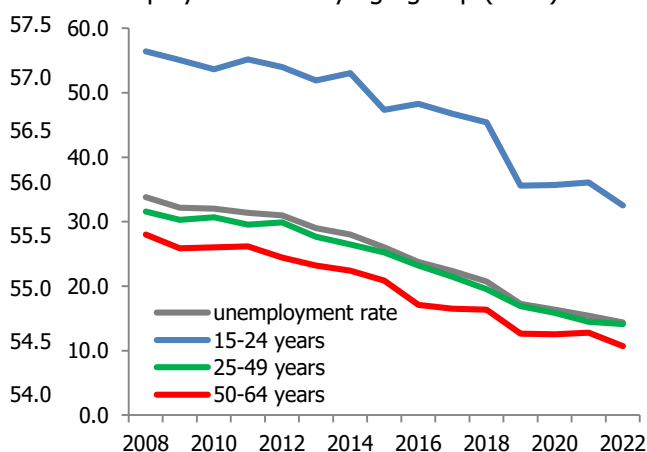
Selected labor market indicators (in %)



Source: State Statistical Office and NBRNM calculations

Chart 24

Unemployment rate by age group (in %)



Regarding the labor supply in 2022, unfavorable movements were registered. The total active population decreased by 1.4%, with the simultaneous rise in the number of inactive population of 1.2% resulting in a downward movement of the activity rate (of 0.6 pp), which reduced to 55.2%. In conditions of stabilized employment rate, the transition of part of the persons from unemployed to inactive population was the main reason for further reduction of the unemployment rate, which in 2022 was reduced to the historically lowest level of 14.4% (annual decrease of 1.1 pp). At the same time, looking at age groups, the reduction of the total unemployment rate is registered in all age groups, and the drop is most pronounced in the group of persons from 15 to 24 years of age (from 36.1% to 32.5%), which is the highest rate among age groups.

¹⁸ Labor market analysis was made using quarterly labor force surveys, that is, the annual indicators for 2022 were derived as an average of the published quarterly data. In accordance with the press release of the SSO published on 10.3.2023 and 4.4.2023, on the active population in the Republic of North Macedonia, results of the Labor Survey for the fourth quarter of 2022 and the revised data for 2021 and by quarters, when revising data by quarters for 2021 and 2022, the regional demographic distributions by gender and by five-year age groups for calibration of the population in accordance with the 2021 Census data were used. According to the SSO, revised data for 2019 and 2020 will be published during 2023.

¹⁹ In 2022, as well, the Ministry of Labor and Social Policy and the Employment Agency continued to implement active measures and programs intended for increasing the employment. With the Operational Plan for active programs and measures for employment and services on the labor market in 2022, around 13,000 unemployed individuals have been covered through 9 different types of programs, envisaging different measures (more information at <https://av.gov.mk/operativen-plan.nspix> and <https://vlada.mk/node/27001>).

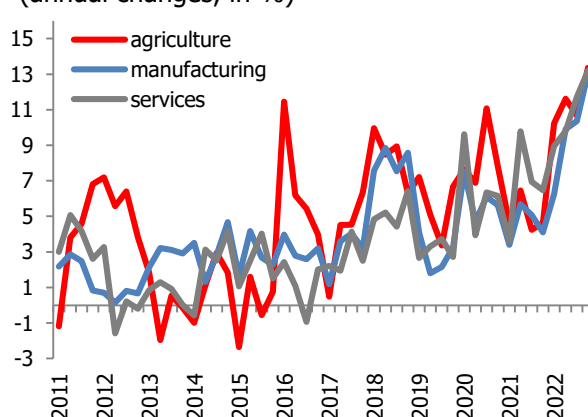
Nominal growth of the average paid wages continued in 2022. The increase is in part a result of the increase in the minimum wage of 18.5% in March 2022²⁰, as well as increase in part of the wages paid in public sector²¹ in September 2022. Certain structural factors, such as the lack of manpower in certain segments of the labor market, had an additional impact. Consequently, nominal net and gross wages²² recorded an annual growth of 11%²³ and 11.1%, respectively (5.7% respectively, in 2021). Annual net wage growth was registered in all sectors of activities, with the highest increase being recorded in activities that were initially most affected by the pandemic. Thus, the highest growth was registered in the wages in "accommodation facilities" (18.4%), "art, entertainment and recreation" (16.4%), manufacturing industry (14.6%) and "trade" (14.2%). In conditions of growth in the general level of consumer prices, real net and gross wages decreased by 2.7% and 2.6%, respectively.

Chart 25
Average gross and net wages
(annual changes, in %)



Source: State Statistical Office and NBRNM calculations

Chart 26
Average net wages, by sector
(annual changes, in %)



By competitiveness indicator²⁴, in 2022 the labour productivity²⁵ kept rising, but more moderately compared to the previous year, registering a growth of 2.6% (increase of 4.4% in 2021). The growth of productivity in 2022 resulted from the increase in the economic activity amid minimal decrease in the number of employees. By sector, the largest positive contribution come from the services sector and slightly agriculture, while industry had a minimal negative contribution. Due to higher wage growth than productivity growth, nominal

²⁰ Pursuant to the latest amendments to the growth of the minimum wage (Official Gazette of the Republic of North Macedonia No. 41/22) from March 2022, the minimum net wage was extraordinarily increased by Denar 2,806, in accordance with the three-party agreement reached between the Government, the unions and the employers, where the government will subsidize the part related to contributions (from March 2022 to December 2022 in the amount of Denar 1,197 for each month). The minimum gross wage, from March 2022 to February 2023, is Denar 26,422 (previously Denar 22,146), i.e. the minimum net wage is Denar 18,000 (previously Denar 15,194). Moreover, the latest amendments provide a new methodology which will adjust the minimum wage in the next period, i.e. from March 2023, i.e. with the increase of the average wage paid in the RNM for the previous year and the consumer price index - 50% of the increase of each indicator, respectively. Also, it is also defined that the minimum wage cannot be lower than 57% of the average net wage paid in the RNM for the previous year.

²¹ In accordance with the Budget revision, the September wage increased by 15% for the employees in justice department, secondary and primary education and child care, 7% for the employees in higher education, while the wages of the employees in the MOI and health department grew by 5%.

²² Total gross wages paid include: net wages paid for the reporting month, paid income tax and paid contributions (pension and disability insurance, health insurance, employment, occupational disease). The data concern wages paid.

²³ The rates at which contributions are paid in 2022 are 18.8% for compulsory pension and disability insurance and 7.5% for compulsory health insurance, as in the previous year.

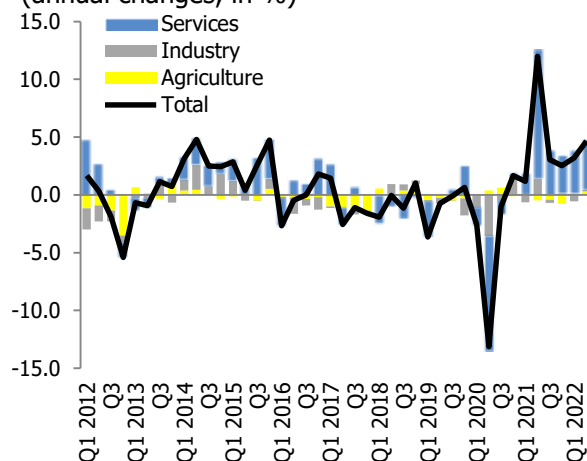
²⁴ Productivity and unit labor costs for the overall economy are calculated using SSO's data on GDP, number of employees and average nominal gross wages. Total productivity is a weighted sum of productivity of each sector. Within each sector, the productivity is calculated as a ratio between the values added in that sector and the number of employees.

²⁵ The productivity data are internal calculations of the National Bank and should be interpreted with caution. Namely, according to the 2021 Census of Population, Households and Dwellings, there was a structural break in the series for the number of employees in the first quarter of 2021. For the purposes of consistent analysis of productivity, the NBRNM has made certain adjustments to the data on the number of employees.

unit labor costs were 8.5% higher in 2022 (up from 1.2% in 2021). Most of the increase in unit labor costs accounts for higher costs in service sector and slightly in industry, while in agriculture, the labour costs also registered minimal decrease.

Chart 27

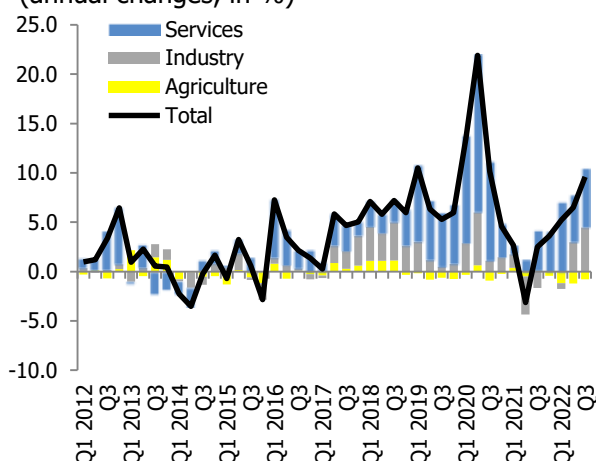
Average gross and net wages
(annual changes, in %)



Source: State Statistical Office and NBRNM calculations

Chart 28

Average net wages, by sector
(annual changes, in %)



3.3. Public finance

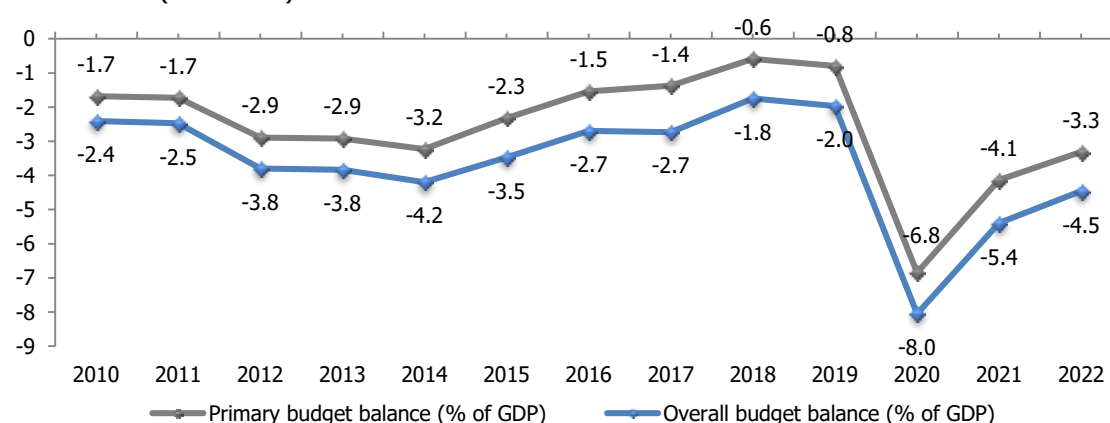
In 2022, as well, there is a post-pandemic fiscal consolidation. In 2022, the Budget deficit declined moderately to 4.5% of GDP, from 5.4% of GDP in the preceding year. The deficit reduction is the result of the further post pandemic recovery of the Budget income, primarily of the higher tax income. The primary budget balance narrowed²⁶, so in 2022 it equaled 3.3% of GDP, compared to 4.1% of GDP in 2021.

In 2022, the realization of the fiscal sector was in part influenced by the energy crisis, which was exacerbated by the military developments in Ukraine in the first quarter of 2022. This kind of economic environment and great variability imposed a need for larger government support for part of the companies and financial assistance for vulnerable categories of citizens. In these circumstances, at the middle of the year, the Budget was revised, making an upward correction to the deficit planned for 2022, initially planned amount was Denar 33,529 million (4.2% of GDP), to Denar 42,736 million (5.4% of GDP), with expenditures registering more pronounced increase than income.²⁷

²⁶ Primary budget balance is the difference between total budget revenues and total budget expenses, less the repayment of current loan (interest) liabilities. This fiscal indicator is considered more appropriate for the analysis of the current policy course, due to the fact that it does not include fiscal costs related to past conduct of fiscal policy relative to the public debt.

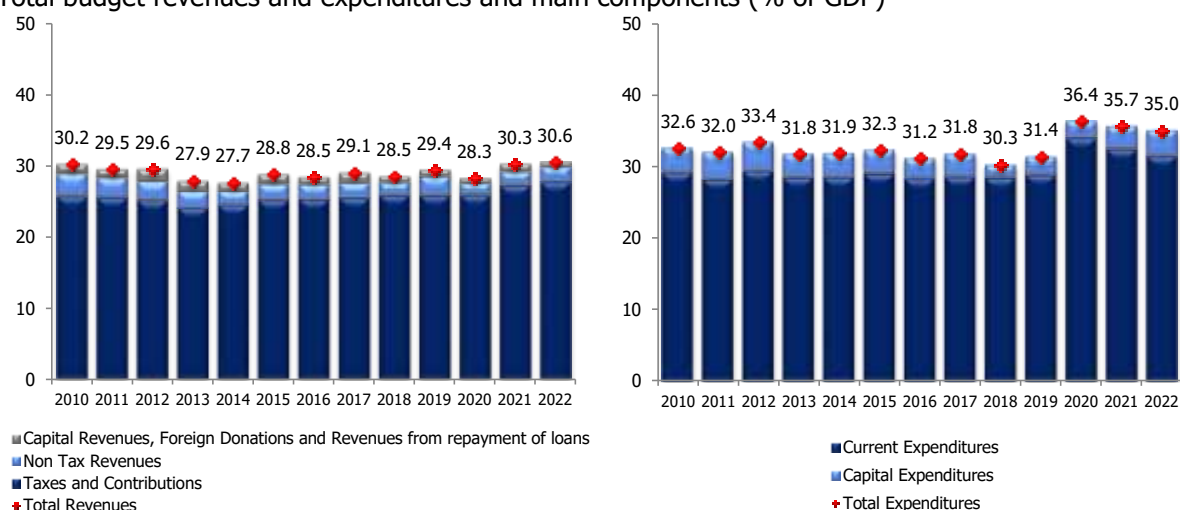
²⁷ Budget Revision for 2022 was adopted on 19 July 2022 (Official Gazette of the Republic of North Macedonia No. 164 of 20.7.2022) while the Decision on redistribution of funds among central government budget users and funds are adopted in November and December (Official Gazette of the Republic of North Macedonia No. 232 from 2.11.2022 and Official Gazette of Republic of North Macedonia No. 272 of 16.12.2022).

Chart 29
Fiscal indicators (% of GDP)



Source: Ministry of Finance and NBRNM calculations.

Chart 30
Total budget revenues and expenditures and main components (% of GDP)



Source: Ministry of Finance and NBRNM calculations.

The total budget income in 2022 went higher by 11.5% on annual basis (after the increase of 15% in the preceding year). Their increase in the total income stems from the increase in almost all categories, except to other income,²⁸ which recorded a decrease. In 2022, budget expenditures recorded a growth of 8.4% on an annual basis (growth of 5.5% in the previous year). The increase in expenses is due to increased current costs by 7% on an annual basis (up from 2.7% in the previous year), in conditions of reducing capital costs. The annual growth of current expenditures is due to the growth of the category transfers²⁹ and mainly results from the financial support to the energy sector and higher pension expenses³⁰. The budget deficit realized in 2022 was mostly financed through external³¹ net borrowing of

²⁸ Other revenues include capital revenues, donations from abroad and revenues from recovered loans.

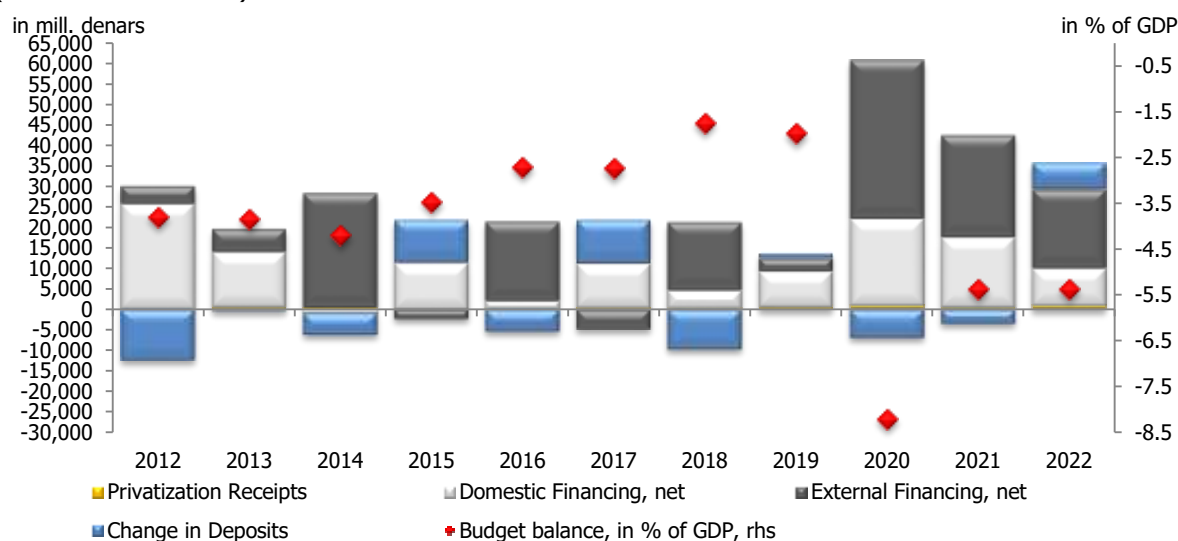
²⁹ Category of transfers include pension expenses, social security costs, health care costs and other transfers (mainly subsidies).

³⁰ Pension expenses increased due to their growth of 2.9% in January and 6.8% in September 2022 based on regular adjustment of pensions to the increase in the cost of living). Besides, in the April to June period, aid of 1,000 denars per month was paid to each pensioner in accordance with the package of economic measures from 9 March 2022.

³¹ The Government borrowing on the foreign market mostly stems from the bond for the German financial market issued at the end of September 2022 in the value of Euro 250 million and from the withdrawal of the first tranche of the Instrument for Precautionary and Liquidity Line (PLL) approved by the International Monetary Fund in November 2022, in the amount of Euro 110 million (out of a total of Euro 530 million approved by the arrangement).

the Government, and additionally through net borrowing on the domestic market and from the Government's deposits with the National Bank.

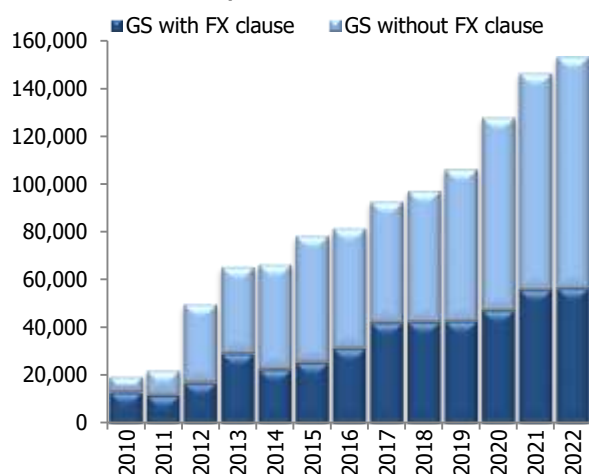
Chart 31
Budget balance financing structure*
(in millions of denars)



* Negative growth of deposits in the financing structure of the budget balance represents growth of government deposits.
Source: Ministry of Finance and NBRNM calculations.

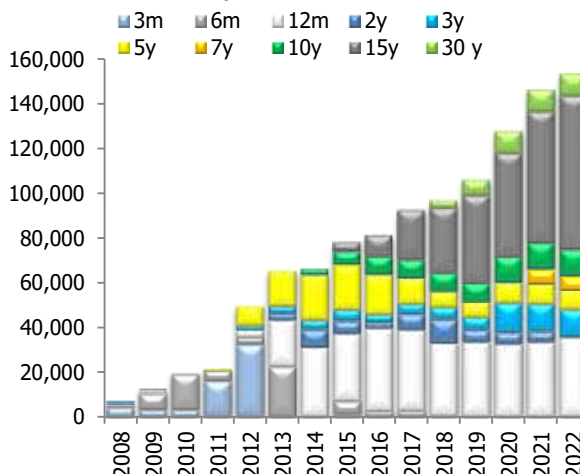
Relating the financing through the primary securities market, the stock of issued securities increased by Denar 7,013 million, reaching Denar 153,322 million at the end of the year. The maturity of most of the newly issued government securities was longer than the maturity of the due securities (primarily with maturity of 15 years), which contributed towards an increase in the average maturity of issued government securities, and thus deepening of this financial market segment, as well as increase in the share of the government bonds in the government securities structure. Especially favorable movements were registered in the currency structure mirrored in the growth of issued government securities in domestic currency.

Chart 32
Currency structure of government securities (in millions of denars)



Source: Ministry of finance and NBRNM.

Chart 33
Maturity structure of government securities (in millions of denars)



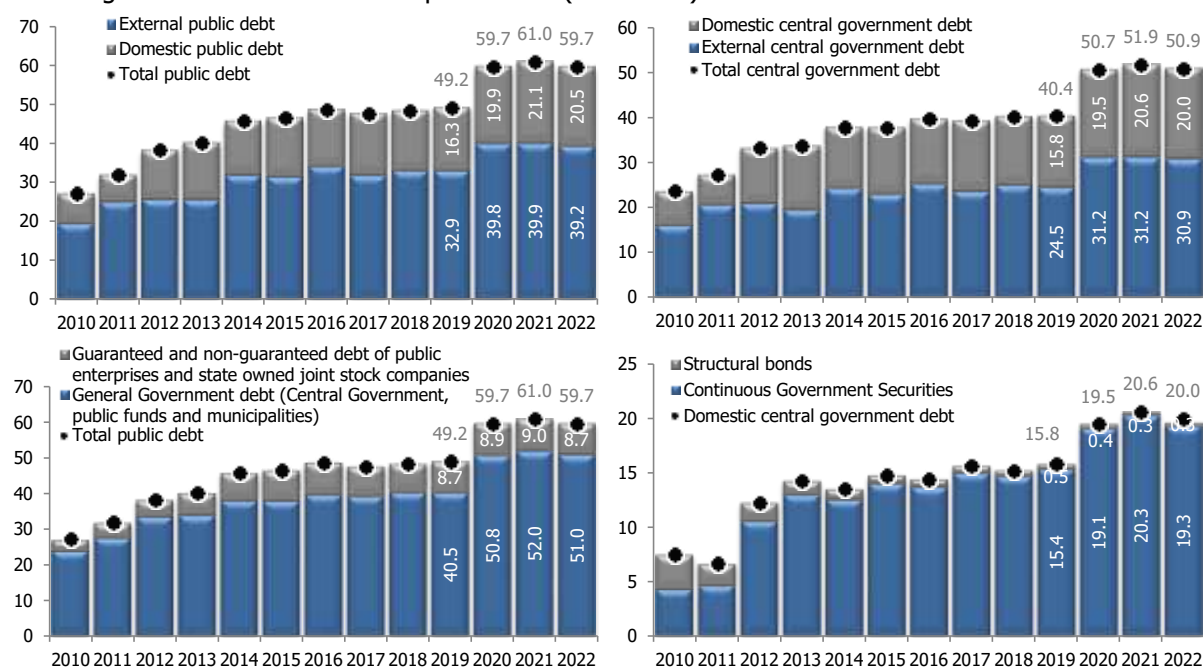
Annual net wage growth was registered in all activities' sectors, with the highest one being recorded with the activities that were initially most affected by the pandemic. Thus, the highest growth was registered in the wages with the "accommodation facilities" (18.4%), "art, entertainment and recreation" (16.4%), manufacturing industry (14.6%), "trade" (14.2%). In the context of an increase in the general level of consumer prices, real net and gross wages decreased by 2.7% and 2.6%, respectively. Similar movements have been registered with the total public debt, as well³², which at the end of 2022 reduced to 59.7% of GDP (61% of GDP in the previous year), given lower external and domestic public debt (39.2% and 20.5% of GDP, respectively). Within the public debt, the total government debt (the debt of the central government, public funds and municipalities) in 2022 equaled 51% of GDP and is lower by 1 pp compared to the previous year, while the public enterprises debt (guaranteed and non-guaranteed)³³ equaled 8.7% of the GDP, which is an annual decrease of 0.3 pp. Regarding the debt structure, no significant changes are observed, so that at the end of 2022, the participation of the government debt in the total public debt is 85.4%, while the debt of public enterprises (guaranteed and unguaranteed) participates with 14.6% .

³² The public debt is defined under the Law on Public Debt (Official Gazette of the Republic of Macedonia No. 62/2005, 88/2008, 35/2011, 139/2014 and 98/2019) as 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.

³³ According to the amendments to the Law on Public Debt from May 2019, the non-guaranteed debt of public companies and joint stock companies established by the government or municipalities, municipalities within the City of Skopje and the City of Skopje is included in public debt (Official Gazette of the RM No. 62/2005, 88/2008, 35/2011, 139/2014 and 98/2019).

Chart 34

Central government debt and total public debt (% of GDP)

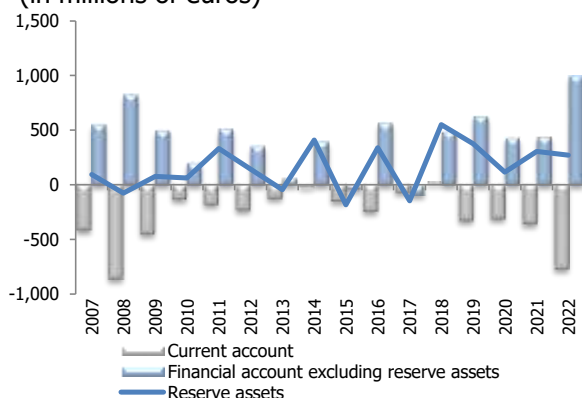


Source: Ministry of Finance and NBRNM calculations.

3.4. Balance of payments, IIP and external debt

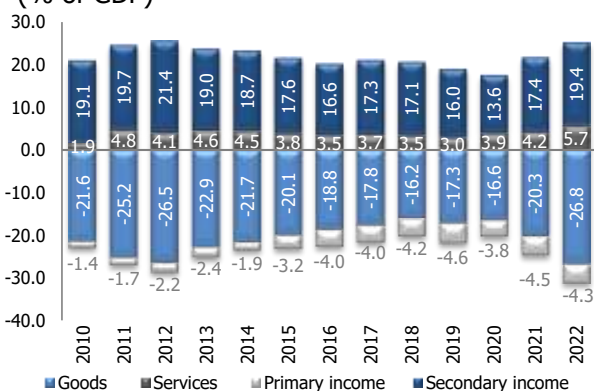
In 2022, when Russia invaded Ukraine, while coping with problems relating global supply chains and deterioration in primary products markets, especially energy, the deficit of the balance of payments' current account deepened on an annual basis by 2.9 pp and equaled 6% of GDP. Analyzed by component, this enlargement of the current account deficit is fully due to the larger trade deficit (by 6.5 pp of GDP), i.e. larger growth in the import than in the export of goods, mainly reflecting the rise in stock exchange prices of energy and food on the world markets in 2022. On the other hand, the other current account components contributed to reduce the negative movements in the trade balance. The most pronounced positive contribution is the increased surplus in services (by 1.5 pp of GDP), evident through higher performance in business and telecommunications, computer and information services. The improvement in the secondary income surplus, which mainly reflects the growth of private transfers (a significant increase in inflows from the net purchased cash in the foreign exchange market), was also beneficial, partially because of the full lifting of travel restrictions, as opposed to the limited international movement of passengers in 2021. The reduction in the primary income deficit (by 0.1 pp of GDP) mostly results from the lower outflow of investment income.

