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Financial Stability Risk Assessment

- the first half of 2022 -

Issue 1: November 2022

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Abbreviations

GDP	Gross Domestic Product
BH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
ECB	European Central Bank
EU	European Union
EUR	Euro
EURIBOR	Euro Interbank Offered Rate
KM	Convertible mark
LCR	Liquidity Coverage Ratio
MREL	Minimum Requirement for own Funds and Eligible Liabilities
NPL	Nonperforming loans
NSFR	Net Stable Funding Ratio
USD	US dollar

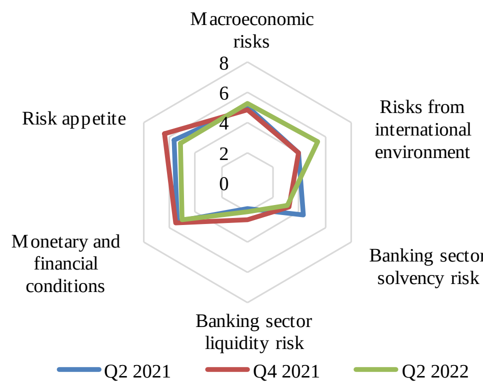
Summary

- High and fast growing inflation, as well as a stronger growth of economic activity than originally expected marked the first half of 2022, both in BH and globally. Due to increasing risks from international environment, the overall financial sector exposure to macro financial risks slightly increased.
- At the end of the first half of 2022, financial soundness indicators confirmed the banking sector stability and resilience to the risks arising from macroeconomic environment. Sound capital positions and high liquidity increase banks' ability to absorb risks, which is supported by the results of conducted solvency and liquidity stress tests, pointing out that banking sector is able to absorb very strong macroeconomic shocks assumed in adverse scenarios. Financial cycle indicators show that lending remained weak, the financial cycle being in the negative area while a negative gap in the loan to GDP ratio deepened additionally in the observed period. Despite increasing risks from macroeconomic environment, at the end of first half of 2022, there were no signs of credit risk growth. The growth of benchmark rates in the euro area market was also not reflected in the growth of interest rates in BH banking sector until the end of the first half of 2022. In the period ahead, a gradual growth of interest rates and credit risk increase can be expected.
- The following key activities related to strengthening of legal and regulatory framework for bank operations in BH in the current year can be stressed: increase of the insured deposit amount and adoption of the Methodology for setting minimum requirement for own funds and eligible liabilities (MREL).

1 Macroeconomic Trends and Financial Stability Risks

Despite positive economic trends in BH during the first half of 2022, the overall financial sector exposure to systemic risks has been increasing due to the current geopolitical trends and high uncertainty, and the related high and persistent inflation caused by lower availability of energy sources and disruptions in supply chains. The growth of energy prices is one of the key global problems which will in the period ahead significantly impact the growth of business operating costs and also the living standard of BH citizens. Tightening of monetary policies worldwide spills over to financial markets, while the growth of EURIBOR starts gradually to impact BH financial sector.

Graph 1: Macrofinancial Risks Diagram



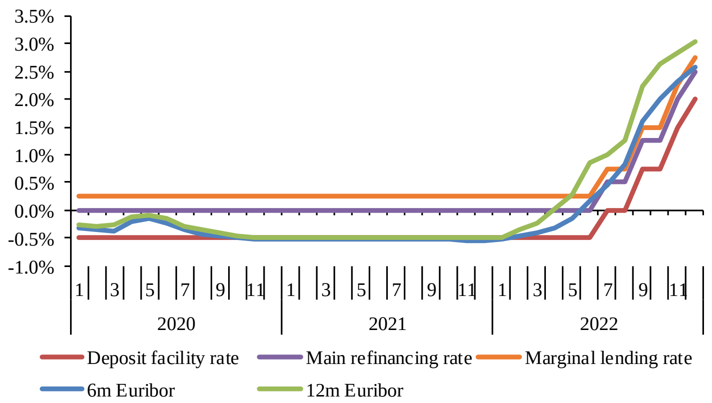
Source: CBBH
Note: Increase in distance from the graph center means higher risks and also represents improvement in monetary and financial conditions and higher risk appetite

The overall financial sector exposure to macro financial risks in the first half of 2022 increased, mainly under the effect of global risks which for the first time shifted from low risk level into slightly higher risk level (the grade of risk level above 5 in Graph 1).

The overall risks coming from international environment significantly increased compared to the end of 2021, and due to increased uncertainty caused by additional disruptions in supply chains and growth of food and energy prices due to the war in Ukraine, international financial institutions revised downwards the growth projections for the current and next year. The slowdown of economic activity of main export partners contributed to the growth of risks arising from international environment and spilling over to the local economy. Increase of foreign trade volume, with the deepening of balance of payments deficit increased risks from international environment, having in mind the expected decrease of external demand in the period ahead. As a response to the sharp inflation growth, leading central banks in the world started to tighten their monetary policies, increasing their benchmark rates several times during 2022. After several year long period in which EURIBOR recorded negative values, the EURIBOR rates for all maturities started to increase in 2022, with their growth accelerating dramatically in the second half of 2022 after the ECB started to raise benchmark rates (Graph 2).

The growth of benchmark interest rates in the period ahead will inevitable impact the growth of interest rates in BH. On the other hand, appreciation of US dollar in relation to euro and most currencies in the world will not have significant direct implications on BH economy, having in mind a low share of BH foreign debt in US dollars in the total BH foreign debt (around 5% of BH foreign debt is related to the debt in dollars).

