Centralna banka
BOSNE I HERCEGOVINE
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БОСНЕ И ХЕРЦЕГОВИНЕ

Financial Stability Risk Assessment
- the first half of 2023 -

- Issue 2: November 2023

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Abbreviations

BABiH	Banks Association of Bosnia and Herzegovina
BARS	Banking Agency of Republika Srpska
BH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
ECB	European Central Bank
ESG	Environmental, social, and governance
EU	European Union
EURIBOR	Euro Interbank Offered Rate
FBA	Federal Banking Agency
FBH	Federation of Bosnia and Herzegovina
GDP	Gross domestic product
IFC	International Finance Corporation
KM	convertible mark
LCR	Liquidity Coverage Ratio
NPL	Non/performing loans
RS	Republika Srpska

SUMMARY

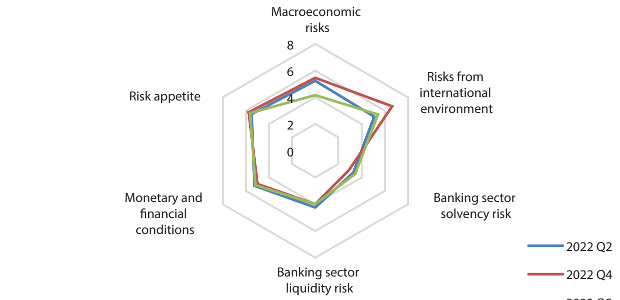
- Macroeconomic conditions in BH in the first half of 2023 are primarily characterized by slow economic growth, mostly due to a decrease in activity in those GDP categories that are more influenced by trends from the international environment, and weakening inflationary pressures. Although there is a slowdown in the growth of consumer prices, inflation is still at a much higher level than the long-term average in BH. Despite numerous challenges and uncertainties from the international environment, the overall exposure of the financial system to macro-financial risks, according to the risk map assessments, is lower than at the end of 2022, thanks to the lower risks coming from the domestic macroeconomic environment, but the new geopolitical turmoil in the world, which will inevitably influence the economies of the countries of BH's main foreign trade partners, do not leave much optimism for stronger economic growth in BH until the end of 2023.
- In the first half of 2023, the banking sector of BH maintained a high degree of stability, primarily under the influence of strong growth in profitability, with the continued trend of improved asset quality, high liquidity and good capitalization, as indicated by the grades from the financial soundness indicator diagram. Good capital positions and high liquidity increase the ability of banks to absorb risks, which is confirmed by the results of solvency and liquidity stress tests, which indicate that the banking sector is able to amortize very strong macroeconomic shocks assumed in alternative scenarios. Financial cycle indicators are still in negative territory, indicating below-average credit activity without tangible risks of overheating, although the negative credit-to-GDP gap began to narrow in the last quarter, thanks to a slight recovery in credit activity in the first half of 2023. Also, the composite indicator of the financial cycle in the first half of the year indicates a smaller average negative deviation from the long-term trend, which, along with a slight recovery in credit activity, is significantly contributed by the strong nominal and real growth of real estate prices, which signals a certain recovery of the financial cycle. Under the influence of trends from international financial markets, lending interest rates both in the sector of private non-financial companies and in the household, sector have a gradual growth trend from the second half of 2022, while a slight increase in deposit interest rates is recorded from the beginning of 2023. Although the growth of interest rates until the end of the first half of 2023 did not affect the quality of the credit portfolio, credit risk caused by the growth of interest rate risk will be the dominant risk in the banking sector of BH in the coming period.
- As key activities related to strengthening the regulatory framework for bank operations in BH in the current year, the following stand out: the adoption of a strategic framework and guidelines related to the management of environmental, social and climate change risks, as well as the adoption of by-laws by the Banking Agencies whose goal is to mitigate market risks from international financial markets.

1. MACROECONOMIC TRENDS AND FINANCIAL STABILITY RISKS

Macroeconomic trends in Bosnia and Herzegovina in the first half of 2023 were primarily characterized by slow economic growth and weakening inflationary pressures. The analysis carried out from the map of macro-financial risks identified a decrease in the overall exposure of the financial system to macro-financial risks, which was stimulated by the lower risks from the domestic macroeconomic environment. Geopolitical turmoil, the ECB's restrictive monetary policy and the slowdown in economic growth in countries that are BH key trade partners represent the main sources of risk from the international environment that affect macroeconomic trends in BH during 2023.

Despite the aforementioned challenges and uncertainties, BH managed to maintain a positive rate of economic growth in the first half of the year, albeit at a significantly more modest level compared to the previous two years. The real GDP growth rate in the first half of 2023 was 1.5% on an annual basis, and most GDP categories made a positive contribution to economic growth. Nevertheless, the economic categories that strongly correlate with trends in the euro area, as our main export market, were the weakest link in Bosnia and Herzegovina economy in the observed period. Thus, the industrial production, which makes up about one fifth of the total BH economy and which is dominantly export-oriented, decreased by 3.8%, and the export of goods and services decreased by 3.7% compared to the same period of the previous year. On the other hand, categories such as wholesale and retail trade, transportation, catering, information and communications had a key role to keep BH economy in positive area according to the map of macro-financial risks (Graph1). The aforementioned categories are also strongly connected with the tourism sector, which in 2023 is experiencing strong growth, and will most likely exceed the record 2019 in terms of the number of tourist arrivals and overnight stays.

Graph 1: Macrofinancial Risks Chart

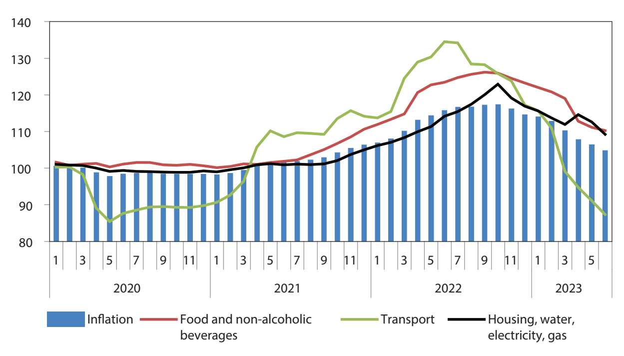


Source: CBBH
Note: Increase in distance from the graph center means higher risks and also represents improvement in monetary and financial conditions and higher risk appetite

The growth of economic activity in service industries had a key role in improving labor market indicators. Data on registered employment indicate that the increase in employment compared to the end of the previous year is predominantly the result of positive trends in the categories of trade and catering. On the other hand, the processing industry, as a branch of the economy that is dominantly dependent on exports, recorded the largest nominal drop in the number of employed persons in the same period. Consequently, the unemployment rate in BH according to the results of the Labor Force Survey (ILO methodology) was 13.1%, which is the lowest unemployment rate since the publication of the Labor Force Survey in 2016.

