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ACRONYMS

ACH	Automated Clearing House
AFREXIMBANK	African Export and Import Bank
ATM	Automated Teller Machines
BN	Billion
BSD	Banking Supervision Department
CAR	Capital Adequacy Ratio
CBs	Community Banks
COMFI	Credit Only Microfinance Institutions
COVID	Corona Virus Disease
CRR	Cash Required Reserves
DHs	Discount Houses
DTMFI	Deposit Taking Microfinance Institutions
EFT	Electronic Funds Transfer
EMDEs	Emerging Markets and Developing Economies
FMD	Financial Markets Department
FSA	Financial Services Association
FSD	Financial Stability Department
FSR	Financial Stability Report
FX	Foreign Exchange
G2P	Government-to-People
GDP	Gross Domestic Product
IFMIS	Integrated Financial Management and Information System
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
LCY	Local Currency
MAF	Ministry of Agriculture and Forestry
MFIs	Micro-Finance Institutions
MIX	Microfinance Information Exchange
MMOs	Mobile Money Operators
MPR	Monetary Policy Rate
NASSIT	National Social Security and Insurance Trust
NLE	New Leone
NOP	Net Open Position
NPLs	Non-Performing Loans
OFISD	Other Financial Institutions Supervision Department
PAPSP	Pan African Payments and Settlement Platform
OMO	Open Market Operations
OSS	Operational Self Sufficiency
PaR	Portfolio at Risk
POS	Point of Sales

Q1 through Q4	Quarter one to Quarter four
ROA	Return on Assets
ROE	Return on Equity
RTGS	Real Time Gross Settlement
SDF	Standing Deposit Facility
TSA	Treasury Single Account
WAMZ	West African Monetary Zone

ACTING GOVERNOR’S FOREWORD

It is with great pleasure that the Bank of Sierra Leone (BSL) presents to the public the sixth edition of its Financial Stability Report. This report assesses the financial system, with a specific focus on the banking sector. Broadly, the financial system has been confronted with a number of risks and related developments including the lingering impact of the COVID-19 pandemic, challenges in the global financial markets, the prolonged Russia-Ukraine conflict, supply chain disruptions and the evolving climate change impact on the global economy. These developments have posed significant challenges to both Sierra Leone and the global economy, and their impacts should not be underestimated. Therefore, it is essential to conduct regular assessment of the resilience of the financial system to achieve our objective of maintaining financial system stability.

Despite these challenges, Sierra Leone's financial system demonstrated resilience, recording a relatively robust performance in 2022. However, given the persistent risks associated with global uncertainties and domestic structural risks, complacency is unwarranted. With reference the banking sector, some of these structural risks include a high level of Non-Performing Loans (NPLs), limited financial intermediation with credit concentration in a few sectors and an over-reliance on investment in government securities. These risks collectively pose systemic challenges to the banking sector and the financial system in general. However, the banking sector continues to grow and accounts for most of the assets of the financial system in 2022.

The Bank has taken proactive steps to address these challenges by providing regulatory and supervisory oversight of the banking system, while also continuing with its approach to risk-based supervision. Furthermore, the Bank is in the process of adopting the Basel II and Basel III frameworks. The review of the prudential guidelines has been completed and will come into effect on 1 January 2023. Additionally, the Bank has recently formulated a Corporate Governance Framework for banks, and feedback from commercial banks and finance holding companies will be sought to ensure adherence to best practices. The framework will be implemented upon finalisation. Furthermore, the Bank launched the second National Strategy for Financial Inclusion in 2022, with a focus on developing a stable financial system that is inclusive and accessible to all. Efforts to expand access to customer-driven financial products and services, especially for underrepresented sectors of the population, have yielded some benefits. The expansion of mobile money operators across the country has improved the payment infrastructure

landscape, with further enhancements expected with the planned launch of the National Payment Switch in May 2023.

The Bank is fully committed to continually strengthening its regulatory and supervisory framework by formulating and implementing policies that enable the financial system to adapt to emerging developments. This will further strengthen the financial system's resilience in the face of both global and local challenges. We trust that those involved in the financial system will find value in this report and actively apply its insights. Furthermore, the Bank will continue its efforts to provide essential advice and information regarding financial stability to the public, utilising the Financial Stability Report and other communication channels.

Acting Governor

Ibrahim L Stevens, PhD

EXECUTIVE SUMMARY

Global Backdrop

Global growth moderated to 3.4 percent in 2022, and it is forecasted to slow down to 2.8 percent in 2023 due to tighter global financial conditions before starting to increase again in 2024. Growth in advanced economies is projected to decline to 1.3 percent in 2023, while growth in emerging markets and developing economies (EMDEs) is expected to hover around 4.0 percent in 2022, 2023, and 2024 as policy space generally remains limited to respond to global shocks.

Most major central banks commenced monetary policy normalization in response to rising inflation. Central banks in both advanced economies and EMDEs continued to signal policy rate increments and the gradual phasing out of long-term asset purchase programs. The emergence of stress in the US banking sector is complicating the task of the Fed at a time when inflationary pressures are proving more persistent than anticipated. Interest rates in most advanced economies have risen sharply since 2022 and are likely to stay high for longer than previously expected.

Financial stability risks have risen significantly since the last quarter of 2022, as demonstrated by the sudden failures of Silicon Valley Bank, Silvergate Bank, and Signature Bank in the United States, and the loss of market confidence in Credit Suisse, a global systemically important bank (GSIB) in Europe. This is a powerful reminder of the challenges posed by the interaction between tighter monetary and financial conditions and the buildup in vulnerabilities. Amplified by new technologies and the rapid spread of information through social media, what initially appeared to be isolated events in the US banking sector quickly spread to banks and financial markets across the world, causing a sell-off of risk assets.

Sierra Leone Economic Developments

Growth in the Sierra Leonean economy continues to be challenged by the impact of adverse global shocks, exchange rate depreciation pressures, and the associated rising cost of living. The impact of these shocks has resulted in a slowdown of real GDP growth from 4.1 percent in 2021 to 3.6 percent in 2022, which was in line with the initial projection. Recent projections also suggest a further slowdown to a 2.7 percent growth in 2023. Exchange rate depreciation exceeded 70 percent year-on-year in early 2023, becoming the main factor fueling a surge in inflation, which, in turn, led to declining real incomes and a lower capacity of households and businesses to pay back debt.

Local Banking Sector

The financial system remains dominated by the banking sector, accounting for about 82.5 percent of total financial system assets at the end of 2022, which is higher than the previous year. The banking sector demonstrated resilience in the face of adverse global shocks, fast depreciation, and high inflation. The sector continued to be liquid, profitable, stable, and adequately capitalized. The banking sector overall has remained sound over the years, evident by high capital adequacy, reasonable profitability, and robust liquidity.

The banking sector continued to be weakly engaged with the private sector as its lending to the domestic economy remained heavily concentrated in investment in government securities. In addition, the fast depreciation of the Leone fueled increasing currency substitution. As a result, the value of foreign currency deposits exceeded domestic currency deposits, and foreign currency assets grew more than two-fold. Consequently, foreign currency placements are now on par with T-bill holdings in the banking sector balance sheet.

The asset quality of the banking sector improved in 2022 due to the superb risk-reward characteristics of government securities, which continue to offer high returns while maintaining an extremely favorable – zero percent – risk rating. At the same time, gross loans and advances declined in real terms, and the bank's loan-to-deposit ratio further decreased to 16.1 percent, far below the prudential threshold of 80.0 percent. Banks struggle to find projects with adequate risk-return characteristics in Sierra Leone's economy, which they would be willing to finance. The NPL ratio decreased to 12.0 percent in 2022, though it remained above the regulatory threshold of 10.0 percent. However, asset quality improved more than the NPL ratio would suggest due to increasing provisioning. As asset quality improves further, the capacity of the banking sector to absorb potential losses from NPLs and to give out more loans also increases. Going forward, the BSL expects NPLs in the banking sector to continue to decline, supported by its enhanced supervision of banks with high NPLs.

The banking sector continued to be solvent and in a good position to absorb losses that could emanate from shocks to the system. The banking sector Capital Adequacy Ratio (CAR) was 35.0 percent in 2022, well above the BSL regulatory minimum of 15.0 percent. All but two banks were able to meet the minimum CAR threshold. Both CAR and Tier 1 CAR declined in 2022, mainly driven by the increasing share of FX assets, which are riskier than government securities. The banking sector's profitability

improved further and remained robust. The return on equity (ROE) and the return on assets (ROA) increased to 28.2 and 6.5 percent, respectively, in 2022, both being high in international comparison. Profits increased well above inflation as a huge acceleration in earnings growth well outpaced the growth of costs, resulting in the cost-to-income ratio declining from 60.3 to 54.1 percent in 2022.

The banking sector continued to be well prepared to meet both its long-term and short-term obligations as demonstrated in 2022. It has very high liquidity as indicated by the core liquidity indicators. The liquid assets-to-total assets ratio increased to 78.3 percent in 2022 and remains high. Also, the liquid assets-to-short-term liabilities ratio increased to 95.5 percent in 2022.

The main financial stability risks from the banking sector are linked to high NPLs, a high concentration of the private sector loan portfolio in a few sectors and large firms, the overreliance on government securities, and the pick-up in currency substitution. Each of these was investigated by using stress tests, which indicate that the banking sector is generally resilient to adverse shocks that might emerge in the future, despite the conservative assumptions. However, extreme shocks can still lead to a systemic banking crisis even though the probability of this is marginal. None of the individual macro shock scenarios considered would cause the sector's CAR to fall below 15 percent. The reason for this is that banks already have high levels of CAR emanating from their unique business model, which is based on large holdings of government securities that are considered risk-free and provide very high returns. Therefore, even with extreme shocks to credit risk, the banking sector's CAR continues to remain adequate. Vulnerabilities do exist in the banking sector, which arise mainly from a few weak banks in the sector. However, these banks are already under enhanced supervision.

Non-bank Financial Sector

The landscape of other financial institutions largely remained unchanged in 2022. The DTMFIs continued to expand in 2022, but in real terms, assets, equity, deposits, and loans declined. The sector remained highly concentrated. The DTMFIs faced difficulties in 2022 as their profitability dwindled, and the share of non-performing loans has increased. The BSL continues to address these issues by carrying out on-site examinations as required, and expects lower NPLs in 2023. The COMFIs' assets expanded at a rate well above inflation, mostly boosted by the large increase in new COMFIs, as their total number grew by close to 50 percent. The profitability of the sector improved even though the share of NPLs increased. With the expected improvement in the macroeconomic environment, the increase in NPLs is also expected to halt

and then gradually reverse. The BSL continues to advise on the adoption of more prudent loan collection practices. Despite the overall expansion of the Community Banks, driven mainly by the increase in the deposit base, their lending activity actually contracted. Community Banks managed to increase their profitability while NPLs have declined. The total assets of FSAs declined in real terms in 2022, but on aggregate they managed to increase profitability while reducing non-performing loans. Discount Houses managed to increase their profitability in 2022 while their total assets more than doubled. Mobile Money Operators expanded their activity in 2022 as both the number of agents and transactions, and the value of transactions increased over the year.

The NASSIT pension scheme expanded by 15.1 percent in 2022, implying a decline in real terms. At the end of 2022, total pension fund assets amounted to NLe3,196 million. The increase in assets was broadly similar across different asset types. Contribution income increased by 18.8 percent, slower than benefits payments, which increased by 36.7 percent in 2022, while investment income increased by 40.9 percent. Contribution income remained sufficient to meet the Trust's total expenses, giving rise to surplus for future investment or future use.

Financial Markets

The only well-functioning government securities (GS) market segment is the 364-day T-bill auctions, which are mostly oversubscribed. The commercial banks increased their GS holdings by 10.4 percent in 2022. There is no liquid, well-functioning secondary GS market in Sierra Leone. Investors typically hold the GS until maturity. Commercial banks, as the counterparties of BSL open market operations, can still sell their GS if the central bank purchases them to inject liquidity in the local currency interbank market. Also, banks can use their GS holdings to access the BSL's overnight repo lending facility. Nevertheless, the movement of GS rates has implications on interest rate risk and, by extension, on the profitability and stability of the banking sector. This is a major source of banking sector vulnerability.

The 364-day treasury bill yield increased significantly, by 685 basis points, to 28.2 percent in 2022. This has surpassed the increase in the Monetary Policy Rate (MPR) but fell far short of the pick-up in inflation so that the real rate of the 364-day T-bill became deeply negative by the end of 2022 and early 2023. The weighted average interbank yield increased in line with the MPR. The BSL's overnight interest rate corridor continued to be effective as interbank rates remained firmly within its borders. Interbank rates

stayed on average 1.7 pp above the MPR, indicating a tight liquidity situation for banks. Since the middle of 2021, the monthly interbank money market turnover has been fluctuating around NLe800 million.

Payments System

Safety and efficiency of the National Payment System. continues to be the Bank's main objective. Regular assessment of its performance is a priority. The Bank has launched the first phase of the National Switch that allows card switching point of sale (POS) interoperability among banks in the country.

The value and volume of transactions of the wholesale payment system, the Real-Time Gross Settlement System, have increased. On the retail front, cheques were more widespread than the use of direct debits. The gap between the total values of cheque and direct debit transactions has narrowed but remained sizeable.

With the modernization and improvement of the payment systems in Sierra Leone, it became necessary to review the Payment Systems Act, which was established in 2009. To catch up with modern trends in payment and settlement infrastructure, the Act of 2009 has been reviewed, and a new Payment System Act 2022 was passed into law by the Parliament of Sierra Leone.

BSL Financial Stability Related Measures

The Bank of Sierra Leone continues to provide regulatory and supervisory oversight of the banking system. The Bank is working towards adopting the Basel II and Basel III frameworks over the medium term. The enhanced supervision of four banks, including the two state-owned banks, remains in force to strengthen their capacity to handle unexpected shocks.