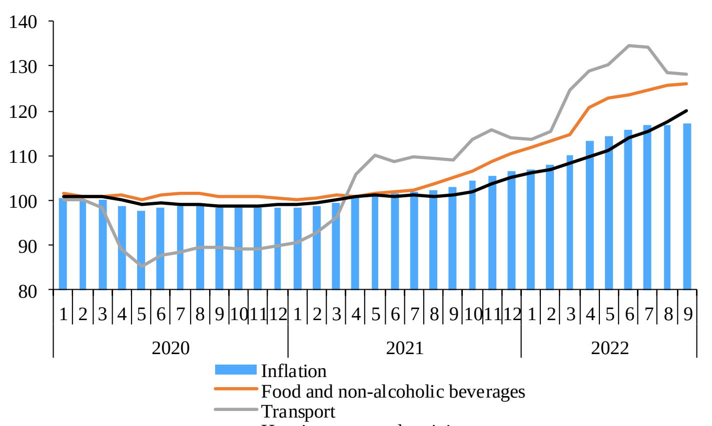
Graph 2: Trend of the ECB Benchmark Interest Rates and Euribor



Source: ECB

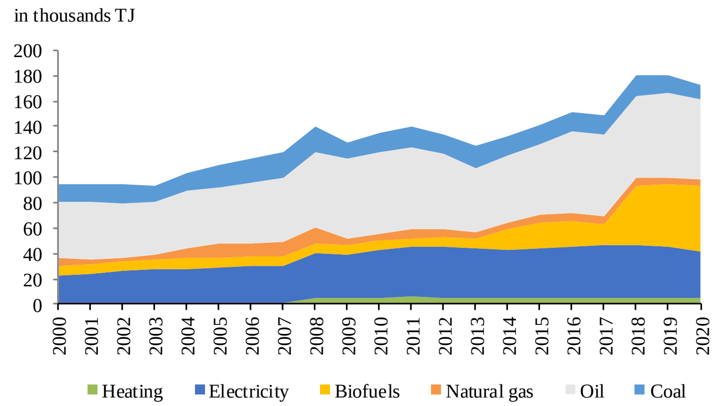
Increase of risks in the domestic macroeconomic environment in the first half of 2022 was mainly caused by a strong inflation growth which is currently considered the most significant risk for the local economy. Accelerated growth of consumer prices started as early as in the second half of 2021, and from March 2022, inflation rates have had double digit values. The average inflation growth in the first nine months of 2022 was 13.3% compared to the same period of the previous year. The inflation pressures in BH were under a prevailing effect of consumer prices in the categories of food and transport (Graph 3), which were on their record high values at the global level as well. The latest available data show accelerated growth of consumer prices in the category of housing which includes the prices of supplies of water, electricity, gas and other energy. Graph 4 shows the total energy consumption in BH by sources. As gas price increased in 2022, it is important to mention that according to the latest available data of the International Energy Agency, gas accounts for only 3.3% of the total energy consumption in BH which indicates, among other, that our country is less exposed to the risk of lacking this source of energy compared to most EU countries. A much more important share in the total consumption is taken by electric energy with 22%, however,

Graph 3: Consumer Price Index in BH, Annual Change



Source: BHAS

Graph 4: Total Energy Consumption, by Energy Sources



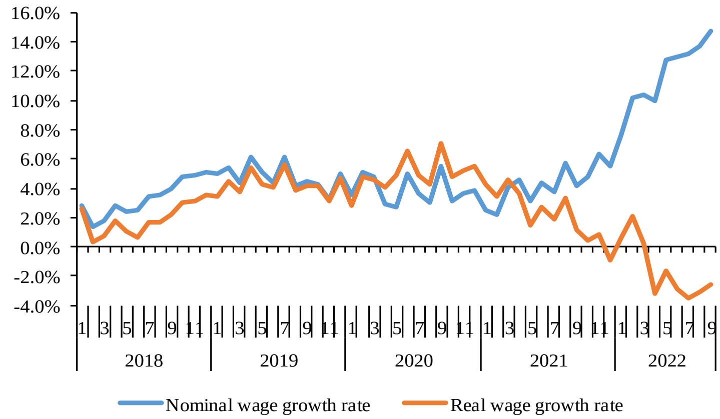
Source: International Energy Agency

electric energy prices for households and business in 2022 were restricted by the Entity government measures, which successfully mitigated the risk of excessive growth of electric energy prices. Taking into account the share of biofuels of 27.4% in the total energy sources, the record high growth of pellets price of around 200% during 2022 forced the Entity governments to pass a harmonised decision on determining the maximum price per ton of pellets, while the Council of Ministers of BH passed a Decision on the provisional ban on exports of some timber assortments and wood products, including pellets, to be in effect until the end of January 2023. Such decision mitigated the energy price shock keeping the price of pellets at roughly 85% higher level compared to the average price from the last year. Oil as the most used energy source with the share of around 37% in the total energy consumption, and net import energy source the price of which is determined at the global market is a dominating factor of energy shock transmission on inflation in BH. Additional pressure of the mentioned shock is appreciation of USD to EUR, as all the contracted oil prices on global markets are denominated in USD. Unlike some governments in the region and the world, there were no government interventions in BH during 2022 to influence oil price through optional decrease or revoke of excise duties on a certain period of time or limiting prices through subsidies for some categories of households and business.

Except for the strong inflation growth, positive trends in the local macroeconomic environment significantly mitigated the growth of macroeconomic risks in BH in the first half of 2022. The growth of the domestic economic activity continued in the first half of the year (5.9%), while the slowdown of economic activity can be expected in the second part of 2022 due to a strong growth of prices of raw materials, energy and food. The growth of economic activity in the first half of the year influenced continuing positive trends on labour market which are seen in decreased unemployment rate, which, according to the Labour force Survey in the second quarter of 2022 amounted to 15.7%, and the growth of nominal wages. However, these indicators do not point out the growth of households' living standard, taking into account growing inflation decreasing the real income of households (Graph 5).

Positive trends recorded in fiscal sector in short term improved the country's fiscal position, which impacted a slight decrease of fiscal sector risks for financial stability. Decrease of risks from fiscal sector in the first half of 2022 arose from continuing growth of revenues of general government sector and the growth of budget surplus at BH level on consolidated basis. Until the end of the year, stronger growth of budget expenses can be expected, mainly under the impact of various measures and programmes of support for households, particularly the most vulnerable groups, with purpose of mitigating the negative consequences caused by a strong inflation growth. BH public debt in 2022 has remained at the roughly the same level as in the previous year. At the end of the first half of 2022, the total BH public debt amounted to KM 12.8 billion, out of it, 76% applies to foreign debt. Having in mind that BH is still in the group of countries with moderate debt level, with the public debt share to GDP amounting to 32.35%, the risk for public finance stability is assessed as moderate in medium term.

Graph 5: Net Wages, Annual Change



Source: BHAS, CBBH

Macroeconomic risks arising from balance of payments increased in the first half of the year, which is mainly a consequence of a strong growth of trade deficit. Nevertheless, despite the growth of nominal deficit, and deficit in relation to GDP, there is still no significant fear that current account deficit will not be adequately covered by the balance of payments financial categories, i.e. that it will represent a threat for economic or financial stability of BH in 2022.