Chart 35
Current and financial account
(in millions of euros)



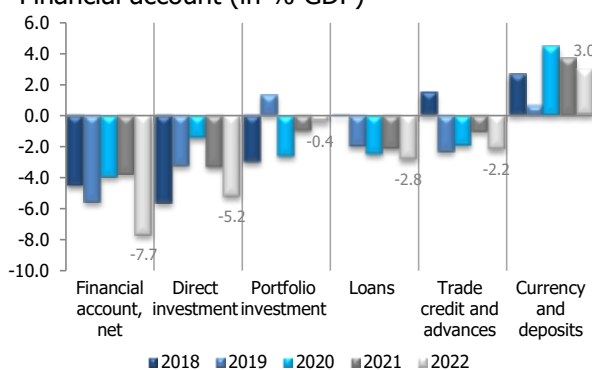
Source: NBRNM.

Chart 36
Main current account components
(% of GDP)



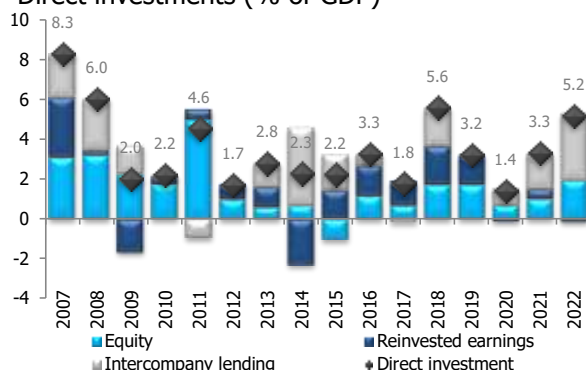
In 2022, net inflows of Euro 990.7 million, or 7.7% of GDP, were registered in the balance of payments' financial account, which enabled full deficit coverage and increase in foreign reserves. The favorable performance is the result of net inflows in almost all financial account components, except currency and deposits. Most financial account inflows are based on direct investments, which in 2022 amounted to Euro 670.2 million, or 5.2% of GDP, which is a growth of 1.9 pp compared to the previous year. Analyzing direct investment structure, net inflows from intercompany lending prevail, with significant net inflows being simultaneously registered in equity, in conditions of small net outflows with the reinvested gains. Additional net inflows on the financial account were registered on the basis of trade loans and short-term loans. The net inflows realized in the portfolio investments are due to the government borrowings abroad on the basis of issued debt securities³⁴. On the other hand, currency and deposits registered high net outflows, which is fully due to the realized net outflows in other sectors.

Chart 37
Financial account (in % GDP)



Source: NBRNM.

Chart 38
Direct investments (% of GDP)



In 2022, the negative balance in the foreign trade of goods recorded an annual increase of 40.9% (or by 6.4 pp of GDP), registering a larger growth in the import than in the export component. This deepening of the trade deficit is mostly (about 80%) explained by the expanded energy deficit in conditions of global price shocks with energy sources as a result of the military developments in Ukraine and the sanctions imposed on Russia. The high rise in electricity and natural gas prices in 2022, complemented by the high energy dependence

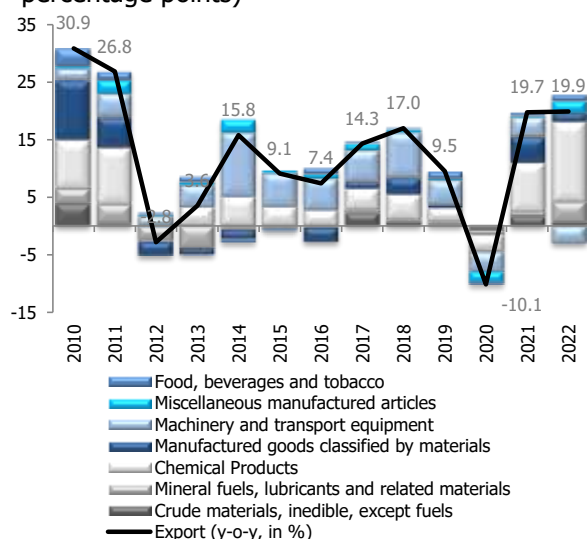
³⁴ On 29.9.2022, on the German market a bond ("Namensschuldverschreibungen" – NSV) in the amount of Euro 250 million was issued, with a maturity of 3 years and at an interest rate of a 6-month EURIBOR + commission of 3.75%.

of the domestic economy on imports, led to a significant deepening of the trade deficit on an annual basis. The high rise in food prices on the stock markets, especially in the first half of the year, and persistent disruptions in global supply chains, made additional pressure on the trade balance.

Despite the unfavorable and vague external environment, the export of goods in 2022 keeps increasing, registering an annual growth rate of 19.9%. About half of the growth is related to the increased exports by the industrial facilities in foreign ownership, since the automotive industry registered a post-pandemic recovery, with the intensified operations being registered with some of the current, as well as new facilities. In 2022, some of the traditional activities, the export of energy, as well, contributed sufficiently to better performance of the export sector. Namely, in 2022, the export of electricity improved, amid price growth, registering also an increased quantitative export due to production surpluses resulting from the unusually favorable weather conditions at the end of the year and reduced consumption.

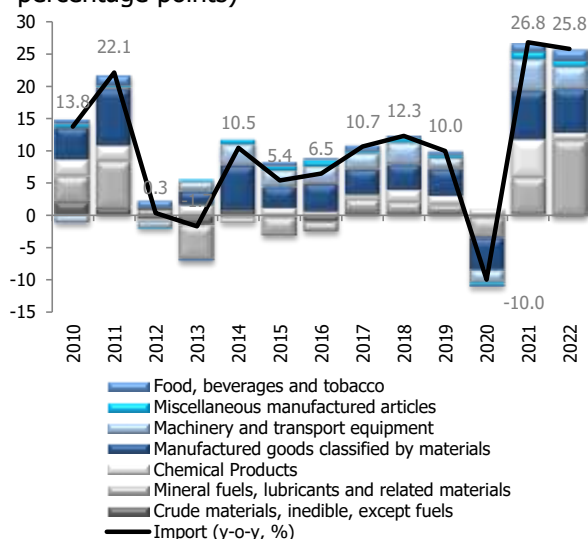
On the import side, solid annual growth of 25.8% was recorded, primarily due to the performance in the energy component, which shows noticeable vulnerability of the domestic economy to energy shocks. At the same time, almost half of the contribution of energy imports is due to the contribution of the import of oil derivatives, under significant influence of high import prices, given simultaneous increase in the quantitative imports. A positive contribution was also recorded in the import of other energy sources, such as the import of electricity and the import of gas, which is a price effect, given simultaneous reduction of the quantitative imports on an annual basis. A significant positive contribution was registered in the import of raw materials for the automotive industry, analyzed through the contribution of the import of equipment and machinery, as well as the import of non-ferrous metals. The contribution of the import of iron and steel to the growth of imports is smaller.

Chart 39
Contributions to the annual export growth (in percentage points)



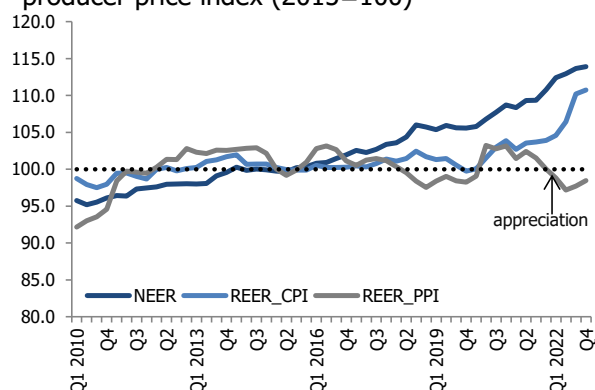
Source: State Statistical Office.

Chart 40
Contributions to the annual import growth (in percentage points)



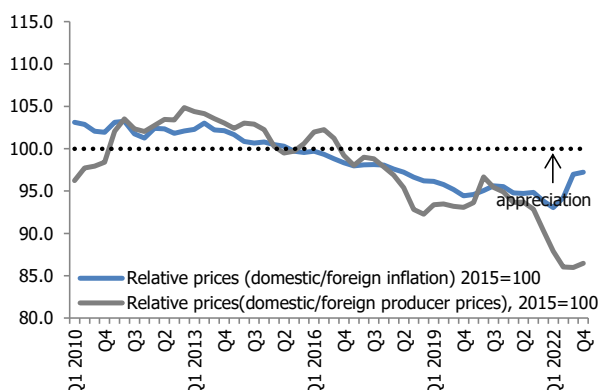
With regard to the price competitiveness indicators of the domestic economy³⁵, in 2022 the real effective exchange rate deflated by consumer prices appreciated by 4.4% annually, as opposed to the producer price index, which depreciated by 3.3%. The nominal effective exchange rate appreciated by 3.5% annually as a result of further depreciation of the Turkish lira relative to the denar. The relative consumer prices registered an increase of 0.9%, while the relative prices of the producers of industrial products fell by 6.5% (higher rise in foreign prices than the domestic ones in 2022).

Chart 41
NEER and REER, without primary commodities
calculated according to the consumer price and
producer price index (2015=100)



Source: NBRNM.

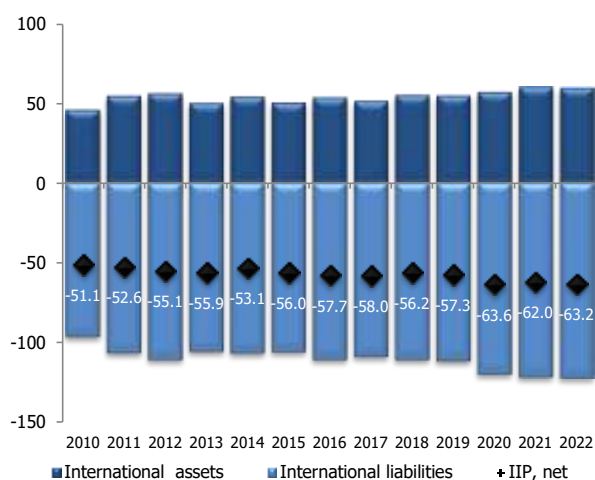
Chart 42
Relative prices (2015=100)



At the end of 2022, the negative net international investment position (IIP) of the domestic economy equaled Euro 8,150.8 million, or 63.2% of GDP. Compared to the end of the previous year, it worsened by 1.2 pp of GDP, given the increase in international liabilities and decrease in international assets (of 0.6 pp of GDP, respectively). The sectoral analysis of IIP shows that the deepening is mostly due to the annual decrease in the central bank's net assets, as a result of higher liabilities based on short-term loans (related to regular foreign reserve management operations), as well as less funds with foreign reserves. At the same time, higher net liabilities were registered in other sectors (with higher liabilities based on direct investments), as well as in deposit-taking institutions. On the other hand, favorable changes were registered in the government net position, where the net liabilities based on portfolio investments, i.e. debt securities, decreased.

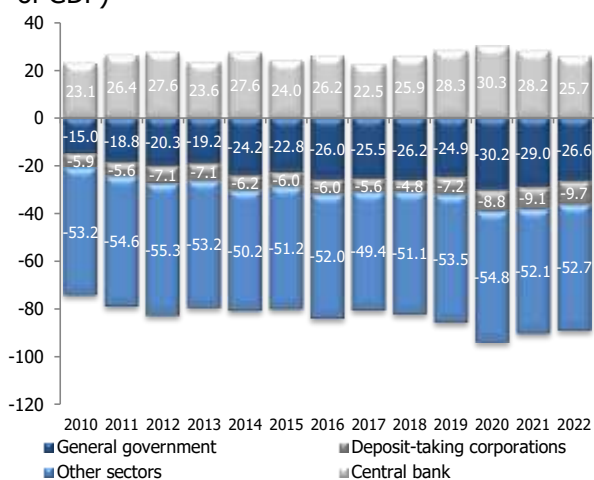
³⁵ The analysis of indicators of price competitiveness is based on REER indices, calculated using weights based on the foreign trade without primary commodities. Primary products not included in the calculation are: oil and oil derivatives, iron and steel, ores and imported raw materials for the new foreign-owned industrial facilities.

Chart 43
International Investment Position (% of GDP)



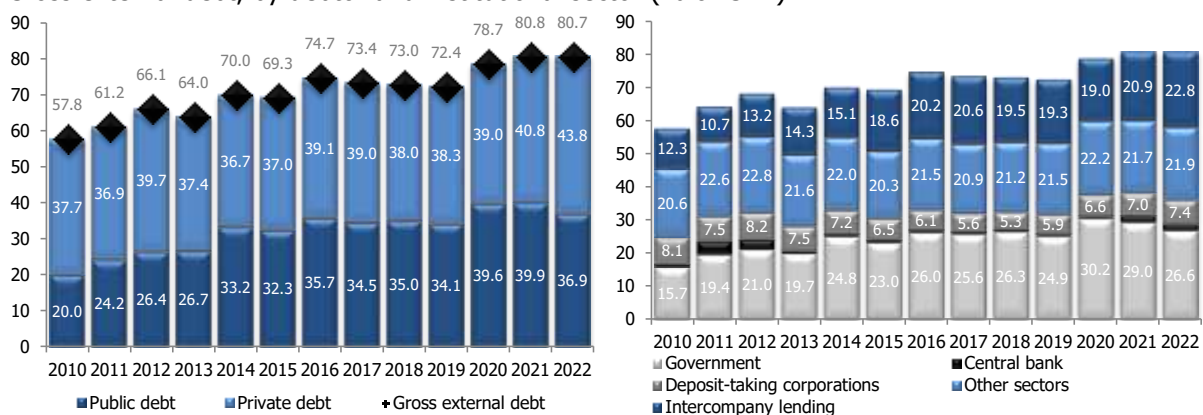
Source: NBRNM.

Chart 44
International investment position, by sector (% of GDP)



At the end of 2022, the **gross external debt** amounted to Euro 10,411 million³⁶, or 80.7% of GDP, which is almost identical to the level registered at the end of 2021 (80.8% GDP). This performance is in conditions of decreased public sector debt by 3.0 pp of GDP, amid simultaneous increase in private debt of 3.0 pp of GDP. The decrease in the public sector debt is mostly a result of the reduced Central Government debt at lower liabilities based on debt securities. On the other hand, the annual growth of private debt mainly results from the higher intercompany lending between capital-related entities, and to a lesser extent, from the higher debt of the non-banking private sector (as a result of higher trade credits) and private banks (due to the increase in short-term liabilities based on currencies and deposits).

Chart 45
Gross external debt, by debtor and institutional sector (% of GDP)



* Excluding repo-transactions.

Source: NBRNM.

External debt ratios of the national economy remain in the safe zone. The share of the gross external debt to GDP ratio remains in the high indebtedness range, while all other indicators point to low indebtedness of the domestic economy.³⁷

³⁶ Gross and net external debt data do not include central bank liabilities under repo agreements.

³⁷ The level of the gross external debt excluding trade credits and intercompany debt equals 49.5% of GDP, which is an indicator of moderate indebtedness.

As of 31.12.2022, net external debt equaled Euro 4,048.6 million, or 31.4% of GDP, which is an increase of 0.9 percentage points of GDP compared to the previous year. The higher net external debt is due to the increase in the private net debt (by 2.8 pp of GDP), given lower public net debt (by 1.9 pp of GDP).

Table 2
External debt indicators

| | <i>Solvency</i> | | | | <i>Liquidity</i> | | |
|--|--|--|--------------------|---|--|---|-------------------------------------|
| | Interest payments/ Export of goods and services and other inflows | Gross debt/ Export of goods and services and other inflows | Gross debt/ GDP | Debt servicing/ Export of goods and services and other inflows | Foreign reserves/ Short-term debt | Foreign reserves/ Short-term debt, with residual maturity* | Short-term debt/ Overall debt |
| | in % | | | | ratio | ratio | in % |
| 31.12.2004 | 2.4 | 129.3 | 47.3 | 12.4 | 1.1 | 0.9 | 30.3 |
| 31.12.2005 | 2.7 | 147.0 | 54.2 | 11.1 | 1.7 | 1.0 | 26.7 |
| 31.12.2006 | 3.4 | 131.3 | 49.8 | 21.7 | 2.0 | 1.3 | 29.0 |
| 31.12.2007 | 2.8 | 119.3 | 51.3 | 19.4 | 1.3 | 1.1 | 39.8 |
| 31.12.2008 | 2.7 | 116.9 | 54.1 | 10.2 | 1.3 | 0.9 | 35.2 |
| 31.12.2009 | 2.4 | 131.0 | 57.8 | 11.8 | 1.3 | 0.9 | 32.9 |
| 31.12.2010 | 3.2 | 140.4 | 59.7 | 13.9 | 1.5 | 1.0 | 27.9 |
| 31.12.2011 | 3.1 | 148.4 | 64.6 | 16.8 | 1.8 | 1.2 | 25.2 |
| 31.12.2012 | 2.9 | 142.1 | 67.6 | 13.1 | 1.6 | 1.0 | 26.7 |
| 31.12.2013 | 2.5 | 137.3 | 67.3 | 15.8 | 1.6 | 1.1 | 23.3 |
| 31.12.2014 | 3.0 | 149.1 | 74.0 | 17.2 | 1.8 | 1.1 | 22.3 |
| 31.12.2015 | 2.7 | 143.8 | 73.2 | 20.0 | 1.7 | 1.1 | 21.3 |
| 31.12.2016 | 2.4 | 149.9 | 79.1 | 14.9 | 1.7 | 1.2 | 21.9 |
| 31.12.2017 | 2.7 | 140.1 | 77.0 | 12.7 | 1.3 | 0.9 | 24.0 |
| 31.12.2018 | 2.2 | 131.4 | 77.4 | 15.8 | 1.4 | 1.0 | 25.8 |
| 31.12.2019 | 2.0 | 121.9 | 76.3 | 9.0 | 1.6 | 1.0 | 25.6 |
| 31.12.2020 | 1.9 | 122.3 | 77.9 | 13.6 | 1.9 | 1.1 | 20.4 |
| 31.12.2021 | 2.2 | 126.9 | 83.8 | 16.3 | 1.8 | 1.3 | 21.5 |
| 31.12.2022 | 1.8 | 124.3 | 88.1 | 9.2 | 1.5 | 1.0 | 25.0 |
| <i>Moderate indebtedness criterion</i> | <i>12 - 20%</i> | <i>165 - 275%</i> | <i>30 - 50%</i> | <i>18 - 30%</i> | <i>1.00</i> | | |

* The moderate indebtedness criterion is according to the World bank's methodology of calculating indebtedness indicators, which implies 3-year moving averages of GDP and exports of goods and services in the calculation of the indicators.

In compliance with "External debt statistics: Guide for compilers and users," published by the IMF.

According to the "Greenspan-Guidotti rule", a country should maintain full coverage of short-term debt at remaining maturity with gross foreign reserves."

Source: NBRNM.

3.5. Monetary and credit aggregates³⁸

3.5.1. Monetary aggregates

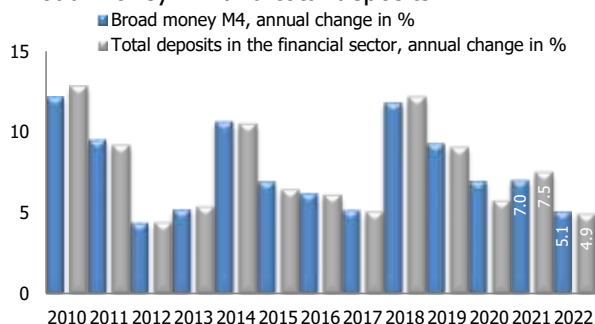
Also during 2022, there is a post-pandemic recovery of the economy, but at a more moderate pace. The domestic economic activity was affected by the non-economic shock, caused by the military developments in Ukraine. In such circumstances, the uncertainty increased again, and on the world energy market, the prices continue to grow, resulting in an

³⁸ Data on total deposits and loans from August 2020 onwards do not include data on a bank whose founding and operating license was revoked and who went into bankruptcy in August 2020. For more realistic understanding of the banking system flows without the effect of this change in the monetary statistics chart, the total deposit and credit flows in 2020 were adjusted with data for the respective bank. The adjustment in total deposits was made by including the amount of deposits which is not subject to compensation by the Deposit Insurance Fund in the current balance of total deposits, while the adjustment of total loans was made by including the July data on the balance of bank's loans in the current balance of total loans.

energy crisis. Consequently, in 2022 broad money and total financial sector deposits³⁹ registered slower increase. Moreover, the effects of the crisis were partially mitigated by the government measures for financial support of the energy sector companies and the vulnerable household categories affected by the crisis, which also this, like last year, in part contributed to the growth of money supply and deposits.

Chart 46

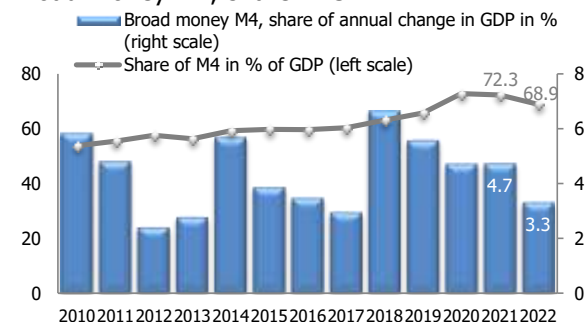
Broad money M4 and total deposits



Source: NBRNM.

Chart 47

Broad money M4, share in GDP



In 2022, the annual growth of the broad money M4 slowed down to 5.1%. Structurally, amid increased uncertainty due to the military developments in Ukraine and the preference for holding liquid assets, there is a further increase in the most liquid components of M4 - cash in circulation and demand deposit, which registered an annual growth of 6.8% and 5.8%, respectively. Short-term deposits moderately increased, while long-term deposits registered a slight decrease. Money supply annual growth-to-GDP decreased to 3.3% at the end of the year (4.7% in 2021). Moreover, money supply M4-to-GDP ratio at the end of the year was 68.9% (72.3% in the previous year)⁴⁰.

Table 3

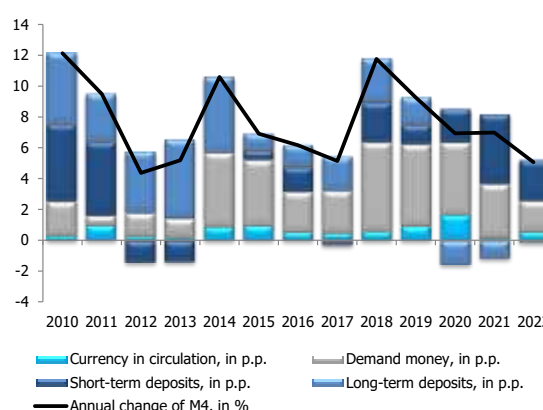
Money supply components - balance and changes

| | Balance as of | | | Annual change | | | | |
|---|-----------------------|---------|---------|---------------|------|-------|-------|-------|
| | 2020 | 2021 | 2022 | 2017 | 2018 | 2020 | 2021 | 2022 |
| | in millions of denars | | | in % | | | | |
| Currency in circulation | 43,701 | 44,480 | 47,494 | 6.3 | 7.6 | 21.0 | 1.8 | 6.8 |
| Demand money | 160,765 | 177,716 | 188,036 | 11.1 | 22.1 | 15.2 | 10.5 | 5.8 |
| M1 | 204,466 | 222,196 | 235,530 | 9.9 | 18.7 | 16.4 | 8.7 | 6.0 |
| Short term denar deposits up to 1 year | 44,042 | 40,033 | 39,429 | -6.4 | 3.5 | -10.2 | -9.1 | -1.5 |
| Short term foreign currency up to 1 year | 134,950 | 160,778 | 175,061 | 2.1 | 7.4 | 12.3 | 19.1 | 8.9 |
| M2 | 383,458 | 423,007 | 450,020 | 3.8 | 11.8 | 11.2 | 10.3 | 6.4 |
| Long term denar deposits over 1 to 2 years | 30,665 | 27,727 | 28,003 | 6.5 | 1.9 | -16.8 | -9.6 | 1.0 |
| Long term foreign currency over 1 to 2 years | 22,108 | 24,020 | 21,779 | 12.6 | 13.4 | -0.8 | 8.6 | -9.3 |
| M3 | 436,231 | 474,753 | 499,803 | 4.6 | 10.8 | 8.0 | 8.8 | 5.3 |
| Long term denar deposits over 2 years | 34,667 | 29,376 | 25,521 | 12.5 | 29.7 | -3.1 | -15.3 | -13.1 |
| Long term foreign currency over 2 years | 16,092 | 16,876 | 22,031 | 7.3 | 5.4 | 3.0 | 4.9 | 30.5 |
| Total deposits (without demand deposits) | 282,523 | 298,809 | 311,825 | 2.8 | 8.2 | 1.0 | 5.8 | 4.4 |
| Total deposits | 443,288 | 476,525 | 499,861 | 5.0 | 12.1 | 5.7 | 7.5 | 4.9 |
| M4 | 486,989 | 521,005 | 547,355 | 5.1 | 11.8 | 6.9 | 7.0 | 5.1 |

Source: NBRNM.

Chart 48

Money supply, annual growth and structure



In 2022, total financial sector deposits registered an increase of 4.9%, weaker though compared to the previous year (7.5%). Observed by sector, the increase is primarily a result of the increased household deposits, amid lower annual growth of corporate deposits.

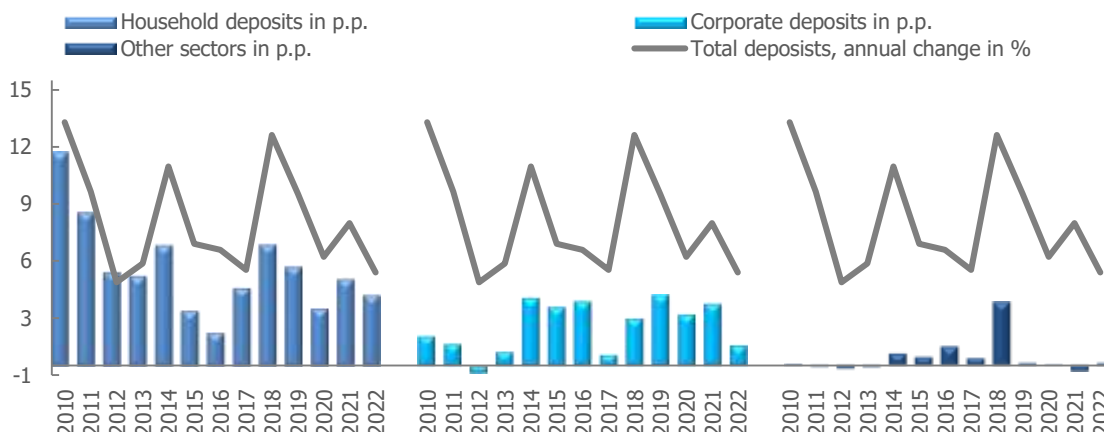
³⁹ Data refer to non-government deposits in banks and savings houses, funds of other financial institutions on the accounts with the National Bank and funds of local government authorities on the accounts with the National Bank. The data are consistent with the methodological changes made by the the National Bank in June 2018. For more information on the methodological changes visit: http://www.nbrm.mk/monetarna_statistika_i_statistika_na_kamatni_stapki.nspj.