Along with the slowdown in economic growth, one of the most significant economic trends that characterized the first half of 2023 is the weakening of inflationary pressures (Graph 2). After the inflation in BH reached its peak in October 2022 (17.4%), there followed a period of gradual weakening of inflationary pressures as a result of the stabilization of energy prices, on one hand, and being under the influence of a high base value, on the other. By the end of the first half of 2023, the growth rate of consumer prices in BH dropped to 4.9% on an annual level, which, despite the significant decrease, still represents significantly high inflation above the long-term average in BH.

Graph 2: Consumer Price Index in BH, Annual Change



Source: BHAS

The effects of inflation were reflected in private consumption, which in the first half of the year achieved a minimal increase of only 0.1% on an annual level. Increased inflation created a certain pressure on the growth of wages, which in the first half of the year were nominally higher by 14.6%, but their real growth was still below the average inflation in the same period (the real growth of net wages was 4.9%, while the average inflation amounted to 9.4% during the first 6 months of 2023).

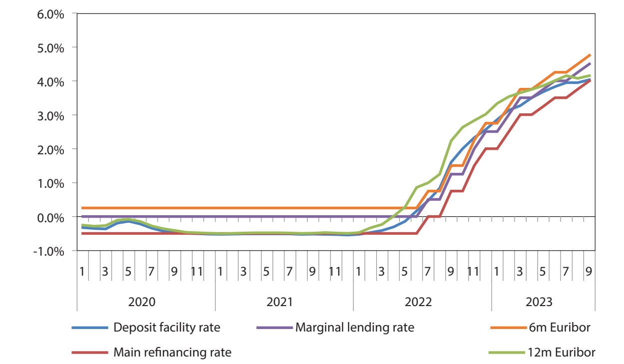
Fiscal indicators contributed to the weakening of macroeconomic risks arising from the internal environment in the first half of 2023. The public (Maastricht) debt of BH, at the end of the first half of 2023, amounted to KM 13.05 billion, which is KM 310 million less compared to the end of 2022, and represents the smallest nominal amount of public indebtedness of BH in the previous two years. The decrease in the total value of the public debt was driven by the decrease in the external indebtedness of BH, which, at the end of the same time period, amounted to KM 9.9 billion (76% of the public debt of BH), which is KM 319 million less compared to the end of 2022. Taking into account the Public Debt Sustainability Analysis of BH for the period 2022 - 2025, as well as the IMF's public debt projections, it is certain that BH will remain in the category of moderately indebted countries with a share of public debt in relation to GDP of around 30% in 2024, as well. Positive trends in revenue collection based on direct and indirect taxes resulted in an increase in the budget surplus at the BH level on a consolidated basis, so the risk of fiscal sustainability was assessed as extremely low at the end of the first half of 2023.

Macroeconomic risks arising from the balance of payments remained unchanged in the first half of 2023, compared to the same period of the previous year. The record goods deficit seen in the observed period was mitigated at the same time by a record surplus on the account of services and secondary income, making the deficit of the current account remain at approximately the same level as during the first half of 2022. Also, there is no significant risk that the current account deficit will not be adequately covered by the financial categories of the balance of payments, that is, that it will represent a source of risk to the economic or financial stability of BH.

Although very modest, real economic growth along with a lower inflationary pressure and a stable fiscal position have dominantly contributed to mitigating risks from the domestic macroeconomic environment in the first half of 2023 compared to the risk assessment map at the end of 2022, and for the first time after the first quarter of 2022, the risk level assessment returned to the low risk territory (the value of the risk level assessment below 5 in Graph 1).

Risks from the international environment are significantly more pronounced compared to other risk categories, although they show a decreasing trend compared to the end of 2022. A slightly higher level of risk from the international environment (a value of the risk level rating between 5 and 8 on Graph 1 indicates a moderate to slightly high level of exposure to risks) is significantly influenced by BH's pronounced trade ties with foreign countries, which are measured by the exports and imports value to GDP ratio. Namely, the global growth of consumer prices, especially in 2022, raised the nominal value of BH's foreign trade to a record level, which significantly changed the structure of GDP, in which the export and import of goods and services now make up a significantly larger part of BH GDP compared to previous years. Easing of inflationary pressures in 2023 resulted in the lowering of the share of export and import of goods and services, compared to the previous year, but the risk arising from BH's trade ties with foreign countries still remains significantly higher compared to the period before the start of accelerated inflation growth. In addition to trade ties, the monetary policy of the ECB also has a significant role in risks from the international environment, which continued with restrictive decisions during 2023 in order to suppress inflation, raising the reference interest rate six times during 9 months of 2023 (Graph 3).

Graph 3: Trend of the ECB Benchmark Interest Rates and Euribor



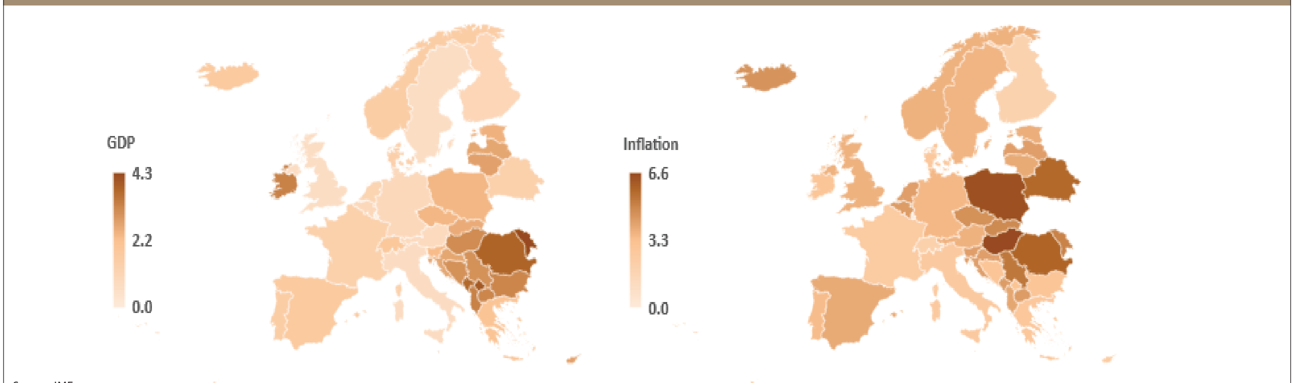
Source: ECB

Nevertheless, at the beginning of the last quarter of 2023, the ECB kept all three main interest rates unchanged for the first time in more than a year. The ECB expects that by keeping interest rates at their current level long enough, the inflation rate will gradually decrease towards the target level of 2%. Although the trend of increasing interest rates by the ECB has stopped, it is expected that the financial markets will react to the already implemented measures from the previous period, in the coming period, as well. Thus, it is expected that despite the stopping of the growth trend of all maturities EURIBOR rates, which started in 2022 and followed the growth trend of reference interest rates, the global level of interest rates will continue to rise in the coming months. Geopolitical tensions are one of the key reasons why the growth outlook for the global economy remains weak and uncertain. According to IMF projections, published in October 2023, a negative rate of economic growth is expected for this year in Germany, as BH's largest trading partner, and slow economic growth is also expected in other countries that are BH's key trading partners.