The total monetary and financial conditions in the first half of 2022 slightly tightened, resulting mainly from a decline of real money supply and a small change of lending standards. A strong growth of inflation without interest rate growth resulted in additional decreasing of the level of real rates. Despite this, a higher growth of lending to private sector was not recorded, so the value of the indicator mearing the gap of private sector loans to GDP ratio is far in the negative area. With deterioration of macroeconomic, financial and monetary conditions, investors' risk appetite declined, so deterioration was recorded in all the sectors related to investment in the first half of the year (inflow of foreign direct investment, portfolio investment etc..).

According to available data, the growing trend of the real estate prices in the category of new dwellings has been continued in 2022. As a significant growth of real estate prices was present since the beginning of COVID crisis, this can indicate possible imbalances in real estate market. Tightening of financing conditions in combination with a decline of real income could in the period ahead impact a decline of demand for real estate, which would ultimately impact the trend of real estate prices.

Projections of economic trends in BH in the period 2022-2024 are made in circumstances of exceptionally high uncertainty and increased risks, arising mainly from the further developments of war in Ukraine. Although a direct effect of the war in the Ukraine on BH economy is limited, indirect impact through destabilisation of global economic markets and increase of inflation pressures is a very high risk for economic trends in BH. Therefore, despite unexpectedly high real growth of GDP in the first half of 2022, reaching 5.9% on annual basis, macroeconomic risks for the second half of 2022 and for medium term period (2023-2024) are not mitigated so a considerable slowdown of BH economic activities is expected from the second half of 2022. Due to the expected economic slowdown in the second half of the year, real annual economic growth rate for 2022 is projected at the level of 4.1%, which is a significantly lower rate of economic growth than the one recorded in the first half of the year. In 2023, real GDP growth rate is expected to further slow down to 0.9%, with the economic growth in 2024 reaching 1.0%.

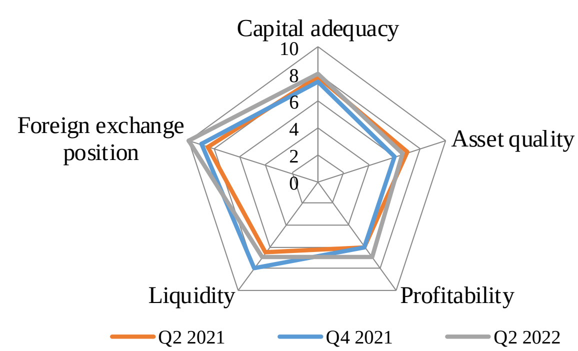
Inflation as an economic variable which marked 2022 will continue to record double digit growth rates until the end of this year, while the total inflation rate for 2022 is forecasted at the level of 14.4%. Despite the expected weakening of pressure on consumer prices in the following two years, inflation rate will remain above the long-term average for BH. So, inflation rate is expected to reach 6.1% in 2023 and 3.0% in 2024. However, it should be noted that inflation is an economic indicator related to significant risks, which is why forecasts of this indicator could be subject to frequent revisions in medium-term period. Having in mind the uncertainty related to the duration of the war in Ukraine, and particularly its impact on global prices in energy and food sectors, the risk of continuing adverse inflation trends remains high. Due to continuing inflation pressures at the global level spilling over to BH market, real income of households in BH is expected to decrease, which will consequently influence private spending, as the largest category in the structure of GDP, and ultimately GDP in general. Therefore, inflation will remain an economic category where a dominating focus in future projections will remain, the trend of which will determine the overall economic activity in medium term period.

2 Banking Sector Trends and Risks

Although all the available data for the end of the first half of 2022 lead to the conclusion that BH banking sector is sound and resilient to the existing risks, developments on the international geopolitical scene and consequently economic scene will make this sector face new challenges. Its adjustment to a new situation and measures to be taken by competent regulators will impact the level of exposure to risks and their effects for individual banks and banking sector on the whole. The first wave of the crisis caused by the war in Ukraine and sanctions for the banks in Russian ownership which caused a liquidity shock in BH banking sector in the first quarter of 2022 was overcome successfully due to a fast and efficient intervention of local regulators, but also a good liquidity position of banks which were able to absorb short-term liquidity shocks. Challenges ahead of the banking sector, which are also the consequences of the current geopolitical situation in the world, are related to tightening of monetary policies spilling over to international financial markets. The trend of EURIBOR will inevitably lead to gradual increase of interest rates in BH, which will indirectly bring about the growth of credit risk. Additionally, due to a strong growth of inflation which will make difficult the servicing of private sector debt, increase of credit risk in medium term can be expected.

On the basis of the financial soundness indicators chart presented in Graph 6, it can be concluded that BH banking sector is stable and that the sector resilience to risks has been increased in relation to the same period of the previous year and in relation to the end of 2021. Indicator assessments improved in segments of profitability, asset quality, capitalisation and foreign exchange risk, while only the assessment in the liquidity segment slightly deteriorated compared to the end of the previous year due to the liquidity shock related to the beginning of the war in Ukraine and problems in the operations of banks in Russian ownership recorded in the first quarter of 2022. Despite increase of risks in macroeconomic environment and the expiry of regulators' provisional measures aimed at mitigating negative economic consequences caused by the coronavirus, credit risk did not realise until the end of the first half of 2022. On the contrary, several year long trend of

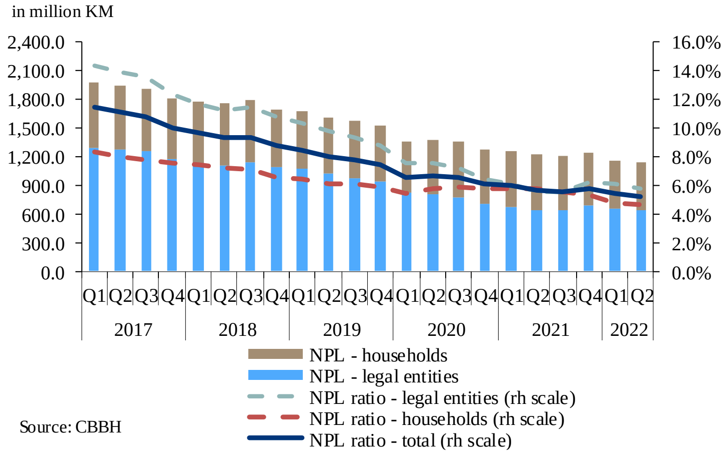
Graph 6: Banking Sector Financial Soundness Indicators Diagram



Source: CBBH

improvement of asset quality indicators at the system level continued in the first half of 2022 (Graph 7). Improvement of credit portfolio quality was recorded in almost all the banks so credit risk significantly declined. The share of non-performing loans in the total loans as of the first half of the 2022 amounted to 5.19%. With the decrease of non-performing assets value, improvement of asset quality indicator in the first half of 2022 was also impacted by the growth of the total financial assets. After the absence of credit growth in the first quarter of 2022, lending slightly recovered in the second quarter. Due to intensification of lending in the second quarter, loans to private companies increased by 4.7% in the first half of 2022 compared to the end of the previous year, while loans to households increased by 3.2%.