⁴⁰ The greater difference between the realized nominal GDP for 2021 and 2022, is also reflected in the relative money supply indicators relative to GDP.

Analyzing the currency, the growth reflects the foreign currency deposits, amid more moderate growth of denar deposits (including demand deposits).

Chart 49

Total deposits (with demand deposits), annual change and contribution to the change from sectoral aspect

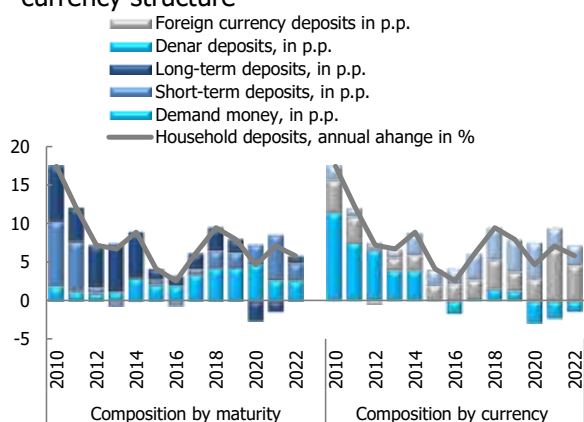


Source: NBRNM.

Household deposits⁴¹ registered an annual growth of 5.8% in 2022 (7.1% in 2021). At the beginning of the war in Ukraine, amid increased uncertainty there was a short-term and moderate monthly decrease in savings in March, after which household deposits continued to increase. The military conflict in Ukraine, the shock in the world prices of primary products, especially energy and the general increase in the uncertainty changed both the currency and the maturity structure of household deposits during 2022. Namely, in the first half of the year, when the effects of the accumulated shocks were most evident, there was a change in the preferences of economic agents, in favor of a larger contribution of the savings in foreign in relation to domestic currency and growth of the short-term component of savings, which is normal behavior in periods of uncertainty. Towards the middle of the year, there was an upturn in trends, so that at the end of the year, denar long-term deposits increased.

Chart 50

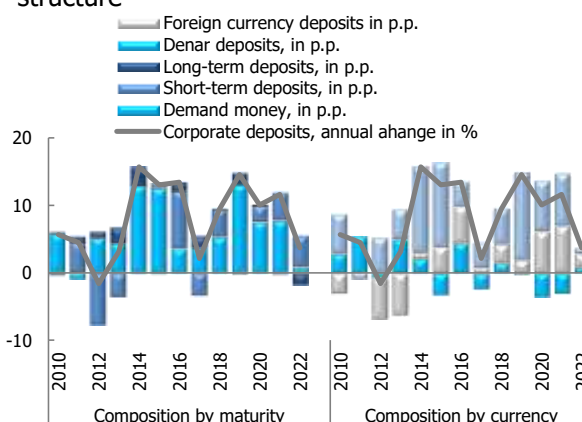
Total household deposits, annual change and contribution to the change by maturity and currency structure



Source: NBRNM.

Chart 51

Total corporate deposits, annual change and contribution to the maturity and currency structure



⁴¹ Deposit data also include demand deposits.

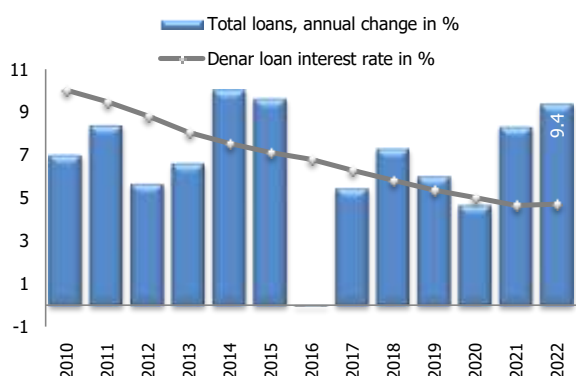
In 2022, the growth of corporate deposits slowed down to 3.7% (11.6% in 2021). The significantly increased liquidity needs of the companies as a result of the energy crisis and the more expensive imports led to an unusual decrease in corporate deposits in the first half of the year. However, with the stabilization of the pressures, in the second half of the year, the companies' funds in banks registered an increase, which exceeded the fall of the first half. Structurally observed, growth was registered in short-term corporate deposits, amid lower long-term deposits on an annual basis. Observing by currency, the contribution of foreign currency and denar deposits (including demand deposits) to the growth of total corporate deposits is almost equal.

In 2022, the degree of euroization, measured as a ratio between deposits with FX component and total deposits of the banking system, moderately increased to 44.5% (43% in the previous year). In household deposits, the share of deposits with foreign currency component reached 52% (50.3% in the previous year), which is a moderate increase in the propensity of households to save in foreign currency, compared to the stronger increase in the period of the global financial crisis.

3.5.2. Lending activity

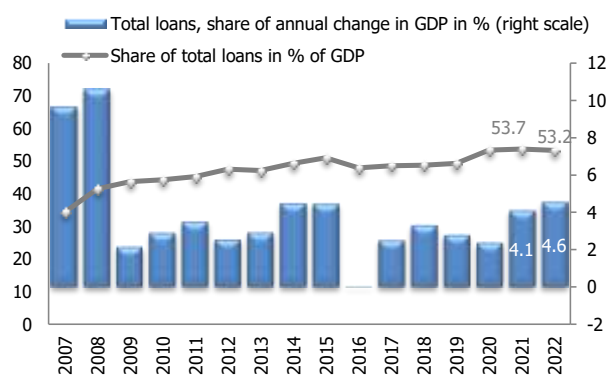
In 2022, the banking sector provides solid credit support to the domestic economy, and the growth of total credits accelerated and reached 9.4% (8.3% in 2021). At the same time, the systemic measures of the National Bank and the prudent risk management by banks contributed to the maintenance of the sound solvent and liquidity position of banks. The annual growth of total loans at the end of 2022 reached 4.6% of GDP (4.1% of GDP in 2021), while the loan-to-GDP ratio remained at a relatively stable level (53.2%).

Chart 52
Total loans and lending interest rate



Source: NBRNM.

Chart 53
Total loans, share in the GDP



According to the Lending Surveys of the National Bank, in 2022 there was a net increase in the demand for loans, faster in companies and slower in households, amid stronger net tightening of credit standards for households and companies, compared to the previous year. Analyzing risks, there is continuing increase in the risk perceptions by companies, significantly stronger though compared to last year, analyzed through the banks' expectations for the total economic activity.

Observed by sector, for the first time after a longer period, the banks' credit support in 2022 was largely aimed at companies with an annual growth of 11.5% (8.7% in 2021), in line with their increased liquidity needs, i.e. primarily for investments in inventories and

working capital, but in part also for investments in fixed assets⁴². Lending to households⁴³ registered a more moderate increase of 7.4% (7.9% in 2021), and the analysis according to the individual types of loans suggests that generator of the growth are housing loans, amid a more moderate growth in consumer loans. Regarding the currency structure of the growth of total loans, a positive contribution was also made by loans in domestic and in foreign currency (including denar loans with currency clause).

Chart 54
Total loans, annual change and sectoral structure

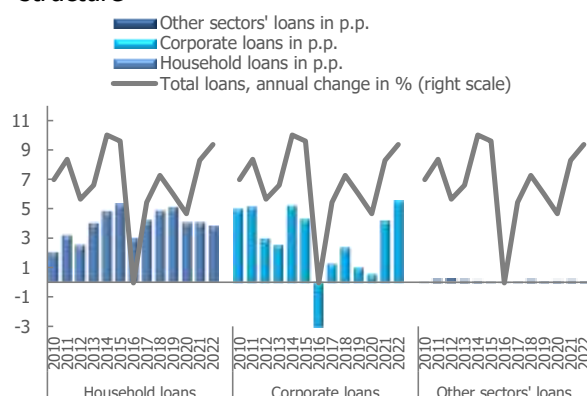
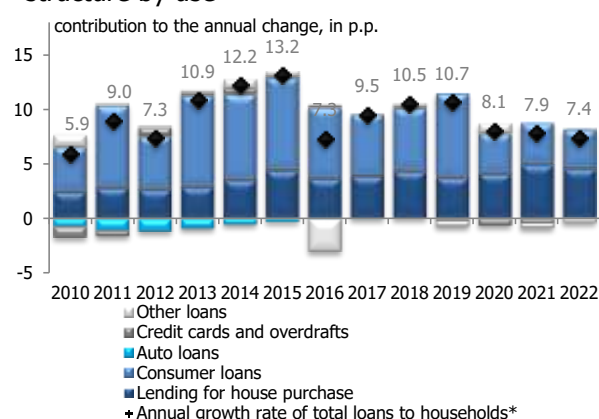
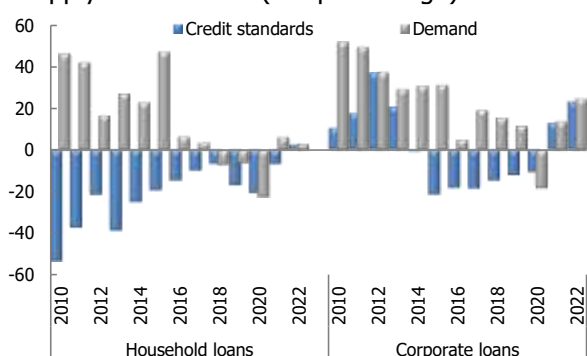


Chart 55
Total household loans, annual change and structure by use



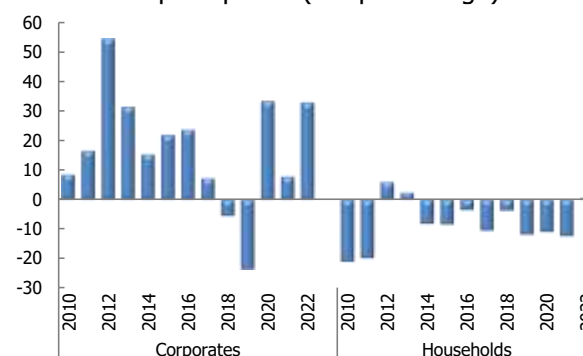
* Total loans to households do not include loans to self-employed individuals.
Source: NBRNM.

Chart 56
Supply and demand (net percentage)*



*In terms of credit standards, negative net percent means easing of the credit standards. In terms of demand, negative net percent means reduced demand.
Source: NBRNM.

Chart 57
Banks' risk perceptions (net percentage)†



* In households, an average is presented of the net percentage of the risk factors influencing the lending terms when extending housing and consumer loans.

⁴² According to the Bank Lending Survey of the National Bank.

⁴³ Excluding loans of self-employed individuals.

IV. Macroeconomic environment and monetary policy in 2023 - 2025

The National Bank's⁴⁴ monetary policy will continue maintaining price stability as a primary monetary objective defined by law. In the period ahead, the National Bank will seek to maintain stable and competitive banking sector and support the general economic policies and economic recovery, amid protracted military conflict in Ukraine and uncertainty arising from the development of the COVID-19 pandemic, without jeopardizing the achievement of the primary goal. For the purposes of achieving the legally determined goal, the National Bank will keep on applying the strategy of maintaining stable nominal exchange rate against the euro. The importance of the exchange rate for maintaining price stability and stable inflation expectations of economic agents arises from the specifics of the domestic economy, as small, open and highly import-dependent. These aspects are especially important in conditions of pronounced external price pressures and shocks on the supply side. The operational monetary policy framework, as before, will be founded on a flexible basis, in order to maintain the stability and liquidity on the foreign exchange market and stabilize inflation in the medium run. Thus, the monetary policy will contribute to preserving the overall macroeconomic stability, as a key factor in creating favorable environment for sustainable economic growth.

During 2022, the National Bank, in conditions of constant price pressures, in order to maintain the stability of the exchange rate and stabilize the medium-term inflation, continued to adjust the monetary policy, which started from the end of 2021. From April 2022, down to the end of the year, the policy rate of the National Bank increased on several occasions, by a total of 3.50 percentage points, and at the end of 2022 it reached 4.75%. In accordance with the increase in the policy rate, higher interest rates were also applied to overnight credit. In addition, the interest rates on overnight and seven-day deposit facilities also increased and at the end of 2022 they equaled 2.65% and 2.70%, respectively. The tightening of the monetary policy aims to stabilize inflation expectations caused by external price shocks, which exist for a longer period. Given the monetary strategy of a stable exchange rate of the denar against the euro, the changes in the domestic monetary policy also reflect the changes in the monetary policy of the European Central Bank. During the year, additional measures were undertaken, aimed at enhancing the monetary signals, which contribute to further support of the denarization process in the economy. Thus, the reserve requirement was subject to changes (on three occasions) by separating the reserve requirement rates from currency aspect, whereby the reserve requirement rate for denar liabilities decreased, while the reserve requirement rate for liabilities in foreign currency increased. These measures are expected to affect positively the currency structure of deposits in the banking system, by encouraging the savings in domestic currency, which is also in accordance with the national Denarization Strategy of the Macedonian economy. Also, a non-standard measure was applied for encouraging lending to projects related to domestic production of electricity from renewable sources. Such decision reduces the basis for allocating reserve requirement in denars of banks, by the amount of new loans for financing projects for domestic production of electricity from renewable sources. Thus, in conditions of energy crisis and strong growth of the global prices of electricity, which also affect the foreign exchange market, but also the domestic prices and the standard of living, the National Bank contributes to mitigating the pressures and the structural problems in the economy. In addition, this measure also supports the "green finance" and the sustainable financing, as a strategic objective in the latest Strategic Plan of the central bank. During the year, additional systemic measures were adopted to further strengthen the resilience of the banking system.

⁴⁴ This section gives a review of the macroeconomic forecasts of the National Bank from October 2022.

According to the latest official macroeconomic forecasts of the National Bank, the post-pandemic recovery of the domestic economy is slower, amid deteriorated economic prospects due to the war in Ukraine and deepening of the energy crisis, which also reflects on the consumer prices and consequently leads to lower forecasted economic growth rates, compared to previous expectations. The revision reflects the expectations for slower growth of our major trading partners, the impact of the higher inflation, the tightened terms of financing, the hindered supply chains and the increased uncertainty associated with the Russian invasion of Ukraine. Given the great uncertainty and volatility of the environment, two scenarios have been prepared. According to the baseline scenario, the growth in 2023 would amount to 2.6%, whereby it would also be supported by the announced public infrastructure cycle, but also the investments and the expansion of the capacities in part of the export sector. In case of absence of these expected effects, and in circumstances when the contribution of external demand is expected to be smaller, the economic outlook may be less favorable, whereby the alternative scenario shows further deceleration, i.e. reduction of the growth rate to 1.8% in 2023. According to the assumptions for gradual exhaustion of the effects of current external shocks on the global and domestic economy, easing of inflationary pressures, reduction of uncertainty and restoration of the confidence of economic agents, the GDP growth is expected to increase to 3.6% in 2024 and to 4% in 2025. Analyzing the GDP structure, domestic demand is expected to have positive contribution to growth in 2023, with a small positive contribution from net exports in 2024.

After the high growth in consumer prices in 2022, when downward adjustments were made to import prices, for 2023 inflation is expected to slow down. Also, as a result of the announced measures for subsidizing the price of electricity for the food industry by the government for the period while the crisis situation in the electricity supply lasts, as well as due to the effects of the gradual tightening of the monetary policy, inflation is expected to amount to 8 - 9%, depending on the strength of the increase in electricity prices on the regulated market. In the medium run, inflation will continue to stabilize, reducing to the level of 2.4% and 2% in 2024 and 2025, given an assumption of a full exhaustion of the effects of the current increase in the prices of primary food and energy products on the world market and absence of new shocks on the supply side. However, in conditions of significant variations in the movement of the world prices of primary products, caused by the war in Ukraine and the sanctions against Russia imposed by most of the countries in the world, the uncertainty in relation to the future price movements is extremely high.

Estimates of external sector developments in the period 2023 - 2025 point to an average current account deficit of 3% of GDP, after the pronounced expansion in 2022 as a result of protracted unconducive terms of trade caused by the increase in import prices, especially energy and food. For 2023, the current account deficit is expected to narrow to 5.6% of GDP, mainly due to the narrowing of the negative balance in the trade in goods and services. Namely, the negative effects of the war in Ukraine are expected to spill over into 2023, while the primary commodity markets would stabilize. Thus, the reduced domestic demand for energy and the increased domestic production will contribute to a gradual narrowing of the energy deficit, while the solid export performances of the automotive sector and the recovery of the metal processing industry, as well as the lower consumption and investment imports would contribute to further narrowing of the non-energy trade deficit and simultaneously to lower total deficit on an annual basis. Also, it is expected that the good performances in the exports of services will continue in 2023 which would further increase the surplus in this category. For 2024, the current account deficit is expected to further decrease to 2.1% of GDP and to 1.2% of GDP in 2025. The forecasted net inflows in the financial account are expected to fully finance the current transactions in the period 2023 - 2025 and

to further increase the foreign reserves. It is expected that most of the financial flows will result from the government external borrowing and foreign direct investments. Foreign reserves adequacy indicators point to their maintenance in the safe zone during the entire period of forecasts.

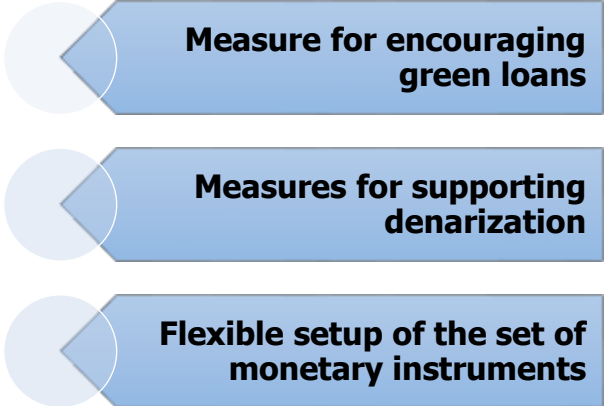
Credit activity of the banking system is still considered a great supporter of economic growth. For 2023, a credit growth rate of 7.1% is expected, amid less favorable financial conditions and an adverse effect of the further uncertainty and the slower economic activity, while in the medium run the lending activity is expected to stabilize, at an average growth rate of 7.5%. Credit growth will continue to be supported by the deposit growth as the main source of bank financing. With the stabilization of the flows and the effect of the National Bank measures for encouraging denar savings, for 2023 the deposit growth is expected to moderately accelerate to 6.5%. The enhanced economic activity and the increased purchasing power of the households, in the coming period (2024 - 2025), are expected to result in a solid deposit growth on average of about 8%.

The uncertainty and risks for the world and domestic economy in the short and in the medium run are still downward and pronounced. The further geopolitical tensions arising from the military invasion of Russia over Ukraine, as well as the COVID-19 pandemic that has not yet been fully overcome, deteriorate the global environment, adversely affect the economic outlook and create further pressures on world prices, primarily the energy and food product markets. Stronger tightening of global financing conditions will be an additional factor that will limit the economic activity, given the intensified and enduring rise of inflation worldwide.

In the fiscal area, there are expectations for gradual budget consolidation in the medium term. Budget deficit would be financed from both domestic and external sources. The set fiscal policy is accompanied by risks which, as with the monetary policy, result from the impact of the geopolitical developments on the global economic activity and the world prices, from the prospects for overcoming the pandemic, as well as from the changes in the financial conditions and the situation of the international financial markets.

The National Bank carefully monitors the macroeconomic data and the potential risks from the domestic and external environment and is prepared to use all the necessary instruments and to take measures that will contribute to maintenance of the stability of the exchange rate, stabilization of inflation expectations and to medium-term price stability.

V. Monetary instruments



Measure for encouraging green loans

Measures for supporting denarization

Flexible setup of the set of monetary instruments

Amid pronounced unfavorable impact of the war in Ukraine on the domestic macroeconomic environment, the National Bank in 2022 continued the cycle of normalization of the monetary policy it started at the end of the previous year, actively managing the liquidity in domestic currency through the interventions on the foreign exchange market, and from April 2022 it also started the cycle of tightening of the monetary conditions by increasing the interest rates. The National Bank interventions on the foreign exchange market, where the pressures were registered at the end of 2021, enabled maintenance of the stability of the Denar exchange rate. In order to ensure medium-term price stability, and in conditions of pronounced inflationary pressures caused by the high prices of energy and food in world markets, which also raised the inflation expectations of domestic economic agents, the National Bank, on eight consecutive occasions, during 2022 increased the policy rate by a total of 3.50 percentage points, to the level of 4.75%. At the same time, the interest rates on overnight and seven-day deposit facilities also increased, which at the end of the year equaled 2.65% and 2.70%, respectively. Such monetary setup was also supported by the few changes in the reserve requirement, which were aimed at encouraging denar savings. Faced with the energy crisis and the need for structural adjustment of the domestic economy, the National Bank introduced a new non-standard measure in the reserve requirement, which enables target credit support to the domestic production of electricity from renewable sources.

At the beginning of 2022, the prolonged uncertainty as a result of the outbreak of the military conflict in Ukraine and the sanctions against Russia, further deteriorated the already disturbed global supply chains, the primary commodity markets and deepened the global energy crisis. The new circumstances increased the price pressures and reflected on the domestic foreign exchange market developments. The changes in the foreign exchange market segment that were characterized by increased demand for foreign currency were driven by energy companies, as a result of the higher energy prices on the world markets. These market developments, as well as the upward dynamics of inflation at the international level, which also reflected on domestic prices, increased the uncertainty raising the inflation expectations of households and increasing their propensity to hold foreign currency. Consequently, these circumstances created temporary pressures on the foreign exchange and currency exchange market, which were overcome through the National Bank's timely and decisive response. Namely, the National Bank was present on the foreign exchange market by meeting the increased demand for foreign currency and had strengthened communication with the public to stabilize the expectations, which maintained the stability of the Denar exchange rate. The presence of the National Bank on the foreign exchange market, supported by the solid level of foreign reserves, maintained the foreign currency liquidity of the banking

system at an appropriate level⁴⁵. In these conditions, the National Bank was additionally supported by the extension of the repo line with the ECB for providing foreign currency liquidity in euros⁴⁶, from which in 2022 no funds were used due to the satisfactory level and adequate liquidity of foreign assets. The National Bank interventions for sale of foreign currency in the first half of the year (Euro 403.5 million), which were used as an instrument to actively manage liquidity in the banking system, contributed to reducing the free denar assets of the banks. To maintain the optimum level of liquidity, other monetary instruments were used. First, the banks withdrew part of the funds placed in overnight deposit facilities with the National Bank and used them to purchase foreign assets, so that the average stock of this short-term instrument in the first two quarters of the year decreased by about Denar 9 billion. Such manner of managing liquidity stems from the character of deposit facilities, which enable flexibility in the management of short-term liquidity changes and high availability of funds. When managing liquidity changes, banks also used part of the funds placed in CB bills. Thus, at the auctions of the main instrument, the demand on average was lower by about 25% than the supply, which during the year the National Bank maintained at the level of Denar 10 billion⁴⁷. To compensate the reduced liquidity potential in denars, the banks in the second quarter of the year, although in relatively small amounts⁴⁸, provided funds from the National Bank and through the repo operations for creating liquidity, which are conducted on a weekly basis.

In response to the increased propensity to save in foreign currency, the National Bank also took target measures, i.e. made changes to the reserve requirement system, intended for further encouraging the savings in denars, which would be achieved through appropriate changes in the interest rate policy of the banks. Thus, at the beginning of April and in June⁴⁹ the National Bank reduced the reserve requirement rate from denar liabilities from 8% to 5% and also increased the reserve requirement rate from liabilities in foreign currency from 15% to 18%. The lower liability for reserve requirement in denars due to the application of lower rates released around Denar 7 billion in the banking system, which compensated part of the reduced liquidity of banks. To strengthen the effect of the separation of the rates from currency aspect, the National Bank increased the part of the reserve requirement in foreign currency that banks meet in euros, from 70% to 75%, and for the purpose of more flexible management of foreign currency liquidity, it also increased the part of the reserve requirement in euros that is met on an average basis, from 5% to 10%.

Because of the growing import price pressures, which are the input component in several categories of products and affected inflation expectations, from April, the National Bank responded by tightening monetary conditions and increasing interest rates. Thus, on eight consecutive occasions, the policy rate on CB bills increased by a total of 3.50 percentage points, to the level of 4.75%⁵⁰. The changes in the reference interest rate were supplemented with an increase in the interest rate on seven-day deposit facilities by a total of 2.40

⁴⁵ The foreign exchange liquidity management by banks included the possibility to place 1- and 3-month risk-free placements in euros with the National Bank. Banks had a moderate interest in placing funds in this instrument, which the National Bank launched in August 2020.

⁴⁶ In August 2020, the ECB established a repo line for the National Bank to provide foreign currency liquidity in the amount of Euro 400 million. In 2022, due to the global consequences from the Russian-Ukrainian crisis, the ECB extended the possibility of using the repo line on two occasions, until January 2024.

⁴⁷ At the auctions of CB bills, which are held on the first day of the reserve requirement maintenance periods, volume tender was used (offered amount of the CB bills and fixed interest rate).

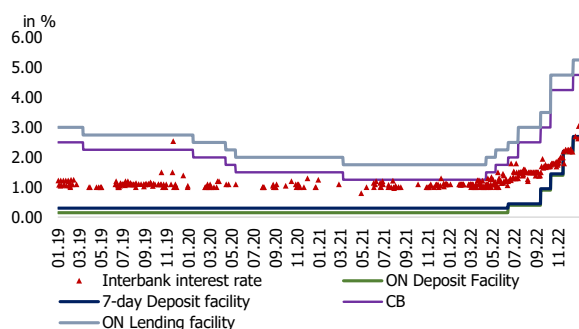
⁴⁸ The average demand was relatively low and accounted for about 3.6% of the total stock of monetary instruments.

⁴⁹ In November, but with application from January 2023, the banks' reserve requirement rate for liabilities in foreign currency increased from 18% to 19%, and the part of the reserve requirement in foreign currency that banks meet in euros, increased from 75% to 77%.

⁵⁰ Consequently, higher interest rates were applied to both liquidity repo auctions and overnight loan facilities, whose interest rate is equal to or by 0.5 percentage points exceeds the CB bills interest rate, respectively.

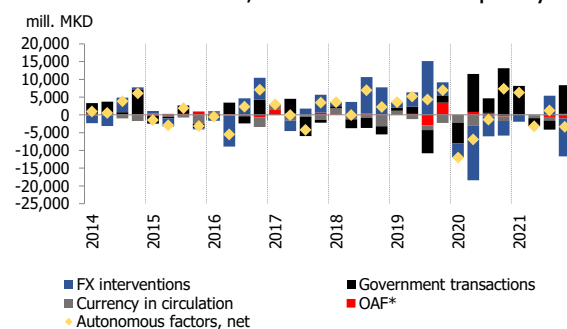
percentage points to the level of 2.70%, and the interest rate on overnight deposit facilities increased by 2.50 percentage points to the level of 2.65%.