The overall assessment of monetary and financial conditions in BH is slightly higher compared to the end of the previous year, which indicates that the overall monetary and financial conditions are somewhat more favourable compared to the second half of 2022, when the perception of risk increased strongly, followed by a slowdown in credit activities and tightening of credit terms. In the first half of 2023, a slight strengthening of credit activity in the private non-financial sector was recorded, which reduced the negative gap that measures the private sector loans to the GDP ratio, which is in addition to a slight easing of crediting terms for the corporates loans and households ones, in the category of housing loans, influenced the overall assessment of monetary and financial conditions to improve slightly, despite the recorded increase in interest rates, which indicates a tightening of financial conditions. Weakening of risks coming from the domestic and international macroeconomic environment did not affect the increase of investors' risk appetite, but on the contrary, the perception of risk slightly worsened in the first half of the year. Investors' risk appetite in terms of investments on the capital market has worsened, as indicated by data from two BH stock exchanges, as well as portfolio investment data from the BH balance of payments. On the other hand, despite the strong growth in real estate prices that continued in the first half of 2023, the perception of investors regarding the risks associated with the real estate market has not changed compared to the end of 2022, which is not surprising, considering that the real estate market continuously shows itself as an extremely resistant market to most of the challenges faced by the BH economy in a wider context, and the perception of real estate as a safe investment asset. In the first half of 2023, the number of sold apartments in newly constructed buildings recorded a growth of 9.0% compared to the same period in 2022, while the average price per square meter in a new building, at the end of the first half of 2023, was 5.1% higher compared to the same period in 2022. Furthermore, the growth of newly approved housing loans in the first half of the year is 4.3% on an annual level, followed by relaxed credit standards compared to the end of the year. Data on net foreign direct investment also improved, but not enough to improve the overall assessment of investors' risk appetite. The CBBH nowcast for the third quarter of 2023[1] indicates that by the end of the year one can hardly expect somewhat stronger economic growth than that one recorded in the first half of this year. 2023 will not be reached. Inflationary pressures continued to weaken in the second half of the year, so the average inflation rate in the third quarter of 2023 was 4.1%. In the aforementioned CBBH Nowcasts, it is expected that the inflation rate for 2023 will amount to 6.4%, which represents a significant decrease in inflationary pressure compared to 2022, although this expected rate is also significantly above the long-term average of BH. Positive economic expectations for the 2024 are still unchanged, although uncertainties and risks continue to burden both the global and, consequently, Bosnia and Herzegovina economy.

According to the projections of the CBBH from May 2023, the expected rate of real economic growth in 2024 is 3.2%, which, despite the improvement, is rated as a modest growth rate, considering the country's level of development. Stronger economic growth compared to 2023 is also expected in the main BH trade partners, which significantly affects some of the main components of the national accounts in BH, primarily net exports. Namely, in 2024, it is expected that the growth of exports of goods and services will once again exceed the growth of imports, which will contribute positively to overall economic activity. According to the aforementioned CBBH projections, inflation should slow down to a moderate level of 2.6% in 2024, which will largely contribute to reducing the overall exposure of the financial system to macro-financial risks. However, it is necessary to keep in mind that inflation remains an economic indicator with high risks, bearing in mind constant geopolitical uncertainties (war in Ukraine and war in the Middle East) that can directly affect global prices, primarily in the energy and food sectors. Therefore, inflation remains the focus of economic projections, whose trends will determine overall economic activity in the medium term.

Graph 4: IMF Forecast for Real GDP and Inflation in 2024



Source: IMF

The highest risk is still associated with the economic activities that strongly correlate with trends from the EU. Thus, the volume of industrial production stagnated in the third quarter of 2023 (0.1% at the annual level), while in the same quarter the export of goods fell by 10.5%. If private consumption and service activities do not compensate more strongly for the fall in foreign demand, it is very certain that the current forecasted economic growth rate of 1.6% in 2023 will not be reached... However, according to the current macroeconomic conditions, the strengthening of inflationary pressures in 2024 does not represent a baseline scenario, so along with the weakening of the inflation, the strengthening of private consumption is also expected, which, along with net exports, will be the key category behind the expected GDP growth in 2024.

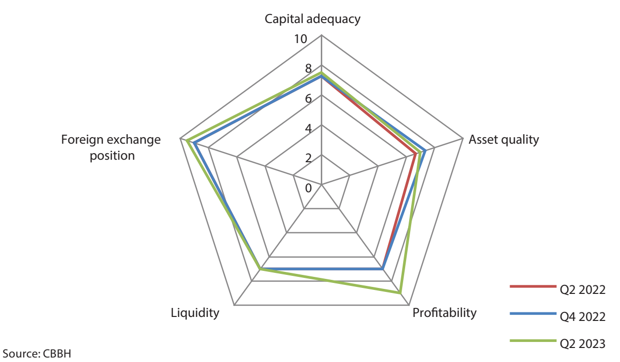
[1] "Nowcast of the annual change of the real GDP and the inflation": https://www.cbbh.ba/press/ShowNews/1530

2. TRENDS AND RISKS FROM BANKING SECTOR

In the first half of 2023, the BH banking sector maintained a high degree of stability, primarily under the effect of a strong profitability growth, with the continuing trend of asset quality improvement, high liquidity and good capitalisation. While inflation was showing signs of slowing down, subdued economic activity remained the main source of financial stability risk, which, together with interest rates growth, will continue to make pressure on the regular servicing of liabilities in the sectors of non-financial companies and households.

The assessments of financial soundness indicators shown in the diagram indicate that the banking sector resilience to risks increased compared to the same period of the previous year, with improvements in the segments of profitability, asset quality, capitalisation and foreign exchange risk, while the assessment in the liquidity segment remained at the same level (Graph 5).

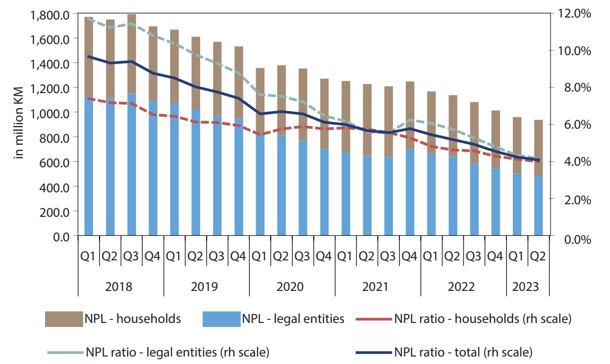
Graph 5: Banking Sector Financial Soundness Indicators Chart



Source: CBBH

In the first half of 2023, asset quality continued to improve at the system level, largely resulting from the write-off of non-performing claims, but also recovery in a smaller part of the non-performing loan portfolio. The share of non-performing loans in the total loans at the end of the first half of the year was 4.1%, which is the lowest value of this indicator since 2009. Non-performing loans continued to decline in almost all non-financial companies activities, resulting in a decrease of the share of NPLs in the total loans in the sector by 62 basis points compared to the end of the previous year to 4.2%. In the household sector in the observed period, there was also a decrease of non-performing loans (NPLs) in the total loans, by 29 basis points to the level of 3.99%. In addition to the decrease of the value of non-performing loans, the increase of lending, seen in the first half of the year, also contributed to the improvement of asset quality indicators.