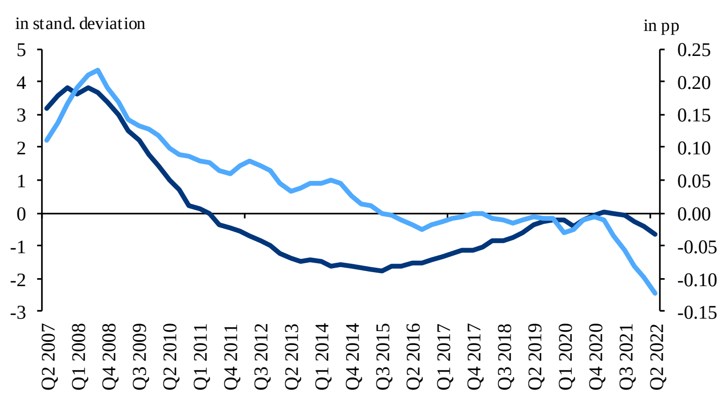
Graph 7: Loan Portfolio Quality



Source: CBBH

Financial cycle indicators show that lending remained weak, with financial cycle being far in the negative area (Graph 8). In the first half of 2022, negative gap of loan to GDP ratio additionally deepened reaching even -12%, showing under-average lending activity without visible risk of overheating. Composite financial cycle indicator[1] also shows a negative cycle of around -0.65 standard deviations. On the basis of estimated contributions of each of variables used in composite indicator, it can be concluded that most included lending indicators together with indicators of bank operations, interest rate spread and stock exchange indices, had a negative contribution to composite financial cycle indicator. On the other hand, non-performing loans, money supply, labour market indicators and foreign borrowing mitigated a decline of indicators, i.e. they point out a gradual recovery of financial cycle.

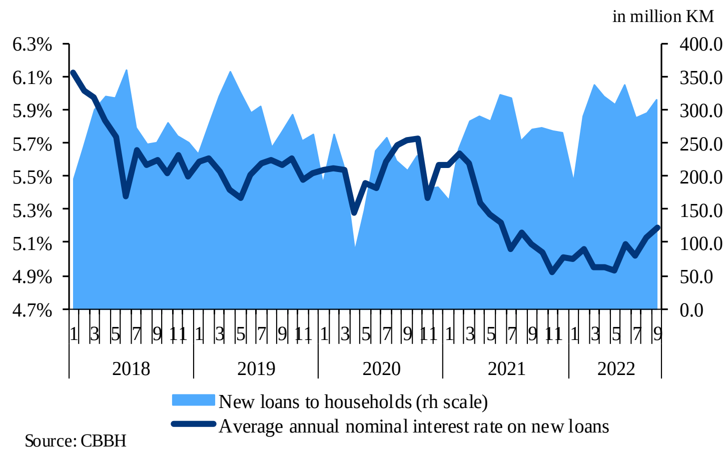
Graph 8: Assessment of Financial Cycle for BH



Source: CBBH

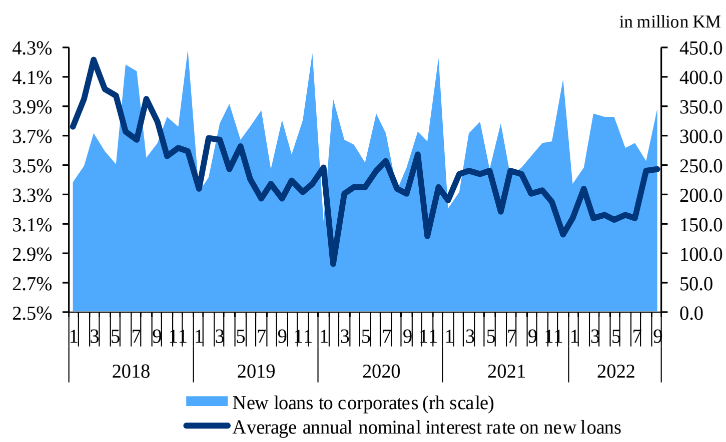
[1]The methodology for financial cycle assessment was described in details in the 2021 Financial Stability Report.

Graph 9: New Loans to Households and Interest Rates



Source: CBBH

Graph 10: New Loans to Corporates and Interest Rates



Source: CBBH

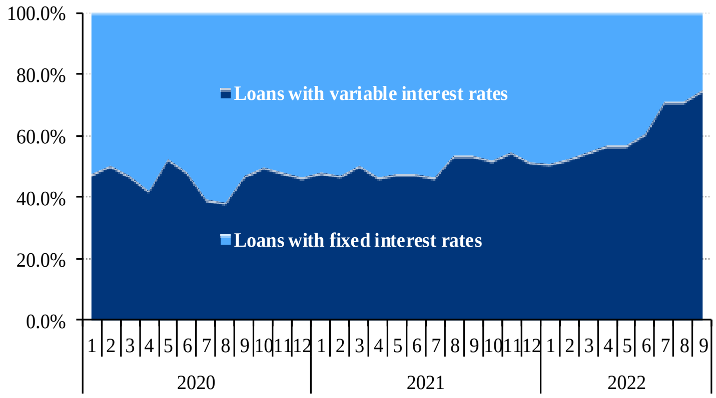
According to the data on new loans and the relevant interest rates, there was a slow growth of interest rates in the third quarter, and it could be expected also a gradual increase of interest rates on the existing loans to households which were granted with variable interest rates. Average weighted interest rate on new loans to households in the third quarter of 2022 amounted to 5.12% being higher by 12 bp compared to the end of the previous year (Graph 9). Average weighted interest rate in the sector of non-financial companies in the third quarter amounted to 3.34% and compared to the end of the previous year it increased by 16 bp (Graph 10). Although the lending terms are still favourable, we can conclude that the long lasting downward trend of interest rates ended, so in the period ahead, we can expect a gradual increase of interest rates on loans to corporates and households and moderate tightening of other lending terms, which will lead to the decline of demand for loans in both sectors[2]. With purpose of restricting the growth of credit risk which may arise from sharp increase of lending rates, the Banking Agencies passed measures to mitigate the risk of interest rate growth due to the growth of benchmark rates, inflation pressures and other disturbances in international financial markets. Additionally, a mitigating circumstance in respect of credit risk growth caused by the interest rate growth is increasing new credit borrowing with fixed interest rates (Graph 11). However, the growth of benchmark rates, and consequently, the growth of interest rates on loans linked to EURIBOR will significantly increase the cost of repayment of household debts, which will affect many of those groups of debtors having loans with the longest remaining maturities.