Chart 58
Interest rate corridor



* 7DF - seven-day deposit facility; OD - overnight deposit facility; OL - overnight credit facility

Chart 59
Autonomous factors, effect on banks' liquidity



* OAF – other autonomous factors

Chart 60
CB bills and banks' excess liquidity⁵¹



Chart 61
Monetary policy instruments



Source: NBRNM.

Foreign exchange market developments significantly improved in the second half of the year. The companies from the electrical energy activity had a reduced need for foreign assets, which was largely offset by the increased foreign exchange inflows from private transfers in the summer months, which exceeded the pre-crisis level. Also, the reduced propensity of households to hold foreign currency led to constant increase in the net supply of foreign currency from these entities. In such circumstances, the banks' foreign currency liquidity significantly improved, due to which the National Bank from July to December intervened with net purchase of the excess foreign assets from the banking system (Euro 245.5 million), which created denar liquidity in an appropriate amount. In the same period, the increased volume of budget assistance for financial support to the energy sector, especially in the last quarter of the year, led to further growth of banks' liquid assets in domestic currency. Just because of the high amount of free funds, from August the banks did not need to provide funds from the National Bank through repo auctions to create liquidity. The solid and relatively high liquidity position also contributed to constant increase in the interest of banks to increase the placements in CB bills, so that the demand at the end of the year was only moderately lower than the offered amount of the National Bank. Banks continued to

⁵¹ Banks' excess liquidity refers to the first day of the reserve maintenance period when the CB bills auction is held and represents the sum of the stock of the banks' accounts with the National Bank, the matured CB bills and deposit facilities with the NBRNM on that day as well as the claims on the money market, reduced by the money market liabilities and the level of reserve requirement for the forthcoming period.

channel most of the excess funds to overnight deposit facilities with the National Bank, so that the average stock of this instrument gradually increased and at the end of the year reached Denar 34.5 billion, which is about the level from December 2021⁵².

Box 1. Developments on the Foreign Exchange Market⁵³ and National Bank Interventions

In 2022, on the foreign exchange market in the banks' transactions with clients there was an increased net sale of foreign currency, which corresponded with the external economic environment of the domestic economy, and the exchange rates of all segments of the foreign exchange market remained at a stable level. Namely, the growth of the prices of energy on international markets, which intensified with the escalation of the geopolitical tensions at the beginning of the year due to the military intervention on Ukraine, led to a significant growth of the import prices of commodity products (especially of energy, metals and cereals), some of which reached historically highest levels. These developments on the global markets had a significant influence on the foreign trade of the domestic economy and reflected strongly on the supply of and demand for foreign currency from domestic companies.

Chart 62
Net sale of foreign currency of banks for their clients

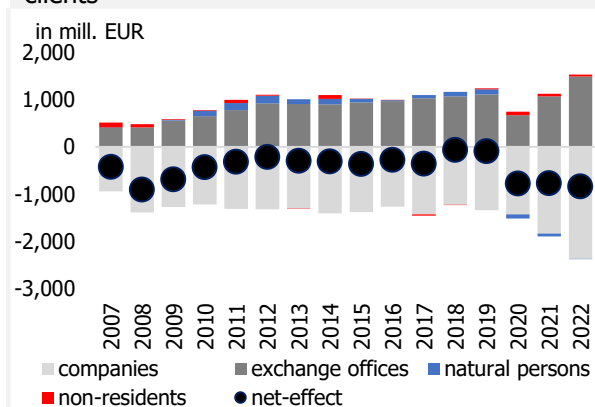


Chart 63
Annual growth in the supply of and demand of foreign currency, by client

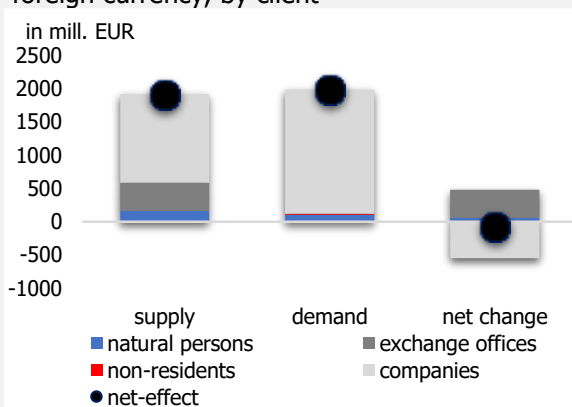


Chart 64
Demand for foreign currency by companies on the foreign exchange market, by quarters

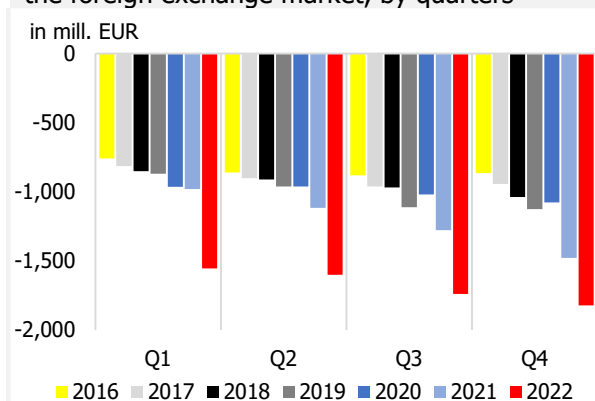
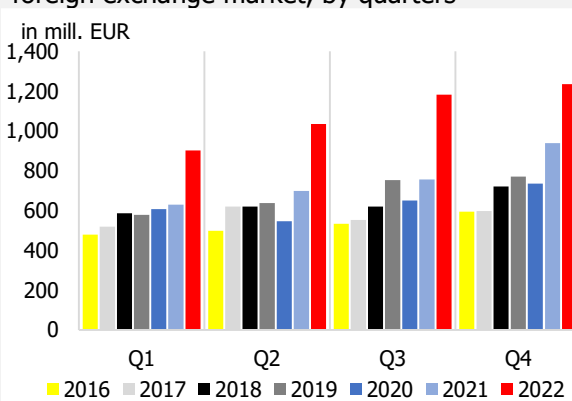


Chart 65
Supply of foreign currency by companies on the foreign exchange market, by quarters



Source: NBRNM.

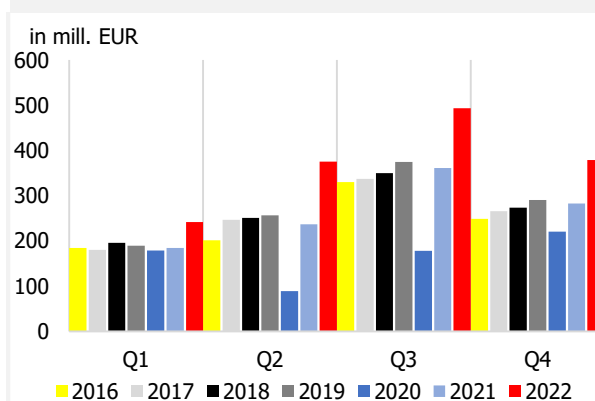
⁵² The placements in seven-day deposit facilities with the National Bank gradually and moderately grew, but their share in the total stock of monetary instruments at the end of the year was still relatively low, about 5%.

⁵³ The foreign exchange market within this analysis encompasses the transactions between the banks and their clients and interbank trading.

Namely, the need for foreign currency liquidity from the companies for production of and trade in oil and electricity contributes to around 60% of the higher (by Euro 1.7 billion) annual demand for foreign currency from the corporate sector, mostly due to the price effect. The upward dynamics of commodities and food prices globally also contributed to a higher demand for foreign currency from companies for trade and production of food, beverages and tobacco and wholesale trade. The companies for trade and distribution of electricity made the largest contribution (around 18%) to the annual growth of the supply of foreign currency (which equals Euro 1.3 billion), followed by the companies from the metal and automotive industry and the information sector companies. Amid higher annual growth of demand, the net sale of foreign currency of banks for the needs of the corporate sector was historically highest (on an annual basis higher by Euro 533 million) and contributed to deepening the trade deficit in the balance of payments.

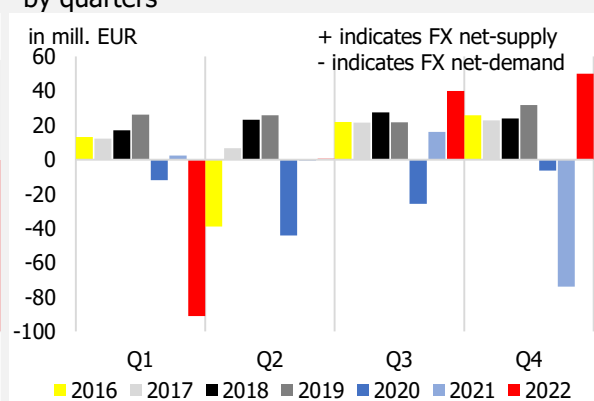
Part of the increased demand for foreign currency liquidity from the corporate sector was met by the supply of foreign assets by natural persons on the foreign exchange and currency exchange market, which, although it was higher on an annual basis, had different dynamics during the year. On the foreign exchange market, in the transactions with natural persons, banks had a balanced position, which is significantly better performance compared to 2021 and 2020, when banks sold foreign currency on a net basis. Dynamically speaking, in the first quarter of the year, natural persons had a net need for foreign assets, which reflects their propensity to hold foreign currency. By the end of the year, the households' expectations fully stabilized, which is also confirmed by the significant net supply of foreign currency from these entities. On the currency exchange market (especially in the transactions with exchange offices), the supply of foreign currency from natural persons throughout the year was significantly higher than the pre-pandemic period and contributed to a significant increase (by about 40% or by Euro 423.3 million, on an annual basis) in the excess foreign assets that exchange offices offer to domestic banks.

Chart 66
Banks' purchase of foreign currency from exchange offices, by quarter



Source: NBRNM.

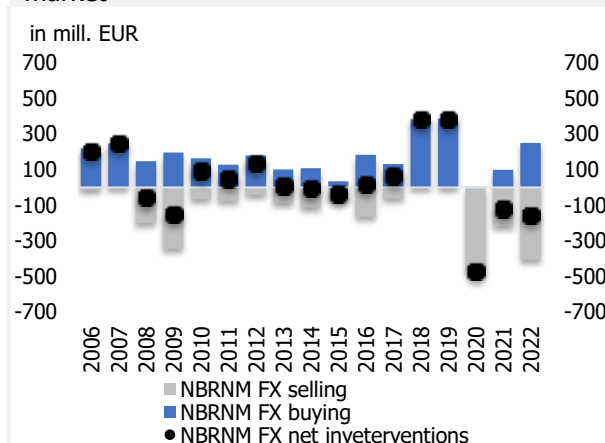
Chart 67
Net-supply of / demand for foreign currency by natural persons on the foreign exchange market, by quarters



In 2022, the banks made net sales of foreign currency for the needs of their clients in the amount of Euro 841 million, which is more by Euro 72 million on an annual basis. Taking into account that banks provided most of the necessary foreign exchange liquid assets from their own sources, but also on the interbank foreign exchange market (turnover of Euro 1,033 million), the National Bank's net sale of foreign currency in 2022 (Euro 158 million) was only moderately higher on an annual basis and four times lower compared to 2020. Given that the pressure on the foreign exchange market from the energy crisis and the military actions in Ukraine was most evident in the first quarter of the year, the National Bank in the first six months intervened with sale of Euro 403.5 million. In addition to the interventions and the undertaken monetary actions, the National Bank during this period also acted through strengthened communication to normalize the expectations of domestic entities and maintain stability of the exchange rate of the denar against the euro. Due to the improved market trends and the solid foreign currency liquidity of banks in the second half of the year, the National Bank in the remaining period intervened with net purchase of a relatively high amount of Euro 245.5 million. The National Bank comfort to participate in the foreign exchange market was supported by the solid and

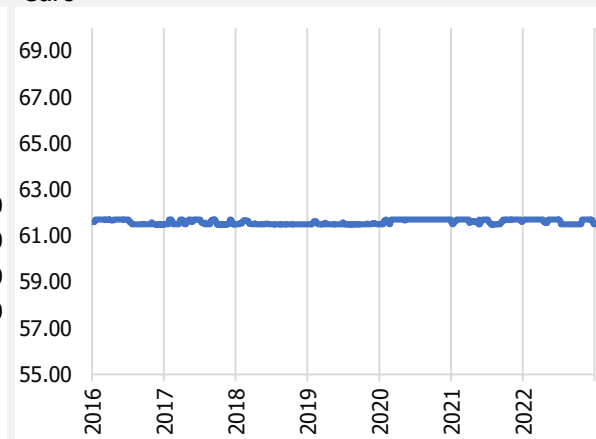
adequate level of foreign reserves, whereby the exchange rate of the denar against the euro remained stable.

Chart 68
NBRNM interventions on the foreign exchange market



Source: NBRNM.

Chart 69
Middle exchange rate of the denar against the euro

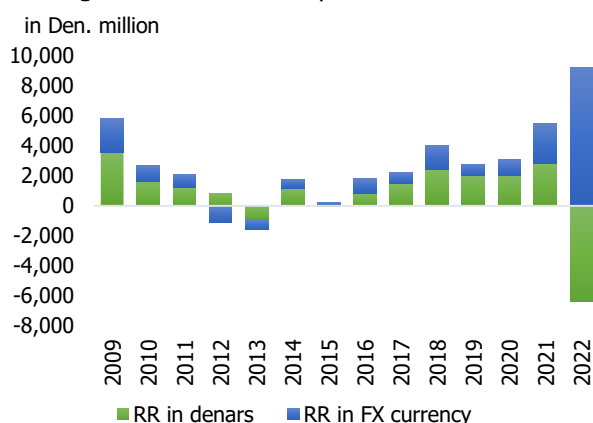


Besides the changes in the reserve requirement system in order to stimulate the savings in denars, the National Bank in October introduced a new non-standard measure, which provides target support to ease the credit conditions, this time for domestic production of electricity from renewable sources. The measure aims to mitigate the pressure from the energy crisis, encourage structural changes in the domestic economy and support sustainable financing. The measure reduces the banks' reserve requirement base in denars for the amount of new loans for financing projects for domestic production of electricity from renewable sources. Most of the approved loans (about 96%) from the beginning of the application of the measure are long-term and are intended for constructing new facilities, while the remainder are intended for increasing the installed power of the existing facilities. The application of the non-standard measure moderately reduced the banks' liability for allocation of reserve requirement with the National Bank, by Denar 60 million.

During 2022, the National Bank also applied the non-standard measure to the reserve requirement (introduced in March 2020), which aimed to provide an uninterrupted credit support to the companies that were most affected by the health crisis⁵⁴. Banks' lending to the supported activities (service and newly added activities from 2021) in 2022 was weak, in accordance with the recovery of the situation in the supported sectors, which decreased the balance (by Denar 1,698 million) of these loans to Denar 3,998 million at the end of December. Taking into consideration these developments, the non-standard measure in 2022 contributed to higher reserve requirement in denars by Denar 147 million.

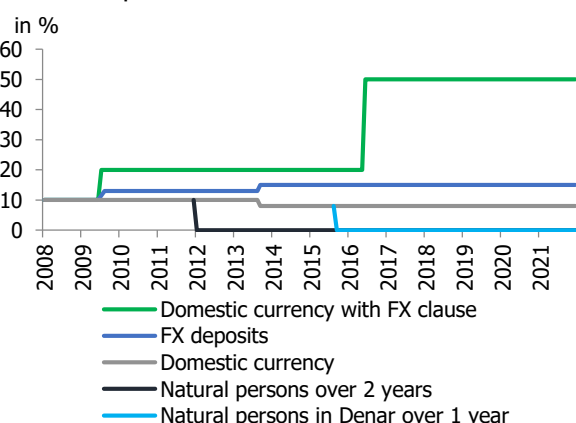
⁵⁴ The measure releases part of the liquid assets that banks allocate with the National Bank as a reserve requirement, by reducing the basis of denar liabilities for the amount of newly approved and restructured loans approved to enterprises that, according to the information from the Government of the Republic of North Macedonia, are the most affected by COVID-19.

Chart 70
Change in the reserve requirement of banks



Source: NBRNM.

Chart 71
Reserve requirement rate



The changes in denar and foreign exchange liabilities of the banks, together with the changes in the reserve requirement system, contributed to a relatively high annual growth of banks' reserve requirement, of Denar 2,799 million. Moreover, the changes in the reserve requirement from currency aspect mainly reflect the separation of the reserve requirement rates, with corresponding contribution also being made by the relatively faster growth of foreign currency liabilities relative to denar liabilities⁵⁵. Thus, with the application of lower reserve requirement rates for liabilities in domestic currency, the National Bank released about Denar 7,000 million of the liquid assets withdrawn through this instrument, which was partially offset by the moderate growth of these liabilities, whereby the reserve requirement in denars on an annual basis decreased by Denar 4,328 million (to the level of Denar 22,619 million). On the other hand, the reserve requirement that banks meet in euros registered a relatively high growth of Denar 9,225 million (reaching Denar 30,177 million at the end of the year), with the largest contribution (of about 70%) being made by the application of higher rates for liabilities in foreign currency.

Box 2. Developments on the interbank market for uncollateralized deposits and the secondary securities market⁵⁶

In 2022, banks reported a significantly higher activity in the interbank market for uncollateralized deposits (Denar 39,008 million) compared to the past three years, which is mostly explained by the reduction of the excess liquidity in the first half of the year.

⁵⁵ For more details on changes in banks' deposit base, see Monetary Aggregates.

⁵⁶ Money market analysis in North Macedonia includes uncollateralized deposit market, secondary market of short-term securities and long-term government securities (excluding structural bonds), secured deposits market (repo market).

Chart 72
Turnover on the unsecured interbank deposit market

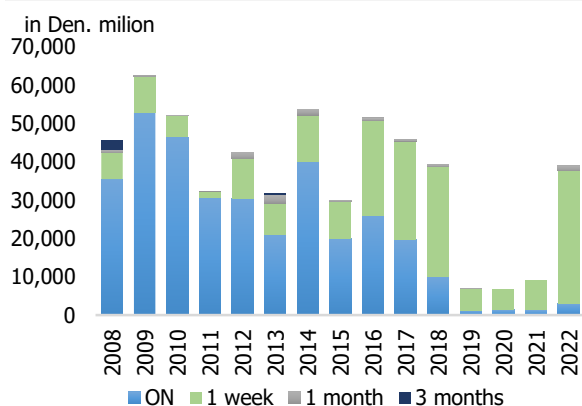
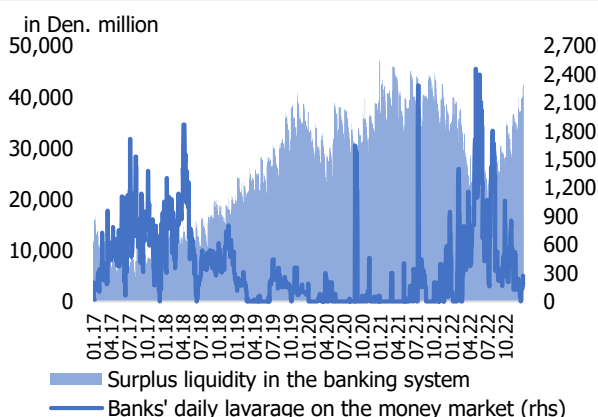


Chart 73
Excess liquidity in the banking system and bank indebtedness



Source: NBRNM.

Regarding the maturity structure of traded uncollateralized deposits, also in 2022, banks provided most of the short-term needs for denar funds from uncollateralized deposits with maturity up to one week, whose share was historically highest (89%) and significantly above the amount of overnight credits (which account for about 8% of total trading). Besides these two maturities, after a break of two years, several transactions with uncollateralized deposits with maturity up to one month were also performed, whose share in the total volume is relatively low (3%). The maturity structure of trading, as well as the higher demand for liquid assets of banks, mainly concentrated in the period April - June, also reflected on the average daily indebtedness of the interbank market (around Denar 670 million), which was higher by almost five times on an annual basis.

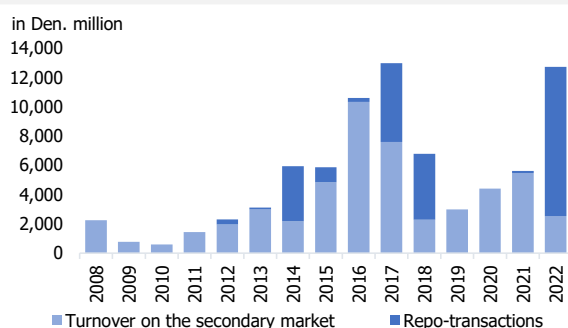
The interest rates in the market for uncollateralized interbank deposits in 2022 followed the cycle of changing interest rates of the National Bank. Namely, the average interbank interest rate on all transactions (MBKS) at the end of the year was 2.54% and was higher by 1.45 percentage points compared to December 2021. The interest rate on the most traded interbank uncollateralized loans with maturity of 1 week, was also higher, by 1.46 percentage points on an annual basis, which reached 2.55% at the end of the year and moved around the interest rate on seven-day deposit facilities of the National Bank. Due to the occasional need for trading with overnight uncollateralized deposits and the increased preferences for trading with maturity up to 1 week, in 2022, a small number of transactions were performed (only 2% of the total traded amount) which are used for calculation of the interest rate MKDONIA, whose average level (1.30%) was moderately higher (by 0.33 percentage points) compared to 2021.

When managing liquidity, banks were also active on the secondary market, where the volume of traded securities in 2022 amounted to Denar 12,726 million and was twice higher compared to the previous year. In terms of the types of transactions, the increased turnover is entirely due to the transactions on the repo market, where the turnover reached its historically highest level of Denar 10,199 million. Transactions for purchase and sale of CB bills prevail in the total turnover, with around 60%, while the share of transactions with government securities is more moderate. Dynamically speaking, repo transactions were present only in the first seven months of the year, while in the remaining period these types of transactions were not present on the money market given the improved liquidity position. The secondary market also reported outright purchase and sale of securities in the amount of Denar 2,527 million, lower by 54% on an annual basis, due to the twice lower volume of trading with government securities among banks⁵⁷. The volume of transactions with government securities, where at least one participant is a non-banking entity, declined for the second consecutive year and reached the lowest level in the last eight years. Trading with government securities on the repo market contributes to a moderate growth of the share (about 0.04%) of the traded government securities on the secondary market in the total amount of government securities issued in the country, but the share

⁵⁷ In 2022, only one transaction for outright sale of CB bills in the amount of Denar 950 million was concluded.

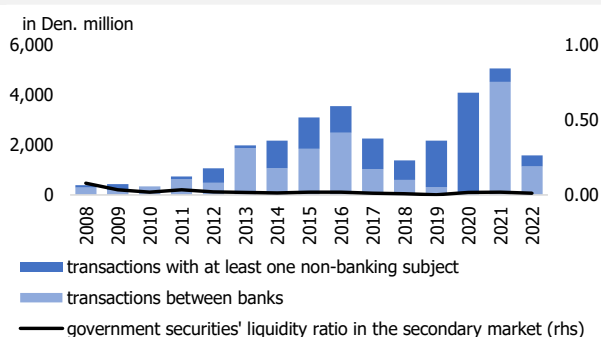
remains relatively low and points to further low liquidity of these instruments on the domestic financial markets.

Chart 74
Turnover on the secondary securities market



Source: NBRNM.

Chart 75
Structure of outright government securities transactions⁵⁸



⁵⁸ The liquidity ratio of government securities is the ratio between the turnover from government securities transactions on the secondary market during the year and the average stock of government securities issued in the same period.

VI. Managing and investing foreign reserves



In 2022, the foreign reserves of the Republic of North Macedonia (hereinafter referred to as: the foreign reserves) were maintained in the safe zone, which enabled meeting the demand on the domestic foreign exchange market and maintaining the stability of the exchange rate of the denar against the euro. The military conflict in Ukraine from the end of February 2022 significantly changed the global economic conditions contributing to growth of the prices of food and energy. Global inflationary pressures imposed a need for start of the cycle of tightening of the monetary policy of the largest central banks, and accordingly adjustment of the investment strategy of the National Bank. Challenges associated with the growing inflation and the energy crisis were also present in the domestic economy, resulting in a significant impact on foreign trade and consequently, in a strong growth of the demand for foreign currency from domestic companies. In such circumstances, maintaining a high level of foreign reserves, according to all international standards, contributed for the National Bank to adequately meet the liquidity requirements and to ensure protection of the exchange rate of the denar. Hence, foreign reserves management in 2022 was extremely prudent, adjusting the investment decisions to the volatile developments in the domestic foreign exchange market and the international financial markets, which enabled further achievement of the core principles: security and liquidity of foreign reserves.

6.1. Foreign reserves stock and flow

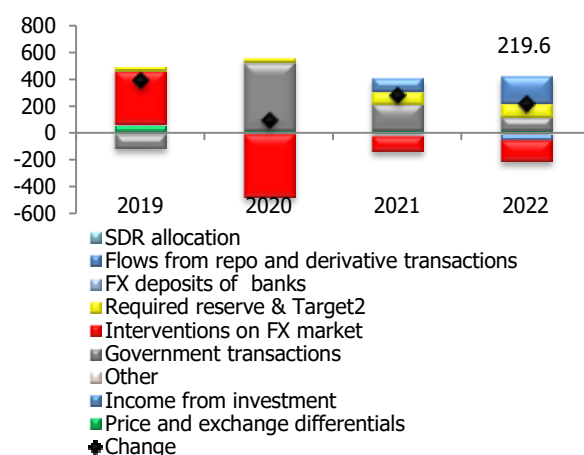
In 2022, foreign reserves increased by Euro 219.6 million and at the end of the year reached Euro 3,863 million. The growth of foreign reserves was due to the net inflows of the government from international transactions in the amount of Euro 99.8 million⁵⁹, as well as the higher reserve requirement allocated in euros and the funds of domestic banks on the accounts in MIPS-EUR (Euro 99.3 million). A smaller contribution to the change in foreign reserves was made by the growth of the value of the US dollar⁶⁰, amid propensity of investors to invest in safe instruments, given the increased concern from recession and expectations for significant tightening of the Fed's monetary policy. The growth of foreign reserves largely resulted from the inflows of the concluded standard repo transactions (Euro 227.8 million), which apply in the active foreign reserves management. Namely, in addition to the regular lending of securities through simultaneous standard and reverse repo transactions in the same amount, at the end of the third quarter, additional standard repo transactions were also concluded, driven by the high demand for high-quality securities in the foreign reserves, which increased the foreign reserves. The National Bank's net sale on the foreign exchange market

⁵⁹ At the end of September and in November, the government borrowed Euro 246 million through registered securities (NSV) and took out a loan from the IMF of Euro 107 million.

⁶⁰ The US dollar appreciated against the euro by 6%, which increased the value of gold in foreign reserves by 5.9%, despite the annual decline in the price in US dollars of 0.4%.