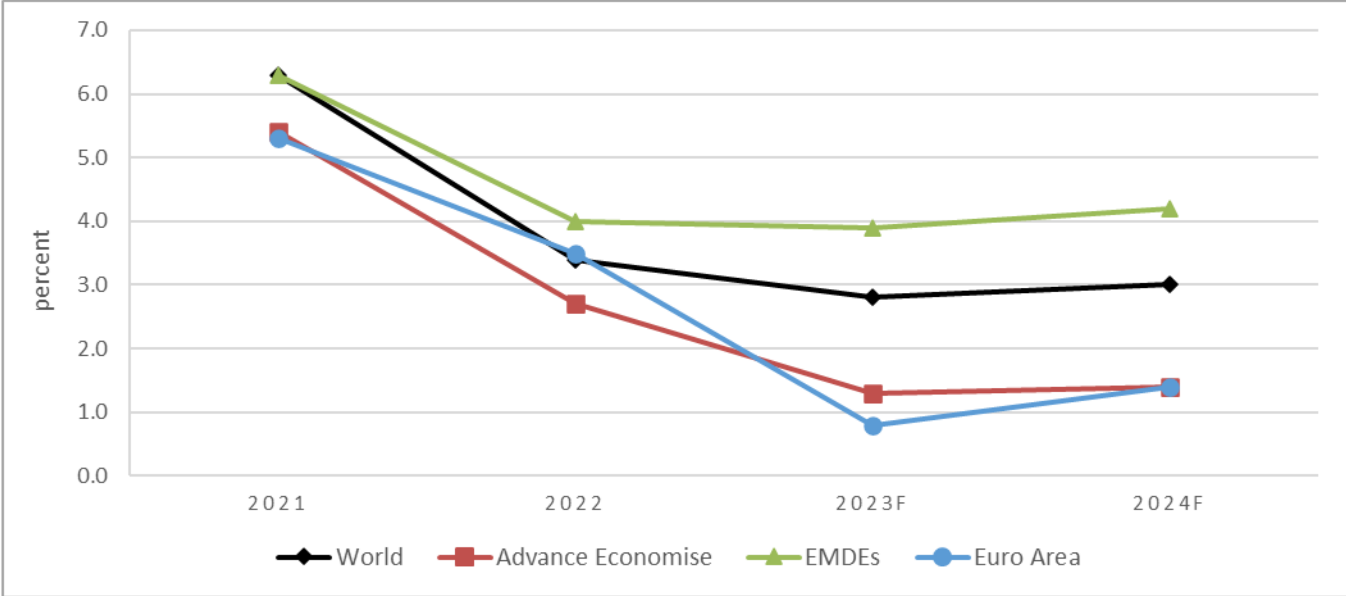
The BSL updated the 2012 Prudential Guidelines, published it and is now monitoring its implementation. Additionally, the Bank has recently developed a Corporate Governance Framework for banks to be rolled out in 2023. The BSL issued the Cybersecurity and IT Risk Management Guidelines for banks and started the monitoring of its implementation. The guidelines will ensure effective cybersecurity governance and information technology risk management in banks to ensure the preservation of public confidence in the financial system. A Deposit Protection Bill has been enacted by Parliament, and the operationalization of the scheme has commenced. The BSL is now working on setting up the Deposit Protection Fund.

1 MACROECONOMIC AND FINANCIAL DEVELOPMENTS

1.1 Global Macroeconomic Developments

Global growth moderated to 3.4 percent in 2022 from 6.3 percent in 2021, reinforcing a tighter monetary policy stance. This outlook is subjected to various downside risks, most importantly the Russia-Ukraine crisis and the tight global financial conditions induced by the fight against inflation. However, there are also upside risks to global growth as China's removal of the zero-covid-related restrictions may bring a faster and stronger rebound than expected, and the United States and the Euro Area may prove to be more resilient than feared. Growth in Advanced Economies moderated to 2.7 percent in 2022 from 5.4 percent in 2021, and it is projected to further moderate to 1.3 percent in 2023. Emerging Markets and Developing Economies (EMDEs) experienced faster growth in 2021 (6.3 percent) but moderated to 4.0 percent in 2022 due to limited policy space to respond to the global shocks. Growth in EMDEs is projected to further moderate to 3.9 percent in 2023 and rebound to 4.2 percent in 2024 (Figure 1.1).

Figure 1.1: Annual Real GDP Growth (%)

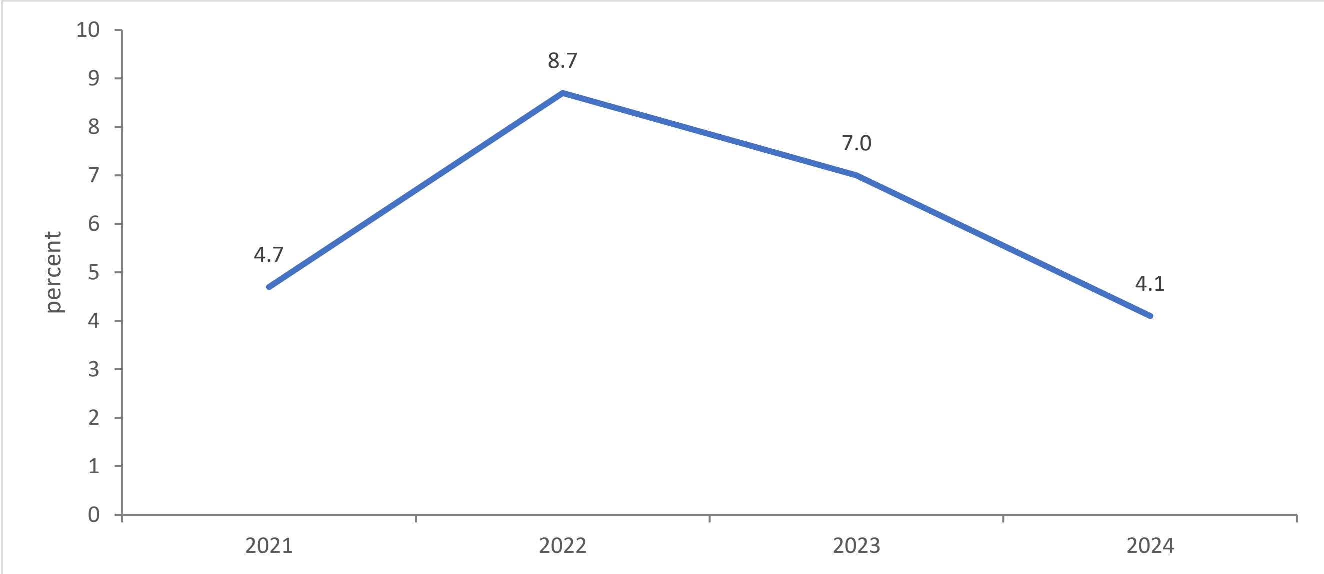


Data source: IMF, World Economic Outlook (WEO) January 2023 Update.

Global inflation rose from 4.7 percent in 2021 to 8.7 percent in 2022, the highest in several decades and above most central banks' targets. This was primarily due to rising food and energy prices caused by supply chain disruptions. However, global inflationary pressures are expected to soften in 2023 on the back of slowing economic activity, which also leads to lower commodity and energy prices. Accordingly,

the IMF projects global inflation to decrease to 7.0 percent and 4.1 percent in 2023 and 2024 respectively (Figure 1.2). The resilience of the global economy, the Crisis in Ukraine, the monetary policy decisions of major central banks, and OPEC's oil production decisions are key factors that would affect the global inflation outcomes going forward. Additionally, the recent collapse of some banks in the United States and Europe could pose a major threat to global growth if the problem becomes more widespread.

Figure 1.2: Actual Inflation and Consensus Median Inflation Forecasts



Sources: World Bank Global Economic Prospect April 2023.

1.2 Global Financial Developments

Most major central banks commenced monetary policy normalization in response to rising inflation. Central banks in both advanced economies and EMDEs continued to signal policy rate increments and the gradual phasing out of long-term asset purchase programs.

The emergence of stress in the banking sector is complicating the task of central banks at a time when inflationary pressures are proving more persistent than anticipated. Before the recent stress periods, interest rates in advanced economies had risen sharply and were aligned with central bank communication about the need to keep monetary policy restrictive for longer periods. Since then, investors have sharply repriced downward the expected path of monetary policy rates in advanced economies. They now anticipate central banks to begin easing monetary policy well in advance of what was previously expected.

Investment in EMDEs is projected to grow at a pace below the average rate of the past two decades through the medium term, after declining in most countries during the pandemic. This outlook for investment is unwelcome news on several counts. Whether the policy priority is bolstering resilience to climate change, improving social conditions, smoothing the transition away from growth driven by natural resources, or supporting long-term per capital income growth, investment (gross fixed capital formation, or buildings, machinery, equipment, and intangible assets used for more than one year) is critical. Large emerging markets are battling with the sharp tightening of monetary policy in advanced economies, in part aided by the fact that global financial conditions have not matched the extent of global monetary policy tightening. However, they could face significant challenges should current strains in financial markets fail to subside and cause a pullback from global risk-taking and associated capital outflows.

1.3 Global Financial Stability

The Russia-Ukraine crisis has increased the risk of higher and more permanent global inflation. Preexisting inflationary pressures and inflation expectations worsened due to the sharp increases in food and fuel prices and the prolonged supply chain disruptions. This rapidly changed the views about the likely size of tightening of monetary policy by major central banks and has given rise to significant uncertainties in global markets, leading to downside risks to global growth.

Financial stability risks have risen significantly since the last quarter of 2022, as demonstrated by the sudden failures of Silicon Valley Bank, Silvergate Bank, and Signature Bank in the United States, and the loss of market confidence in Credit Suisse, a global systemically important bank (GSIB) in Europe. This is a powerful reminder of the challenges posed by the interaction between tighter monetary and financial conditions and the buildup in vulnerabilities. Amplified by new technologies and the rapid spread of information through social media, what initially appeared to be isolated events in the US banking sector quickly spread to banks and financial markets across the world, causing a sell-off of risk assets.

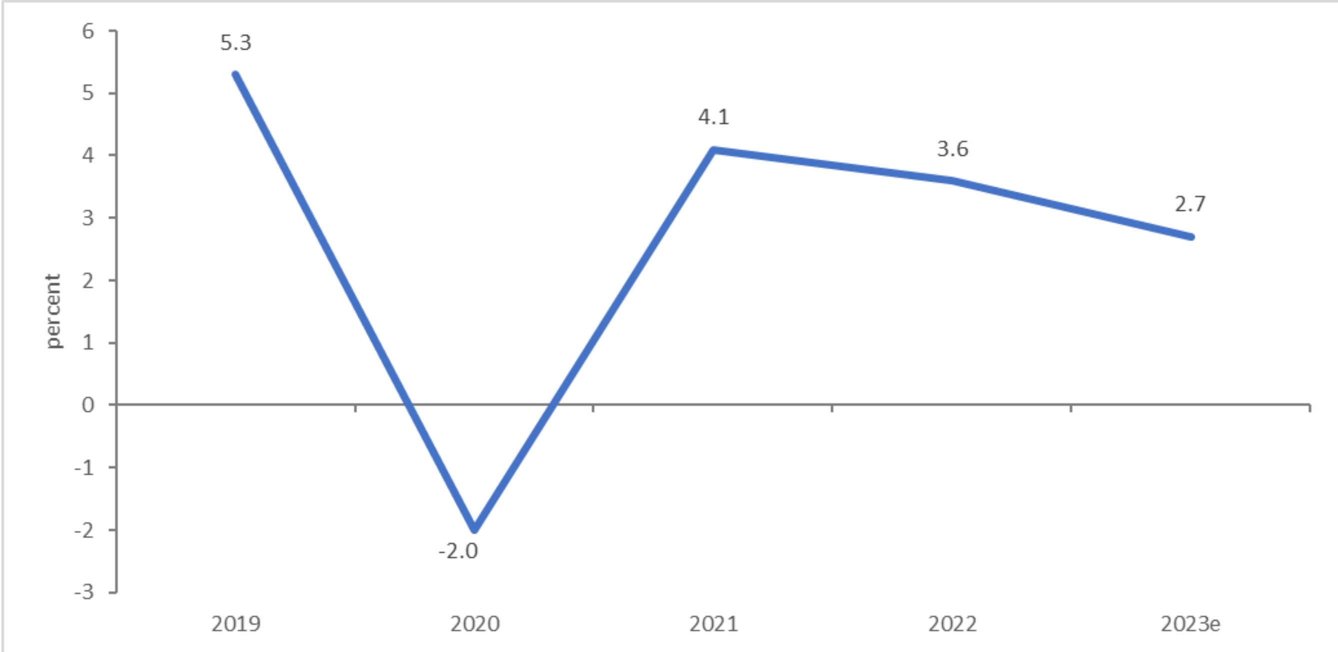
However, though the global financial system has been resilient to recent shocks such as the COVID-19 pandemic and the Russian-Ukraine crisis, future shocks could be more devastating if the global financial system does not brace itself to deal with issues such as climate change, the transition to greener economies, or energy security as exposed by the Russian-Ukrainian crisis.

1.4 Domestic Macroeconomic Developments

1.4.1 GDP Growth and Inflation

Growth in the Sierra Leone economy continues to be challenged by the impact of adverse global shocks, exchange rate depreciation pressures, and the associated rising cost of living. The impact of these shocks has resulted in a slowdown of real GDP growth from 4.1 percent in 2021 to 3.6 percent in 2022, which was in line with the initial projection. Recent projections also suggest a further slowdown to a 2.7 percent growth in 2023 (*Figure 1.3*).

Figure 1.3: Real GDP growth Rate in Sierra Leone



Source: IMF (Note: e=estimate)

The three major sectors of the economy, i.e. Agriculture, Industry, and Services, all contributed to the growth of the economy in 2022. Growth in the Agriculture sector slightly increased from 2.9 percent in 2021 to 3.4 in 2022 due to a policy shift to support private sector players by the Ministry of Agriculture and Forestry (MAF) and the easing of COVID-19 policies. Growth in this sector is projected to decrease slightly in 2023.

Growth in the industry sector was strongly supported by mining, especially due to the recent reopening of the iron ore mines. The signing of new mining agreements by the Government of Sierra Leone bodes well for future growth. Growth in the industry sector increased to 17.4 percent in 2021 after a 7.1 percent

decline in 2020, but then it moderated to a still dynamic 8.3 percent in 2022. Growth is expected to stay around 8 percent in 2023.