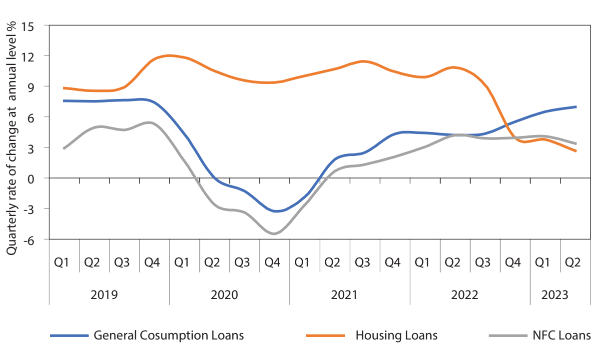
Graph 6: Loan Portfolio Quality



Source: FBA, BARS, CBBH

At the annual level, credit growth accelerated from 3.3%, recorded at the end of 2022, to 4.8% at the end of the first half of 2023, with a significantly higher credit growth recorded in the household sector than in the private companies sector. Compared to the same period last year, loans to households increased by 5.5% at the annual level, while loans to non-financial private companies recorded a growth of 3.4%. Credit growth in the household sector was predominantly generated by the growth of consumer loans, while housing loans, after a four-year period of strong growth, which, among other things, had been the result of a low base from that period, saw a significantly slowed down growth. A change of the trend in terms of lending dynamics and household preferences in favour of consumer loans has been recorded since mid 2022 (Graph 7). The annual growth rate of consumer loans in December 2022 was 5.5%, while in June 2023 this rate increased to 7%. In the same period, the slowdown of the growth of housing loans continued, with the annual growth rate of these loans decreasing from 3.9% at the end of the previous year to 2.7% at the end of the first half of 2023.

Graph 7: Households and NFC Loans Dynamics

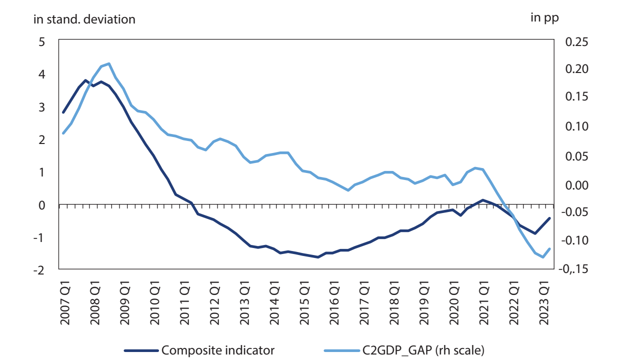


Source: FBA, BARS, CBBH

Besides the slight increase of lending compared to the same period of the previous year, the key assets developments included the growth of the securities portfolio of 8.4%, and changes in the liquid assets structure, where a strong growth of foreign deposits was seen, by as much as 48% compared to the same period of the previous year, cash and reserves with the CBBH decreasing in the same period, by 7.4% and 7.2%, respectively.

Financial cycle indicators were in the negative territory for the previous eight quarters, still indicating an under-average lending level, without tangible risks of overheating. Yet, a negative gap was decreasing in the previous two quarters, to reach -11.6% at the end of the second quarter. Composite financial cycle indicator in recent period showed a slightly smaller negative cycle of around -0.5 standard deviations. On the basis of estimated contributions of each used variable in composite indicator, it can be concluded that, in accordance with credit-to-GDP gap indicator, most included lending indicators, together with bank performance indicators, those of interest rate spread and stock exchange indices, had negative contributions to the composite financial cycle indicator. On the other hand, net interest income, non-performing loans, labour market indicators, real estate market indicators and foreign borrowing mitigated a decline of indicators, i.e. showed a gradual cycle recovery.

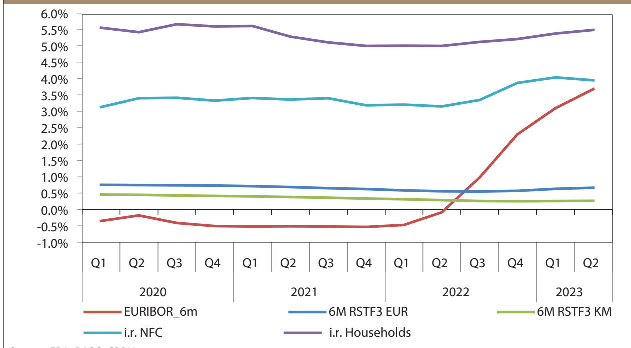
Graph 8: Assessment of Financial Cycle for BH



Source: CBBH

Observing the reference rates of the average bank financing cost in BH, we can conclude that the financing costs did not change significantly both in the period before and after the increase in interest rates. It is also evident that the costs of financing from sources in the domestic currency are significantly lower during whole period comparing to the sources in euros, and that the bank financing cost in the period before the start of the interest rates growth had been in the positive area, significantly above EURIBOR (Graph 9). Since the third quarter of 2022 under the effect of financing terms tightening in international markets, a gradual, slow increase in interest rates on loans in BH started, with reference rates of average financing cost remaining stable at the same time, with a slow growth in the first two quarters of 2023. The cost of domestic banks financing will remain low in the period ahead, as long as the financing sources structure is mostly made up of transferable and sight deposits (Graph 13).

Graph 9: Trend of Euribor and Interest Rates in BH

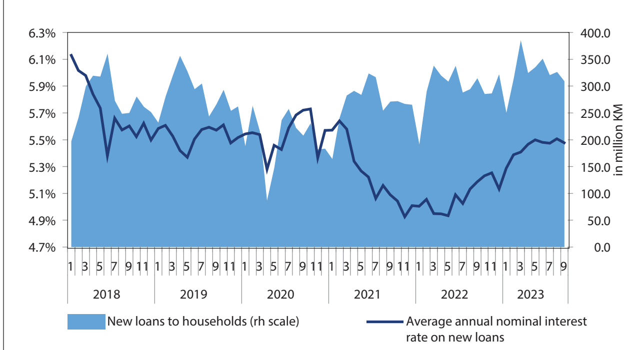


Source: FBA, BARS, CBBH

Note: 6M RSTF3 EUR and 6M RSTF3 KM represent benchmark rates for all sources of six-month financing in BH banking sector, including households, NFC and financial institution deposits

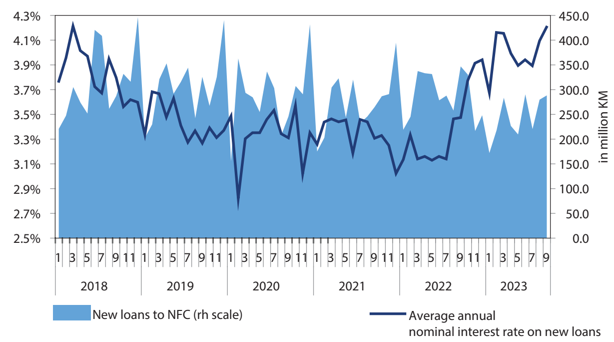
Interest rates on newly approved corporate loans recorded a gradual, slow increase since the second half of 2022, which continued so far in 2023. The weighted average interest rate on newly granted loans reached 4.2% at the end of the third quarter of 2023, which is higher by 105 basis points than at the end of the first half of 2022. The weighted average interest rate on newly granted household loans also recorded a slow increase from the second half of 2022, which continued in 2023, reaching 5.5% at the end of the third quarter of 2023, which was higher by 39 basis points than at the end of the first half of 2022. Deposit interest rates on new term deposits of households and non-financial companies recorded a slight increase since the beginning of 2023. The weighted average interest rate on new household term deposits in the first eight months of 2023 was 1.5%, which was higher by 60 basis points compared to the end of 2022. In the non-financial companies sector, the weighted average interest rate on new term deposits in the observed period was 1.1%, which was higher by 54 basis points than at the end of 2022.