[2] BH Banks' Lending Survey (survey for the second quarter of 2022)

The structure of the bank financing sources is mainly based on domestic sector deposits, which are not related to interest rates in international financial markets, which could mitigate the pressure on a strong growth of lending rates. Although such structure of sources in current conditions of strong growth of interest rates in global environment is favourable for banks, unfavourable maturity structure of deposits is a risk for a more significant credit growth in private sector. After a short lasting liquidity shock which brought about withdrawal of deposits, mainly those of households, in the first quarter of 2022, upward trend continued in the second and third quarter. Deposits of domestic resident sectors accounted for even 97% of the total banking sector deposits, amounting to KM 27.8 and 28.7 billion, respectively in the end of the second and third quarter. From the beginning of the current year, the total deposits recorded growth of 2.9%, which was mainly impacted by deposits of government institutions and public companies which increased by 15.5%, and deposits of private non-financial corporates which increased at the rate of 7.4%. Maturity structure of deposits continued to deteriorate during 2022. The share of deposits of the shortest maturities, with maturities from 1 to 7 days, in the total deposits, increased, while at the same time, a share of deposits with maturities over five years decreased, accounting for only 0.4% of the total deposits (Graph 12).

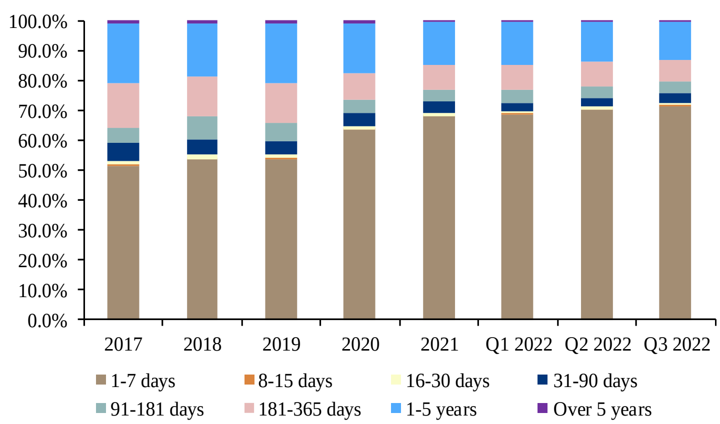
BH banking sector in the first half of 2022 recorded a respectable net profit and recorded higher return on average assets and equity in comparison with the same period of the previous year.

Graph 11: New Loans by Interest Rate Fixation Period



Source: CBBH

Graph 12: Total Deposits Structure by the Remaining Maturity

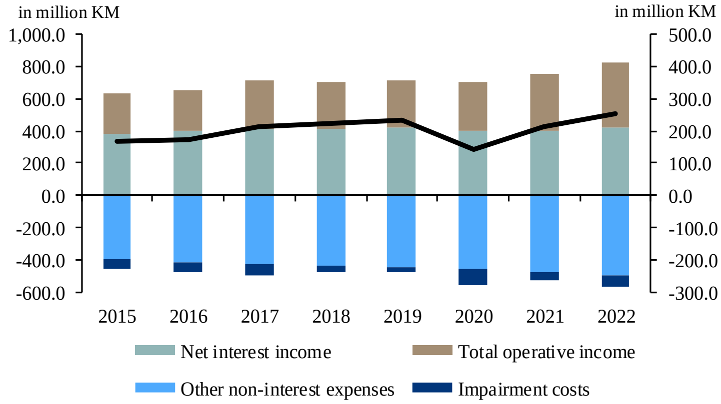


Source: CBBH

The banking sector net profit in the first half of 2022 amounted to KM 253.4 million, being higher by 17.3% compared to the same period of the previous year (Graph 13).

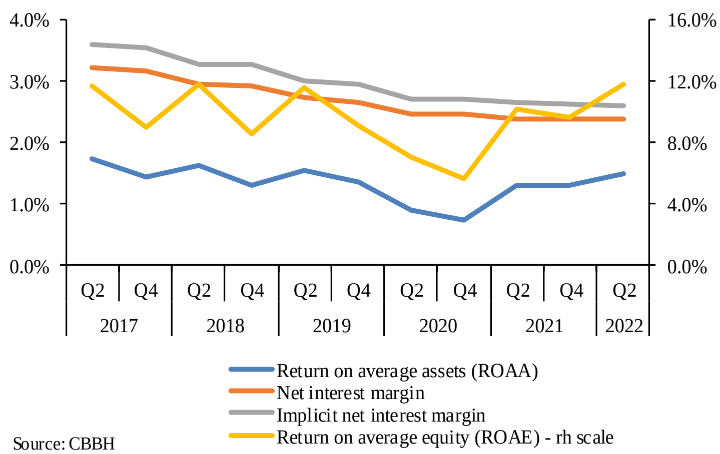
The recovery of economic and credit activity had a positive impact on the growth of operating and net interest incomes in the first half of 2022. The biggest contribution to the growth of profitability is provided by the continuous, dynamic growth of the total operating income that banks achieved based on the increase in income from fees for services rendered. The main sources of income for banks, interest income, also continued the growth trend started in the second part of 2021, with a simultaneous decline in interest expenses. The growth of interest income was achieved thanks to the recovery of credit activity in the private non-financial sector, given that until then no growth in weighted average interest rates in the private sector had been recorded.

Graph 13: BH Banks' Net Profit, First Half-Year



Source: CBBH

Graph 14: Profitability Indicators



Source: CBBH

In Table 1, the basic indicators of BH banking sector are highlighted.