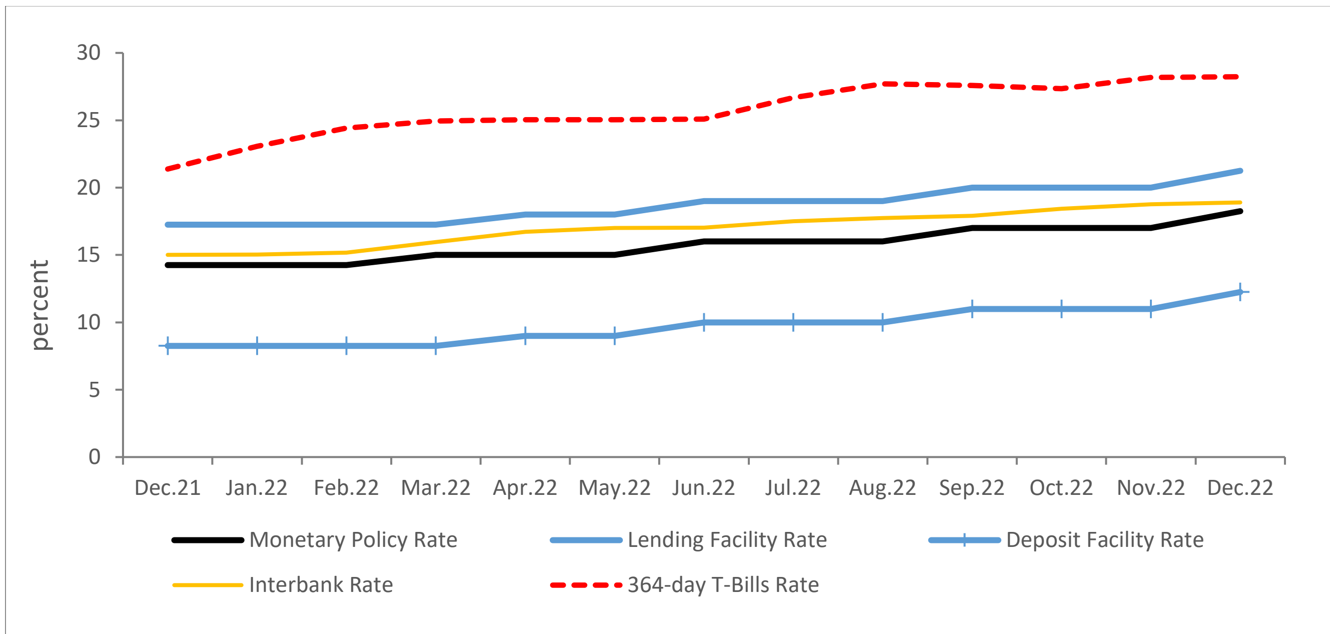
The resumption of trade, tourism, transport, hotels, and restaurants led to 2.9 percent growth in the services sector in 2021 and 3.6 percent in 2022, after a 5.6 percent decline in 2020. Growth in the service sector is estimated to increase further in 2023.

The exchange rate in 2022 witnessed a negative terms-of-trade shock that put downward pressure on the Leone. The increased demand pressure for foreign currency, especially from importers of petroleum products and essential food commodities, was evident throughout the year. The depreciation of the Leone put further upward pressure on domestic prices. Inflation reached historically high levels, exceeding 38.5 percent at the end of 2022 and increasing even further, above 40 percent, in the first quarter of 2023. To mitigate this demand pressure, the BSL intervened, providing foreign currency to oil marketing companies and importers of essential commodities through direct sales of forex to their respective commercial banks. These measures helped to dampen pressure on the exchange rate temporarily. The Leone depreciated against the US dollar by more than 60 percent during 2022, including both the official BSL rate, the commercial banks' rate, and the parallel market exchange rate. Depreciation increased even further in the first quarter of 2023, reaching more than 75 percent year-on-year. The premium between the official and parallel market exchange rates narrowed as the volume of banks' forex transactions increased after the BSL removed some restrictions.

1.5 Monetary Policy Management

As the inflation rate soared, the BSL increased its monetary policy rate (MPR) by 400 basis points from 14.2 percent in 2021 to 18.3 percent in 2022, and a further 50 basis points to 18.8 percent in March 2023. This only resulted in a moderate upward movement of commercial banks' lending and deposit rates, while the savings rate stagnated. In contrast, the interbank rate and the 364-day T-Bills rate largely followed the change in the MPR (*Figure 1.4*).

Figure 1.4: BSL Policy Rates and Interbank Weighted Average rate

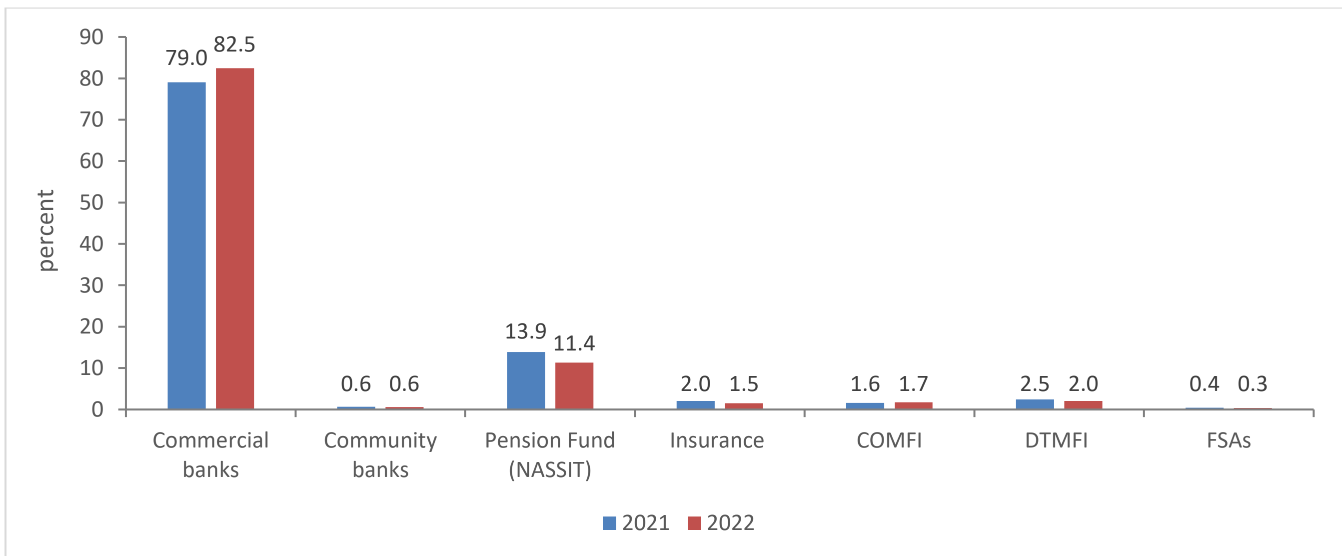


Source: FMD, BSL

1.6 Structure of the Financial System

The banking sector accounted for about 82.5 percent of total financial system assets as at the end of December 2022. Its proportion increased further from the previous year (*Figure 1.5*).

Figure 1.5: Share of Financial System Assets by Sector



Source: BSL, NASSIT and SLICOM

Pension funds ranked second with 11.4 percent of total financial sector assets, though it declined from 13.9 percent in 2021. The remainder accounted for 6.1 percent. The banking sector consists of fourteen commercial banks – two state-owned, two domestic privately-owned, and ten foreign-owned, mainly Nigerian. The banking sector continued to expand and was adequately capitalized, sufficiently liquid, and highly profitable in 2022, while the remaining portion of the financial sector lost market share.

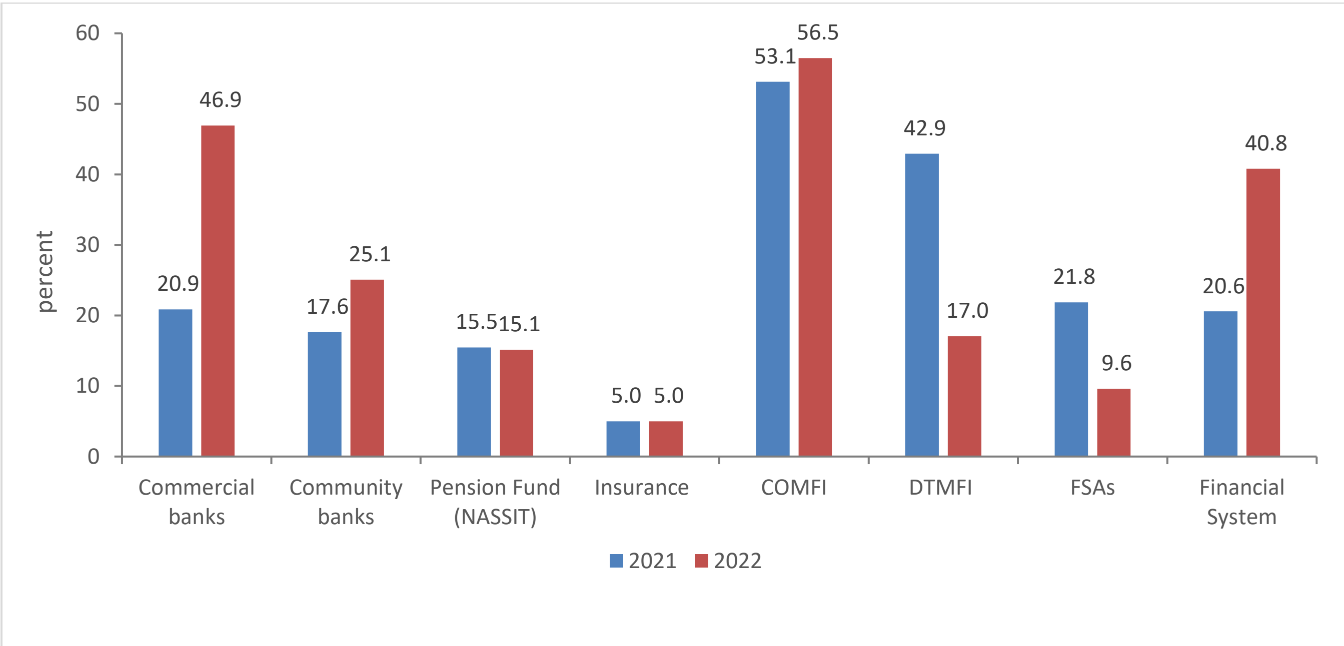
Box 1: Financial Institutions in Sierra Leone, end 2022

The number of financial institutions that comprise the financial system in Sierra Leone increased to 242 in 2022, up from 230 in 2021. These institutions encompass 14 commercial banks, 5 deposit-taking microfinance institutions (DTMFIs), 60 credit-only microfinance institutions (COMFIs), 17 community banks, 59 financial service associations (FSAs), 2 discount houses, and 3 mobile money service providers. Conversely, the count of Foreign Exchange Bureaus decreased from 88 in 2021 to 80 in 2022. The number of insurance companies regulated by SLICOM remained steady at 12, and there is one pension fund, namely NASSIT.

1.7 Total Assets of the Financial System

The total assets of the financial system surged by 40.8 percent in 2022, reaching 37.4 percent of GDP.

Figure 1.6: Growth of Sierra Leone's Financial System Assets by Sector



Source: BSL, NASSIT and SLICOM

The increase was broad-based, with all sectors of the financial system contributing. However, in real terms, only two sectors showed significant growth. Credit-only Microfinance Institutions recorded asset growth of more than 50.0 percent, highlighting the rapid expansion in the sector. The banking sector's assets grew by 46.9 percent, representing 30.8 percent of GDP. Figure 1.6 illustrates the growth in assets of the various sectors of the Sierra Leone financial system.

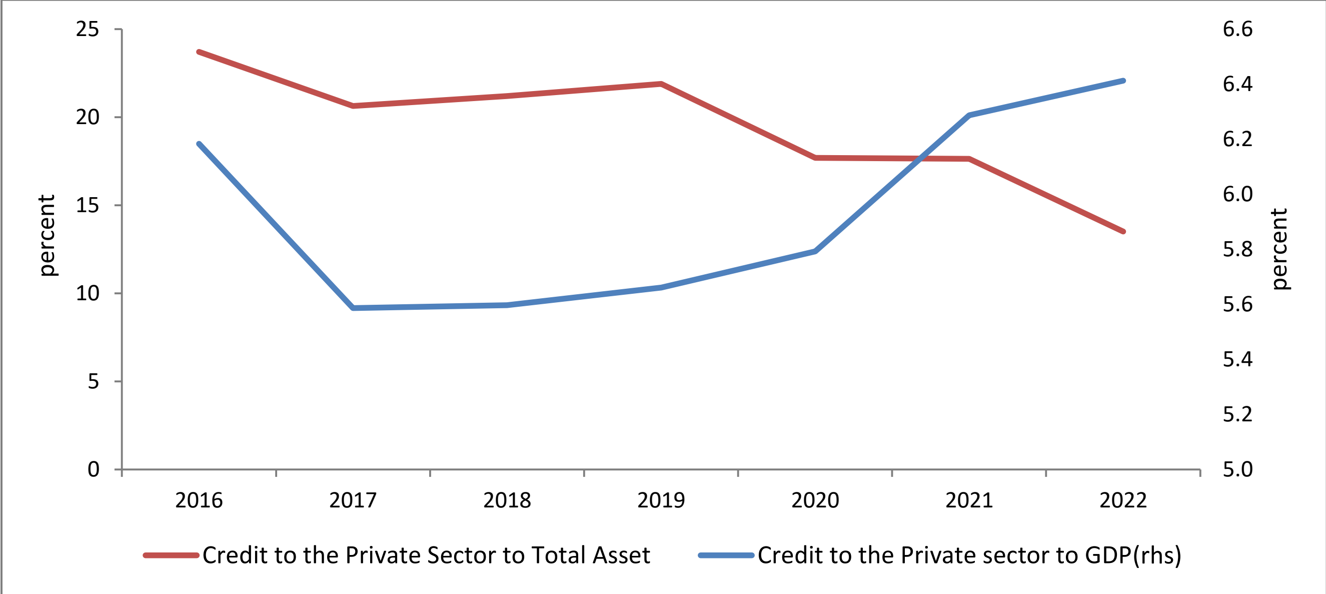
2 BANKING SECTOR ASSESSMENT

2.1 Summary

The banking sector of Sierra Leone demonstrated resilience in the face of the disruptive supply chain effects of the Russia-Ukraine crisis and continues to play its role in supporting the economy during the growth and recovery phase. The sector remained liquid, profitable, stable, and adequately capitalised. Over the years, the banking sector has consistently shown its soundness, evident through high capital adequacy, reasonable profitability, and robust liquidity, holding the highest share of assets and deposits in the financial system.