Graph 10: New Loans to Households and Interest Rates



Source: CBBH

Graph 11: New loans to Companies and Interest Rates

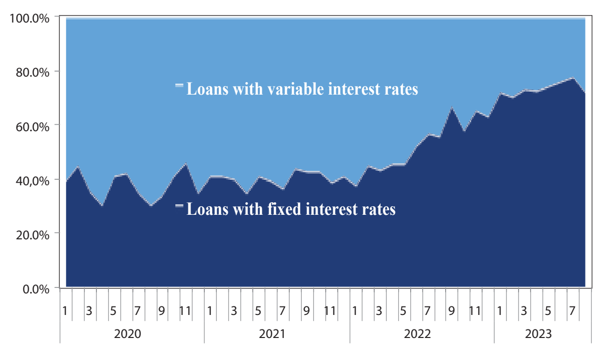


Source: CBBH

Due to the regulatory measures adopted to mitigate interest rate risks in the fourth quarter of 2022[2] a significant increase of interest rates (200 bp or more) was seen in a small part of the loan portfolio. Although the data at the level of BH banking system are not available, the reporting data of the FBH Banking Agency are indicative, according to which a significant increase of the interest rate as of 30 June 2023 compared to the reference date (30 June 2022) was seen in the loan portfolio in the amount of KM 370.3 million, which accounts for 2.2% of the total loan portfolio.

In 2023, continuing upward trend of lending at fixed interest rates was evident (Graph 12). New borrowing at fixed interest rates became increasingly intensive even in the sector of private non-financial companies. Lending in 2023 was mainly carried out at fixed interest rates, so, in the first eight months of 2023, even 74% of the total new loans was related to loans with fixed interest rates.

Graph 12: New Loans Structure by Interest Rate Type

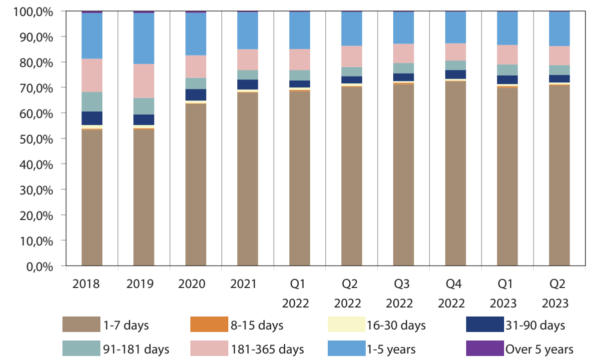


Source: CBBH

Although the upward trend of the share of loans with fixed interest rates made a positive contribution to decrease of interest induced credit risk, the excessive share of loans with fixed interest rates could, to some extent, have a negative impact on bank profitability through pressure on maintaining stable net interest margins. Yet, taking into account the data of the Banking Agencies on effective interest rates, being substantially higher than nominal interest rates, particularly in the household sector, it can be concluded that banks had already included, to a significant extent, estimates of growing financing costs in effective interest rates on loans with fixed interest rates. Also, banks have a possibility to compensate for any imbalances affecting decrease of net gain by increasing operative income, through the increase of fees for performed services, which had already been practice in the period of low interest rates.

The structure of bank financing sources was mainly based on domestic sector deposits. Although such source structure in current circumstances of a strong growth of interest rates in global environment was rather favourable for banks, unfavourable maturity structure of deposits is a risk for a more significant credit growth in private sector. Deposits of domestic resident sectors accounted for even 98% of the total banking sector deposits, amounting to KM 29.7 billion at the end of the second quarter of 2023. The total deposits of all sectors recorded an annual growth of 5.7%, which was mainly contributed by the growth of deposits of non-financial private companies at the rate of 16.9%, and the growth of household deposits at the rate of 10.8%. On the other hand, a considerable decline of bank deposits was seen in reporting period. Deposit maturity structure remained unfavourable, the share of deposits with maturities from 1 to 7 days accounting for 71% of the total deposits. The share of long-term deposits with residual maturities longer than 5 years accounted for only 0.3% of the total deposits (Graph 13).

Graph 13: The Total Deposit Structure by the Remaining Maturity

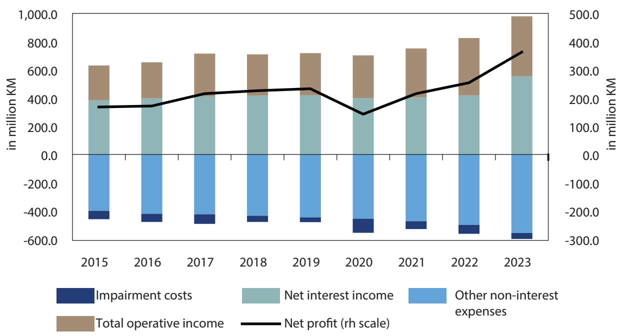


Source: FBA , BARS, CBBH

In the first half of 2023, BH banking sector recorded a significant growth of net profit and recorded a higher return on average assets and on average equity compared to the same period of the previous year. The net profit of banking sector in the first half of 2023 amounted to KM 362 million, being higher by 42% compared to the same period of the previous year (Graph 14).

2 *Decision on Temporary Measures to Mitigate the Risk of Rising Interest Rates (Official Gazette of FBH, No. 79/22) and Decision on Temporary Measures to Mitigate the Risk of Rising Interest Rates (Official Gazette of RS, No. 98/22).*

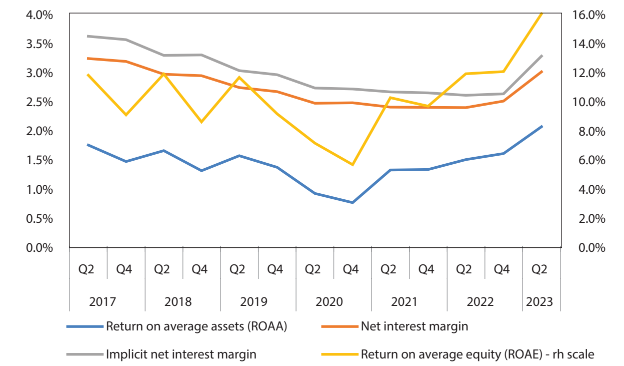
Graph 14: BH Banks' Net Profit, First Half-Year Period



Source: FBA, BARS, CBBH

Unlike previous periods when a dynamic growth of operative income mainly contributed to the net profit growth, the net profit growth in the first half of 2023 was recorded mainly due to a strong growth of net interest income. Along with the growth of lending activity and domestic interest rates, a positive effect on interest income growth came from a strong growth of interest rates in European money market, with banks holding higher amounts of foreign deposits recording a more significant increase of interest income. At the same time, a higher growth of interest rates on sources of funds was not recorded at the system level, resulting in a significantly lower growth of interest expenses and consequently a strong growth of net interest income. Regarding expenses, a significant decline of impairments was seen, while other operative and direct costs and the total operative expenses increased, which resulted in a slow increase of the total non-interest expenses. Graph 15 shows the trend of the basic profitability indicators, while Table 1 provides a overview of basic indicators of BH banking sector operations.