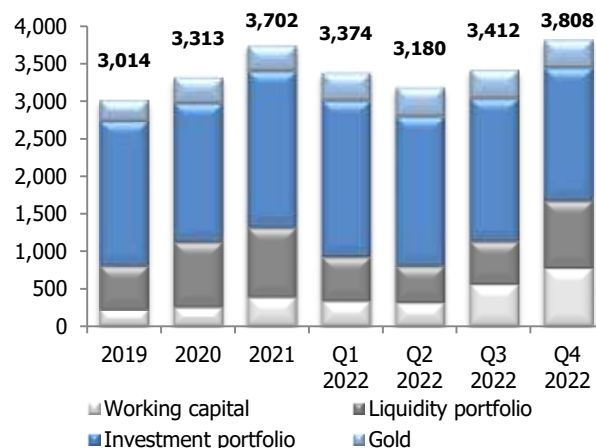
acted in the opposite direction, amid increased demand for foreign currency led by the energy sector companies, as a result of the higher prices of energy on the world markets. Namely, the uncertainty which arose as a result of the outbreak of the military conflict in Ukraine and the sanctions against Russia further deteriorated the already disturbed global supply chains and the primary commodity markets and deepened the global energy crisis. Such circumstances increased the price pressures and reflected on the developments on the domestic foreign exchange market, resulting in interventions aimed at net sale of Euro 158.2 million.

Chart 76
Foreign reserves growth factors,
in millions of euros



Source: NBRNM.

Chart 77
Foreign Reserves Tranching average level,
in millions of euros



In 2022, foreign reserves were allocated in three tranches (operating, liquidity and investment tranches), the volume of which was actively adjusted according to the short-term needs for liquid foreign exchange assets on the domestic foreign exchange market and future repayments of external public debt. Besides for short-term liquidity needs, the funds in the operating tranches were maintained at a relatively higher level while expecting more favorable investment conditions, amid normalization of the monetary policy of the most influential central banks. Within the foreign reserves, there was a special tranche to manage gold whose security and liquidity is particularly pronounced in conditions of fluctuating movements in the financial markets.

6.2. International financial markets and active approach to foreign reserves management

The growth of the prices of food and energy, as a result of the war in Ukraine and the global growth of the prices in the services sector, contributed to the highest inflation in the last forty years worldwide, whereby its growth in 2022 exceeded the expectations of most of the economies. After the initial perceptions for a "temporary" character of the price growth, the largest central banks faced endurance of an upward trend of inflation, which increased the reference interest rates on several occasions and in a relatively large volume. Moreover, the Federal Reserve System - FED in 2022 increased its policy rate by a total of 425 basis points⁶¹. In Europe, inflation was even greater threat due to the shortage of energy and the high prices of energy, primarily natural gas, so that the European Central Bank also tightened the monetary policy in the second half of the year. The ECB increased the reference interest

⁶¹ The Fed's target interest rate spread at the end of 2021 was 0% - 0.25%, and 4.25 - 4.5% at the end of 2022.

rate on the main refinancing operations (MRO) on four occasions, from 0% at the end of 2021 to 2.5% at the end of 2022, but remains partially flexible in the implementation of monetary policy amid great uncertainty in relation to the future path of inflation. Such more intensive tightening of monetary policy raised the investors' expectations for an upward trajectory of interest rates and caused further uncertainty and increased volatility in international financial markets.

The intensive growth of interest rates and the restrictive views of monetary authorities with respect to the commitment for further significant tightening of monetary policy, increased the yields of the instruments with fixed income and consequently, decreased their market value. The growth of the yields of the safest bonds in the euro area exceeded 300 basis points on an annual basis. Amid high volatility in markets and expected further growth of yields and for a more prudent approach to investing, in the third quarter of the year, the National Bank reduced the adjusted duration of trading portfolios in order to take a lower interest risk. Such more prudent approach to investing ensures protection of portfolios against possible growth of yields, greater liquidity potential, as well as possibility of investing at higher yields in the future.

Challenges associated with the inflationary pressures and the energy crisis were also present in the domestic economy, which in the first half of the year caused an increased need for foreign currency on the domestic foreign exchange market by the corporate sector. In such circumstances, the National Bank ensured the stability of the exchange rate of the denar through interventions for sale of foreign currency to domestic banks. Such circumstances imposed a need for maintaining a high level of funds on the accounts with central banks, which in turn ensured protection against further growth of yields. The growth of yields in 2022 (which were positive for the first time since 2014) caused a temporary decrease in the market value of securities with fixed income, but on the other hand, positively affected the new investments in financial instruments and consequently, the expected financial results in the coming years. Volatility of yields and currencies in the past year increased market risks, which limited the opportunities for longer-term investments. In such circumstances, and in order to provide predictable and relatively high revenues, during the year the new investments were mainly directed towards the investment portfolio to maturity⁶². Also, the investments in "sustainable" bonds moderately increased, which increased their share in foreign reserves. Such investments are in accordance with the National Bank commitment to responsible investment in financial instruments that support environmental projects and to deal with any climate risks.

Additional revenues were also generated through the active foreign reserves management, by short-term lending of bonds on the market of repo transactions amid simultaneous placement of the received funds in higher-yield-bearing short-term instruments on the money market, by lending securities on a collateralized basis and concluding repo and reverse repo transactions, forward (swap) gold transactions, as well as transactions with futures contracts dependent on the change in the prices of securities.

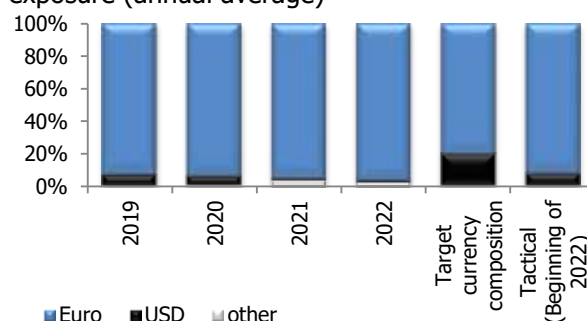
⁶² Securities classified in financial instruments measured at amortized cost.

6.3. Foreign reserves structure

In 2022, the **currency structure** of foreign reserves was further dominated by assets invested in financial instruments in euros with an average share of about 96%⁶⁴, which is in line with the monetary strategy of a stable exchange rate of the denar against the euro. The rest of the foreign reserves was composed of Japanese yens from the concluded collateralized transactions, as well as the instruments in US dollars.

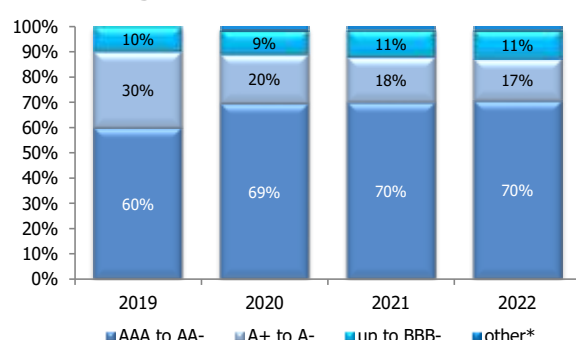
The prudent and active approach of foreign reserves management, which included orientation towards the safest financial instruments in order to meet the principle of security of foreign reserves, contributed to maintaining the average share of the instruments issued by issuers/countries with the **highest credit rating** (of AAA to AA-) at about 70%. These instruments have the lowest credit risk exposure and are considered the safest investments. In order to realize a higher return on the investments and preserve the value of foreign reserves, part of the investments (about 17% on average) were invested in instruments with a credit rating of A+ to A-. Most of these instruments are issued by member states of the euro area (9.5% of foreign reserves) and securities with shorter maturities, issued by renowned commercial banks (7.5% of foreign reserves).

Chart 78
Currency structure⁶³ and foreign reserves exposure (annual average)



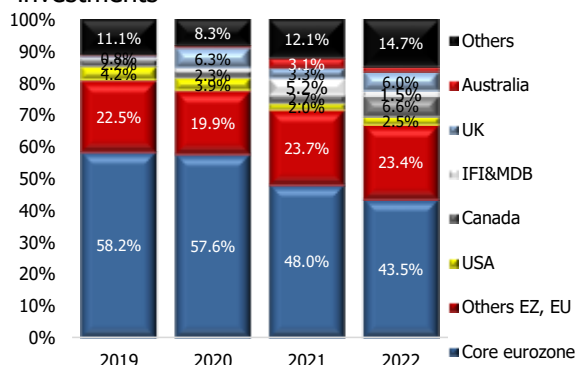
Source: NBRNM.

Chart 79
Average annual structure of investments by credit rating



*IMF, BIS are classified in the category others
Source: NBRNM.

Chart 80
Average annual geographical structure of investments



*IFI and MDB - international financial institutions and multilateral development banks

In 2022, the National Bank placed a small portion of investment within the portfolios in euros and in instruments that have moderately lower investment credit rating, but are issued or are unconditionally guaranteed by member states of the euro area. Such distribution affected the **geographical structure** of placements of foreign reserves. Thus, in 2022 most of the investments were in instruments issued by the leading economies of the euro area (on

⁶³ The target currency composition of the foreign reserves is in line with the currency structure of the interventions in the domestic foreign exchange market, government liabilities abroad, foreign trade of country and other liquidity needs. The tactical currency composition is determined based on a periodic reconsideration of the strategic allocation of foreign reserves, within the permitted deviations from the target currency composition.

⁶⁴ The currency structure is analyzed taking into account the stock of foreign reserves reduced by the amount of gold.

average 44%)⁶⁵, but also toward the other states of the euro area and the European Union (23.4%)⁶⁶, which enjoy the benefits of the support of the mutual economy, and also offer moderately higher yields.

Observing by **type of instruments in which the foreign reserves are invested**, most of the assets were still placed in securities (69.9%). The types of securities were predominated by government securities and securities issued by a state guarantee, which are considered the safest investments. The positive interest rates in the second half of 2022 increased the attractiveness of placements in deposits in central and commercial banks. Namely, the share of short-term placements in commercial banks was moderately higher than the average in 2021. Higher share was also registered in the assets on the current accounts in the central banks (about 15.7% on average), in order to provide liquidity of the foreign reserves, but also in expectation of more favorable investment conditions, in line with the forecasts for further growth of yields.

Chart 81
Investment structure, by instrument
annual average

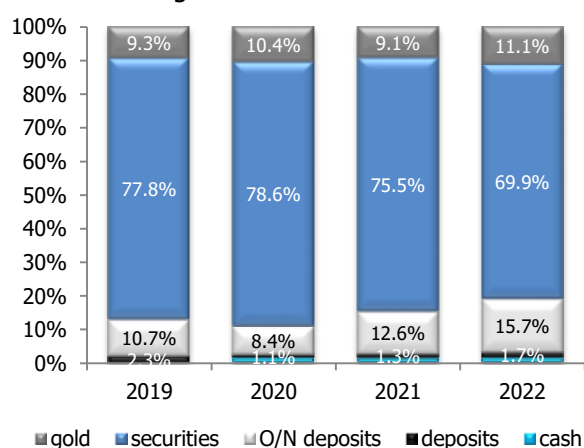
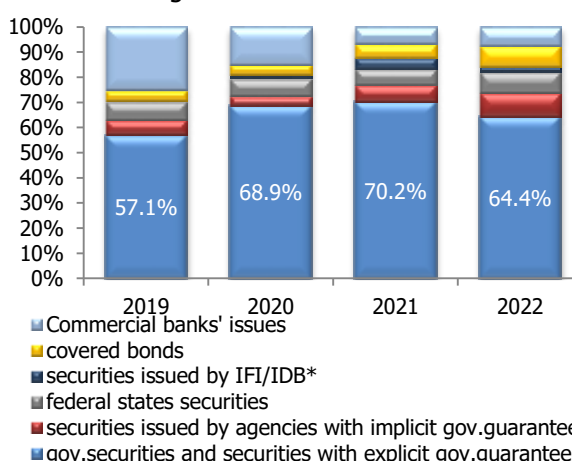


Chart 82
Structure by type of securities
annual average



Source: NBRNM.

In the composition of foreign reserves, the average share of **gold** increased from 9.1% in 2021 to 11.1% in 2022, which, amid unchanged quantity, is completely a result of the growth of the value of the US dollar⁶⁷, which increased the value of gold in foreign reserves.

⁶⁵Refer to the so-called euro area core, which includes: Germany, Austria, Luxembourg, Finland, the Netherlands, France and Belgium.

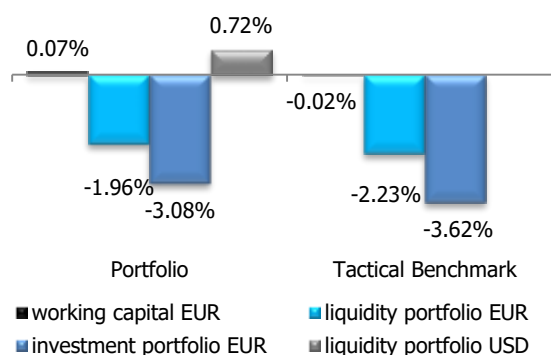
⁶⁶ "Other euro area and EU countries" include: Ireland, Italy, Portugal, Spain, Denmark, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Croatia, Czech Republic and Sweden.

⁶⁷ The value of the US dollar grew during 2022 in conditions of propensity of investors to invest in safe instruments amid increased concern from recession and expectations for significant tightening of the Fed's policy.

6.4. Results from the management and investment of foreign reserves

In order to optimize the foreign reserves management, taking into account the different liabilities and purposes of the foreign reserves in different time periods, the funds distributed in the operational and liquidity portfolio are used for the timely provision of available liquid foreign assets, while the investment portfolio aims to increase the return on foreign reserves and meet the contingent liabilities in the longer run. Consequently, in addition to the assets held on current accounts in central banks, foreign reserves are also invested in instruments with fixed income, which can be traded and amid favorable market conditions they enable realizing gains from the changes in the market value of instruments. The financial results in 2022 were mostly determined by the significant growth of the yields of the instruments with fixed income, which contributed to a temporary reduction of their market value. However, the unfavorable effect of the growth of yields, which reflected on the result for 2022, is expected to be fully compensated through the improved performances based on the investments that fall due in the forthcoming period. Also, the effect of yields was partially compensated by the favorable performances of the active management of the portfolios of foreign reserves, whereby the **total rate of return on investment and management of foreign reserves⁶⁸ was -0.21%.**

Chart 83
Return rates by tranche in 2022



The active foreign reserves management, i.e. the investment in higher-yield-bearing instruments, the choice of an appropriate moment to enter the investment and the manner of structuring the portfolios contributed to improved performances and to exceeding the results in relation to the adequate reference portfolios⁶⁹.

Analyzed by portfolios, the operational portfolio in euros makes a positive contribution to the income from investment of the foreign reserves, given the positive interest rates⁷⁰ which have been applied since the third quarter of 2022 to the assets in euros on current accounts in central banks. The investment portfolio in euros, which covers most of the foreign reserves and includes instruments with longer maturities (despite the safest instruments, it also contains investments in instruments that offer a credit risk premium) and the liquidity portfolio

⁶⁸ The rate of return on foreign reserves includes the return on investment and management of foreign reserves, including calculated price changes in securities, exchange rate changes from arbitrations of exchange and operations with gold and derivative instruments.

⁶⁹ The investment portfolio in euros is managed in relation to a reference portfolio, represented by a combination of the following reference indices published by Intercontinental Exchange® (ICE): EG6 W composed of government securities issued by member states of the euro area with credit rating of at least "AA" and with a residual maturity from zero to one year; EG61 composed of government securities issued by member states of the euro area with credit rating of at least "AA" and with a residual maturity from one to three years; and EG62 composed of government securities issued by member states of the euro area with credit rating of at least "AA" and with a residual maturity from three to five years. The basic adjusted duration of the reference portfolio corresponds to the adjusted duration of the investment portfolio.

The liquidity portfolio in euros is managed in relation to a reference portfolio, represented by a combination of the following reference indices published by Intercontinental Exchange® (ICE): EG6W composed of government securities issued by member states of the euro area, with credit rating of at least "AA" with a residual maturity from zero to one year; EG61 composed of government securities issued by member states of the euro area with credit rating of at least "AA" with a residual maturity from one to three years; and EG62 composed of government securities issued by member states of the euro area with credit rating of at least "AA" and with a residual maturity from three to five years. The basic adjusted duration of the reference portfolio corresponds to the adjusted duration of the liquidity portfolio.

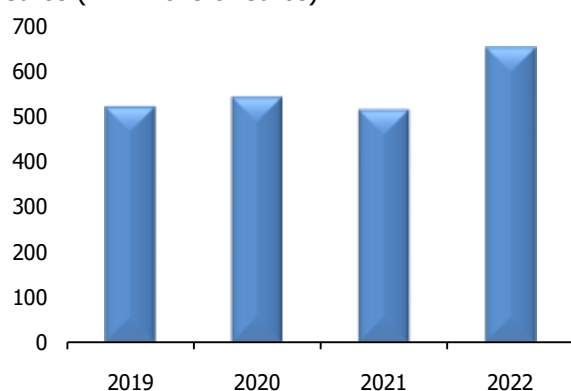
⁷⁰ For the first time from 2014 onwards, the euro area interest rates have become positive in the third quarter of 2022, when the ECB increased the reference interest rate on the refinancing operations.

in euros⁷¹, which is with a shorter duration, had negative rates of return as a result of the growth of the yields in the euro area, i.e. the temporary reduction of their market value. The liquidity portfolio in US dollars had a positive yield, due to the positive yields in the USA of the safest instruments with short maturities.

Part of the investments of the foreign reserves within the investment portfolio are also aimed at securities held to maturity. These securities, which are only for the payment of contractual cash flows, consist individual portfolio within the investment tranche and the evaluation of the results of their management is displayed in absolute amount, i.e. they are not re-evaluated at market prices. Consequently, these securities have predictable, positive and stable return at a level of the return during their acquisition and also decrease the exposure to interest rate risk. Amid volatile movements in financial markets and in order to provide predictable and relatively high income in the longer run, the level of the portfolio to maturity in euros during 2022 increased. This portfolio registered positive rates of return of 0.44%, considering that it is composed of government bonds issued by member states of the euro area that have a positive return to maturity.

Chart 84

Average value of the portfolio to maturity in euros (in millions of euros)



Return on the portfolio to maturity in euros (in percentage)



Source: NBRNM.

⁷¹ Intended to satisfy all contractual and potential outflows during one year.

VII. Payment services and payment systems

New Law on Payment Services and Payment Systems

26 bylaws

Growth of digital payments

The smooth functioning of the payment system in the country, which consists of payment service providers, payment infrastructure, payment service users and the legal framework for their execution, is one of the main legal tasks of the National Bank. The National Bank has a key operational, regulatory and oversight role in the establishment and operation of the payment systems, thereby enabling safe and efficient payments⁷². Also, the National Bank is the catalyst of the changes in payment systems and encourages the processes for integration of innovations into the existing payment system and for creation of conditions for development of new innovative solutions for making payments, guided by the world experience, especially by the experience and practices in the EU member states. In this process, the harmonization of the national with the European regulation and practices is of special interest, which, in addition to the benefits for increasing the security and efficiency of the payments in the country, provides conditions for easier joining of the country in the wider European market, i.e. in the Single Euro Payments Area (SEPA).

The most important activity in the payment area that marked 2022 is the adoption of the new Law on Payment Services and Payment Systems (LPSPS)⁷³, with enforcement from 1 January 2023. For practical enforcement of the LPSPS, the Council of the National Bank of the Republic of North Macedonia at the end of 2022 adopted 26 bylaws, which elaborate in more details the provisions of the Law. The new regulatory framework, which is significantly harmonized with the European legislation in the payment area, enables penetration of competition and innovations in the market, provides greater protection of consumers and conditions for greater financial inclusion of the population.

One of the most important benefits of the adoption of the LPSPS is the opening of the market for new payment service providers and the expansion of the set of payment services to be offered in the market. Thus, in addition to banks, savings houses will also provide payment services, while specialized institutions for providing payment services and/or for issuing electronic money through which payments would also be made, will appear as new payment service providers. The new competitive environment would motivate existing and new payment service providers and payment system operators to offer their clients innovative solutions for making faster, more comfortable and cheaper payments. In this context, the concept of "open banking" is expected to be introduced by the first quarter of 2024, which primarily regulates the manner in which the banks will be obliged to open their information

⁷² The National Bank is the owner and operator of the Macedonian Interbank Payment System (MIPS) as the only system in the country for large and urgent payments in denars between its participants, used to settle the payment transactions related to the implementation of monetary policy, to make the final settlement of the other payment systems and securities settlement systems, as well as of the payment transactions for the government and the government authorities and the other participants in the system.

⁷³ Law on Payment Services and Payment Systems (Official Gazette of the Republic of North Macedonia No. 90/22).

systems for other payment service providers, but also their obligations and responsibilities to provide the security of payments by enabling enhanced authentication (verification of the identity of the payer, i.e. the valid use of the payment instrument by them) when initiating electronic payment transactions. It is expected that "open banking" will encourage competition, innovations and the emergence of new business models. Hence, it is expected that possibilities will be opened for the use of innovative applications in the payment area with the use of which citizens and companies will access their own bank accounts to initiate electronic payments in an easy way or to obtain data on the performed transactions.

The new regulatory framework clearly regulates the obligations of the payment service providers in the segments of consumer rights protection which arise from the use of payment services. Thus, for the first time an obligation is introduced for the payment service provider to regulate the rights and obligations of the consumer with a framework agreement in a standardized form, which should include a mandatory set of information, as well as the possibilities and terms under which it can be amended or terminated. These provisions achieve greater transparency of service providers and provide better information, legal safety and equal treatment of consumers among payment service providers.

Especially important innovation for consumers will be the eased comparison of the fees of the payment service providers for the services related to the payment account they charge to them. For this purpose, the National Bank prescribed, with a bylaw, a list of 11 most representative payment account services that consumers most frequently use, and for which payment service providers will submit data to the National Bank. The fees for these services will be published on the web site of the National Bank. Consumers will be able to compare in an easy way the fees for the services offered by the various payment service providers. In this way, it is expected that consumers' awareness will increase and their decision-making for the use of payment services from a specific payment service provider, will be facilitated.

7.1. Payment transactions realized with cashless payment instruments

The total number of payments⁷⁴ in the country in 2022 amounted to 195 million transactions and registered an annual growth of 6.8%, amid fall of 3.1% in the value of payments which was Denar 5,808 billion.

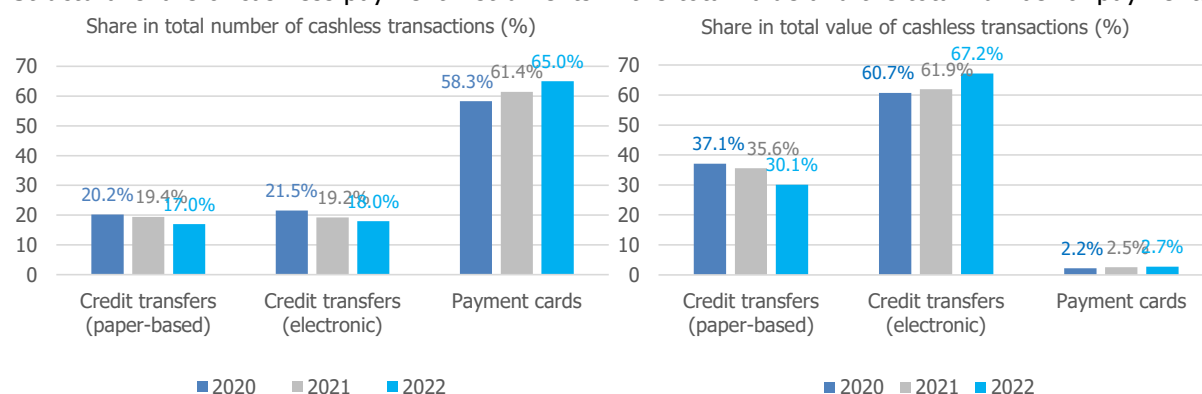
The changes in the habits of citizens and companies, in particular the more frequent use of the benefits of digitalization in the payment service market, further strengthened after the occurrence of the corona-crisis, are still visible through the increased use of payment cards and digital channels for the execution of payments. Thus, 2022 recorded an annual growth of 13.1% in the number of transactions with payment cards issued by resident PSPs which are executed at physical and virtual (Internet) points of sale in the country, which increased their share by 3.6 percentage points in the total number of payments, and reached 65%. At the same time, the total number of credit transfers decreased by 2.9%, whereby credit transfers initiated electronically registered a moderate annual growth of 0.6%, but their share declined by 1.2 percentage points in the total number of payments (18%), while credit transfers initiated in paper-based form registered an annual fall of 6.4%, which contributed to reduction of 2.4 percentage points of their share in the total number of payments (17%).

⁷⁴ Payments refer to transactions of legal entities and individuals (excluding the monetary financial institutions - MFI sector). Non-monetary financial institutions (non-MFIs) denote any natural person and legal entity that does not belong to the MFIs sector. For the purposes of payment statistics, payment service providers are not included in the non-MFIs sector. The payment instruments used for making payments in the Republic of North Macedonia are credit transfers and payment cards, whereas cheques were used until 2007, and direct debits are still not used as a payment instrument.

The total value of payments is still predominated by credit transfers with 97.3%, amid increased structural share by 5.3 percentage points (share of 67.2%) of credit transfers initiated electronically at the expense of the decline in credit transfers initiated in paper-based form of 5.5 percentage points (or share of 30.1%), while the structural share of the value of payment card payments increased by 0.2 percentage points (2.7%), in the total value realized with cashless payment instruments.

Chart 85

Structural share of cashless payment instruments in the total value and the total number of payments



Source: NBRNM.

7.1.1. Credit transfers initiated by natural persons and legal entities

The total number of credit transfers initiated by natural persons and legal entities in the country in 2022 was 65.4 million, which is an annual fall of 2.9%.

Table 4

Credit transfers as cashless payment instrument for natural persons and legal entities

| 2022 | | |
|---|---------------------|--------------------|
| Number of credit transfers initiated by non-MFI | Natural persons (%) | Legal entities (%) |
| <i>By method of initiation</i> | | |
| Paper-based | 69.7 | 37.2 |
| electronic | 30.3 | 62.8 |
| <i>By device of initiation of the electronic credit transfers</i> | | |
| PC | 60.1 | 98.2 |
| Cell phone | 60.1 | 98.2 |
| ATM | 39.3 | 1.8 |
| Other devices | 0.6 | / |

Source: NBRNM.

transfers initiated by legal entities), while natural persons still predominantly initiate payments at the banks' counters (73.5%).

The structure of credit transfers, in terms of user, is still predominated by legal entities with 65.8%, while, the rest of 34.2% are initiated by natural persons (67.4% and 32.6%, respectively in 2021). Moreover, it is noticeable that legal entities more frequently used the benefits of electronic banking (share of 64.5% in the total number of credit

For the first time during 2022, there is a greater use of mobile applications, which confirms the fact that citizens significantly use the privileges and convenience of the use of this device for making payments. Namely, citizens used mobile applications for initiating electronic credit transfers with a share of 54.2% or increase of 4.7 percentage points,

compared to 2021, at the expense of the decline of 4.7 percentage points or share of 45% of personal computers and reduction of 0.2 percentage points in the share of ATMs.

Legal entities predominantly use the personal computer (97.8%), but the structural share of the use of mobile banking applications slightly increased by 0.4 percentage points compared to 2021, which reached 2.2% in the total number of credit transfers initiated electronically by legal entities.