The banks have adapted to the "new normal," adopting a hybrid approach to remote and physical service delivery. Asset quality in the banking sector improved in 2022 due to the superb risk-reward characteristics of government securities, which continue to offer high returns while maintaining an extremely favorable zero percent risk rating.

Figure 2.1: Credit to the Private Sector relative to GDP and Total Assets

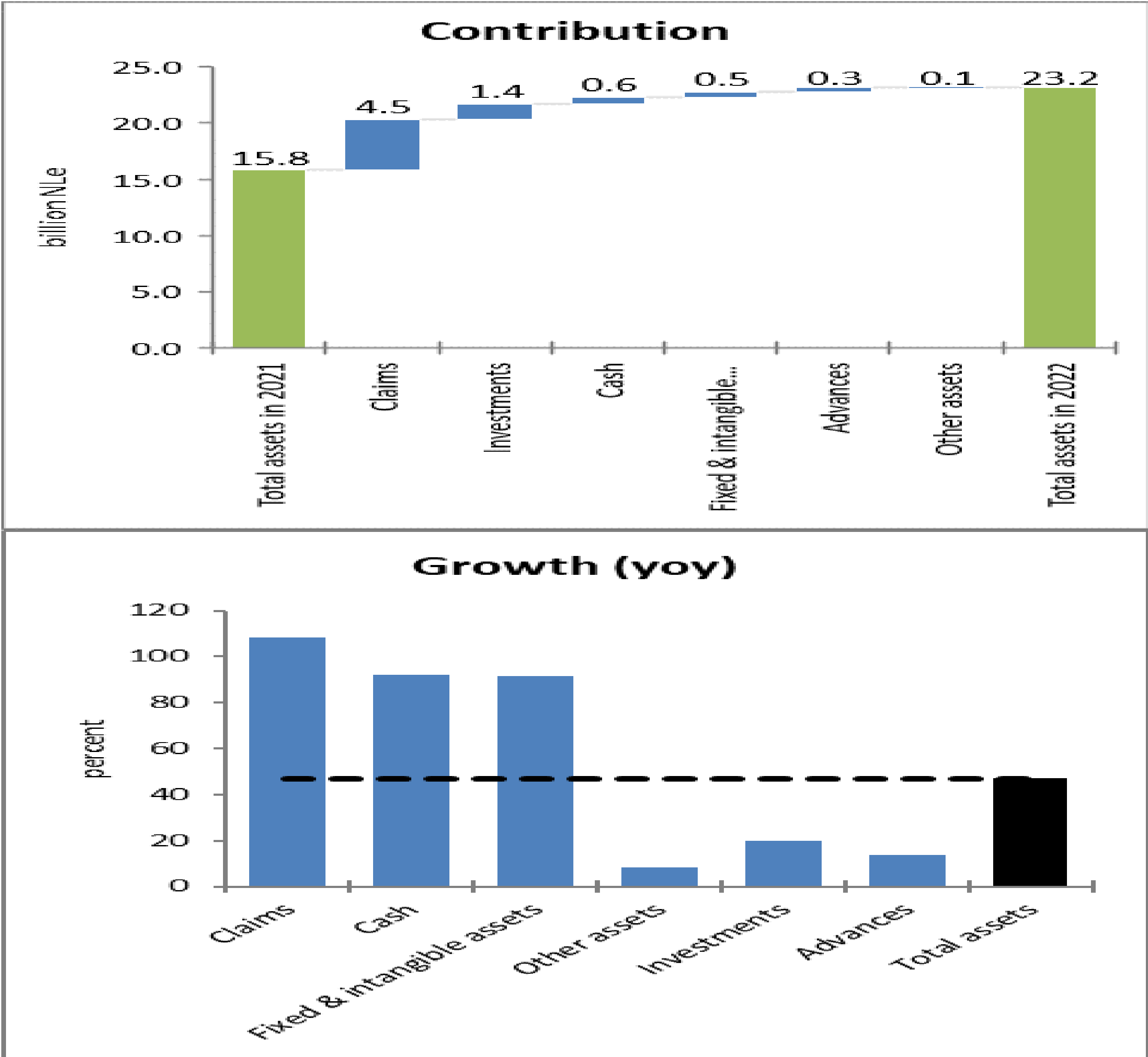


Source: FSD (BSL)

The total assets of the banking sector increased by 46.9 percent in 2022, in alignment with nominal GDP growth. Assets of the banking sector continued to be heavily concentrated in investments in government securities, but their growth rate was significantly lower than the growth of total assets. In contrast, claims, mainly driven by foreign currency placements, have caught up, increasing more than two-fold. These are

primarily FX deposits placed with foreign banks, most frequently with their parent banks. The growth rate of banks' vault cash was 91.9 percent, but their contribution to growth still lagged behind government securities due to their lower share (*Figure 2.2*).

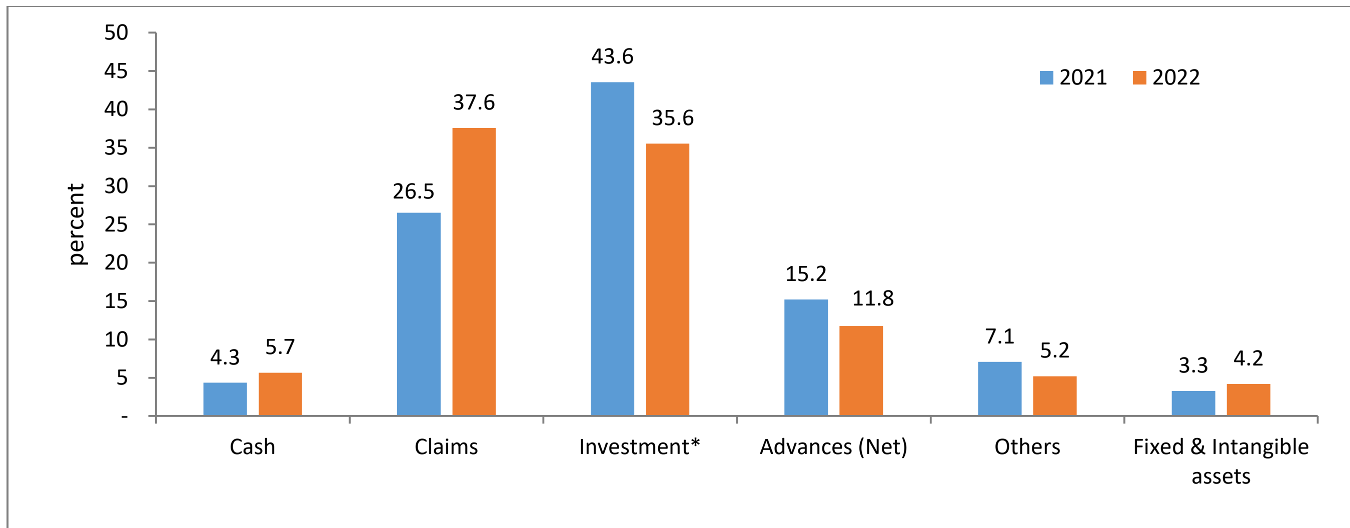
Figure 2.2: Contribution to Growth and Growth Rate of Banking Sector Assets



Source: FSD (BSL)

In 2022, Claims overtook Investments and now have a higher share, comprising 37.6 percent of total banking sector assets (*Figure 2.3)*

Figure 2.3: Share of Different Types of Assets within Banking Sector Total Assets



Source: FSD (BSL)

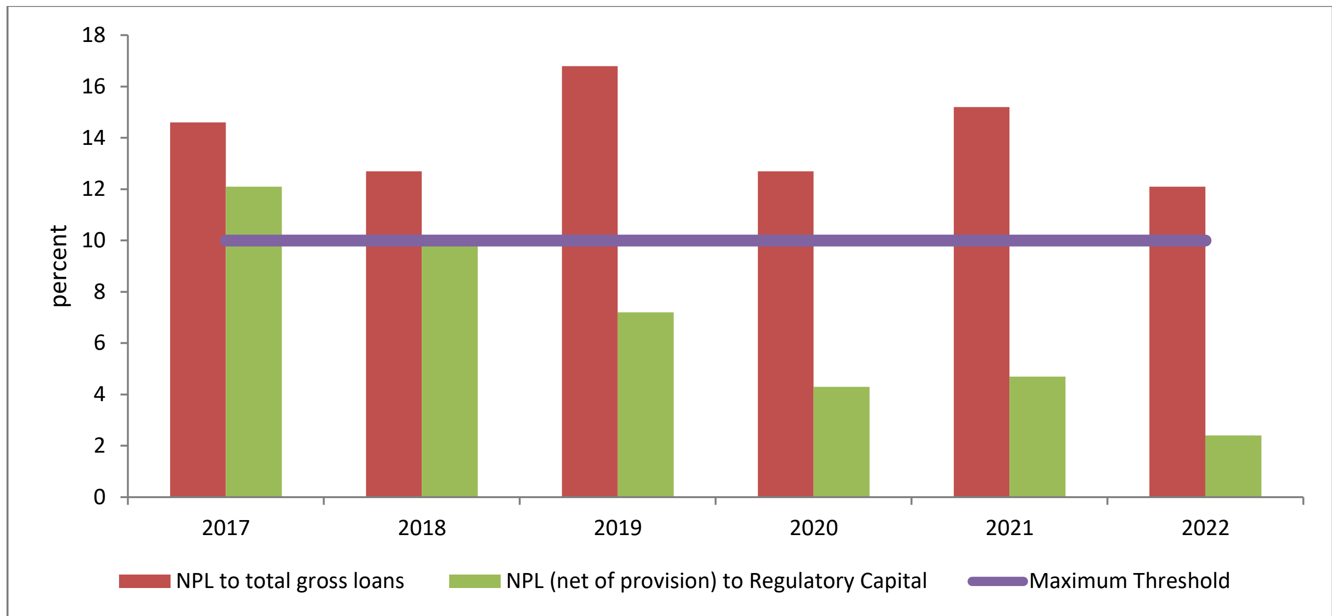
This growth was fueled by a very strong currency substitution, as foreign currency deposits increased substantially. To manage their foreign exchange exposure, banks placed these funds in foreign currency and held more FX cash. Foreign currency placements increased by 102.3 percent, and foreign currency (cash) holdings rose by 91.9 percent. Consequently, foreign currency placements now constitute the second-largest asset class on the banking sector's balance sheet, after government securities. Currency substitution carries the potential risk of limiting available funding for domestic needs, including both the private and public sectors, and making compliance with some regulatory requirements, such as the local asset ratio, challenging.

2.2 Credit Risk and Asset Quality

2.2.1 Non-Performing Loans (NPLs) and Provisioning

In 2022, the asset quality of the banking sector showed improvement. The NPL ratio of banks decreased to 12.0 percent from 15.2 percent in 2021, although it still exceeded the regulatory threshold of 10.0 percent. There was significant variation in asset quality among banks, with half of them reporting NPL ratios above 10.0 percent, ranging from 10.0 percent to 27.0 percent. Nevertheless, asset quality improved more than the NPL ratio would imply, as the ratio of non-performing loans, net of provisions, to regulatory capital decreased from 4.7 percent in 2021 to 2.3 percent in 2022 (*Figure 2.4*).

Figure 2.4: Asset Quality Indicators of the Banking Sector

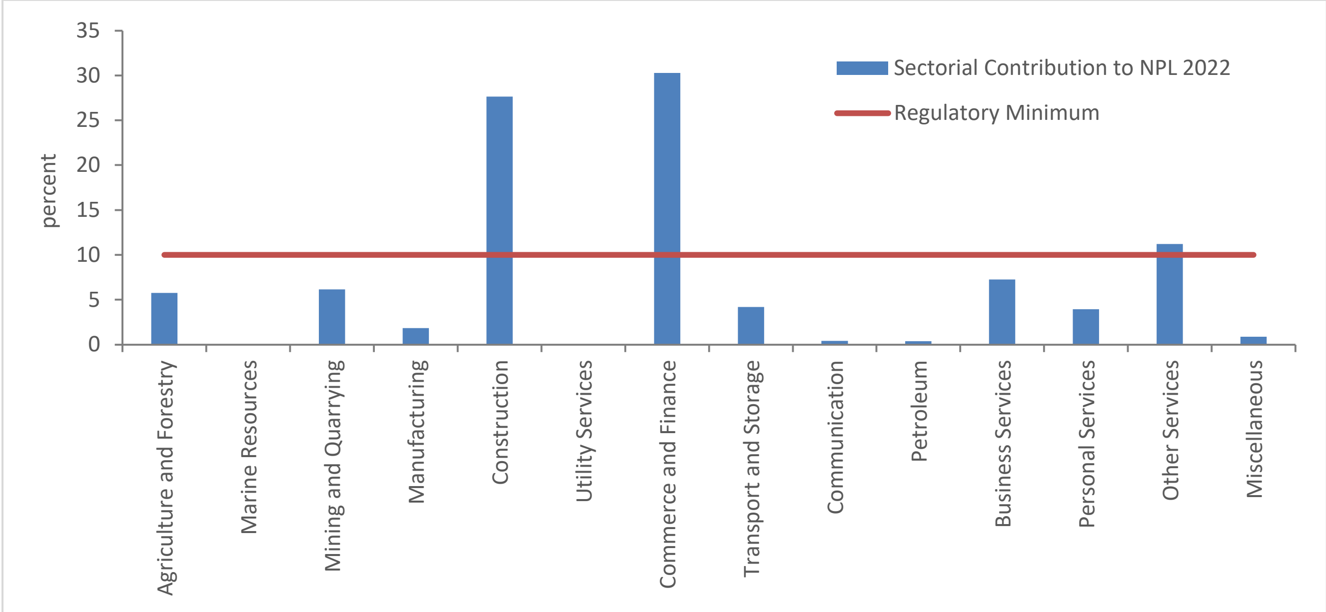


Source: FSD (BSL)

As asset quality continues to improve, the banking sector's ability to absorb potential losses from NPLs and extend more loans also expands. Looking ahead, the BSL anticipates NPLs in the banking sector will continue to decline, bolstered by its enhanced oversight of banks with high NPLs.