Graph 15: Profitability Indicators



Suorce: FBA, BARS, CBBH

Table 1: Selected Indicators from BH Banking Secto

	2018	2019	2020	2021	2022	Q2 2023
Total assets (mil KM)	29,854.2	32,508.2	32,905.0	35,442.1	36,945.3	37,446.5
Total assets (% of GDP)	89.3	92.1	96.1	91.7	81.0	82.1
The total capital (mil KM)	3,936.6	4.174.8	4.120.4	4,224.7	4,453.4	4,665.1
Capital adequacy (%)	17.5	18.0	19.2	19.6	19.6	19.5
The total loans (mil KM)	19,331.5	20,684.1	20,748.5	21,596.0	21,923.0	22,974.2
Non-performing loans (%)	8.8	7.4	6.1	5.8	4.5	4.1
The total deposits (mil KM)	23,654.5	25,820.1	26,176.1	28,683.5	30,038.7	30,361.8
Loan to deposit ratio (%)	81.7	80.1	79.3	75.3	73.0	75.7
Net profit (mil KM)	330.4	370.5	227.1	409.0	548.7	379.3
Number of banks	23	23	23	22	22	22

Source: CBBH

2.1. THE BASIC FINDINGS OF SOLVENCY STRESS TEST OF BANKING SECTOR FOR Q2 2023

The testing of resilience to stress based on the data from the end of the second quarter of 2023 showed the banking sector ability to absorb shocks even in a stronger adverse scenario, due to the accumulated capital surpluses, so, even in the stress test time horizon of the next three years, the capitalisation at the sector level remained significantly above the 12% regulatory minimum, as well as capital preservation buffer at the prescribed level of 14.5%.

The solvency stress test assesses the banking sector resilience to possible, but unlikely, strong shocks from macroeconomic environment, which, if materialised, could cause significant damage to the banking sector stability. The baseline scenario includes the expected economic developments according to the official CBBH projections from May 2023, while the adverse scenarios are modelled in such a way that a wide range of exogenous and endogenous variables are incorporated into the model in the form of hypothetical economic shocks, which is ultimately reflected in the main macroeconomic assumptions. The key risks to economic developments in BH, which shaped the two adverse scenarios in the banking sector testing on solvency stress, arise from the consequences of the war in Ukraine and economic sanctions against Russia, and their implications for the economy of entire Europe, including BH. An additional risk for BH economy arises from adverse events caused by climate change, the probability of their materialization increasing each year. An overview of trends of the main macroeconomic indicators in the baseline and adverse scenarios is presented in Table 2.

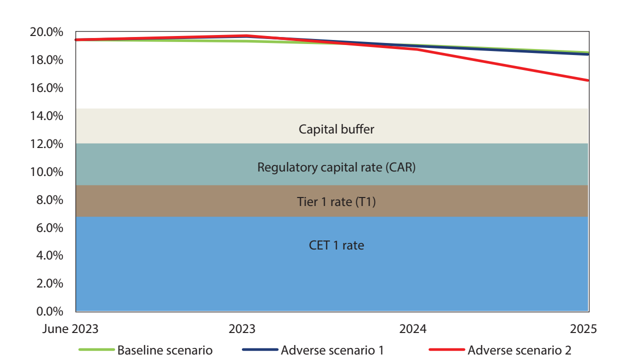
Table 2: Basic Assumptions in Stress Tests

	Baseline scenario			Adverse scenario 1			Adverse scenario 2		
	2023	2024	2025	2023	2024	2025	2023	2024	2025
Real GDP growth	1.6%	3.2%	3.5%	-1.8%	0.3%	1.0%	-2.9%	-5.3%	1.8%
Inflation	7.7%	2.6%	3.1%	10.5%	4.0%	4.3%	12.4%	4.5%	4.7%
Credit growth - companies	4.2%	5.3%	5.1%	-0.5%	2.6%	3.0%	-2.3%	-5.1%	3.8%
Credit growth - households	4.7%	5.8%	6.0%	1.6%	2.3%	3.7%	-0.3%	-6.9%	4.0%
Lending interest rates - companies	4.2%	4.7%	4.3%	4.4%	5.9%	5.4%	4.5%	6.1%	5.8%
Lending interest rates - households	5.4%	5.9%	5.7%	5.7%	7.1%	6.6%	5.7%	7.3%	6.9%
Growth of residential real estate prices	13.9%	7.2%	2.5%	12.2%	0.3%	-0.5%	10.9%	-6.4%	-2.0%

Source: CBBH

The banking sector capital adequacy ratio at the end of the first half of 2023 as the starting point in stress testing was 19.5%, with all the banks in the system recording very high capitalisation. Due to the high level of accumulated capital surpluses, the banking sector, despite the assumed deterioration of the loan portfolio quality and a profitability decline in the baseline scenario, showed a high degree of resilience to the assumed shocks, maintaining a high level of capitalisation of 18.5% until the end of the stress test time horizon. Observing results by individual banks, all the banks would be able to maintain their capital levels well above the 12% regulatory minimum as well as meet the additional Tier 2 capital requirements identified in the supervisory review and evaluation process of individual banks (SREP), so there would be no need for recapitalisation of any bank in the sector during the testing time horizon.

Graph 16: Capital Adequacy Ratios in Baseline and Two Adverse Scenarios and Minimum Regulatory Capital Requirements



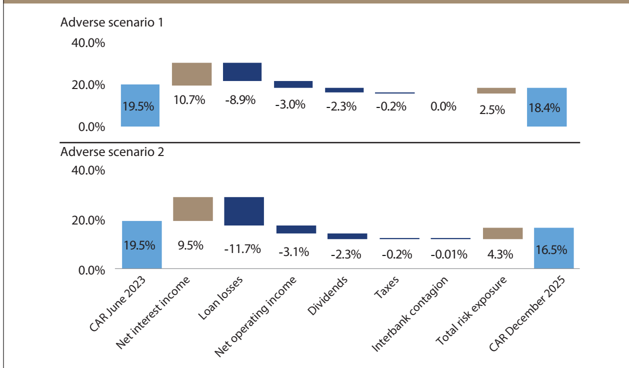
Source: CBBH

All the banks in the system would also manage to keep the capital preservation buffers until the end of the stress test time horizon[3]. In adverse scenario 1, capital adequacy ratio at the end of the test period would be at the high level of 18.4%. The conducted testing showed banking sector to be quite resilient to the assumed shocks in the mentioned scenario, with only one small bank in the system with the share of 0.7% of the total assets, would need recapitalisation in case of materialisation of mild adverse scenario. Beside this bank, additional three banks in the system in the absorption of the assumed shocks would exhaust capital surpluses and use the capital preservation buffers.