Table 1: Main BH Banking Sector Indicators

	2015	2016	2017	2018	2019	2020	2021	Q2 2022
Total assets (mill. KM)	23,736.9	25,013.8	27,248.8	29,854.2	32,508.2	32,905.0	35,442.1	35,564.9
Total assets (% GDP)	83.0	83.6	86.8	89.3	92.1	96.1	91.7	85.4
Total capital (mill. KM)	3,346.5	3,590.7	3,817.5	3,936.6	4,174.8	4,120.4	4,224.7	4,347.4
CAR (%)	14.9	15.8	15.7	17.5	18.0	19.2	19.6	19.3
Total loans (mill. KM)	16,457.6	16,829.5	18,048.8	19,331.5	20,684.1	20,748.5	21,596.0	21,923.0
NPLs (%)	13.7	11.8	10.0	8.8	7.4	6.1	5.8	5.2
Total deposits (mill. KM)	18,055.5	19,187.7	21,196.0	23,654.5	25,820.1	26,176.1	28,683.5	28,725.7
Loan to deposit (%)	91.1	87.7	85.2	81.7	80.1	79.3	75.3	76.3
Net profit (mill. KM)	31.6	218.6	336.2	330.4	370.5	227.1	409.0	253.4
Number of banks	23	23	23	23	23	23	22	22

Source: CBBH

2.1 Main Findings of the Solvency Stress Test of the Banking Sector for Q2 2022

Thanks to the soundness of BH banking sector, which is manifested through the improvement of the basic indicators at the end of the first half of 2022 compared to the end of the previous year, which were the starting point for the solvency stress test, the banking sector would manage to maintain stability in all three assumed scenarios of the stress test. The results of the stress tests indicate that capitalization at the sector level would remain significantly above the regulatory minimum of 12%, even in a stronger adverse scenario, which implies a significant additional deterioration of macroeconomic conditions in the country and abroad.

Given that all macroeconomic risks that are still current were taken into account during the calibration of the scenarios, including the war events in Ukraine and their implications for the real economy, all three scenarios remained unchanged compared to the previous two testing cycles (Q4 2021 and Q1 2022). Table 2 provides an overview of key macroeconomic assumptions for all three scenarios and three years for which testing is performed, and a detailed description of the scenarios is presented in the Financial Stability Report 2021.

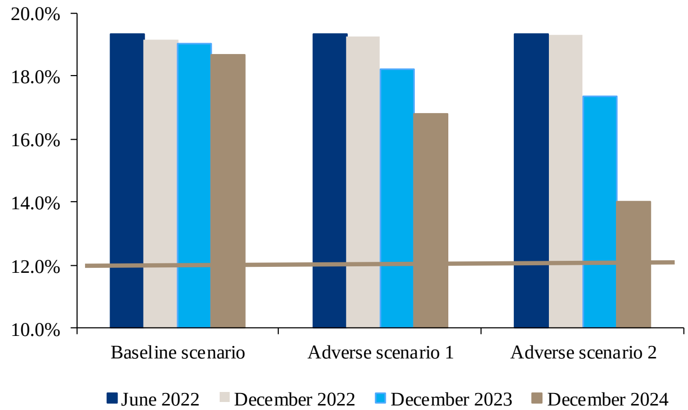
Table 2: Main Stress Test Assumptions

	Baseline scenario			Adverse scenario 1			Adverse scenario 2		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Real GDP growth	2,8%	1,5%	2,1%	-1,5%	-2,5%	-0,1%	-3,0%	-5,5%	-2,0%
Inflation	7,7%	3,9%	2,8%	11,0%	6,1%	4,4%	13,0%	6,9%	5,0%
Credit growth - NFC	2,6%	1,9%	2,2%	0,4%	-0,7%	0,6%	1,3%	-3,7%	-0,8%
Credit growth - HH	2,9%	2,7%	1,9%	0,7%	-2,3%	-1,7%	-2,4%	-3,0%	-3,5%
Lending rates - NFC	3,8%	4,4%	4,5%	4,1%	5,1%	5,6%	4,1%	5,5%	6,2%
Lending rates - HH	6,0%	6,2%	6,3%	6,2%	6,8%	7,1%	6,2%	7,1%	7,6%
Residential real estate price growth	9,1%	1,9%	1,3%	7,9%	-5,3%	-6,3%	8,3%	-9,1%	-12,9%

Source: CBBH

The results of the stress test at the end of the first half of 2022 were improved compared to the results of the stress test conducted with the data for the end of the previous year, despite the fact that there were no changes in the intensity of the assumed shocks. The aforementioned is primarily the result of the absence of materialization of assumed shocks in the first half of the year, i.e. the realized indicators of bank operations at the end of the first half of 2022, which indicate the soundness of the banking sector and its increased resistance to shocks. In the basic scenario, characterized by a slowdown in economic activity over a time horizon of three years, which leads to a slight deterioration in the quality of the credit portfolio and lower profitability, the banking sector would record a slight decrease in the capital adequacy ratio, which would remain at a high level of 18. 7% until the end of the time horizon of the stress test. In case of the materialization of the shocks assumed in the milder adverse scenario that assumes negative economic growth during all three years of testing, the capital adequacy ratio at the aggregated level would decrease only in the second year of the time horizon from the initial 19.3% to 18.2% by the end of 2023, that is, to 16.8% by the end of 2024. In a stronger adverse scenario, the capital adequacy ratio at the aggregated level would amount to 17.4% at the end of 2023, while it would decrease to 14.0% by the end of 2024 (Graph 15).

Graph 15: Capital Adequacy Ratio of the Banking Sector

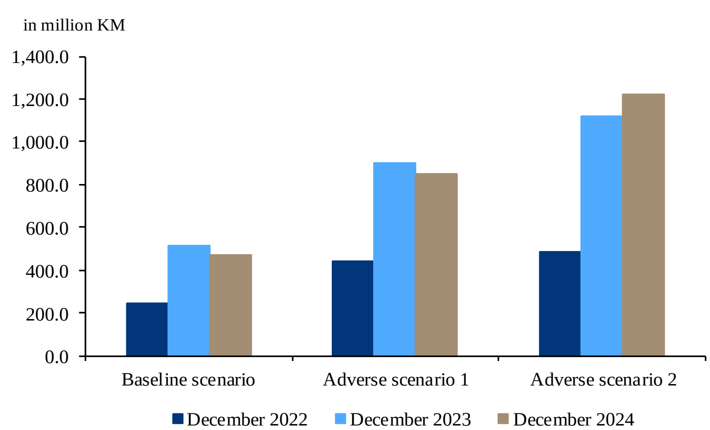


Source: CBBH

Although the results of the stress tests show that in case of assumed shocks in the banking sector in adverse scenarios it would be possible to maintain adequate capitalization, some banks would, due to the specificity of their operations, have a need for additional capital. Thus, in a milder external scenario, a total of three banks would express the need for recapitalization, while in a stronger adverse scenario, a total of seven banks would not meet the minimal required capital level.