The commerce and finance as well as the construction sectors contributed the most to the total NPLs, accounting for 30.3 percent and 27.6 percent, respectively. These sectors also held the largest portion of bank loans in 2022 and are more susceptible to global shocks due to supply chain disruptions (*Figure 2.5*).

Figure 2.5: Sectorial Contribution to NPLs



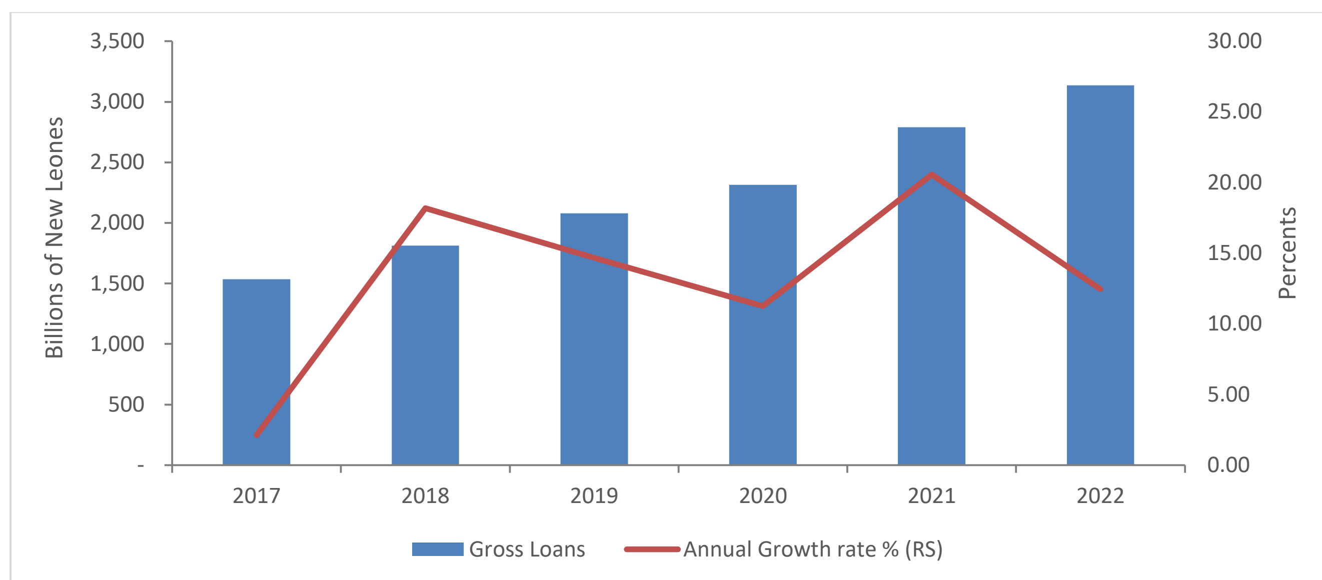
Source: FSD (BSL)

2.2.2 Credit Risk

Gross loans and advances including off balance sheet exposures increased by 42.8 percent in 2022, marking an improvement from the 14.7 percent growth in 2021. The proportion of private sector loans excluding off balance sheet items in total assets decreased further, reaching a meager 11.8 percent from a 15.2 percent in 2021. The decline in real terms may indicate either customers' disinclination to secure loans from banks or limited business opportunities for banks. It appears that the primary reason lies in the absence of projects with sufficient risk-return characteristics within Sierra Leone's economy, which banks would be willing to finance.

The bank's loan-to-deposit ratio including off balance sheet exposure decreased further to 28.6 percent in 2022 from 29.2 percent in 2021, significantly below the prudential threshold of 80 percent. As the increase in the deposit base exceeded the growth in loans, a portion of the difference was invested in government securities (GSs), while the majority was placed as FX-deposits in foreign banks.

Figure 2.6: Level and Growth of Gross Loans



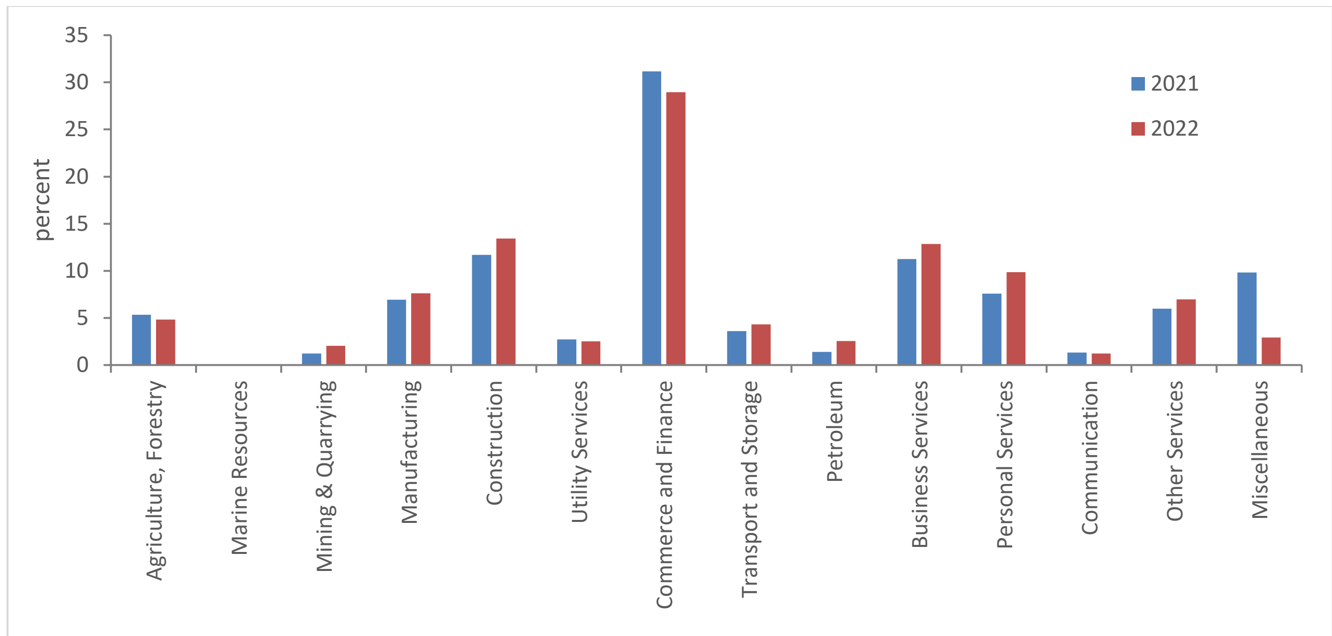
Source: FSD/BSL

2.2.3 Credit Risk from Sectoral Shocks

Banks continued to allocate a significant portion of their loans to the commerce & finance, construction, and business services sectors in 2022. These three sectors collectively represented 55.2 percent of gross loans and advances, with the commerce & finance sector alone accounting for 29.0 percent of total loans. The commerce & finance sector primarily engages in the import and distribution of goods within the economy, and Sierra Leone heavily relies on imports for most of its fundamental necessities, including food. This heightened exposure to the commerce and finance sector poses an elevated credit risk for banks and renders them vulnerable to global supply chain disruptions, such as those observed in 2020-2021 and during the ongoing Russia–Ukraine crisis.

To mitigate the impact of global supply chain disruptions on Sierra Leone's economy, the BSL took measures to provide foreign currency to importers of petroleum products and other essential commodities. This enabled benefiting importers to stockpile significant quantities of products, which they could subsequently offer to the public during periods of inadequate supply, thus ameliorating the effects of global supply chain disruptions on the local economy.

Figure 2.7: Sectoral Distribution of Gross Loans



Source: FSD- BSL

The construction sector is primarily dominated by large firms with government contracts for road and bridge construction. Consequently, loans in this sector are susceptible to fiscal shocks. In cases of severe fiscal constraints, the government accumulates arrears with contractors, often leading to non-performing loans for construction firms. Consequently, the sector typically has a significant contribution to NPLs.

The Business services sector encompasses legal services, accounting, tax & auditing services, and other business consultancies. This sector remains highly responsive to the domestic economy's performance, making it the third-largest contributor to NPLs in 2022.

2.2.4 Large Exposure Risk

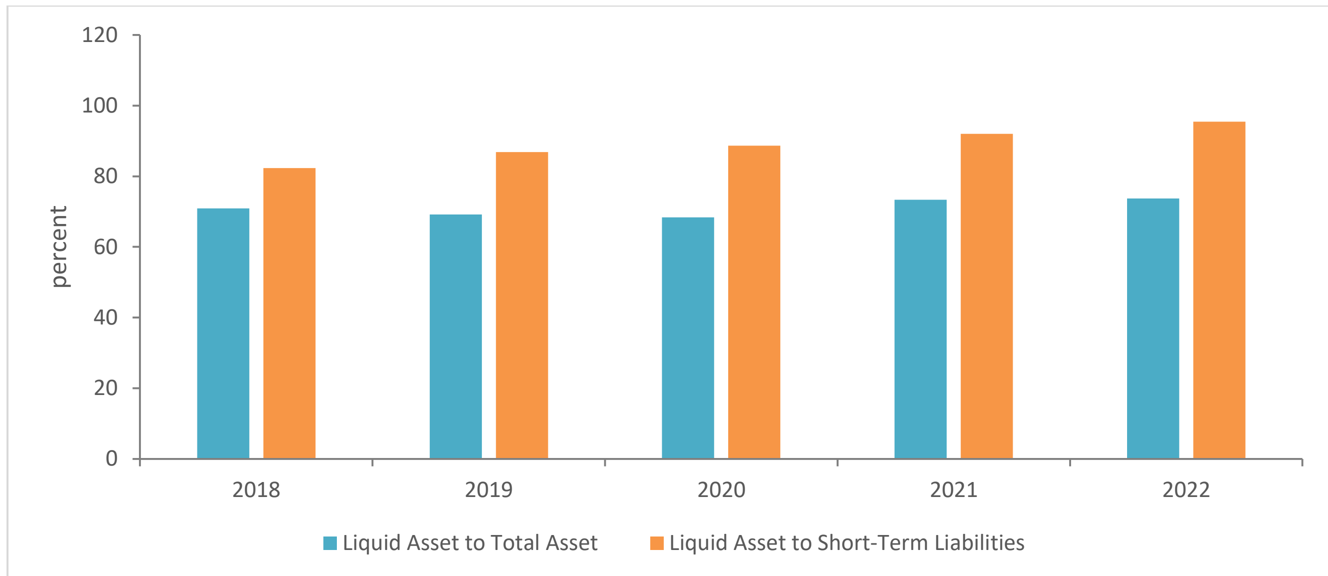
The 50 largest credit exposures represented 60.0 percent of the banking sector's combined exposures and comprised 98.5 percent of its capital base in 2022. The most substantial individual borrower alone contributed to 12.2 percent of total exposures and 20.1 percent of the capital base. Consequently, the data unveiled an exceptionally high level of concentration in loan portfolios, heightening banks' susceptibility to credit shocks affecting their largest customers.

2.3 Liquidity Risk

2.3.1 Liquidity Assets

In 2022, the banking sector remained well-prepared to fulfill both its long-term and short-term obligations. The banking sector demonstrated very high liquidity, as evidenced by the core liquidity indicators.

Figure 2.8: Liquidity Indicators of the Banking System



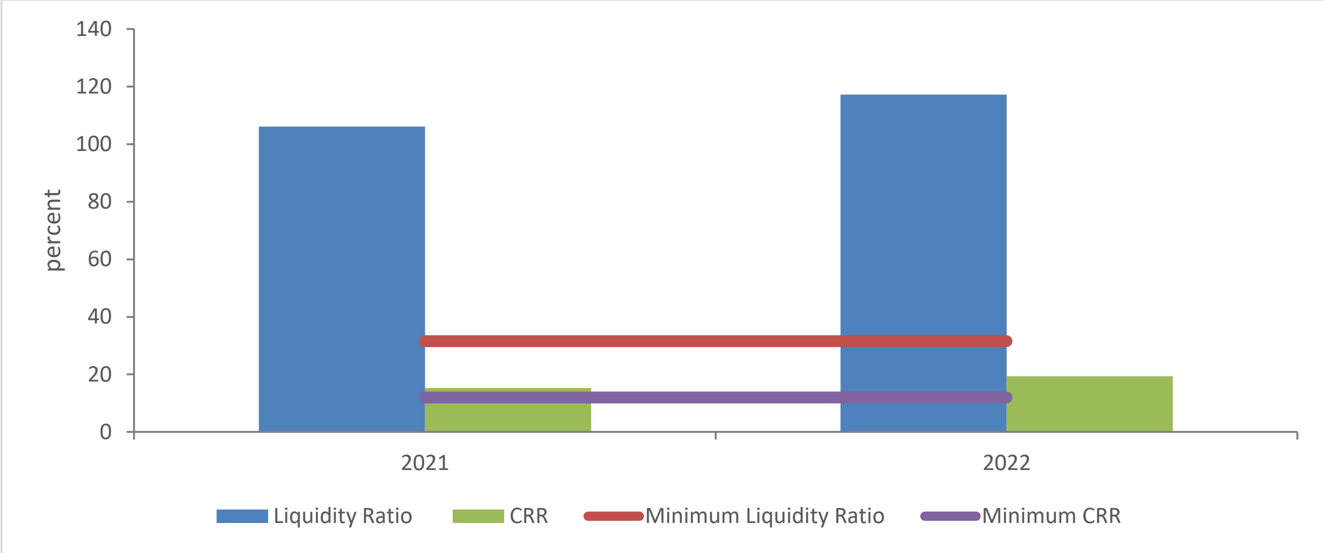
Source: FSD-BSL

The liquid assets-to-total assets ratio increased to 78.3 percent in 2022, up from 73.7 percent in 2021, and it remains at a high level. Similarly, the liquid assets-to-short-term liabilities ratio increased to 95.5 percent in 2022, compared to 92.0 percent in 2021 (Figure 2.8).