In the event of shocks materialization in adverse scenario 2, capital adequacy ratio at system level would decrease to 16.5% while the additional capital needs at the end of the three-year test period would be reported by the total of four banks in the system, with three banks failing to meet the minimum regulatory capital requirements at the system level of 12%, while one bank would not be able to meet the Tier 2 additional capital requirements at the end of the third year of the test. The total recapitalization needs at the banking sector level by the end of the third year of testing would amount to KM 38.5 million, which is 0.1% of the gross domestic product from 2022. In addition to the mentioned banks, which expressed the needs for recapitalization, additional five banks would exhaust the accumulated capital surpluses in this adverse macroeconomic scenario, i.e. their capital preservation buffers would be disturbed.

Graph 17 shows contributions of individual positions of balance sheet and profit and loss statement on the change of capital adequacy ratio at the system level, cumulatively, in adverse scenarios, in the period from the end of the second quarter of 2023 until the end of 2025.

Graph 17: Contributions of Individual Items to Capital Adequacy Ratio, in Adverse Scenarios

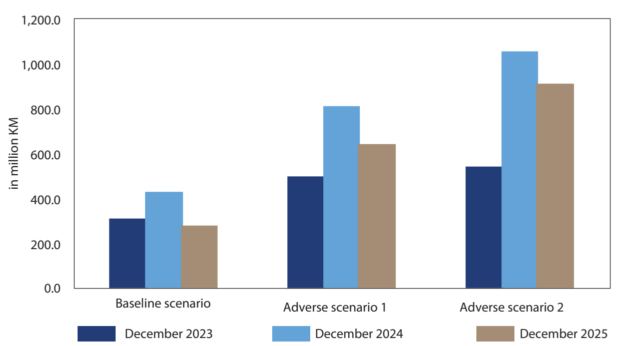


Source: CBBH

[3] *According to applicable Decision on capital calculation, banks are obliged to maintain the capital preservation buffers in the form of common equity Tier 1 in the amount 2.5% of the total risk exposure amount. Capital preservation buffer is added to the rate of common equity Tier 1 of 6.75% and cannot be used for maintaining the rates of Tier 1 capital and total capital. Maintaining the regulated capital preservation buffer is a requirement for bank dividend payments.*

The decline of banking sector capitalisation in both stress scenarios was first of all the result of increased losses on the basis of credit risk. In both adverse scenarios, a significant increase of non-performing loans is expected until the end of the stress test time horizon. The total NPL ratio at the system level in materialisation of all assumed shocks could increase to 7.2% at the end of 2025 in milder adverse scenario, i.e. 10.5% in stronger adverse scenario. Losses based on credit risk arise from provisions for financial assets items (Graph 18), mainly loan portfolios of corporate and household sectors, giving the most significant negative contribution to capital adequacy ratio in stress conditions. Capital adequacy ratio was also under a significant impact of cumulative changes of net interest income and net operative income. Net interest income made a positive contribution of 10.7% in adverse scenario 1 and 9.5% in adverse scenario 2, so, with the total amount of risk exposure they represent the only category with a positive contribution to capital adequacy ratio. As the stress test assumes the dividend payment in all the three stress test periods and in all the three scenarios, banks making profits 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 bank capitalisation, quantified in both adverse scenarios was negligible at the moment (Graph 17).

Graph 18: Provisions for Credit Risk



Source: CBBH

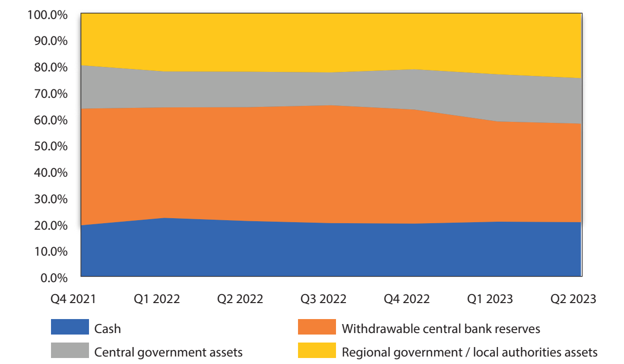
2.2. BASIC FINDINGS OF LIQUIDITY STRESS TESTS OF BANKING SECTOR FOR Q2 2023

Based on the results of the liquidity stress test conducted for the last six quarters, the banking sector in BH can be considered quite resilient to liquidity shocks and funding sources related shocks assumed in alternative scenarios.

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

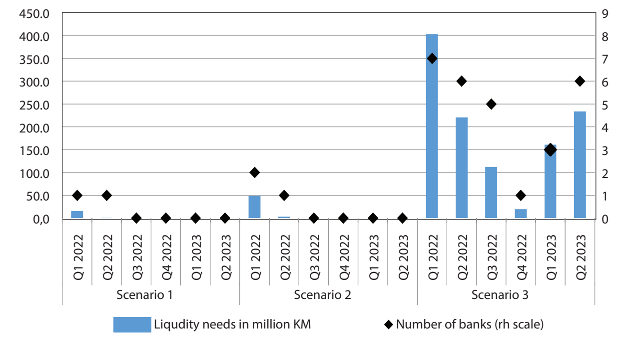
The first stress scenario assumes a shock in household sector and is based on a historical event, i.e. the global financial crisis in the period 2008-2009, which resulted in a short-term loss of confidence in BH banking sector and consequently the withdrawal of a significant part of household deposits. The second stress scenario is a hypothetical system liquidity crisis in the country, in which a higher intensity of stress for 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 withdrawals of deposits, larger than expected withdrawals of approved credit lines) and financial market stress (a large decline of 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 under the LCR regulation, with the aim of identifying even the smallest weaknesses in banks' liquidity positions. Observing the most significant sources of liquid assets available to cover net liquidity outflows of banking sector from the beginning of conducting liquidity stress tests on the basis of data for the end of the last quarter of 2021, cash in all quarters obviously recorded roughly the same share of 20%, while the share of holdings in reserve accounts with the Central bank from the end of the last quarter of 2022 was slowly decreasing, being at the high level of 37.3% at the end of the second quarter of current year. On the other hand, in the same time interval, a proportional slow growth of the share of funds invested in assets of central government and local authorities was seen (Graph 19).