7.1.2. Payment cards

The total number of transactions with payment cards⁷⁵ issued by domestic issuers at terminals located in the country kept on increasing also in 2022, and they reached 149.6 million. The use of payment cards at physical and virtual (Internet) points of sale registered high annual growth of 13.1%. Also, cards were used for withdrawing and depositing cash at ATMs, whereby the number of these transactions registered an annual growth of 1.1%. The structural share of the number of POS transactions kept on increasing, by 1.7 percentage points reaching 72.7% in 2022, due to the annual growth of 13.3%, at the expense of the reduced share of transactions for withdrawing cash from ATMs (18.3%), amid insignificant growth of 0.5%. As a result of the change in the habits and the culture of payments of citizens and companies, the use of payment cards at the domestic virtual (Internet) points of sale registered an annual growth of 11.6%, although their share remains stable and is still at a relatively low level (share of 8.3%). The number of transactions for ATM cash deposits registered a high annual growth of 22%, but their share in the total number of transactions with payment cards is still low (0.7%).

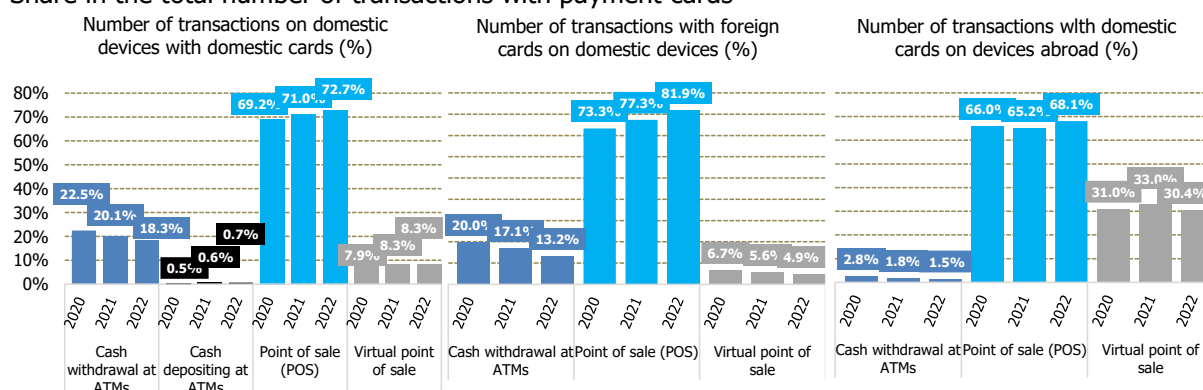
Also in 2022, there is an increase in the number of transactions in the country with payment cards from foreign issuers. Thus, 12.5 million transactions with payment cards issued by foreign issuers were performed at terminals located in the country, registering a significant annual growth of 48.5%. In terms of their use, also during 2022, they were increasingly used for payment at POS terminals, which, amid annual growth of 57.3%, increased their share by 4.6 percentage points which reached 81.9%. Amid smaller annual growth of 14.6%, the share of cards for ATM cash withdrawals decreased by 3.9 percentage points and reduced to 13.2%, while the share of use of payment cards at virtual points of sale decreased by 0.7 percentage points and reached 4.9%, amid annual growth of 31.2%.

Significant annual growth of 31.8% in 2022 was registered in the use of payment cards issued by domestic issuers at terminals located abroad, whereby 12.1 million transactions were carried out. Moreover, there was increased use of payment cards at POS terminals with an annual growth of 37.8%, which led to an increase in their structural share by 2.9 percentage points which reached 68.1% and increased use of payment cards at virtual (Internet) points of sale of foreign entities of 21.1% annually, amid decline in their structural share to 30.4%, i.e. by 2.6 percentage points. Withdrawing cash with domestic cards at ATMs abroad remains low and stable (structural share of 1.5%, with an insignificant annual decline of 0.3 percentage points).

⁷⁵ Transactions with payment cards issued by resident PSPs include POS transactions, virtual (Internet) points of sale and withdrawing and depositing cash at ATMs in the country.

Chart 86

Share in the total number of transactions with payment cards



Source: NBRNM.

7.2. Payment infrastructure

Electronic payment infrastructure in the country was expanding also in 2022, as a result of the constant development of contactless technology, which assumes greater proportions in the field of payment card payments. Namely, at the end of 2022, out of 2.1 million cards issued in the Republic of North Macedonia, 69.7% of the cards are based on contactless technology (1.4 million cards), and 86.3%, i.e. 27,771 out of a total of 30,011 POS terminals also support contactless payments, amid a simultaneous increase in their number of 1.2% and 3.1% respectively, compared to the end of 2021. Increased offer and use of modern digital devices for making payments in 2022 is also noticed through the annual growth of 16.3% in the number of ATMs with an additional function for depositing cash, while, the number of ATMs with an additional function for initiating credit transfer is almost unchanged (298 ATMs, versus 297 at the end of 2021).

In addition to the solid infrastructure that supports the acceptance of electronic payments in the country, the development of digitization is also perceived through the use of digitalized payment cards. At the end of 2022, the number of digitalized payment cards for making payments through mobile phones and through other smart devices for making contactless payments, was 40,664, the majority of which (68.6%) being digitalized payment cards with a debit function, and the rest belongs to digitalized payment cards with a credit function.

The total number of transaction accounts of clients with banks for making payments in the country at the end of 2022 was 3.75 million and registered a small insignificant annual decline of 0.8%, due to the fall in the accounts of natural persons. In terms of structure, most, or 95% of transaction accounts still refer to natural persons and 5% refer to legal entities. Every third natural person - depositor holds accounts for making payments by using personal computers and/or mobile applications for electronic initiation of credit transfers, while, in legal entities, 44.1% of the total number of transaction accounts enable electronic payments, which is an increase of 0.8 percentage points compared to the end of 2021.

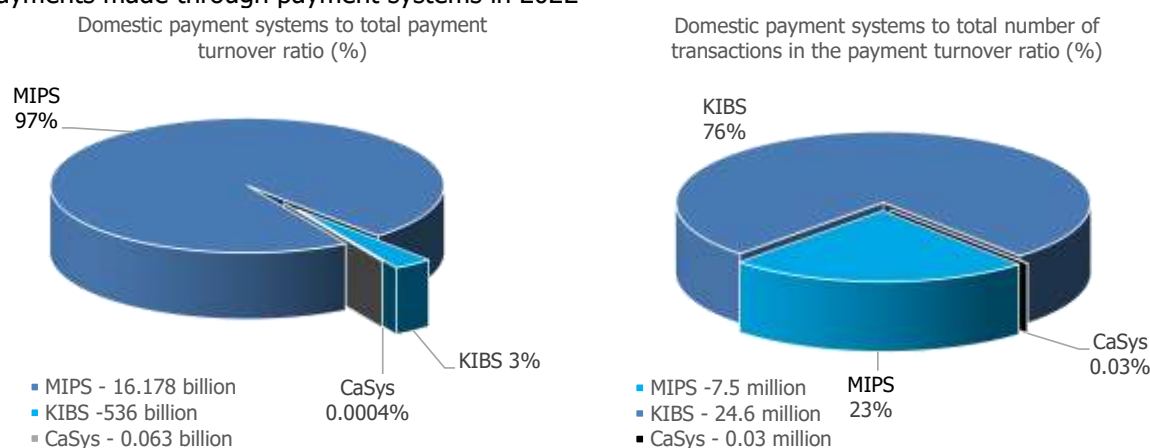
At the end of 2022, there was an annual growth of 16.1% in the total number of merchants in the country that accept payment card payments (14,962), caused primarily by the annual growth of the number of merchants at virtual points of sale by 19% (1,603), as well as by the annual growth of the number of merchants that accept card payments at physical points of sale by 15.8% (13,359).

7.3. Payment systems in the country

In 2022, the total value of transactions in the country realized through the payment systems - MIPS⁷⁶, KIBS⁷⁷ and CaSys⁷⁸ reached Denar 16,714 billion, amid executed 32.1 million transactions, recording an annual fall in the value of 14.2%, and an annual growth of 1.4% in the number of performed transactions. In terms of the value of transactions, the largest part are executed through the payment system MIPS, or 97%, while the remaining part of 3% of the total payments are executed through the payment system KIBS. In the structure of the number of transactions in the same period, the largest share was that of the payment system KIBS (76%), followed by the payment system MIPS with 23%, while CaSys has a small share (0.03%).

Chart 87

Payments made through payment systems in 2022



Source: NBRNM

Net settlement of payments through KIBS and CASYS is made on a regular basis through MIPS, which in 2022 worked for 247 days, with 100% accessibility of the participants to the system.

⁷⁶ The National Bank is the owner and operator of the Macedonian Interbank Payment System (MIPS) as the only system in the country for large and urgent payments in denars between its participants, used to settle the payment transactions related to the implementation of monetary policy, to make the final settlement of the other payment systems and securities settlement systems, as well as of the payment transactions for the government and the government authorities and the other participants in the system.

⁷⁷ Clearing House - Clearing InterBank Systems AD Skopje operates the payment system for multilateral deferred net settlement for processing of small payments of below Denar 1,000,000.

⁷⁸ International Card System AD Skopje (CaSys) is a system of multilateral deferred net settlement of payments with domestic brands of payment cards.

7.4. Payment systems oversight in accordance with the internationally established standards

The supervisory activities of the National Bank were carried out on a regular basis, in accordance with the national legal framework that was in effect until the end of 2022⁷⁹, which translates the internationally established oversight standards⁸⁰. The payment systems oversight performed by the National Bank is aimed at reducing the risk associated with possible disturbances in the operations of the payment systems by identifying the potential risks in their operation, and is carried out through on-site oversight, by insight with the operator who is managing the payment system and by regular off-site monitoring of the payment systems operations through the reports submitted to the National Bank. In this way, with the supervisory activities, the National Bank contributes to increasing the security and efficiency in the execution of payment transactions.

During 2022, the National Bank completed the on-site partial oversight of the operator of the payment system KIBS for assessment of the compliance of the operations of this payment system with the requirements of six principles applicable to important payment systems⁸¹ and determined that KIBS observes the principles that were the aim of the oversight, thus giving some recommendations for further improvement of the payment system operations. This oversight launched the second cycle of oversight of the payment system KIBS by applying the internationally established standards.

Also, the National Bank is in its final stage of the second on-site partial oversight of the payment system MIPS for assessment of the compliance with the remaining nine principles⁸² of the operations of this systemically important payment system from the first cycle of oversight by applying the internationally established standards.

Furthermore, the implementation of the recommendations from the completed on-site oversight of the payment systems is monitored by the National Bank and it is perceived that they are implemented within the given deadlines, which reduces the risk of failure and disturbance of the systems.

At the same time, off-site monitoring of the payment systems was conducted on a regular basis, on the basis of which it was determined that during 2022 the payment systems in the country operated with the highest level of operativeness, availability and efficiency, without registered falls in the systems.

⁷⁹ Law on Payment Operations (Official Gazette of the Republic of Macedonia No. 113/07, 22/08, 159/08, 133/09, 145/10, 35/11, 11/12, 59/12, 166/12, 170/13, 153/15, 199/15, 193/17, 7/19 and 31/20), Decision on the manner and methodology for payment systems oversight (Official Gazette of the Republic of Macedonia No. 17/16 and Official Gazette of the Republic of North Macedonia No. 177/21) and the Decision on criteria and standards for payment systems operations (Official Gazette of the Republic of Macedonia No. 17/16).

⁸⁰ Principles for Financial Market Infrastructure (PFMI) of the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions.

⁸¹ The KIBS oversight for assessment of the compliance of the operations of this payment system classified as important payment system is performed with 13 principles in one cycle.

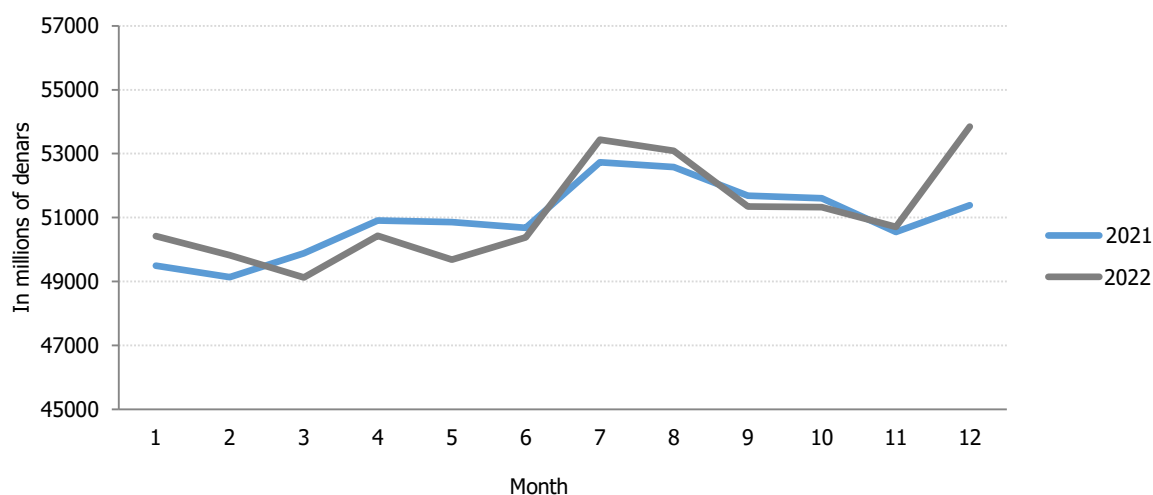
⁸² The MIPS oversight for assessment of the compliance of the operations of this payment system classified as systemically important payment system is performed with 18 principles in one cycle.

VIII. Issuance and management of the banknotes and coins of the Republic of North Macedonia – vault operations

8.1. Currency in circulation

As of 31.12.2022, the total amount of the currency in circulation amounted to Denar 53,841 million, which is by Denar 2,460 million or 4,8%⁸³ more compared to the end of 2021. The structure of the currency in circulation suggests that at the end of the year, banknotes and coins make up 97.8% and 2.2%, respectively of the total value. In terms of the number of pieces of currency in circulation, the share of banknotes equals 27.7% (118 million pieces), and the share of coins equals 72.3% (308.2 million pieces).

Chart 88
Currency in circulation

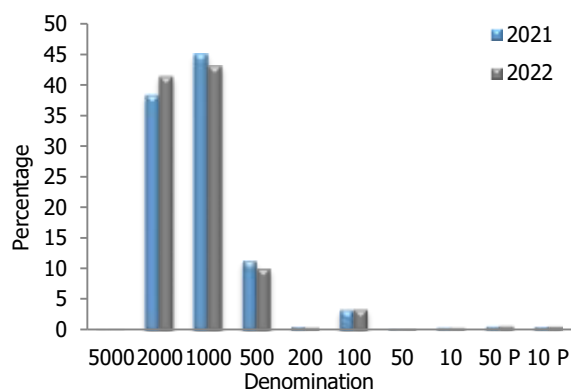


Source: NBRNM.

Banknotes in denomination of Denar 1000 (43.1%), Denar 2000 (41.4%) and Denar 500 (10%) account for the most of the total value of banknotes in circulation. Other banknotes account for 5.5% of the total value. In 2022, coins in denominations of Denar 10 (32.4%), Denar 50 (22.9%) and Denar 5 (19.8%) had the largest share in the value of coins.

⁸³ The presented data on the currency in circulation do not include the quantities and value of the collector coins, which were made and put into circulation by the National Bank for artistic, cultural and promotional reasons. Collector coins are available primarily abroad, but also in the Republic of North Macedonia. As of 31 December 2022, the value of the collector coins in circulation amounted to Denar 11.7 million, thus the total value of currency in circulation in 2022 amounted to Denar 53.852 million.

Chart 89

Value share of banknotes in circulation, by denomination⁸⁴

Source: NBRNM.

Value share of coins in circulation, by denomination

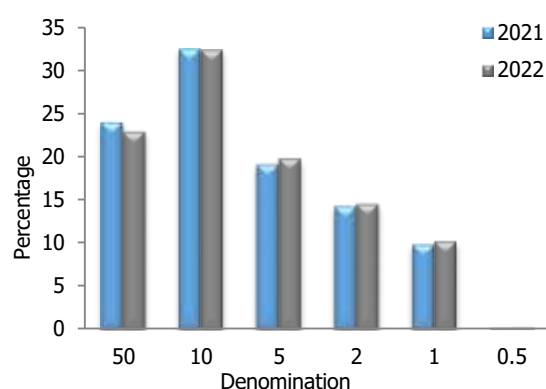
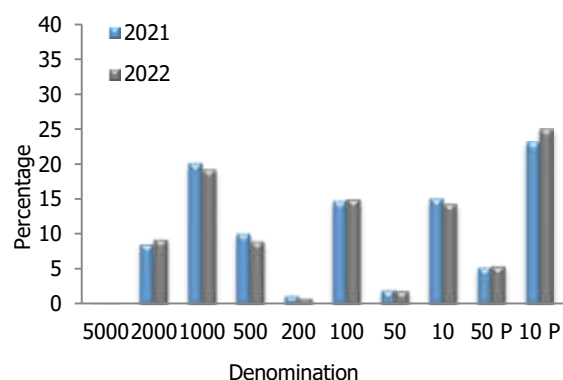


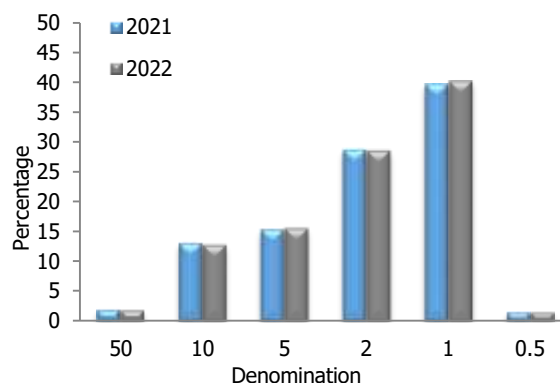
Chart 90

Quantity share of banknotes in circulation, by denomination



Source: NBRNM.

Quantity share of coins in circulation, by denomination



According to the number of pieces in the structure of the currency in circulation, the share of banknotes in denomination of Denar 10 - polymer (25.1%), Denar 1000 (19.2%), Denar 100 (15%) and Denar 10 (14.4%) is the largest. Other banknotes constitute 26.3% of the total quantity of banknotes in circulation. The largest share of coins in circulation is that of the denomination of Denar 1 (40.1%) and Denar 2 (28.5%).

In the structure of the issued currency in circulation, polymer banknotes have an insignificant share (1.2%) relative to the other banknotes, whereby one should bear in mind their low nominal value. According to the quantity, the share of polymer banknotes in the total number of banknotes in circulation is substantial and amounts to 30.5%, taking into account their important role in retail.

8.2. Supplying banks and cash centers with banknotes and coins

During 2022, the National Bank issued cash to banks and cash centers⁸⁵ in the amount of Denar 18,851 million (increase of 7.4% compared to 2021). At the same time, cash has

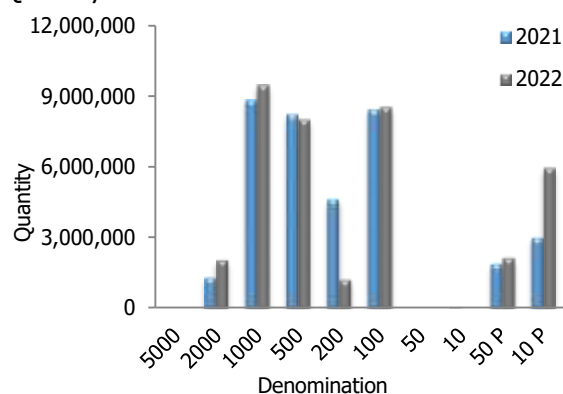
⁸⁴ The letter "p" in the charts denotes polymer banknotes.

⁸⁵ During 2022, within the activities related to the cash supply process, the two cash centers where commercial banks transferred part of the cash operations, continue to actively function.

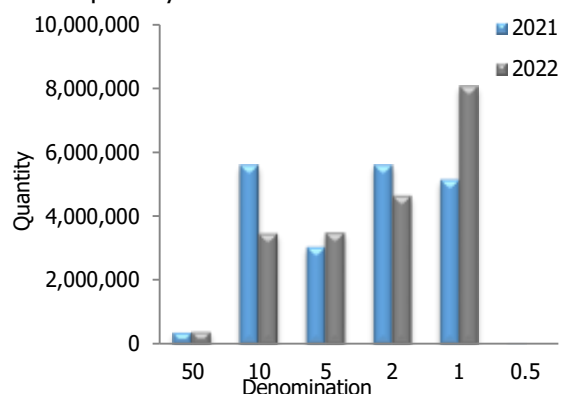
been received from banks and cash centers in the amount of Denar 16,394 million (increase of 1.2% compared to 2021). The analysis of the denomination structure of banknotes and coins suggests that in the total turnover, the largest banknote is the denomination of Denar 1000 with a share of 27.3% in 2022 (i.e. 24% in 2021) and the most common coin is the denomination of Denar 1 with a share of 34.7% in 2022 (compared to 22.4% in 2021).

Chart 91

Quantity of cash issued banknotes



Issued quantity of cash of coins



Source: NBRNM.

8.3. Processing and destroying banknotes and coins

During 2022, in the process of control of the quality of banknotes in circulation, a total of 31.6 million pieces were processed, out of which 11 million pieces were destroyed due to unfitness for circulation (8 million banknotes in 2021). Most destroyed banknotes were denominated in Denar 1000 (42.1%) and Denar 100 (33.1%). **In 2022, 3.5 million pieces of coins in denominations of 1, 2, 5, 10 and 50 denars were processed, 14 thousand pieces of which being withdrawn as unfit for circulation.**

8.4. Expertise of suspicious / counterfeit money

In 2022, the National Bank, as a single institution authorized to determine the authenticity of banknotes and coins denominated in denars and in foreign currencies, successfully performed the expert analysis of the submitted suspicious money.⁸⁶

The expert analyses of the submitted suspicious banknotes denominated in denars, which are made during 2022, found 305 counterfeit samples, which is an increase of 32% relative to the counterfeit banknotes detected during 2021. Of the total number of detected counterfeit banknotes in 2022, the denomination of Denar 2000 - 269 pieces is the most common, or 88.2% of the total number of counterfeits, followed by the denomination of Denar 1000 - 13 pieces, or 4.3% of the total number of counterfeits and the denomination of Denar 500 - 12 pieces, or 3.9% of the total number of counterfeits. The total value of Denar counterfeits in 2022 amounted to Denar 558,100.00, which is a negligible share compared with the total value of the currency in circulation.

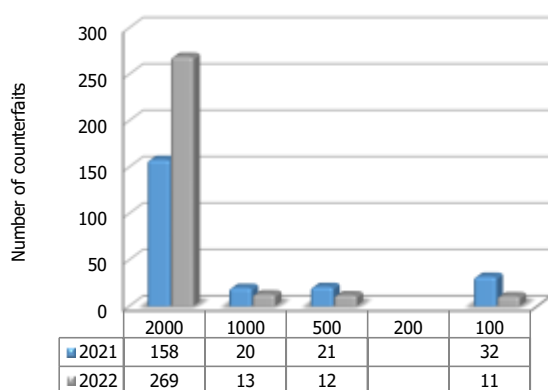
⁸⁶ Due to the measures to prevent the coronavirus spread, the National Bank postponed the specialized trainings of the employees in the banks and the cash centers during 2022, as well as the trainings planned according to the national training plan, within which the National Bank experts were supposed to provide trainings for the police officers and the employees in the other institutions involved in the combat against counterfeiting currency.

Within its authorizations, and in order to determine the possibility for a replacement on the basis of the prescribed criteria, the National Bank in this time period also performed professional expertise on 457 samples of damaged banknotes submitted by banks and cash centers.

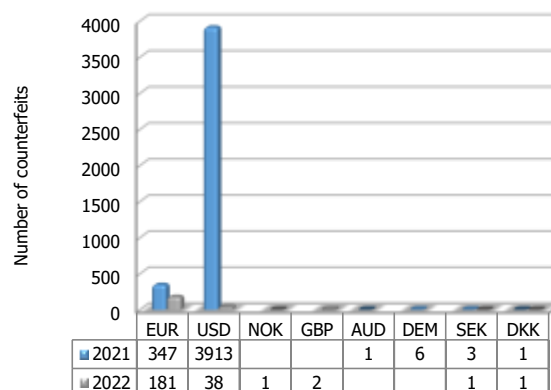
Also, during 2022, the National Bank replaced the damaged banknotes and coins submitted by natural persons, and replaced the currency withdrawn from circulation, and for which there is no time limitation for their replacement. The National Bank replaced a total of 11,101 pieces of damaged banknotes/coins and withdrew 9,033 pieces of banknotes from circulation.

Chart 92

Counterfeit denars



Counterfeit foreign currency



Source: NBRNM.

In terms of committed expert analyses of received suspicious banknotes and coins denominated in foreign currency in 2022, of total 506 analyses, 224 counterfeit and 282 original money were identified. Of the total number of counterfeit banknotes, the Euro banknotes (181 piece) and US dollars (38 pieces) prevailed. The general conclusion is that counterfeit banknotes are of relatively poor quality, allowing simple and easy identification and determination of their properties⁸⁷.

During 2022, large quantities of counterfeit euro coins were registered. A total of 13,983 pieces counterfeit euro coins were detected, 13,583 of which in denomination of 2 euros, 321 piece in denomination of 1 euro and 79 pieces in denomination of 50 euro cent.

8.5. Implementation of cash operations standards and criteria in banks and cash centers

Respecting the measures for preventing the coronavirus spread, during 2022, the National Bank dedicated itself to the indirect data controls on the type and number of money processing machines, their locations and the quantity of the money they process and the money processed manually, that banks and cash centers submit to the National Bank on a quarterly basis. By the end of 2022, the National bank continued with on-site examination as a result of the reduced measures and creation of entirely secure environment for the planned activities.

⁸⁷ The expert analysis of the technique of making counterfeit banknotes found that they are mostly made on a plain paper without enough security features, by using computer technique (scan and print) or color copy machine.

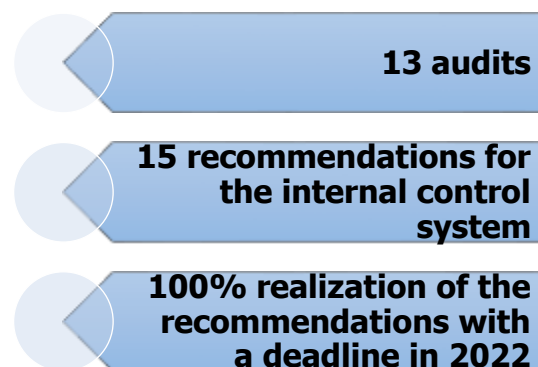
In the reference period, a total of 35 regular tests of banknote and coin processing machines were conducted, due to expiration of the validity of the confirmations proving the machines' ability to perform proper money processing.

8.6. Issuance of collector coins

Collector coins are unique, representative coins of great artistic value that promotes the Republic of North Macedonia abroad. Although the sale of collector coins is primarily intended for and takes place abroad, they have aroused interest in the country⁸⁸. In 2022, a total of 125 pieces of collector coins were sold.

⁸⁸ In order to make them available, the National Bank enabled commission sale through the Mother Teresa Memorial House, Skopje in the afternoon and on non-working days.

IX. Internal audit



Internal audit is an independent function that helps the National Bank achieve its objectives by applying a systematic, impartial approach to evaluate and improve the effectiveness of risk management, controls and governance processes.