Given that credit risk is the most significant risk for the business of Bosnia and Herzegovina banking sector, losses based on provisions for credit risk have a dominant influence on the decline in the capital adequacy ratio. The expected deterioration in the quality of the loan portfolio, which was assumed in all scenarios due to the strengthening of risks in the macroeconomic environment, would inevitably lead to higher provisions for loan losses. Thus, by basic scenario, the NPL indicator in total loans could increase, at system level from 5.2% at the end of the second quarter of 2022 to 65% by the end of 2024. In a milder adverse scenario, this indicator could rise to 11.3%, and in a stronger adverse scenario to as much as 15%. Losses based on credit risk arise precisely from provisions for financial asset items (Graph 16), primarily the credit portfolio of the corporate and household sectors, and make the most significant negative contribution to the capital adequacy ratio in stress

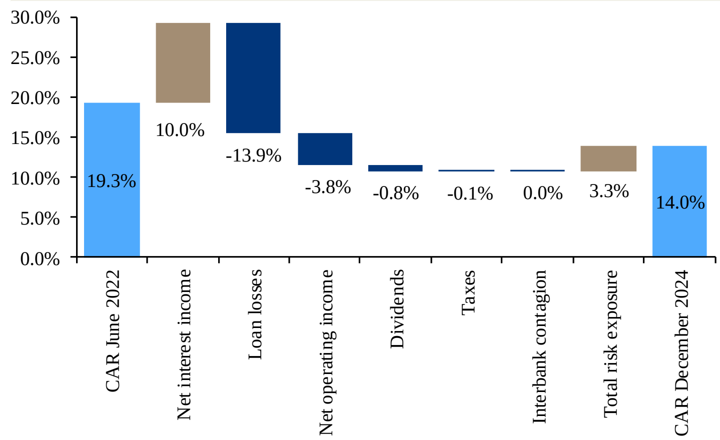
Graph 16: Credit Risk Impairment



Source: CBBH

conditions. The capital adequacy ratio is also significantly influenced by cumulative changes in net interest income and net operating income. Net interest income, which has a key positive contribution to maintaining capital adequacy at the level of the banking sector in adverse scenarios, gradually decreases from period to period, which is to the greatest extent a consequence of the assumption of a significant decline in credit activity in adverse scenarios, both in the corporate sector and in household sector, but it is also partly the result of the assumed deterioration in the performance of the credit portfolio. The projected growth of lending interest rates will not be sufficient to replace the stagnation of credit growth, while the pressure on the net interest result will also come from the deposit interest rates through increased interest expenses. Considering that in the stress test we incorporated the assumption of dividends payment in all three periods of stress testing and in all three scenarios, the profit-making banks pay dividends, which makes a negative contribution to the final capital adequacy ratio in the banking sector. The impact of interbank contagion in the system on the capitalization of banks, which was quantified in both adverse scenarios, is negligible for now (Graph 17).

Graph 17: Contribution of Individual Items to Capital Adequacy Ratio, Adverse Scenario 2



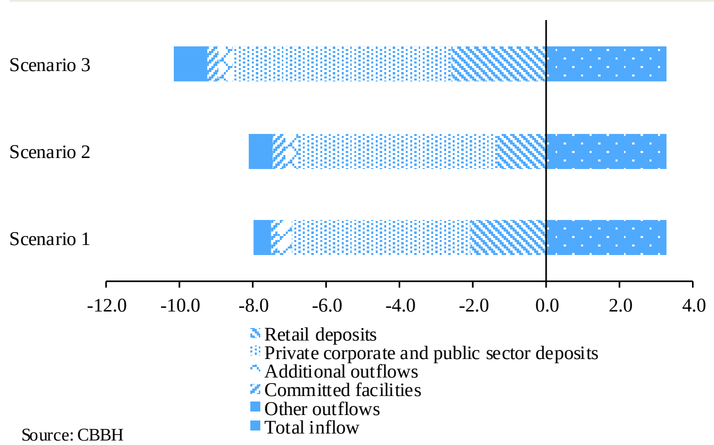
Source: CBBH

2.2 Main Findings of the Liquidity Stress Test of the Banking Sector for Q2 2022

In 2022, the CBBH started conducting a top-down macro liquidity stress test on a quarterly basis as part of a macro prudential tool for detecting liquidity risks at the level of the banking sector, as well as potential liquidity needs in the event of a financial crisis. The liquidity stress test framework is based on bank cash flow data available for all commercial banks in the system starting from the fourth quarter of 2021. The calculation of the liquidity position under assumed conditions of significant stress in a 30-day time period is based on the approach of the standardized measure of the LCR (Liquidity Coverage Ratio), which is an integral part of the new regulatory regulations for liquidity risk management and for which it is stipulated that banks are required to maintain ratio of at least 100%. The shocks in the liquidity stress test exceed the LCR parameters in terms of intensity and were calibrated using the expert assessment of the Financial Stability Department of the CBBH in the form of three alternative adverse scenarios, taking into account the best practices of other central banks.

The first stress scenario assumes a shock on the household sector and is based on a historical event, namely the global financial crisis in the period 2008-2009, which resulted in a short-term loss of confidence in BH banking sector and consequently by withdrawing a significant part of the household deposits. The second stress scenario represents a hypothetical systemic crisis of liquidity in the country, in which the greater stress intensity of the funding sources for banks would come from the corporate sector. The third, combined stress scenario is an adverse scenario that assumes a combination of shocks from the previous two scenarios, with elements of idiosyncratic shocks (large deposit withdrawals, larger than expected withdrawals of approved credit lines) and financial market stress (a large decline in the value of all securities held as liquid assets). The assumed shocks in this scenario are about two to three times stronger than the requirements according to the LCR regulation, with the aim of identifying even the smallest weaknesses in banks' liquidity positions.