Both the Cash Reserve Ratio (CRR) and the Liquidity Ratio emphasize that the banks are awash with liquidity. The CRR saw a significant increase, rising from 15.3 percent to 19.4 percent in 2022, comfortably exceeding the minimum requirement of 12 percent. The Liquidity ratio increased from 106.1 percent to 117.2 percent in 2022, and it also remains well above the minimum requirement of 31.5 percent. These notably high liquidity ratios are a result of the banking sector holding a large volume of government securities, assessed to be highly liquid. These securities can be used as collateral for the BSL's O/N standing lending facility. Additionally, any bank encountering liquidity issues is expected to have the capability to sell its government securities to the BSL. It's important to note that the 28-day maintenance

period, implemented to address liquidity concerns in the banking sector during the COVID pandemic outbreak, remains in effect.

Figure 2.9: Banking System Liquidity Performance against the Minimum Requirements



Source: FSD-BSL

2.3.2 Sources of Funding

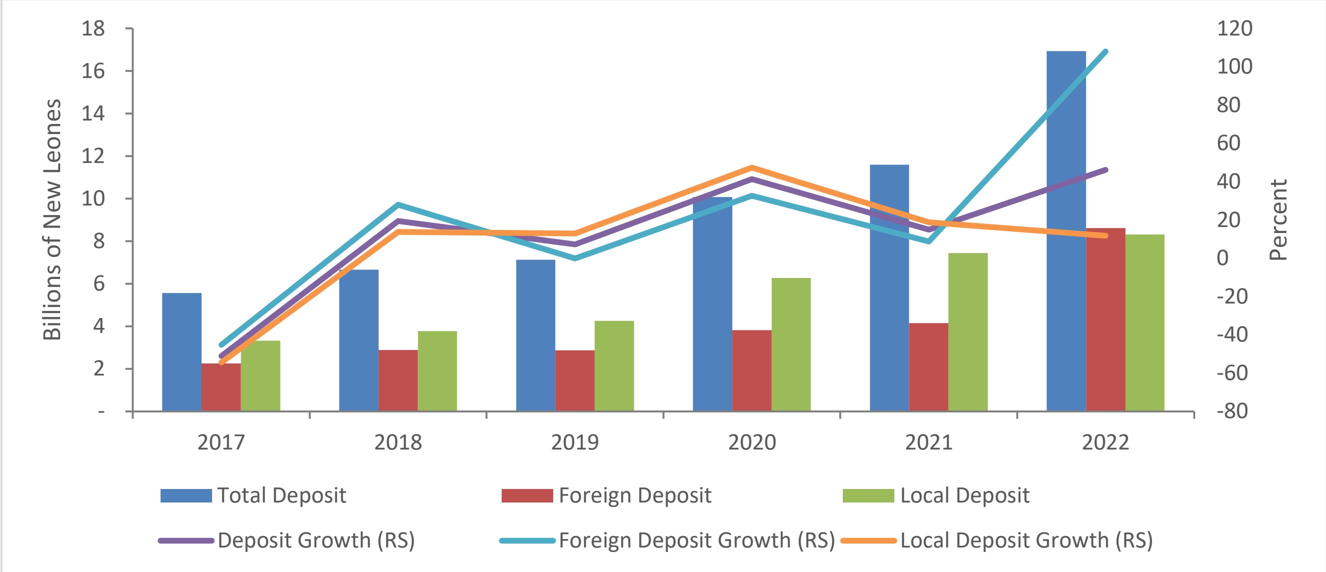
Deposits continued to serve as the primary funding source for the banking sector, with banks experiencing a robust inflow of deposits in 2022. Total deposits within the banking sector surged by 46.1 percent in 2022, significantly outpacing the 23.2 percent growth seen in 2021 and indicating a substantial increase in real terms. This phenomenon can be partially attributed to currency substitution, which continued to gain momentum in 2022, emerging as a significant concern. The proportion of foreign currency deposits swelled to 50.9 percent in 2022, surpassing the share of local currency deposits.

The growing appetite among customers for holding foreign currency (FX) deposits was driven by the rapid depreciation of the Leone against major international currencies, with FX assets being perceived as a more reliable store of value. The Leone depreciated by approximately 70 percent in 2022, while local currency deposits offered interest rates below 10 percent, and government securities yields remained below 30 percent. Local savings instruments failed to provide adequate protection against soaring inflation, which steadily climbed, surpassing the 40 percent mark in Q1 2023.

Deposit concentration weakened during the review period, with the 20 largest depositors accounting for 29.1 percent of the sector's total deposits in 2022, compared to 37.4 percent in 2021. The single largest

depositor represented 6.9 percent of the total deposits in 2022, an improvement from the previous year's 8.2 percent. Despite this improvement, the largest depositors still present a substantial liquidity risk to banks in the event of sudden withdrawals. Furthermore, the improvement in deposit concentration may be linked to currency substitution, as a larger segment of the population with generally smaller savings amounts may have begun shifting their savings into FX deposits.

Figure 2.10: Composition of Banking Sector Deposits



Source: FSD- BSL

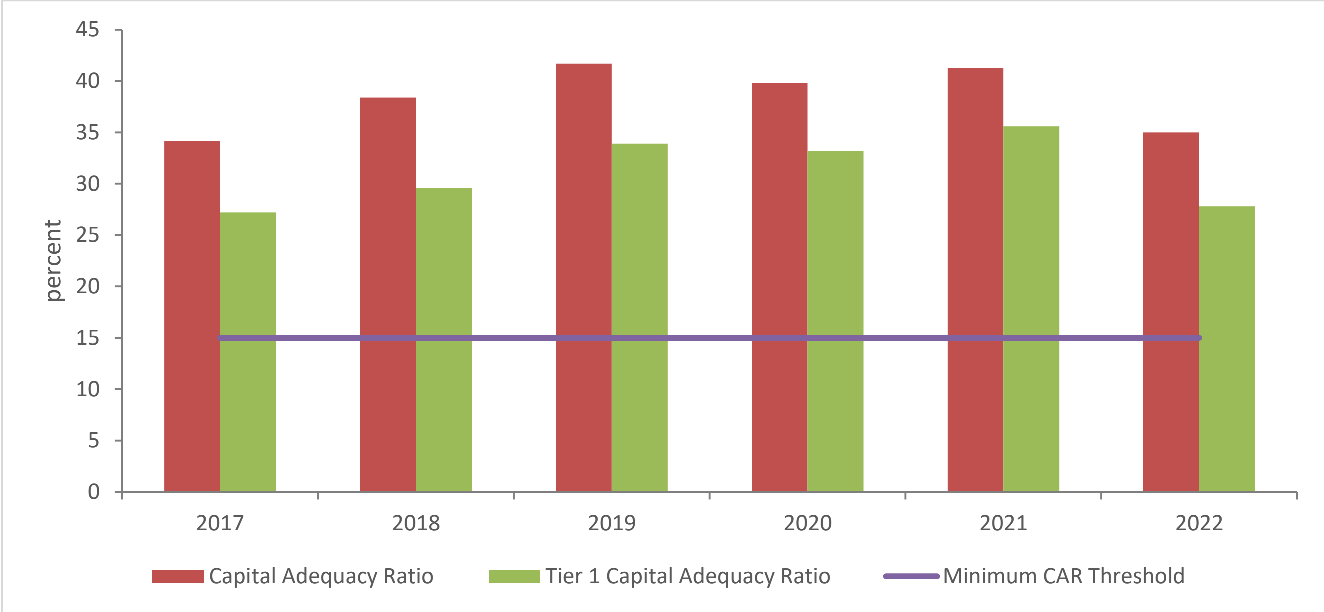
2.4 Resilience

2.4.1 Capital Adequacy Ratio

The banking sector remained solvent and positioned well to absorb potential losses stemming from systemic shocks. The Capital Adequacy Ratio (CAR) in the banking sector consistently exceeded the regulatory minimum set by the BSL. As of the end of 2022, the CAR stood at 35.0 percent, while the Tier 1 CAR reached 27.8 percent—both significantly surpassing the minimum regulatory thresholds of 15.0 and 7.5 percent, respectively. Only two banks fell short of meeting the 15.0 percent CAR threshold. In comparison to 2021, both the CAR and Tier 1 CAR saw a decline, driven by an increase in the minimum paid-up capital and the proportion of risk-weighted assets within the total assets. This, in turn, is connected to the growing share of FX assets and the corresponding decrease in government securities within the banks' balance sheets.

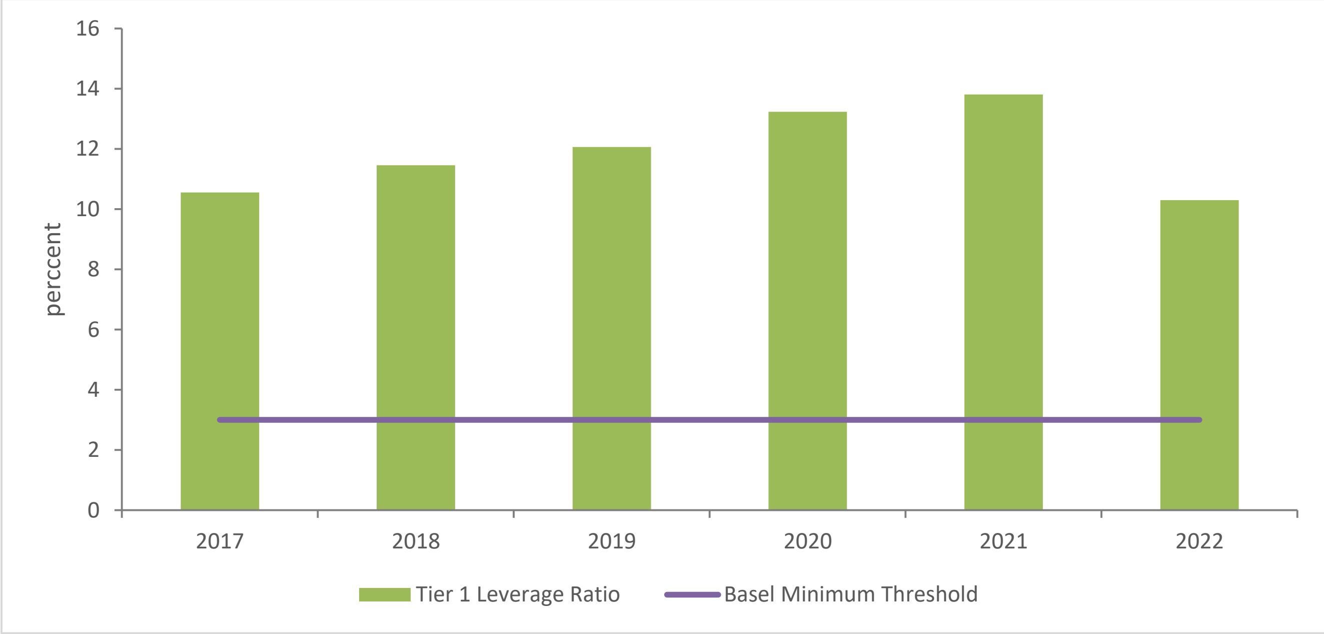
Despite decreasing from 13.8 percent to 10.3 percent in 2022, the Tier 1 Leverage Ratio indicates a well-capitalized and robust banking sector, remaining above the Basel III minimum threshold of 3.0 percent.

Figure 2.11: Capital Adequacy Ratios of the Banking Sector



Source: FSD-BSL

Figure 2.12: Banking Sector Tier 1 Leverage Ratio



Source: FSD-BSL

Shareholders' funds experienced a robust growth of 39.8 percent in 2022, while regulatory tier capital increased by 20.9 percent. This growth in shareholders' funds stemmed from both increased profits and a

rise in the minimum paid-up capital. Banks were obligated to raise their regulatory capital to NLe85 million by the end of December 2021, and those unable to meet this requirement had to present plans to the BSL detailing how they intended to achieve the minimum paid-up capital by the close of the first half of 2022.

By the end of December 2022, 13 out of 14 banks had successfully met the new minimum paid-up capital of NLe85 million. The sole exception, the bank not in compliance, is already subject to enhanced supervision.

2.4.2 Profitability

The banking sector's profitability continued to strengthen and remained robust. The return on equity (ROE) rose from 23.9 to 28.2 percent in 2022. Likewise, the return on assets (ROA) increased from 5.4 to 6.5 percent (Figure 2.13).

Figure 2.13: Profitability Indicators of the Banking Sector

Source: FSD-BSL

Pre-tax profits of banks surged by 69.0 percent in absolute terms, well surpassing the rate of inflation. This remarkable growth was propelled by a substantial acceleration in earnings, far outpacing the increase in costs by a significant margin. Consequently, the banking sector's cost-to-income ratio decreased from 60.3 in 2021 to 54.1 percent in 2022.