The Internal Audit Department (IAD) operates in accordance with the Standards for the Professional Practice of Internal Auditing (Standards), as well as in accordance with the Code of Professional Ethics of Internal Auditors (Code) of the Institute of Internal Auditors in Florida, USA, which are accepted as national standards for internal audit operations.

The operation of IAD generally complies with the Standards and the Code⁸⁹, according to the external assessment of the IAD operations, by experts from the Central bank of the Netherlands.

IAD uses dual reporting, administratively to the Governor of the National Bank and functionally to the Audit Committee and the National Bank Council, ensuring independence of the internal audit.

During 2022, the IAD fully implemented its annual work program, by carrying out the regular audit activities, as well as the activities for confirming the quality and improving its operation.

In 2022, 13 audits were carried out (12 regular audits and 1 extraordinary audit), giving 15 recommendations to improve the internal control system. The recommendations were followed up on a regular quarterly basis, whereby the findings of the monitoring suggest that the recommendations are observed and implemented within the given deadlines. The level of realization of a total of 14 given recommendations, from last years (3) and from 2022 (11), with a realization deadline in 2022, is 100.0%, i.e. all recommendations are implemented within the given deadlines.

Besides the ongoing activities, the internal audit also implemented the Quality Assurance and Improvement Program in the Internal Audit Department. According to the Program, during 2022 the internal operating procedures were revised and updated and reports were prepared on the conducted periodical self-assessments of the IAD internal acts adequacy, as well as of the IAD contribution to the improvement of the National Bank operations in terms of its effectiveness and efficiency.

The operation of the Internal Audit Department was closely supervised by the Audit Committee at its regular meetings during 2022.

⁸⁹ There are three levels of conformity: Generally Conforms, Partially Conforms and Does Not Conform.

9.1. Work of the Audit Committee

The Audit Committee (Committee) is a permanent working body of the National Bank Council (Council), established for the purpose of further improving the corporate governance in the National Bank, strengthening the control processes in the performance of its activities and legal tasks.

The work of the Committee is regulated by the Decision on the work of the Audit Committee and determining its scope of work, which defines its composition, goals, scope of work, authorizations, responsibilities and method of reporting.

The purpose of the Audit Committee is to help the Council in fulfilling its supervisory responsibilities of the operations, by carrying out the following activities in its scope of work:

- Monitoring of the accounting policies and the financial reporting;
- Monitoring of the efficiency of the internal audit;
- Monitoring of the process of selection of an independent audit company, monitoring of the audit process and the work of the selected audit company;
- Assessment of the overall effectiveness of the internal control system and the risk management framework, which protect the assets of the National Bank;
- Monitoring of the appropriateness of the framework for compliance of the operations with the regulations and the effectiveness of the process of monitoring of the compliance at a level of the National Bank.

The Audit Committee consists of three non-executive Council members.

During 2022, the Audit Committee held eight sessions. The Committee members participated in discussions and analysis on topics previously discussed and proposed for adoption by the Council. Moreover, they briefed the Council members on certain issues in detail.

At the meetings, the Committee discussed the external auditor's Financial Statements Report for 2021 and gave an opinion to the Council on the proposal for external audit company selection. The internal audit also monitored the implementation of the given recommendations, which leads to reduced operational risks.

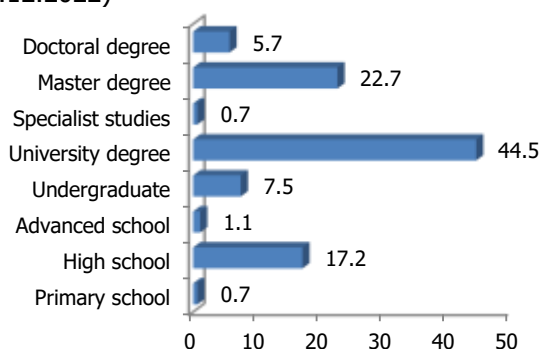
X. Human resource management



The human resources management is one of the key factors for the successful functioning of every organizational unit. The National Bank of the Republic of North Macedonia is an institution that has been taking care and investing in its employees in order to strengthen their skills and competencies and increase their expert knowledge for creating highly educated staff to fight off any challenge while achieving its operating goals.

At the end of 2022, the number of employees⁹⁰ of the National Bank was 442, which is an increase compared to the end of 2021 (426 employees). At the same time, there was a change in the gender structure of the National Bank employees compared to the previous year. The female population in 2022 was 55.9%, while the male population 44.1% of the total employees, as opposed to 57.3% of the female population, i.e. 42.7% of the male population in 2021.

Chart 93
Qualification structure of the employees in the National Bank according to the Macedonia Qualifications Framework (in percentages, as of 31.12.2022)



Source: NBRNM.

Employees with higher education (four-year university studies) dominate the qualification structure with 44.5%, followed by employees with master's degree (22.7%). In terms of age structure, the median age of employees in 2022 was 43.8 years (44.4 years in 2021).

During 2022, the National Bank continued with the employee care, through smooth implementation of the key processes related to employees' professional trainings and development in order to maintain high motivation, increase engagement and retain staff.

The key processes that refer to constant improvement and development of the employees, which undoubtedly represent an important tool for motivation, retention of the employees, as well as for reduction of the staff outflow, were regularly carried out also during 2022. For that purpose, the processes of professional development, employee evaluation and remuneration were regularly carried out. This year also, the organizational units were advised about the implementation of the employee evaluation process, while the newly appointed evaluators were familiarized with this process through a presentation, during which the possible challenges they could face, as well as the ways to overcome them were discussed.

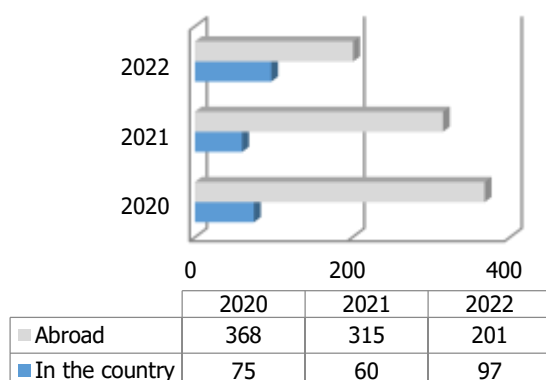
⁹⁰ The total number, including those hired through temporary employment agency, was 454. The charts in this section take into account the total number of employees.

Based on a previous analysis, to strengthen and improve the skills of the employees, the Human Resources Department conducted specialized trainings for an advanced level of “Microsoft Excel”, with internal lecturers, thereby using the capacity and potential of internal human resources.

The mentoring process is one of the most important processes continuously implemented in the National Bank, in order to support the employee’s development and his personal career management, acquiring or improving knowledge, skills and competences for a certain work process as well as continuous learning and professional progress. In May 2022, an external lecturer conducted a training which involved a total of 73 mentors-employees.

As a result of the need for constant strengthening of the managerial and leadership skills for human resources management, as well as skills for motivation and training of newly appointed and existing tactical managers, a “Neuro-linguistic programming (NLP) leadership training” was conducted in November 2022, which involved 31 tactical manager.

Chart 94
Number of professional training courses in country and abroad



Source: NBRNM.

well. During 2022, the professional trainings organized by foreign organizers significantly declined by 36.2% compared to the previous year, while, the professional trainings with domestic organizers significantly increased by 61.2%. In 2022, the number of employees who attended professional training course was 159, which is a decrease of 20.9% compared to the previous year. However, the attendance of professional trainings is at a sustainable level and is due to the fact that some of the organizers continued to enable attendance of several participants at the same event, as well as to the fact that the professional trainings in a virtual form with foreign organizers do not incur costs for the National Bank.

In 2022, there were a total of 298 professional trainings which include various categories of professional trainings, such as e-courses, seminars, workshops, trainings and webinars. Compared to the previous 2021, the total number of professional training courses significantly decreased by 20.5%, yet their number went back to normal, taking into account that a number of events were organized virtually during the pandemics. Following the relaxation of the measures for preventing the coronavirus spread, during 2022 the organizers started to conduct part of the trainings with physical presence, although a significant part was conducted virtually as

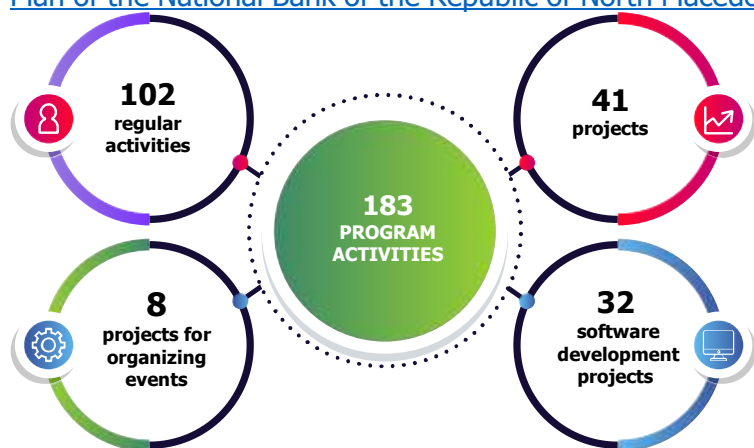
Main international institutions that organize professional training courses include the European central banks, the International Monetary Fund in cooperation with the Joint Vienna Institute, the Deutsche Bundesbank and the Bank of France who are the National Bank’s major partners in the mutual cooperation programs. The professional training courses in the country are primarily hosted by domestic education centers, which cover the topics in the field of amendments to legislation, as well as topics that refer to the operations of the National Bank.

XI. Implementation of the Plan of Activities for 2022

Introduction

During 2022, the National Bank implemented its program activities in conditions of prolonged uncertainty, caused by post-pandemic circumstances and events in Ukraine. These factors led to energy crisis and increased inflationary pressures, both globally and in domestic economy. The National Bank remains firmly focused on the strategic determinations for maintaining the price stability and the stability of the exchange rate, as well as the financial stability, by undertaking necessary measures.

The Plan of Activities of the National Bank of the Republic of North Macedonia for 2022 includes 183 program activities aimed to achieve the nine strategic goals set in the Strategic Plan of the National Bank of the Republic of North Macedonia for the period 2022 - 2024. The



Plan of Activities is implemented by optimal targeting of available resources to priority areas, strengthening of all work capacities, further improving of the quality of operations, thus ensuring monitoring and evaluation of the results and effectiveness of the measures and activities taken.

The program activities include implementation of regular work processes and activities related to the projects that are closely related to the National Bank's strategic goals and institutional capacities. The aim of the program activities is realization of the National Bank's vision, which is to be recognized as an independent, responsible, professional, innovative and transparent institution that enjoys high credibility and public confidence.

Strategic goals

1. Improving monetary policy infrastructure
2. Maintaining and further strengthening of the banking system stability and resilience
3. Supporting households and the corporate sector by developing reliable, innovative and efficient payment systems
4. Improving the investment policy and ensuring optimum return on foreign reserves in accordance with the security and liquidity principles
5. Adherence to the standards of the European System of Central Banks
6. Increased transparency and accountability
7. Financial education and inclusion
8. Raised awareness of climate change and contribution to a green sustainable economy
9. Strengthening of the risk management across the National Bank

Institutional capacities

1. IC1 Integrity and trust in the national currency
2. Human resources
3. Information system
4. Statistical data
5. Research

Points

"A central bank which, with flexible, appropriately thought up and timely decisions, in times of rapid changes and digital transformation, contributes to a higher standard of living of citizens by creating an environment of sustainable and inclusive economic development"

The vision of the National Bank is to be recognized as:

Independent | responsible | professional | innovative | transparent institution with high credibility and confidence



Maintaining the stability of the exchange rate of the denar amid unfavorable global and domestic environment



The high level of foreign reserves mitigated the effects of market risks



Improving the research and statistical function of the National Bank



Strengthening of the banking regulation and supervision in accordance with the EU standards related to the banking system stability and resilience



The National Bank's contribution to the Eurointegration processes



With the new regulations for payment services and payment systems to higher protection of household and corporate payments



Increased focus on *green growth* and its financing



Enhanced consumer protection and further development of financial education



Increased transparency and accountability, enhanced communication with the public



Strengthening of the risk management with focus on cyber and operational resilience

Strategic goal 1 - Improving monetary policy infrastructure



The National Bank successfully implemented activities for [monetary policy conduct](#) in specific conditions which imposed careful monitoring of global and domestic situations and detailed planning and execution of adequate decisions. Within the operational implementation of the monetary policy, the National Bank regularly informs the public on the adopted monetary measures and decisions.

In terms of monetary conditions in 2022, the National Bank took activities for further maintenance of the stability of denar exchange rate, which included interventions on the foreign market, active monitoring and analysis of the developments and trends on domestic foreign exchange market and frequent communication with banks to better understand the movements on foreign and currency exchange market. Moreover, the National Bank continued the cycle of monetary policy normalization, by increasing the interest rates on monetary instruments, and by adjusting the reserve requirement system on several occasions, to encourage variety of attractive denar deposit products by banks. In the last quarter of 2022, the National Bank revised the framework of institutions with access to monetary instruments for liquidity withdrawal from the banking system, giving savings houses and domestic commercial banks equal opportunities to place assets in CB bills and demand deposits.

During 2022, a two-week technical support was provided from the International Monetary Fund, titled: ***Modernizing monetary operations framework and liquidity planning*** which discussed the setup of the current monetary framework, functioning of the domestic financial markets and possibilities to amend the improvement of the monetary framework efficiency.



The program activities for further development of the analytical infrastructure of the macroeconomic forecasts were regularly carried out. This involved further **development of the analytical infrastructure of the macroeconomic forecasts and improvement of the forecasting and modeling process**, by maintaining and expanding the portfolio of available forecast models and policy simulations. The National Bank improved the features of the MAKPAM model and as of the April forecasting round switched to the new upgraded and enriched model, regularly checked its results and made certain corrections in the structure when needed. During 2022, in the context of activities for continuous improvement and modernization of the infrastructure for macroeconomic forecast, analysis and simulations, the project between [the National Bank of the Republic of North Macedonia and Swiss State Secretariat for Economic Affairs - SECO](#) was implemented. The project promotes the monetary forecast process, i.e. its modernization by constructing econometric models for projecting and forecasting significant monetary variables in the Macedonian economy.

Analysis on the public and external debt sustainability, balanced real exchange rate and monetary transmission used in monetary policy decision-making were performed. **The Bank Lending Survey and the Survey on Inflation and Real GDP expectations** were conducted on a regular quarterly basis, the reports, presentations and results of which were published on the National Bank website. The Business Plan Survey of the largest exporters and importers was also conducted in April and October.

In order to see the latest developments in the Macedonian economy as a whole and in the individual sectors of the domestic economy, as well as to assess their implications on the monetary policy, the National Bank prepared its **regular monthly and quarterly**

reports, as well as the [Annual report on its operations](#). A number of analytical materials on current topics in the field of macroeconomics were also prepared, and at the same time several macroeconomic analysis were published, in the form of analytical, and notes within the regular quarterly reports.

Strategic goal 2 - Maintaining and further strengthening of the banking system stability and resilience



In the past 2022, the National Bank focused on monitoring the developments and assessing the effects of the external environment on the banking and financial system. Accordingly, during 2022, the National Bank undertook number of activities to carry out supervisory controls, amend regulations and actively adjusted to the new conditions in order to **maintain and further strengthen the banking system stability and resilience in support of the real economy**.

During the year, activities for several **laws and bylaws** were conducted: The Banking Law, the Law on Bank Resolution, the Decision on the methodology for credit risk management, the Decision on publishing reports and data by banks⁹¹, as well as participation in the preparation of the bylaws derived from the Law on Payment Services and Payment Institutions and drafting other legislation. A number of working groups were involved in these processes, with representatives from the National Bank and other institutions, which prepared multiple bylaws. In mid-2022, [the Law on Financial Stability](#) which legally framed the current Financial Stability Committee was adopted, as an inter-institutional body for coordinating the activities of the financial regulators when monitoring systemic risks and proposing and taking macroprudential measures in order to maintain financial stability.

[The new Decision on the credit risk management methodology](#) which was adopted by the National Bank Council in February 2023 is based on the EU standards for identifying and managing non-performing and restructured credit exposures. The Decision introduces a new way of determining non-performing credit exposures which is fully harmonized with the requirements provided for in the relevant European regulations and the European Banking Authority guidance. Moreover, the Decision improves the rules for monitoring and control of the non-performing and restructured credit exposures, and one of the more significant novelties refers to the activities that need to be taken by banks with increased amount of non-performing credit exposures. [The new Decision on publishing reports and data by banks](#), adopted by the National Bank Council in February 2023, provides further harmonization with the provisions of the EU capital requirements Regulation of credit institutions No. 575/2013, as well as with the National Bank bylaws that prescribe preparation of certain reports the bank is obliged to publish.



Within the analyses for monitoring and assessment of risks to financial stability, an analysis was conducted during 2022 on the possible effects of the energy crisis on the domestic banking sector by analyzing the most energy-sensitive corporate sector clients. The analyses show that domestic sector has the capacity to withstand shocks related to credit risk materialization among the most energy-sensitive clients. Conducting these additional analyses that include current risks from the environment contributes to overall risk monitoring in the banking sector, timely

⁹¹ The National Bank Council adopted the Decision in February 2023.

identification of possible vulnerabilities and taking appropriate macroprudential measures if necessary for maintaining the stability of the banking sector and the overall financial stability.

Regarding **the off-site supervisory activities**, during 2022, assessment of the overall risk profiles of banks was regularly performed, which also included assessment of the process of determining internal liquidity, the process of establishing internal capital, assessment of the recovery plans for systemically important banks, preparation and monitoring of the corrective measures on the basis of identified non-compliances and irregularities in the operations of banks and savings houses, holding meetings with companies for external audit and members of the management and supervisory Board of banks. The National Bank regularly carried out activities for licensing of members of banks' and savings houses' bodies, as well as for issuing licenses for exchange operations and fast money transfer services. For the purpose of digitalization of working processes, the project for introduction of an electronic report for natural persons from Credit Registry is in final phase, thus making this process more efficient and facilitate citizens' access to these reports.

There were regular **on-site examinations** throughout 2022 and in accordance with the supervision plan there were 12 examinations, out of which 9 in commercial banks and 3 in fast money transfer providers. In the area of monitoring the exchange operations, additional 213 examinations were conducted among licensed exchange offices, with a horizontal examination to access risks of terrorist financing and proliferation (arms trade), as well as the manner of implementing financial restrictive measures.

Table 5
On-site examination performed in 2022

| 1.1.2022-31.12.2022 | | | | |
|--|---|--|---|--|
| Type of entity | Number of entities | Number of on-site supervisions | Number of thematic AML/CTF supervisions | Number of AML/CTF supervisions combined with other risk-based supervisions |
| FINANCIAL SECTOR | | | | |
| Banks and savings houses | 13 banks and 2 savings houses | 9 banks | 1 | 3 banks |
| Money transfer providers and licensed exchange offices | 4 money transfer providers (9 with banks), 232 licensed exchange offices (245 with banks) | 3 money transfer providers and 213 licensed exchange offices | / | 3 money transfer providers and 213 licensed exchange offices |

In relation to **IT and cyber risks**, the National Bank performed analyses of the most common attacks and incidents during 2022, as well as the regional and global cyber threats. Analysis of the EU regulation was also performed in the part of IT risk management and the need for further harmonization with the best ECB supervisory standards. The National Bank has defined a set of activities that will fit into the new Draft-decision on the methodology for the IT security which will be carried out during 2023.

The activities for development of the **first National Fintech Strategy** that includes recommendations to support the Fintech sector, and whose implementation is within the competences of the financial regulators, were completed in 2022. Management structure was established (Fintech Sector Committee and subcommittee), which is operationally functional. Approval and adoption of the National Fintech strategy is expected in the coming period, followed by activities related to implementation of the recommendations.

Strategic goal 3 - Supporting the households and the corporate sector by developing reliable, innovative and efficient payment systems



By-laws were adopted in 2022, necessary for the efficient enforcement of the [Law on Payment Services and Payment Systems](#) which improved the support to households and the corporate sector. Thus, special attention was paid to the **regulatory, developmental and catalyst role of the National Bank in the payment systems and payment services domain**. The National Bank, in cooperation with the Ministry of Finance, was actively involved in the creation of the final solutions of the Law on Payment Services and Payment Systems, adopted by the Assembly in April 2022. For the purpose of timely enforcement of the Law (1 January 2023) and its efficient implementation, the National Bank focused its activities on the preparation of by-laws within its competences, through a detailed elaboration of legal provisions and requests. The National Bank used experiences from the EU central banks in the preparation of the regulations, and asked for an opinion from a wide range of stakeholders who contributed with constructive discussions and remarks for drafting applicable solutions in the payment area. During the last quarter of 2022, the National Bank Council adopted a set of 26 bylaws, thereby completing the process of adopting the needed bylaws for efficient use of novelties in the payment areas since 2023.



The National Bank organized a safe and smooth work of the critical operations related to: Payment systems operations in the country, monetary policy implementation and foreign reserves management, as well as conducting international payment operations for the government authorities, thus successfully performing domain In the National Bank continued with direct payment systems oversight which started in the past years, and also carried out a new oversight this year, that resulted in reports, recommendations and coverage of the implementation of the recommendations. These oversights show that payment system operators operate smoothly, adhering to the standards prescribed by the National Bank.

Strategic goal 4 - Improving the investment policy and ensuring optimal return on foreign reserves in accordance with the security and liquidity principles



The volatile movements on the international financial markets caused by the war in Ukraine, the energy crisis in EU and the downward global inflation trend, called for caution in **foreign reserves management and timely adjustment of the National Bank investment strategy**. The foreign reserves management in 2022 was adjusting the investment decisions to the volatile developments in the [domestic foreign exchange market and the international financial markets](#), which enabled further achievement of the core principles: security and liquidity of foreign reserves. Therewith, the flexible foreign reserves management enabled timely and appropriate response of the National Bank to liquidity needs and protection of the Denar exchange rate. In 2022, [with the amendments to the bylaws for Foreign Reserves Management and Investment](#), the National Bank also included the so-called *sustainable* bonds to the list of eligible instruments within foreign reserves.

Strategic goal 5 - Adherence to the standards of the European System of Central Banks



The orientation of the Macedonian economy to the European Union imposes engagement of all institutions, including the National Bank, in various reform activities and projects that in the medium and long run improve the compliance with the European Union regulations. During the year, NBRNM representatives also took part in the regular activities within the European integration process (regular meetings of the Subcommittee on Economic and Financial Issues and Statistics and the Subcommittee on Internal Market and Competition, took part in the

preparation of the Economic Reform Programme, as well as in the preparation of the input of the Republic of North Macedonia to the Annual Report of the European Commission. Regular report on the participation, recommendations and activities of the National Bank in the EU integration processes in the period October 2021-October 2022 was prepared and submitted to the National Bank Council.



In the context of the start of the screening process by EU institutions, the National Bank implemented preparatory organizational activities with all organizational units involved in the process, in order to ensure adequate coordination both within the institution and in communication with other institutions involved in the process. Within the launched screening, in the second half of 2022, representatives of the NBRNM participated in the explanatory screening at the meetings dedicated to economic criteria, Chapter 18- Statistics, Chapter 32-Financial control (in the area of protection of euro against counterfeiting), Chapter 4 - Free capital movement and Chapter 9-Financial Services. Moreover, NBRNM representatives participated in the bilateral screening, at the meetings dedicated to Chapter 24- Justice, freedom and security in the area of euro counterfeiting, Chapter 18-Statistics and Chapter 32-Financial control, in the area of protection of the euro against counterfeiting and the area of economic criteria.

In the field of further strengthening of the capacity, after the completion of the twinning project *Strengthening of the institutional capacity of NBRNM in the process of its accession to the ESCB* which formally ended in March 2021, a meeting was held on 24 March 2022 to discuss the improvement and activities carried out by components (payment services and payment systems, banking regulation and supervision, financial accounts statistics and knowledge and skills in policy analysis), in the period of one year after the project completion, following the recommendations given in the final project report.

The second phase of the Regional program to support Western Balkans central banks II⁹² started in September 2022. The Programme aims at further strengthening of the institutional capacities of the central banks that are final beneficiaries, especially by improving their analytical tools and policies and by transferring the best international and European standards to the national practices. The Programme is implemented and coordinated by the Deutsche Bundesbank, in partnership with 19 national central banks of the European System of Central Banks (ESCB) and the European Central Bank (ECB). The implementation of the Regional Programme II will be carried out through two components which include trainings,

⁹²The programme is EU funded, while beneficiary institutions are: the Bank of Albania, the Central Bank of Bosnia and Herzegovina, the Banking Agency of the Federation of Bosnia and Herzegovina, the Banking Agency of Republika Srpska, the Central Bank of the Republic of Kosovo, the Central Bank of Montenegro, the National Bank of the Republic of North Macedonia and the National Bank of Serbia.

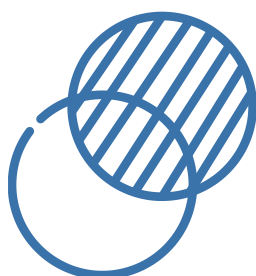
high-level workshops, bilateral measures and internship in key areas of the central banking operations and banking supervision. The training will be primarily focused in the areas of anti-money laundering, banking supervision, financial stability, consumer protection in the field of finance and financial inclusion, bank resolution, communication, financial markets, information technology, research in the area of monetary policy, payment systems, statistics, EU integration, policy management, accounting and internal audit. A training was conducted at the end of 2022 in the area of the central bank communication.

The bilateral technical cooperation between the NBRNM and EU central banks for strengthening of the institutional capacity of the National Bank in the process of its accession to the ESCB continued during 2022. The National Bank achieved a bilateral technical cooperation with the regional central banks, thus exchanging experiences in terms of the role and the obligations of central banks in the EU integration processes.

The harmonization of the statistics with the European and international standards continued during the year. In the area of the financial accounts statistics, in addition to producing the annual balance data, the National Bank also worked on the preparation of experimental data on quarterly financial accounts, by sectors/sub-sectors and financial instruments. Development activities were performed in the new financial account production system. Moreover, in October 2022, the preparation of [the debt securities indicator within the highest statistical data dissemination standard plus of the International Monetary Fund](#) was completed. The preparation and publication of these data enriches the set of available statistical data consistent with international and European statistical standards that are published on the National Bank website and submitted to IMF on a regular basis.

In the field of monetary statistics, the National Bank continued with the activities within the long-term project for establishing an integrated reporting system for statistical and supervisory purposes (ISIDORA). The decision made by the European Commission for developing a single statistical data warehouse for external statistics within IPA 2022 was also in favor of promoting the automation of statistical production. The National Bank also participated in the IPA 2017 project of the SSO for statistics on foreign trade in services, whose primary objective is replacement of the existing data source on exports and imports of services and introducing direct reporting.