Graph 19: Components of High-Quality Liquid Assets (HQLA)



Source: FBA, BARS, CBBH

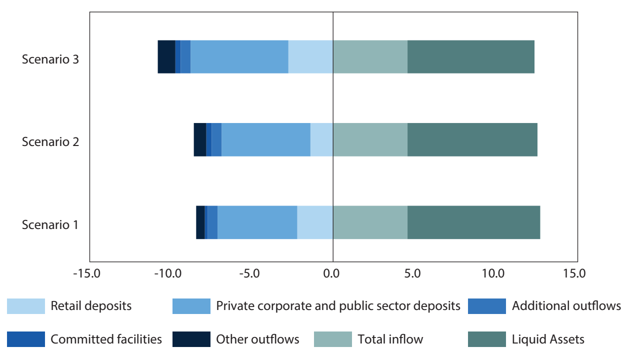
Graph 21: Total Additional Liquidity Needs in Banking Sector



Source: CBBH

In all the three assumed stress test scenarios, a change of net liquidity outflows and liquid assets was dominating, as a result of increase of liquidity outflows and decrease of the value of liquid assets, while the overall inflows stayed at the same level in all the three scenarios. The total value of outflows of liquid assets in different scenarios, and change in the structure in respect of contributions of different categories of outflows on their total value differed by scenarios (Graph 20).

Graph 20: Basic LCR Components, Q2 2023



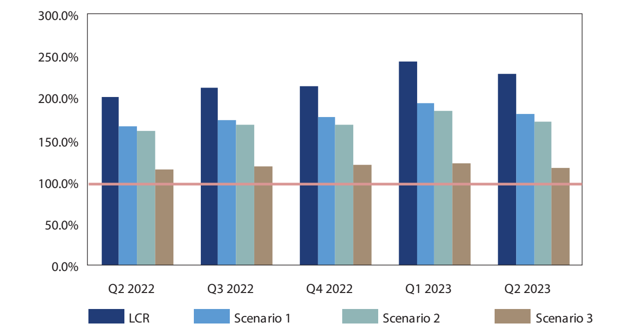
Source: CBBH

The short-term liquidity shock from the first quarter of 2022 showed that in highly liquid systems, contingency can in short time deteriorate liquidity positions of the entire sector. Yet, observing the overall needs for additional liquid assets according to the conducted stress tests, it is obvious that after the liquidity shock from the first quarter, bank resilience to shocks assumed in stress test scenarios increased as early as in the next quarter (Graph 21).

Although some banks appeared sensitive to the assumed liquidity shocks particularly in the strongest stress scenario, aggregate stress test results showed that LCR for banking sector in each of the conducted quarterly stress tests, even in the strongest stress scenario, remained much above the regulatory minimum (Graph 22).

Such result of the entire sector resistance to the assumed shocks even in the strongest scenario was not surprising taking into account a strong liquidity position and high assessment of liquidity indicators in BH banking sector.

Graph 22: Liquidity Coverage Ratio (LCR) for Banking Sector



Source: CBBH
Note: In all three alternative liquidity stress test scenarios, the amount of expected inflows that can offset expected outflows is limited to 75% of outflows.

3. REGULATORY FRAMEWORK

Among the most important activities in regulating the operations of the banking sector in BH during 2023, the activities of the Banking Agencies on the introduction of regulations in the field of environmental, social and climate change risk management stand out, representing a significant step in harmonization with supervisory trends from the EU in terms of management of risks identified as rapidly growing risks at the global level. It is also important to note the adoption of decisions on temporary measures to limit the bank exposures and amendments of previously adopted decisions on temporary measures to mitigate the risk of interest rate increases. In addition, the CBBH adopted the Decision on Amendments of the Decision on Determining and Maintaining Required Reserves and Determining the Fee on the Amount of Reserves.

In February 2023, both Banking Agencies published the Strategic Framework/Priorities related to the Management and Supervision of Climate-Change and Environmental Risks in the Banking Sector for the period 2023-2025. Following the trends and developments in the segment of development of the EU supervisory and regulatory framework, the Banking Agencies hereby set the principles on which the roadmap is based and specific measures to be implemented in four areas: regulatory measures, risk assessment, supervision and international cooperation, in the period 2023-2025. The measures envisaged in the strategy paper should significantly improve banks' understanding and management of climate risks. In addition to the mentioned document, the Banking Agencies also published Guidelines for the management of climate-related risks[4], which guide the banking sector in terms of identifying, measuring, managing and controlling climate-related and environmental risks and disclosing data and information related to these risks, as well as integrating the environmental sustainability segment into banks' business activities. Also related to this current topic, in September 2023, a cooperation agreement was signed between the International Finance Corporation (IFC) and the Association of Banks of BH (UBBiH) with the aim of providing the banking sector with an integrated ESG approach that addresses local topics, including effective management of environmental, social and climate change risks, as well as sustainability disclosure and reporting, by transferring the best practices based on the internationally recognized IFC methodology.

In response to increased market risks in international financial markets due to the sharp rise of reference interest rates, inflation and other disturbances that may have negative effects on the market in BH, in April 2023, with purpose of mitigating the effects of foreign market risks, the Banking Agencies adopted the Decision on Temporary Measures to Limit the Banks' Exposures and the Decision on Amendments of the Decision on Temporary Measures to Mitigate the Risk of Interest Rate Rises in April 2023. By the Decision on Temporary Measures to Limit the Banks' Exposures, the total amount of the bank exposures to central governments or central banks outside Bosnia and Herzegovina or exposure to those as collateral issuers or intangible credit protection providers with a zero risk weight assigned to them is limited to the amount of 100% of the bank's recognized capital. The decision is provisional, to be implemented from 30 September 2023 to 31 December 2024 or until revoked by the Agencies. Also, by amending the Decision on Temporary Measures to Mitigate the Risk of Rising Interest Rates, the Banking Agencies, in addition to the newly approved credit exposures, extended the scope to the existing credit exposures previously assigned to credit risk level 1 for which a significant increase of the interest rate was identified in the process of monitoring the risk of credit exposure, so the bank cannot determine expected credit losses in the amount of less than 2% of the exposure. With the Decision on Amendments to the Decision on Temporary Measures to Mitigate the Risk of Rising Interest Rates, the Banking Agencies extended the deadline for the application of these measures until 30 June 2024 or until revoked by the Agencies.

The Central Bank of BH adopted new regulations implementing the IMF's recommendations for improving the reserve requirement framework, the only available monetary policy instrument in the currency board arrangement. The decisions on amendments of the Decision on the setting and maintaining reserve requirements and setting remuneration on the amount of reserves were made in accordance with the best practices of central banks from the region and the EU with the aim of maximizing the flexibility and effectiveness of this instrument. In addition to differentiating the reserve requirement base in KM and EUR currencies, and maintaining the reserve requirement in EUR for the foreign exchange base, one of the novelties of the reserve requirement framework compared to the previous one is the calculation based on the remaining maturity instead of the contractual maturity of the funds in bank liabilities that form the base for the calculation of the reserve requirement. This Decision will apply from 1 January 2024 with the option of a nine-month transitional period for the provisions of the Decision concerning the maintenance of the reserve requirement in EUR.

[4] *"Guidelines for Managing Risks Related to Climate Change and Environmental Risks" of the Banking Agency of the Federation of BH from July 2023 and "Guidelines for Managing Climate-related and Environmental Risks" of the Banking Agency of RS from October 2023.*