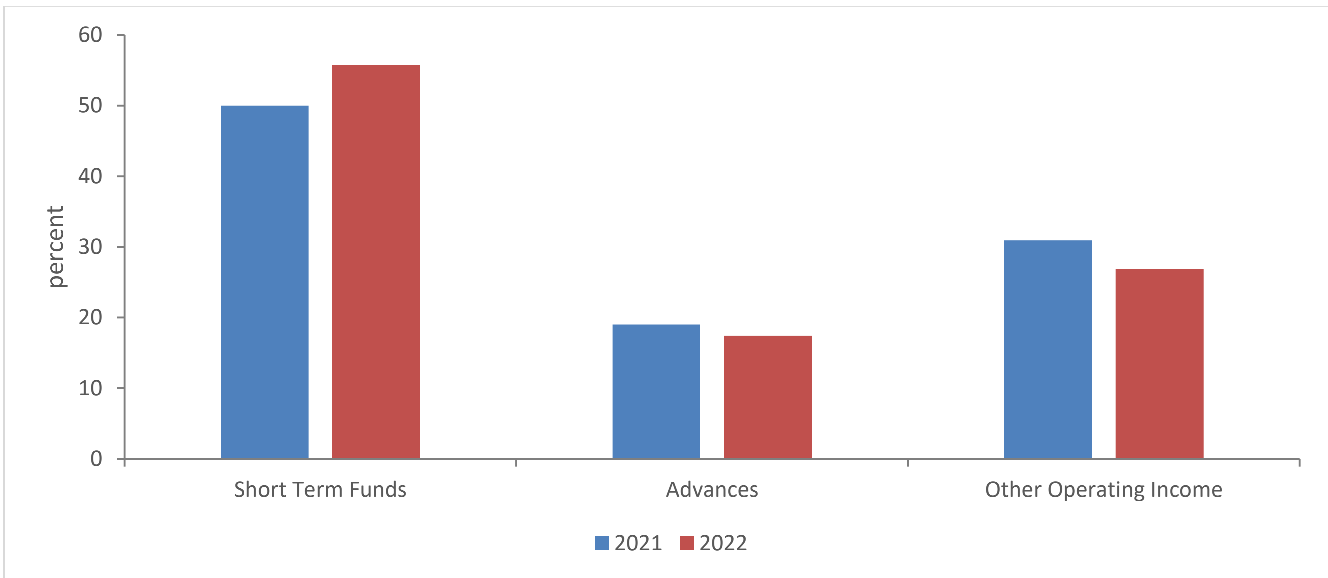
Earnings growth experienced a remarkable acceleration, reaching 70.1 percent in 2022 compared to 15.4 percent in 2021. The primary driver of this earnings growth was the returns on short-term investments in government securities. Income from short-term investments accounted for over half of the banking industry's total income, while the portion of interest income from loans & advances, and other operating income both declined, contributing 17.4 and 26.9 percent, respectively. The surge in other operating income was primarily due to commissions & fees, which saw an impressive 88.2 percent increase, whereas banks generated lower profits from FX deals, and the sale of fixed-income securities turned into outright losses.

Figure 2.14: Trend in Earnings and Earnings Growth

Source: FSD-BSD

Dependence on income from government securities might not constitute a sustainable long-term business model. In the medium-term, as inflation returns to its target range and the government enhances its fiscal health, which suggests a reduced growth in the issuance of government securities, nominal interest rates are also expected to decrease. Drawing from historical data, there is a potential risk of financial repression that could lead to a reduction in yields on government securities.

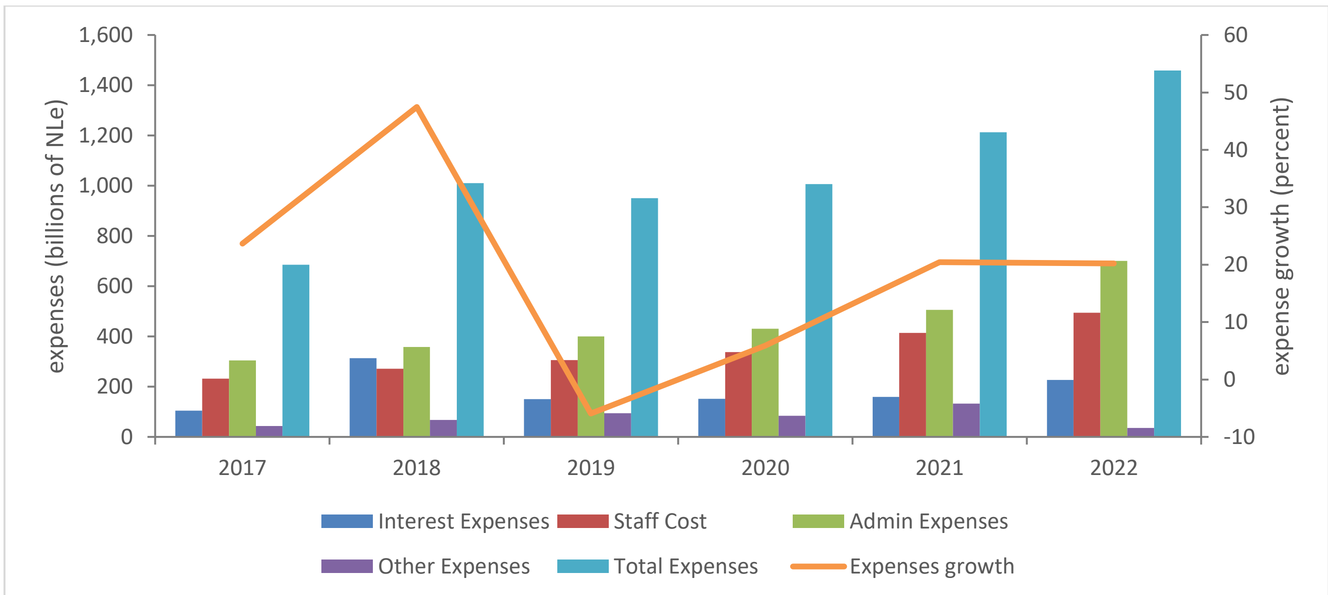
Figure 2.15: Composition of Banking Sector Income



Source BSD/FSD

Expenses within the banking sector increased by 20.2 percent in 2022, mirroring the trend observed in 2021. This growth continued to be primarily propelled by administrative expenses and staff costs. Administrative costs rose in line with inflation, whereas staff costs experienced much slower nominal growth, indicating a considerable erosion in real terms.

Figure 2.16: Breakdown and Growth of Total Expenses



Source: FSD-BSL

2.5 Sources of key Risks and Vulnerabilities

2.5.1 Non-performing loans (NPLs)

Non-performing loans (NPLs) saw a decrease in 2022 but persist at elevated levels, presenting a moderate financial stability risk. While the aggregate capital adequacy ratios remain robust and comfortably surpass the minimum threshold, concerns linger regarding asset quality. The NPL ratio declined to 12.0 percent in 2022 from 15.2 percent in 2021, in part due to regulatory pressure from the BSL, but it still exceeds the minimum threshold of 10.0 percent. Furthermore, there is notable variation in asset quality across banks, with half of them reporting NPL ratios within the 10-27 percent range, above the threshold.

2.5.2 Concentration risks

The banking sector faces significant credit concentration risk, with the 50 largest borrowers representing 60.0 percent of the total exposure in 2022. Likewise, Single Obligor Limits amounted to 20.1 percent of the total capital base. Deposit concentration is also pronounced, with the top 20 customers contributing to 29.1 percent of the total deposits in 2022, while the largest individual deposit accounted for 6.9 percent.

There exists notable disparity in concentration risk among banks, with half of them having more than 10.0 percent of their loan portfolio concentrated with a single borrower, with concentration ratios ranging from 16.0 to 53.0 percent.

2.5.3 Non-viable business models over the medium term

Bank intermediation remains notably low in comparison to GDP, and banks' loan portfolios are relatively small relative to their total assets. Banks do not exert a sufficiently substantial influence on the economy. Nominal lending rates remain elevated, and banks encounter challenges in identifying viable projects within the private sector. Credit remains highly concentrated in a handful of sectors, with commerce and finance, business services, and construction activities constituting over half of the outstanding loans. The banking sector's net loans represent only 11.8 percent of the total assets. Only two banks exhibit net-loans-to-total-assets ratios exceeding 25.0 percent, while the remainder falls within the 1.0 percent to 17.0 percent range.

The banking sector's earnings heavily rely on investments in government securities. Banks have turned to utilizing their deposits to finance investments in government securities, which provide a significant spread and serve as the primary source of earnings. Government securities account for 35.0 percent of the total assets. If the government were to reduce the interest rates it pays on these securities, the banking sector would experience a decrease in net interest income, which could adversely impact profitability—an element that has recently been the primary driver behind improvements in capital adequacy.

2.5.4 Currency substitution

The proportion of foreign currency-denominated (FX) deposits relative to total deposits experienced a significant increase in 2022, surging from 36 percent to 51 percent, marking a nominal increase of over 100 percent. The majority of these funds were directed into FX deposits held with foreign banks, heightening the credit risk faced by these banks. The substantial presence of FX liabilities and assets amplifies credit, liquidity, and market risk within the banking sector, particularly for banks holding short net open positions (NOP), as the management of these positions becomes progressively more challenging.

The NOP for the entire banking system registered a short position of 0.18 for all currencies and 2.93 for a single currency, both well within the prudential limits of plus/minus 25 and 15, respectively. However, a few individual banks reported long and short positions that exceeded both the aggregate and single currency limits. The continuous growth in FX deposits may also render further investments in local currency government securities impractical, as it exerts pressure on open positions.

2.6 Non-compliance issues

The banking sector maintained its adequate capitalization. Nevertheless, two of the banks reported Capital Adequacy Ratios (CAR) below the minimum threshold of 15.0 percent, with one of them holding a negative position as of Q4 2022. Both banks are currently subject to enhanced supervision.

2.7 Banking Sector Regulatory and Supervisory Developments

The Bank of Sierra Leone continues to provide regulatory and supervisory oversight of the banking system through a risk-based approach. Currently, the Bank is working towards gradually adopting the Basel II

and Basel III frameworks. Enhanced supervision remains in place for four banks, including the two state-owned banks, aimed at strengthening their capacity to handle unforeseen shocks.

The BSL has updated the 2012 Prudential Guidelines, published them, and is actively monitoring their implementation. Additionally, the Bank has recently crafted a Corporate Governance Framework for banks, incorporating feedback from commercial banks. The BSL is poised to roll it out soon.

The BSL has issued Cybersecurity and IT Risk Management Guidelines for banks and conducted a sensitization seminar in April 2022. Monitoring of the guidelines' implementation is already underway. These guidelines are designed to ensure effective Cyber Security Governance and Information Technology Risk Management within banks, thereby preserving public confidence in the financial system. Banks have received directives to establish robust and effective Information Technology Risk Management processes, governance structures, and cybersecurity controls.

Parliament has enacted a Deposit Protection Bill, and the operationalization of the scheme is underway. In line with the Bank's policy of establishing an effective crisis management and resolution framework, the BSL is actively working on setting up the Deposit Protection Fund.

2.8 Conclusion

The banking sector continues to exhibit stability, soundness, and sufficient capitalization. Although regulatory capital witnessed a decline, liquidity ratios and profitability remained notably high for the reporting period. This was predominantly driven by the substantial holdings of government securities (GSs) within the banking sector. GSs are highly liquid, carry zero risk weight, and offer attractive returns. However, the current business model, which prioritizes investment in government securities over lending to the private sector, is not sustainable over the medium term.

With one exception, all banks have met the new minimum paid-up capital requirement. The Tier 1 leverage ratio decreased but remained above the minimum regulatory threshold. The 28-day reserve requirement maintenance period continues to be in effect, aiding banks in managing their liquidity more efficiently.

Exchange rate risk is mounting due to the rapid depreciation and pronounced volatility of the exchange rate, the increasing prevalence of currency substitution, and the growing challenges it poses for banks in

managing their FX net open positions. The consistent rise in FX deposits may also render further investments in local currency government securities impractical, as it exerts pressure on open positions.

3 SYSTEMIC RISKS ASSESSMENT

3.1 Stress Tests of the Banking Sector

The Bank of Sierra Leone (BSL) utilizes a modified Cihak stress testing template, encompassing a spectrum of plausible scenarios, to identify and analyze the resilience of the banking sector against potential future shocks. This aims to evaluate risks and vulnerabilities within the banking sector. The stress tests assess the resilience of the banking sector to severe yet plausible shock scenarios that may affect it in the future. These shock scenarios are applied to the balance sheet and profit and loss account data of banks, using end-of-December 2022 data. The stress test evaluates the ability of both the banking sector as a whole and individual banks to maintain their operations during periods of strain. This stress test exercise investigates risks to the regular operation of the banking sector, stemming from macroeconomic shocks, credit portfolio shocks, interest rate fluctuations, exchange rate movements, liquidity challenges, foreign currency risks, and contagion risks within the banking sector. These tests are exclusively conducted on the banking sector, which controls 82.5 percent of total financial sector assets and plays a pivotal role in the overall stability of the financial sector. Other non-bank financial sectors either have connections with the banking sector or possess insufficient size to pose a threat to overall financial stability.

The stress test analysis covers the fourteen banks in Sierra Leone. The tests verify whether the banking sector can withstand varying levels of macroeconomic shocks. Five hypothetical scenarios, each with an increasing severity level, are simulated. These scenarios include (i) the baseline scenario, (ii) reduced local currency government borrowing, (iii) recession scenario, (iv) liquidity squeeze scenario, and (v) combined scenario. These scenarios aim to evaluate the adequacy of the capital buffers of the banks. They are built on assumptions that consider potential future macroeconomic shocks that could disrupt the financial system. Simultaneously, these scenarios take into account past events that have impacted the financial system.

There are three scenarios for credit risk stress tests, these including (i) a proportional increase in non-performing loans (NPLs), (ii) sector-specific shocks affecting NPLs, and (iii) shocks related to large exposures. The stress tests also assess contagion risk, considering the size of banks' interconnectedness and their exposures through inter-bank placements and transactions. Interest rate risk stress tests gauge the impact of an adverse change in Treasury bill yields on banks' capital. Given the banks' heavy reliance

on investments in government securities, this scenario holds significant importance. It differs from typical interest rate risk stress scenarios, assuming a substantial drop in yields. Foreign exchange risk is evaluated to determine how foreign exchange shocks can affect banks' capital adequacy ratios (CAR). Lastly, liquidity risk is assessed to determine whether banks can meet their short-term obligations during a liquidity squeeze.

3.2 Risk Scenarios for Stress Testing

3.2.1 Baseline

The baseline scenario depends on current forecasts and expectations from the BSL. In this scenario, GDP growth rebounds slightly from 2.8 percent in 2022 to 3.1 percent in 2023 and further to 4.8 percent in 2024. This outcome hinges significantly on economic prospects in China, a key trading partner, whose rebound could boost demand for Sierra Leone's exports, thereby enhancing GDP growth. Inflation is projected to rise, approaching 45 percent year-on-year in the third quarter of 2023, before gradually declining towards the medium-term target of single-digit inflation due to policy actions. Foreign trade is set to improve further, driven by the resumption of iron ore production and favorable export prices, while food and energy prices are expected to exhibit a moderate downward trend. Additionally, other major sectors of the economy are poised for strong performance, partly supported by spillovers from the mining sector. The manufacturing, tourism, and agricultural sectors are anticipated to expand in 2023. Monetary policy will continue to broadly support economic recovery, with robust and committed donor financing. Consequently, the exchange rate is expected to become relatively more stable, and monthly depreciation will return to the 1-1.5 percent range by the second half of 2023.