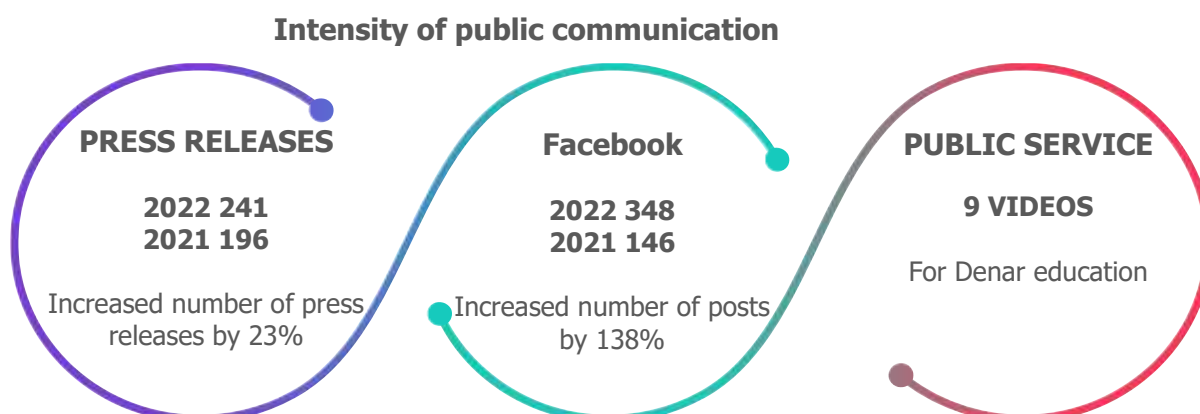
Strategic goal 6 - Increased transparency and accountability



The National Bank aims at openness and transparency in its operations and continuously takes activities to timely inform all interested parties about its decisions, activities, perceptions, positions and assessments, which are important to economic entities and citizens. During 2022, the National Bank carried out number of activities, projects and events in order to fulfill this strategic goal.

[Public relations](#) were also one of the National Bank priorities in 2022, by providing a range of information and content on its operations. The central bank has been proactively sharing reports, programs, analysis and documents. It also started publishing new statistical data, thus enriching the supply of information available to the public. At the same time, through announcements, press releases, interviews and direct meetings, the central bank directly cooperated and communicated with journalists.

In addition to the media, through the communication, the central bank involved the expert community, institutions, the business society, associations, higher education institutions, as well as high and elementary schools.



The National Bank continued with the cooperation and communication with journalists, in order to deepen the cooperation, provide daily access to National Bank posts, as well as to encourage investigative and analytical reporting. For that purpose, the central bank held two journalists workshops. The first one, held in March 2022, introduced the "[Financial System Cybersecurity](#)" to the journalists. In December 2022, a journalists debate was held, entitled "[Economic journalism from independence to this day- journalists and the National Bank aimed at informing and financial education of public.](#)" Moreover, the National Bank timely and thoroughly answered reporter's questions, in order to provide them with quality information for the public, thus answering around one hundred questions, on various topics. The direct involvement of the management is also increased, through interviews, public statements.

Besides informing the public of the monetary policy and current economic situation, the National Bank provided educational contents for the public through employees' statements, to introduce common interest topics, such as security of online payment, recognizing counterfeit banknotes, replacement of damaged banknotes, marking savings days etc.

For the purpose of strengthening the transparency and higher recognition of the National Bank, as well as bringing its operation closer to the public, the National Bank website suffered modifications by adding the [Corporate Management](#)⁹³ part, which describes the operations of **the Strategy and Prevention Office and the roles of the three functions, as second line of defense.** [The Strategy and Prevention Function](#) is responsible for the organization and implementation of strategic planning. The National Bank [strategic goals](#) and its [mission and vision](#) were implemented through its [program activities and projects](#). With the [Reports on the implementation of the Plan of Activities](#)⁹⁴ the National Bank regularly reported on the achieved results, which enabled monitoring and evaluation of the results and the efficiency of the undertaken measures and activities, as well as further strengthening of the transparency and accountability. The National Bank adopted the [Plan of Activities for](#)

⁹³ Moreover, The [The Information Security Policy](#) and [the Business Continuity Policy of the National Bank of the Republic of North Macedonia](#) have become available to public, while a new chapter on the Risk Management was prepared in [the Annual Report of the National Bank](#). The undertaken activities are in accordance with the recommendations in the Transparency Code of the 2021 IMF mission.

⁹⁴ The reports are semiannual, whereby the Semiannual report on the implementation of the program activities is submitted to the strategic managers, while the Annual report on the implementation of the Plan of Activities, which as of 2020 is part of the National Bank Annual Report, is adopted by the Council and submitted to the Parliament of the RNM.

[2023⁹⁵](#) which aims to achieve the strategic goals of the National Bank by optimal targeting of available resources to priority areas, to strengthen all work capacities, and to improve the quality of operations. Thus, in addition to traditional goals related to the monetary policy realization, banking system stability, payment systems smooth operation, foreign reserves management, special attention will be paid to the new strategic goals (transparency, financial education and inclusion, climate change and creation of green and sustainable economy, strengthening of the risk management) set out in the latest [Strategic Plan 2022-2024](#).

During 2022, **the annual financial statements** of the National Bank for 2021 (prepared in accordance with IFRS and approved by the National Bank Council) together with the opinion of the independent external auditor, were submitted to the four institutions specified in the Law on the National Bank⁹⁶. Moreover, they were [published on the National Bank website](#) and in the Official Gazette of the Republic of North Macedonia. Within ten working days after the end of each calendar month, the National Bank prepared a balance sheet for the current month, which was published on the website and submitted to the Minister of Finance, in accordance with the Law on the National Bank.



In 2022, [The Museum of the National Bank](#) performed its current activities related to operating processes which refer to professional museum activities, but at the same time it prepared and performed series of [museum educational activities](#). The revised edition of the brochure for children aged 6 to 14 titled: [The beauties of Macedonia in your wallet](#) was reprinted. Moreover, two short educational video presentations were prepared for primary school students and their presentation in Primary schools, within the Week of History of the Macedonian Money. The exhibition "Worths and Values" at the National Bank Museum marking the jubilee-30 years of monetary independence was thought up, organized and performed as planned⁹⁷.



[The National Bank Library](#), as a specialized library in the country continuously enriches its holdings with the latest and current publications by prominent foreign and domestic publishers in the field of economics. Thus, the library holdings were enriched with professional literature of periodical and monograph titles by foreign and domestic authors as well as with the latest publications of foreign central banks and international institutions and organizations. The regular cataloging and recording in the library application and COBISS, contributed to greater availability of professional literature for both National Bank employees and external users. Moreover, cooperation was realized with the NUL St. Kliment Ohridski on cataloging serial editions. [The archival fund](#) was enriched with digitalized archival material from the National Bank operations and with materials that complement the collections with conventional archival materials. In 2022, there was an increased use of archive material and promotion of materials related to the jubilee-30 years of monetary independence.

⁹⁵ In addition to the textual recording of The Plan of Activities for 2023, there was also a presentation on the National Bank website, to increase the transparency and inform the public with the National Bank's activities for 2023.

⁹⁶The President of the Republic of North Macedonia, the Assembly of the Republic of North Macedonia, the President of the Government of the Republic of North Macedonia.

⁹⁷The opening was at 7.7.2022 and remained available to the public until 7.1.2023.

Strategic goal 7 - Financial education and inclusion



The National Bank enhanced its activities on [financial education and inclusion](#) for the youngest, but also for the older population. With the realization of the activities envisaged with this strategic goal, the National Bank commits itself to financially more educated and protected population which will have more knowledge about the advantages of using various financial services, as well as increased risk awareness.

In accordance with the National Bank commitment to [strengthen consumer protection](#), enhance bank supervision in this domain, as well as further develop financial education, following the organizational changes, the new organizational unit-Consumer protection and financial education department started was introduced in the National Bank since the first quarter of 2022. The department is composed of two units: Supervision and Financial Education Unit.

In 2022, the Department reviewed and amended the current regulation in the consumer protection domain and analyzed the banks' set-up in the field of consumer protection. At the same time, the National Bank introduced a centralized system to record, verify findings from consumer complaints against banks and respond thereto. In September, the National Bank had a working meeting with representatives from banks and savings houses and presented the analysis of the consumer protection survey conducted with banks, which covered aspects related to responsible lending, banking services fees, as well as handling of complaints against banks and savings houses. The findings of the analysis indicated that the total number of complaints in the banking system in 2021 is reduced below the level in 2018, and the banks usually submit the responses to the complaints to the clients within 15 days, which is comparable with the practice in other countries. However, the approach to consumer protection is different in scope and quality and depends on the banks' policies.

Towards the end of 2022, the circular for banks, containing the best European and international practices and recommendations in the consumer protection domain, was completed. The circular should further improve the transparency and the banks' and savings houses' approach to their clients, including the approach to consumer complaints (adopted in March 2023). Since the end of 2022, the National Bank, together with other financial regulators, has been preparing the Draft-Law on Financial Ombudsman, which covers the settlement of possible disputes between natural persons as users of services and the financial services providers.

Complaints submitted to the National Bank by natural persons, users of financial services in the banking sector. In 2022, the National Bank received a total of 166 letters/complaints from natural persons, which compared to last year increased by 32.8% annually.

Regarding the entities these letters/ complaints refer to, most of them, that is 121 or 73% of the total number of complaints and letters still refer to the operations of certain banks, while 3 complaints refer to savings houses. The other 42 letters are in fact data requests, i.e. information about banks and savings houses with revoked operating licenses, requests that refer to the work of the National Bank credit Registry and other requests.

In 2022, 74% of the total number of complaints to the National Bank refer to the group of large banks, 16.9% refer to the group of medium-size banks, while the share of complaints about the small-size banks is 6.5%. 21 complaints or 17% of the total complaints submitted

to banks and savings houses were decided in favor of the complainants. The analysis of complaints about certain banking products and services shows that in 2022 complaints about transaction accounts prevailed (34%), followed by consumer loans (19%) and debit and credit cards (13%).

The Consumer Protection Department conducted several horizontal off-site inspections during 2022 in various fields, such as: Inspection of the consumer loan agreements on energy efficiency and use of renewable energy sources, checking the provisions for early repayment in the housing and mortgage loan agreements, checking the provisions of the new Law on Consumer Protection, checking certain types of fees etc.

In 2022, the National Bank continued with intensified activities in the **financial education** domain, most of which were in the context of marking the 30th anniversary of the monetary independence and the introduction of the denar. With the regular financial education activities, such as: educational presentations, contests, quizzes and announcements, the National Bank contributes to the increase of the financial literacy and financial inclusion of our population.

Activities related to the Financial Education and Financial Inclusion Strategy 2021-2025. In 2022 the National Bank continued with the implementation of [the Financial Education and Financial Inclusion Strategy](#), which was adopted by the financial regulators in 2021. In accordance with the activities from the Strategy, in August 2022, the National Bank, together with other financial regulators, adopted the core financial education competences, which include basic knowledge, skills, views, motivations and behaviors in terms of finances a person should possess in different stages of life. During 2022, the working group for monitoring of the strategy implementation held two working meetings with representatives of financial regulators, private and civil sector, in order to take coordinated activities to increase the financial education and financial inclusion, as well as to increase the financial services consumer protection. Among other things, in accordance with the Strategy, the National Bank prepared a Register of entities active in the field of financial education, which is published on the financial regulators' websites. Consumer protection activities were intensified in accordance with the provisions of the Strategy.

Organization of financial education events



Educational presentations, materials and press releases. In 2022, a total of 116 educational lectures for primary and secondary school students, faculties and preschool children were held, which is a [record-breaking number of lectures held](#) in the period 2013-2022. Moreover, 4,386 primary and secondary school student, preschool children, professors and teachers were included. In 2022, the National Bank prepared an educational brochure entitled: *Safety in the use of digital products and services* in Macedonian and Albanian, which was published in separate segments on the National Bank profiles on social networks. In 2022, twice the amount of financial education and financial inclusion content was published on the National Bank Facebook, Instagram and Twitter profiles, as well as appearances in the

media on the occasion of the World Savings Day The National Bank prepared and published an educational infographic entitled: *Financial education of youngsters-Survey* in Macedonian and Albanian, published on the website and social networks. Moreover, the results of this survey point to a conclusion that classical lectures, combined with educational materials on Internet and video materials are significant to the financial education of the youngsters in the modern digital era.

Cooperation in the field of financial education. In order to promote the cooperation, in 2022 the National Bank signed a memorandum of Cooperation in the field of education with the South East European University (SEEU) and the Union of Mathematicians of Macedonia. The financial system regulators, members of the Coordinating Body for Financial Education and Financial Inclusion, held four regular meetings to discuss their joint activities in this domain. During the year, within the regional technical assistance project for financial education by the INFE-OECD and the Ministry of Finance of the Netherlands, an online presentation was performed by the INFE-OECD on the evaluation of the national strategies and educational programs, within the working meeting between the financial regulators and private and civil sector entities. This regional project was completed at the end of 2022.

Strategic goal 8 - Increased awareness of climate change and contribution to a green sustainable economy



The National Bank undertook activities for environmental protection and greater commitment to the *green growth* and its financing, recognizing **the climate change** as one of the largest global threats which become increasingly important to central banks. In order to strengthen the analytical framework and the climate risk management, at the beginning of 2022 the National Bank conducted a Survey that involved banks and savings houses in the country. The Survey was aimed at perceiving the banks' and savings houses' awareness of climate risks and at identifying the practices and policies they use to monitor and manage climate-related risks. The Analysis of the [Survey results](#) served as a basis for future National Bank activities related to the monitoring of climate risks and their integration in the financial stability risk assessment.

Taking into account the specific characteristics of these risks, the National Bank activities during 2022 were aimed at raising internal capacities, mainly through attending trainings on the new tools used for assessing the effects of the climate-related risks on the banking system. A system for regular reporting on green loans and sources of funding was established during the year. Data by banks on cumulative basis and by group of banks are available at the National Bank [website](#).

In order to mitigate the undesirable consequences of the climate change on the banking system, during the year the National Bank initiated a project with FinSAC(World Bank) for establishing a Strategy for the National Bank activities in the area of climate risk management for the period 2023-2025. The strategy is aimed at activities for climate change risk management by banks, as well as monitoring of climate change systemic risks. The preparation of the Strategy, with a clearly defined action plan, will be completed during 2023, and followed by an implementation period of the planned activities. The National Bank,

through its representatives, is actively involved in the working groups of the [Network for Green financial system](#) that are committed to monitoring and management of climate change risks.

In addition to these activities, when preparing the Decision on reports and data disclosure by banks and the Decision on the methodology for credit risk management, a detailed analysis was made in 2022 of the international standards and recommendations in terms of data and information that banks are required to disclose regarding risk exposures related to climate change, as well as the manner in which banks shall include the management of climate-related risks in the overall risk management system, especially when managing credit, liquidity and operational risks. Following the example of large number of institutions and supervisory bodies (The Basel Committee, EBA, ECB, FSB, NGSF), the National Bank is working on the preparation of Guidelines for managing risks arising from climate change for banks and savings houses⁹⁸

Given the energy crisis and the global growth of energy prices, the National Bank introduced a new non-standard measure in the reserve requirement system, aimed at encouraging projects related to domestic production of electricity from renewable sources. Moreover, by adding **the so-called sustainable bonds to the list of eligible instruments within foreign reserves, the National Bank expressed its social and environmental responsibility.**

Strategic goal 9– Strengthening the National Bank risk management



The risk management is a necessary element of the good [corporate governance](#) which contributes to the efficient achievement of the strategic goals, mandate and vision.

The financial risks ⁹⁹the National Bank is exposed to are mostly in the field of foreign reserves investments of the Republic of North Macedonia, and may also arise from the conduct of the monetary operations¹⁰⁰. The intensified monetary tightening by the developed economies, as well as the attitudes of the monetary authorities regarding the determination for further significant monetary policy tightening to deal with the global inflation trend, increased the yields of the instruments with fixed yield. In such circumstances, the National Bank started maintaining a high level of the most liquid assets which, together with the prudent approach of foreign reserves management, led to a gradual, moderate decrease in the average duration of portfolios. In this manner, **more prudent approach to investing was enabled that provides lower interest risk**, i.e. protection of portfolios against possible growth of yields, greater liquidity potential, as well as possibility of investing at higher yields in the future. Moreover, given the high volatility of yields, which limited opportunities for long-term investments, and in order to provide predictable and relatively high revenues, the new investments during the year were mainly directed towards the investment portfolio to maturity.

During 2022, **the National Bank's exposure to operational risks was regularly monitored and reported, with active implementation of measures, which aim to**

⁹⁸In the preparation of these guidelines, experiences of the World Bank experts (FinSAC) were used within the technical assistance by this institution.

⁹⁹Financial risks are the risk of potential financial losses.

¹⁰⁰ The exposure to the individual types of financial risks arising from the foreign reserves management is described in Section VI of this Report and strategic goal 4.

reduce the potential operational risks. The annual in-depth operational risk assessment monitors the risk profile of the National Bank in terms of operational risks, as well as the strategies and measures for addressing operational risks to protect against events that may affect the achievement of the goals, the financial result and the reputation of the National Bank. The Operational Risk Management Committee regularly informed the National Bank Council of the exposure to operational risks, on a semiannual and annual basis¹⁰¹. The National Bank is constantly working on improving the operational risk management capacity by maintaining regular contacts with other central banks, following the novelties in the field of operational risks that take place through the international association IORWG¹⁰² and implementing the proposals acquired in cooperation with the IMF and the ECB.



To strengthen the **cyber resilience** capacities, as a goal subordinated to the purpose of strengthening the National Bank risk management, in addition to the already set systems and security measures, the National Bank adopted a strategy to strengthen the Security Operation Center, which is to be implemented in three stages.

During 2022, the National Bank conducted tests of **the business continuity plans of the critical business processes**, regular annual update of the business continuity plans, on the basis of which it prepared the Annual Report on the implementation of the Business Continuity Policy of the National Bank and the new updated Business Continuity Plan of the National Bank which were discussed and adopted by the Crisis Center. To strengthen its operational resilience, the National Bank launched a project to prepare the Cloud Computing Strategy.

To raise the awareness of the employees about the **IT security, personal data protection and classified information security**, in 2022 the National Bank conducted trainings for 194 employees. Regular annual assessment of the National Bank compliance with the SWIFT customer mandatory security controls was conducted, while data on the National Bank compliance with the mandatory controls provided for in the SWIFT Customer Security Control Framework¹⁰³ were timely published in the appropriate register¹⁰⁴. Moreover, the reported incidents were efficiently managed, while the Annual Report was reviewed and adopted by the Information System Steering Committee of the National Bank.

In 2022, a total of 114 written opinions on enforcement of personal data protection regulations were submitted. The implementation of the recommendations from the previous years' controls of the compliance with data protection regulations and internal regulations for information security was monitored, and an Annual Report on the National Bank's compliance with the personal data protection regulations was prepared, which, after being adopted by the Audit Committee, was adopted by the National Bank Council.

In 2022, the National Bank confirmed its commitment and efforts to **develop and strengthen the compliance of employees and Council members**. The beginning of the year was marked with the adoption of the new basic regulations on the operation of the compliance function, **the Policy and Instructions on the manner of operation of the compliance function**¹⁰⁵, which improved the compliance regulations and enabled its further

¹⁰¹After being adopted by the Operational Risk Management Committee, the NBRNM annual and semiannual Report on Operational Risk Management is submitted to the Audit Committee and the NBRM Council for reviewing and adoption.

¹⁰² The International Operational Risk Working Group (IORWG) is devoted to improving the operational risk management in the central-banking activity.

¹⁰³ SWIFT Customer Security Controls Framework v2022.

¹⁰⁴ KYC Registry Security Attestation

¹⁰⁵ Po No. 02-15/I-1/2022 of 3 February 2022; No. 02- 5458/1 of 17 February 2022.

approximation to the international standards and the best European practices. At the same time, it enables further improvement of the compliance function, strengthening its competences in terms of prevention, detection and reaction and more efficient action mechanisms.

In September, the National Bank adopted **a new revised Code of Ethics for the National Bank Council members and employees**¹⁰⁶, which additionally increased the principles/ compliance regulations and enabled strengthening of the institutional and professional integrity, legality, responsibility, transparency in the fulfillment of the Council members' public functions and the performance of tasks/ activities of the National Bank employees. Internal procedures in the field of prevention of conflict of interest and bribery, attending social events, public communication, attending and participating in events and communication with public were also determined. **Strengthening cooperation with the State Anti-Corruption Commission by signing a Memorandum, assessing**¹⁰⁷ **corruption risks on the basis of the Annual Corruption Risk Assessment Plan**, are part of the relevant activities for preventing any occurrence of corruption/ corruption risks in the operations.

In the field of education, this year, **the compliance function performed educational activities and organized trainings related to the compliance regulation, by introducing theme presentation of interest to individual departments**. The compliance function remains committed to improvement and continuous development of the National Bank compliance, especially in the capacity of additional mechanism to support and strengthen the compliance of the employees and Council members of the National Bank.

The internal audit, as a **third line of defense**, continues with the audit activities of the operation of the first and second line of protection, in terms of compliance with the legislation, bylaws and internal regulations, the reliability of financial and other information, as well as the effective and efficient use of assets and resources. In 2022, all of the planned audit activities were conducted in relation to the regular audits and the process of monitoring of the given recommendations, with a realization deadline in 2022. The internal procedures for IA operations were revised within the quality assurance and improvement Program of the Internal Audit Department (IAD). Moreover, the IAD prepared a report on the periodical self-assessment of the adequacy of IAD internal acts, as well as a report on the assessment of the contribution of internal audit to improvement of the National Bank operations, in line with the requirements of the International Standards for the Professional Practice of Internal Auditing¹⁰⁸.

The National Bank continues to develop and promote **financial recording and reporting** in order to enable more efficient financial management, dynamic planning and monitoring of the balance sheet of the National Bank. During the year, the National Bank improved some of the application solutions in the field of financial accounting operations, thus achieving greater efficiency in the execution of processes and reducing operational risks.

¹⁰⁶ E: K No. 02- 15/ XIV -1/2022 of 2 September 2022.

¹⁰⁷ Three (3) corruption risk assessments were conducted, i.e. risk assessment of conflict of interests among all National Bank Council members and the Banking Regulations and Resolution Department and assessing risks of receiving illegal gifts, or any benefits, rewards, compensations with the On-site Supervision Department.

¹⁰⁸ The IAD prepares a detailed report on the operations on a semiannual basis, revised and adopted by the Audit Committee, and adopted by the National Bank Council. For more details on the ISD operations, see section IX of the NB Annual Report.

Within the activities to improve the institutional capacity **to manage legal risk** and resolve property law issues, the National Bank received legal support for its operations by legal opinions, drafting and revision of legal acts and documents.

Institutional capacity

11.1. Institutional capacity: IC1 Integrity and trust in the national currency



During 2022, the National Bank regularly supplied banks and cash centers with **banknotes and coins** in order to maintain the efficiency of the supply system and timely undertake measures for ensuring its stability and continuity. **In accordance with the legal competences and authorizations, the National Bank also conducted the oversight of the supply of banknotes and coins at banks and cash centers through on-site and off-site controls. At the year-end, the National Bank undertook preparatory activities for implementing the standardized platform for trainings for banks' and cash centers' employees for authenticity and fitness checking of the currency in circulation, as well as for realization of the national training plan, according to the recommendations of the Twinning Project" Strengthening of the capacities of the system for fight against counterfeiting of the EUR."**

Within the regular activities, the National Bank monitored the demand for effective foreign currencies for the needs of the National Bank, government institutions and governing bodies and intervened in a timely manner to adequately meet the needs. The National Bank performed regular activities such as: Processing cash returned from banks and cash centers, selling numismatic materials, selling commemorative coins and collector coins, expert analyses of all submitted suspicious banknotes and coins and replacement of banknotes and coins that are unfit for circulations or are no longer legal tender.

The National Bank regularly issued and sold coin blanks for the needs of the Ministry of Finance, while for the needs of the Customs Administration it received, stored and issued control stamps to mark tobacco products and alcoholic beverages.

11.2. Institutional capacity: Human resources¹⁰⁹



The National Bank continuously commits itself to developing modern that will be adjustable to the rapid changes to the environment. For that purpose, during 2022, the National Bank amended and improved the internal acts regulating the tasks, rights and obligations of the National Bank employees. There were constant activities for providing and recruiting employees, proper organizational structure and staff engagement. There were no interruptions in the regular activities for professional staff development, while internal mentor training was conducted for the future mentors, as well as a leadership training, to strengthen the management.

¹⁰⁹ For more details, see section X. Human resources management.

11.3. Institutional capacity: Information system



The National Bank took number of activities to maintain a safe and stable information system, thus providing a high information system accessibility and smooth and regular implementation of tasks within its working processes. The National Bank has recognized the information system contribution to its daily operations, as well as its importance to the professionalism and reputation of the National Bank and its employees. Taking all this into consideration, the National Bank continuously invests in maintaining a stable information system and its constant upgrade in conditions of rapid IT change.

During 2022, the National Bank was actively engaged in reducing cyber risks, as well as proper functioning of servers and workstations and their regular upgrade. In terms of monitoring security events and incidents, during 2022 the National Bank developed and adopted a Strategy for improving the tracking of security events and incidents, which is to be implemented during 2023. In order to confirm its IT security, during 2022 the National Bank carried out penetration testing of its information systems by an external company, whereby no high-level threats were detected.

11.4. Institutional capacity: Statistical data



Statistical data are the basis for adopting appropriate and timely measures and decision in the monetary and financial domain. For this reason, during 2022, the National Bank regularly collected, prepared and published statistical data in the area of external and monetary statistics, in accordance with the Advance Release Calendar. The National Bank continued to improve the statistical data quality and to cooperate with national and international institutions.

In the field of monetary statistics, the National Bank regularly prepared and disseminated data, reports, information, presentations and press releases on monetary statistics in line with the pace projected. Regarding external statistics, during 2022, the National Bank continued to collect data, prepare and publish reports, as well as press releases in the external statistics domain. Activities to improve BoP and IIP data by drafting a new methodology for private transfers and foreign currency cash outside the banking system were also taken.

Within the UN project "Evidence-based policy planning and migration discourse", personal remittances surveys were especially important to the National Bank. The survey was conducted during 2022, while a report on the personal remittances survey in the Republic of North Macedonia was prepared.

11.5. Institutional capacity: Research



During 2022 the National Bank organized Official marking the [30th anniversary of monetary independence](#), presenting the work of the National Bank and the role it plays in maintaining macroeconomic stability, promotion of central banking operations and improvement of the economic situation. The role of the National Bank is also important in maintaining denar stability and the overall financial stability, which were put on trial at the onslaught of the most devastating economic crisis, caused by the COVID-19 pandemic. The National Bank is one of the pillars of the overall economic system stability, by achieving its goals and by supporting the economy through appropriate policies and measures. At the same time, during 2022, the National Bank hosted the international research conference, where distinguished experts in the field of economics and finance presented their views and discussed the current and future challenges.

The National Bank paid close attention to [research](#) in areas that are crucial for the achievement of its objectives and tasks. Within these research activities, the National Bank aimed at greater use of detailed micro-databases, as well as big databases. Big data). The National Bank will continue to actively and devotedly prepare research papers that will contribute to its own domain of work.

In 2022, the National Bank continued to organize the [Research Club](#) on a quarterly basis where working materials and research papers on relevant topics are being presented and discussed. The National Bank awarded the Annual Prize for young researchers this year as well, while the prizewinning paper was presented at the [43rd Research Club session](#). In 2023, the National Bank will continue to promote the research activity and organize the Research Club.