Graph 18: Net Liquidity Outflows, Q2 2022

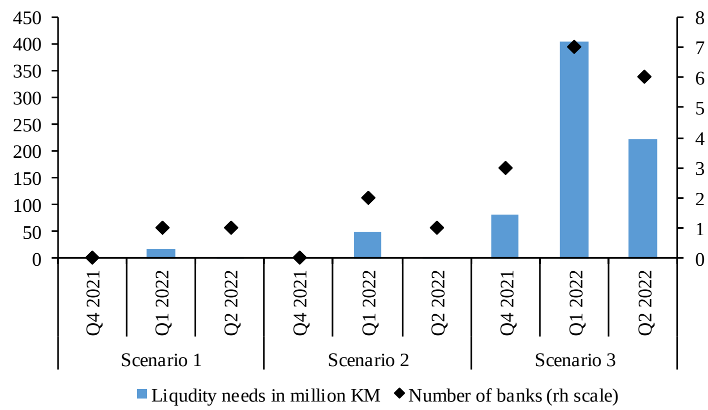


Source: CBBH

The change in net liquidity outflows through the three assumed scenarios is the result of higher liquidity outflows, while total inflows were kept at the same level in all three scenarios. The total value of the outflow of liquid funds in different scenarios, as well as the change in the structure in terms of the contribution of different categories of outflow to their total value, differs by scenario (Graph 18).

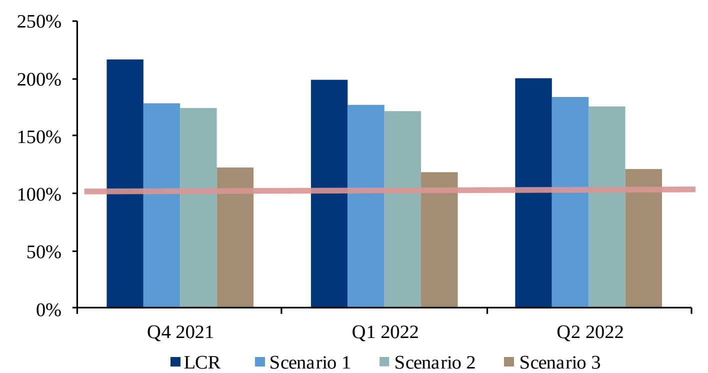
Based on the results of the liquidity stress test conducted for the last three quarters, the banking sector in BH can be considered quite resilient to liquidity shocks and shocks on the funding source assumed in alternative scenarios. The short-term liquidity shock in the first quarter of 2022, associated with sanctions on Russian banks due to the war in Ukraine and the business problems faced by the Sberbank group showed that even in highly liquid systems, one event in the short term can result in a deterioration of the liquidity position of the banking sector. However, after the liquidity, shock in the first quarter, resilience to the shocks assumed in the stress test scenarios increases in the second quarter of 2022. Although individual banks proved to be sensitive to assumed liquidity shocks, especially in the strongest stress scenario (Graph 19), the aggregated stress test results show that the LCR for the banking sector in each of the three conducted quarterly stress tests, even in the strongest stress scenario, remained significantly above the regulatory minimum (Graph 2020).

Graph 19: Total Additional Liquidity Needs in Banking Sector



Source: CBBH

Graph 20: Liquidity Coverage Ratio (LCR) for Banking Sector



Source: CBBH

Note: Unlike the LCR in the alternative liquidity stress test scenarios, the amount of expected inflows that can offset expected outflows is not limited to 75% of outflows.

3 Structural and Regulatory Changes in the Financial Sector

Among the most important changes in the regulatory framework for banking sector operations in BH in 2022, the most recognized are the Decision of the Deposit Insurance Agency in BH to increase the amount of insured deposits with banks, the measures of the Banking Agency to mitigate credit risk due to rising interest rates and the adoption of Methodologies for setting the Minimum Requirement for own Funds and Eligible Liabilities (MREL).

The Deposit Insurance Agency of Bosnia and Herzegovina made a decision to increase the amount of insured deposits with banks from KM 50,000 to KM 70,000, which applies from November 1, 2022. By increasing the amount of insured deposits, BH continues to approach EU standards in the field of deposit protection, which contributes to strengthening the confidence in the banking sector and overall financial stability in the country.

In the field of bank recovery and resolution during 2022, the Methodologies were adopted for defining the Minimum Requirement for own Funds and Eligible Liabilities (MREL) by both Banking Agencies, which stipulate the method of calculating the MREL, i.e. the minimum amount of regulatory capital and acceptable liabilities that ensures the ability of the bank to cover the appropriate amount of losses and, depending on the restructuring strategy, to be recapitalized with an amount sufficient to implement the preferred restructuring strategy. Banking Agencies determine the MREL for each bank individually using the same methodology that the bank is required to continuously meet on an individual basis, or on a consolidated basis, if so ordered. Also, at the end of March 2022, Decisions on amendments and additions to the Decision on bank and banking group recovery plans were adopted, which included additional indicators of the recovery plan, including the Minimum Requirement for own Funds and Eligible Liabilities (MREL) as well as new liquidity indicators, namely the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR).

At the end of the first half of 2022, the Banking Agencies repealed the Decisions on temporary measures of banks to mitigate the negative economic consequences caused by the pandemic. In the second half of the year, the Banking Agencies adopted Decisions on temporary measures to mitigate the risk of interest rate growth caused by the growth of reference interest rates, inflationary pressures, and other disturbances on the international financial markets that may have negative effects on the BH market. The primary objectives of the measures are timely management of credit risk, formation of additional reserves for expected credit losses for credit risk level 1 and 2 in case of a significant increase in interest rates and mitigating the consequences of a potentially significant increase in the amount of debt repayment. The regulator's expectations are that the adopted measures will limit the actions of banks that could adversely affect households and the economy, and ultimately the growth of systemic risks.

Thanks to the existence of an adequate regulatory framework for bank restructuring, at the beginning of 2022, the Banking Agencies successfully implemented the restructuring process of Sberbank a.d. Banja Luka and Sberbank BH d.d. Sarajevo. Sberbank a.d. Banja Luka became the property of Nova Banka a.d. Banja Luka, and continued operations under the new name Atos Bank a.d. Banja Luka. The company ASA FINANCE d.d. Sarajevo took ownership of Sberbank BH d.d. Sarajevo, and from May 2022, this Bank continued to operate under the name ASA Banka Naša i snažna d.d. Sarajevo, and from December 2022, it merged into the bank ASA Banka d.d. Sarajevo, after which the number of banks in the banking sector in BH was reduced to 21 banks. After the change of ownership of Komercijalna banka a.d. Banja Luka in December 2021, in March 2022, the official name of this Bank was changed to Banka Poštanska štedionica a.d. Banja Luka in accordance with the name of the new owner being Banka Poštanska štedionica a.d. Beograd.