3.2.2 Reduced local currency borrowing of the government.

This scenario is predicated on favorable macroeconomic developments, but the highly specific circumstances within the banking sector render it adverse for financial stability.

In this scenario, we assume a substantial decline in the interest rate level, particularly in the yields of T-bills, leading to a reduction in the interest income and profits of banks. We base this assumption on a 15-percentage point decrease in 364-day T-bill rates, as commercial banks predominantly invest in this tenure due to its relatively high yield. The magnitude of this shock is grounded in historical evidence. In the past, even more substantial decreases occurred over a span of a few months. However, during that period, the

BSL did not have its overnight interest rate corridor in place, which could have acted as a floor for interest rates.

This scenario could arise from favorable balance of payments developments, such as improvements in the current account or increased foreign grants and official loans. These developments might prompt the government to curtail the issuance of domestic T-bills. Consequently, the diminished supply of T-bills would drive down their rates, approaching the lower limit of the overnight interest rate corridor.

The exchange rate would remain relatively stable due to the benign macroeconomic environment underlying this scenario, including increased foreign exchange inflows. GDP growth would mirror or even surpass baseline projections.

This scenario significantly impacts banks in an adverse manner, as most of them hold substantial portfolios of government T-bills, generating substantial interest revenues that constitute a significant portion of their overall income. To be more specific, interest income accounts for approximately 74.1 percent of banks' total income, and 76.2 percent of this interest income, equating to half of their total income, stems from the government securities portfolio.

3.2.3 Recession

This scenario envisions an adverse situation where the economy regresses into a recession due to a combination of external and domestic factors.

We assume that the domestic economy will contract by 5 percent in the second half of 2023, with growth expected to resume in the first half of 2024. The revival of the mining sector is impeded by the prolonged Russia-Ukraine conflict and lackluster Chinese growth, resulting in a substantial decrease in demand for Sierra Leone's primary export commodity, iron ore. Domestic economic activity is hindered by policy measures aimed at curbing depreciation and inflation.

Household real income declines due to the necessary fiscal restraint, preventing salaries and pensions from keeping pace with inflation. As a consequence, both investments and consumption experience a downturn, and net exports deteriorate. On the production side, the decline is primarily driven by construction, agriculture, and commerce & finance.

This scenario entails a real GDP contraction of 5 percent, which would place it approximately 8 percent below the baseline. Initially, three sub-scenarios were examined to assess the impact on the deteriorating loan portfolios of banks' financial positions.

1) Non-performing loans (NPLs) uniformly increase by 40% and exceed 20 percent of total loans.
2) Various sectors are affected differently, resulting in varying increases in NPLs depending on the sector. Table 3.1 provides a summary of these assumptions.
3) NPLs primarily increase due to difficulties with loans extended to large companies contracted by the government. The assumption is that the ten largest loans of each bank default.

Table 3.1: Assumed Sectorial Shocks*

Sector	Shock
Commerce and Finance	40
Construction	40
Business Services	30
Personal Services	20
Manufacturing	30
Agriculture and Forestry	40
Transport and Storage	20
Utility Services	20
Communication	20
Petroleum	20
Others	20

** Note: percentage of Performing Loans in the Sector Becoming NPLs*
Source: FSD, BSL

The increase in non-performing loans (NPLs) exhibits notable distinctions among these sub-scenarios. The most substantial impact arises from the large-exposure sub-scenario, whereas the distributional effects do not manifest qualitatively different patterns across the sub-scenarios. Consequently, the report places its emphasis on the large-exposure sub-scenario when elucidating the combined scenario's effects.

3.2.4 The Combined Scenario: Recession and Financial Repression

This adverse scenario builds upon previous ones but incorporates additional adverse effects from fiscal policy. As the recession places strains on the budget, there is mounting pressure to reduce expenditures. This exerts downward pressure on the corporate sector, and the growing credit risk is assessed by applying the large exposure sub-scenario here as well. In addition to delaying public investments, the government also undertakes measures to reduce its interest expenses by curbing domestic financing through T-bills, instead turning to BSL financing. The significant liquidity surplus and inadequate T-bill supply result in substantial downward pressure on yields during T-bill auctions. The BSL's overnight deposit instrument and its interest rate will act as the primary support for T-bill yields, resulting in an overall decrease of 15 percentage points in T-bill yields.

While inflation remains elevated, banks and their customers seek higher yields and increasingly shift their savings into foreign exchange, leading to further depreciation. The Leone is anticipated to depreciate by an additional 50 percent within the next 6 months, driving year-on-year inflation above 50 percent.

3.2.5 Liquidity squeeze

Liquidity stress is manifested as a drain on bank liquidity, stemming from various sources. Typically, this can arise from a perceived increase in solvency risk, initially manifesting as a deteriorating liquidity situation.

In the stress testing exercise, two distinct liquidity stress scenarios are employed. The impact of these scenarios is assessed for each bank in terms of the number of days it could sustain itself without resorting to external liquidity sources (such as other banks or the central bank). Naturally, in practice, the central bank may intervene through its lender-of-last-resort function.

- The first scenario affects all banks in the system proportionally, leading to a similar run on all banks based on the volume of their demand and time deposits. This scenario assumes that banks experience daily withdrawals from LCY demand deposits, FX demand deposits, LCY time deposits, and FX time deposits, amounting to 15, 10, 15, and 1 percent, respectively.
- The other scenario represents a "flight to safety" scenario, where the liquidity drain commences with the smallest or weakest banks, demonstrating how this can impact the larger or stronger banks. This

stress test explores three potential measures of "bank safety": (i) total assets; (ii) total assets, with a premium for state ownership; and (iii) the public assessment of the banks' quality, proxied by the BSL's internal rating. In the first case, depositors perceive bank safety in relation to the bank's size, approximated by total assets. In the second case, they also consider state-owned banks to be safer than privately-owned banks (due to an explicit or implicit government guarantee in the former case). In the third case, depositors' perceptions of bank safety are correlated with the banks' recent financial performance, as proxied during the stress testing exercise by the BSL's internal rating.

The scenario assumes that banks experience daily deposit withdrawals from LCY demand deposits, FX demand deposits, LCY time deposits, and FX time deposits, ranging from zero to 25, 15, 25, and 5 percent, respectively. The specific withdrawal amount within this range depends on the bank's perceived safety.

For both scenarios, on any given day, banks can utilize 75 percent of their outstanding liquid assets and 1 percent of their non-liquid assets. The liquidity scenarios are evaluated over a five-day horizon, corresponding to a week in calendar terms.

3.3 Results of the Stress Tests

3.3.1 Stress Testing Credit Risk

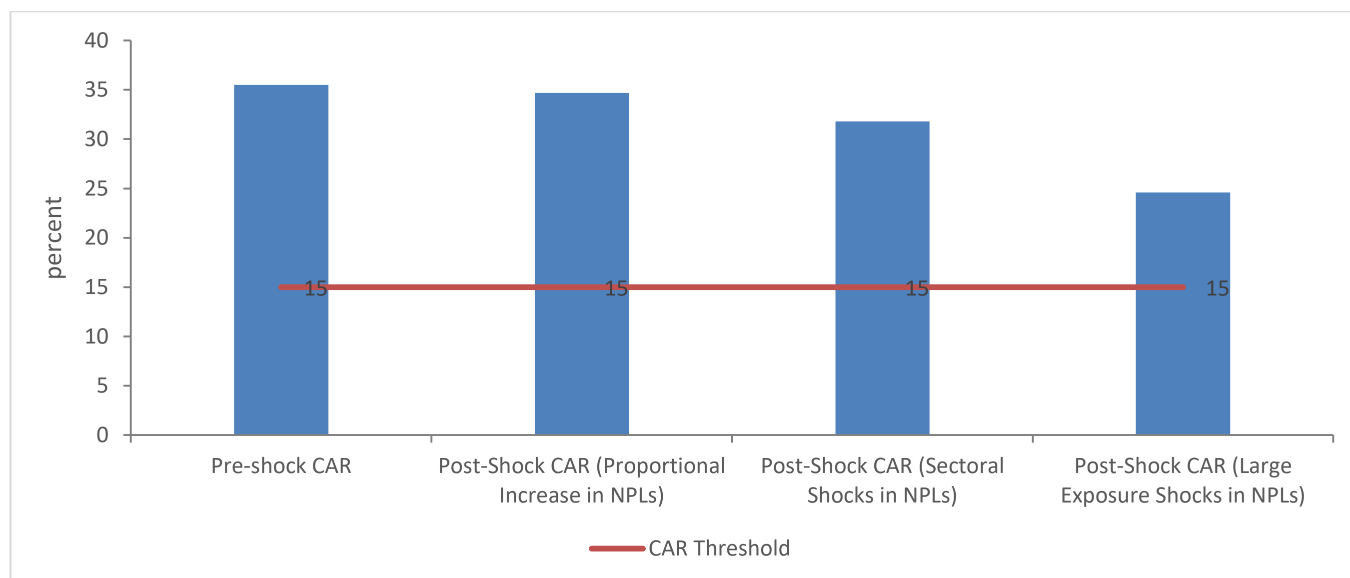
The stress test on credit risk considers three scenarios that were dictated by possible shocks to the macro economy.

1) The first scenario assumes proportional increase in NPLs as a deep recession ensues due to a large terms of trade shock. Under this scenario, existing NPLs increase by 40 percent in each bank. That is, banks that had more NPLs in the past, are assumed to incur more NPLs because of the shock.

2) The second scenario includes sectorial shocks to NPLs under the same macroeconomic situation. In this scenario, the NPLs of loans to each of the sectors increase in line with the assumed shocks in *Table 3.1*. The increase in NPLs in each sector is assumed to be proportional to the bank's credit exposure to that sector, approximated by the bank's total loans to that sector. The shocks were determined based on the historical performance of the sectors.

3) The final scenario builds on a shock to large exposures under the same macroeconomic conditions. This scenario tests the resilience of the banking sector to credit risk based on a loan concentration model. In this scenario, it is assumed that in each bank 10 of the largest creditors' loans become NPLs and the provisioning rate is 50 percent.

Figure 3.1: Impact of Shocks on the Banking Sector CAR Ratio



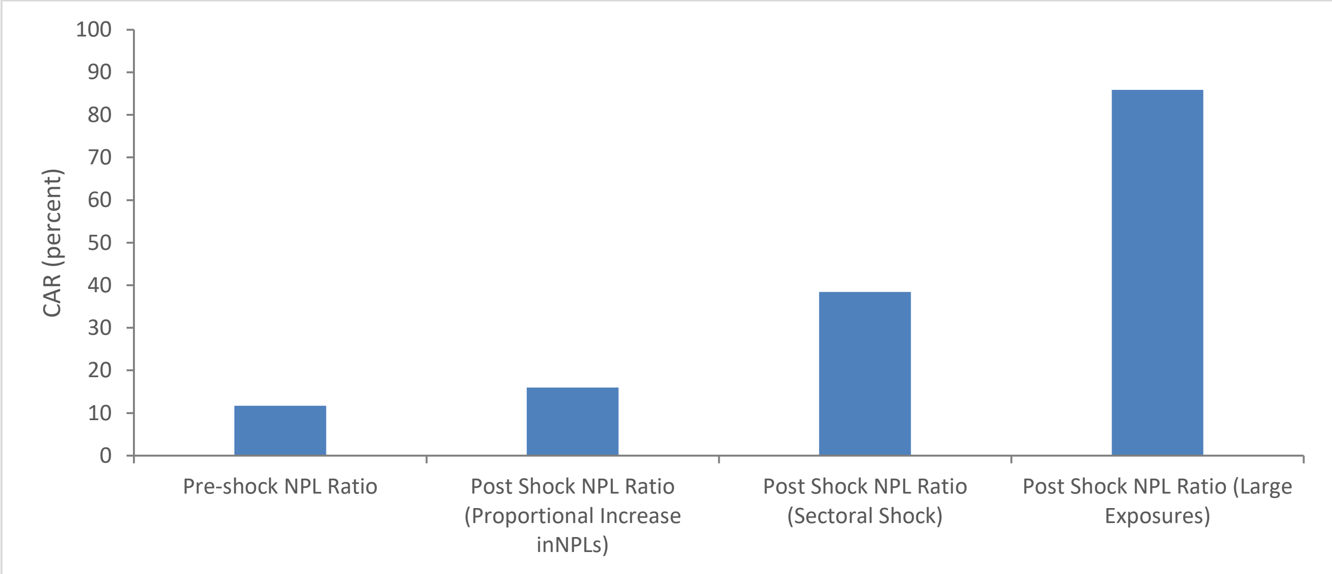
Source: FSD, BSL

The results of these stress tests indicate that the banking sector exhibits resilience to credit risk across all three conducted tests. The current robust capital base of the banking sector proves sufficiently robust to absorb the shocks' impact.

The scenario with the most substantial impact on the Capital Adequacy Ratio (CAR) was the large exposure scenario. The CAR of the banking sector decreased from a pre-shock level of 35.5 percent to a post-shock CAR of 24.6 percent. This post-shock CAR remains significantly above the prudential threshold of 15 percent. The limited impact can be attributed to banks' unique business model, which primarily relies on investments in government securities and the relatively low exposure of some banks to credit risk. The loan portfolio represents only 12.0 percent of total banking sector assets, whereas holdings of government securities account for 29.0 percent. Government securities offer high returns combined with zero risk weighting, which lowers risk-weighted assets. This elucidates why CARs remain elevated even in the face of extreme shock scenarios (refer to Figure 3.1).

Nevertheless, the impact on the banking sector's Non-Performing Loans (NPLs) was substantial, causing NPLs to surge from a pre-shock level of 11.7 percent to 85.9 percent under the large exposure shock scenario (see Figure 3.2). This ratio significantly surpasses the prudential limit of 10 percent for NPLs, thus serving as a principal source of vulnerabilities, especially during periods when yields on government securities might decline or when the government opts to redeem some of its securities. Consequently, banks should endeavor to enhance the quality of their assets.

Figure 3.2: Impact of Large Exposure Shocks on the Banking Sector NPL Ratio

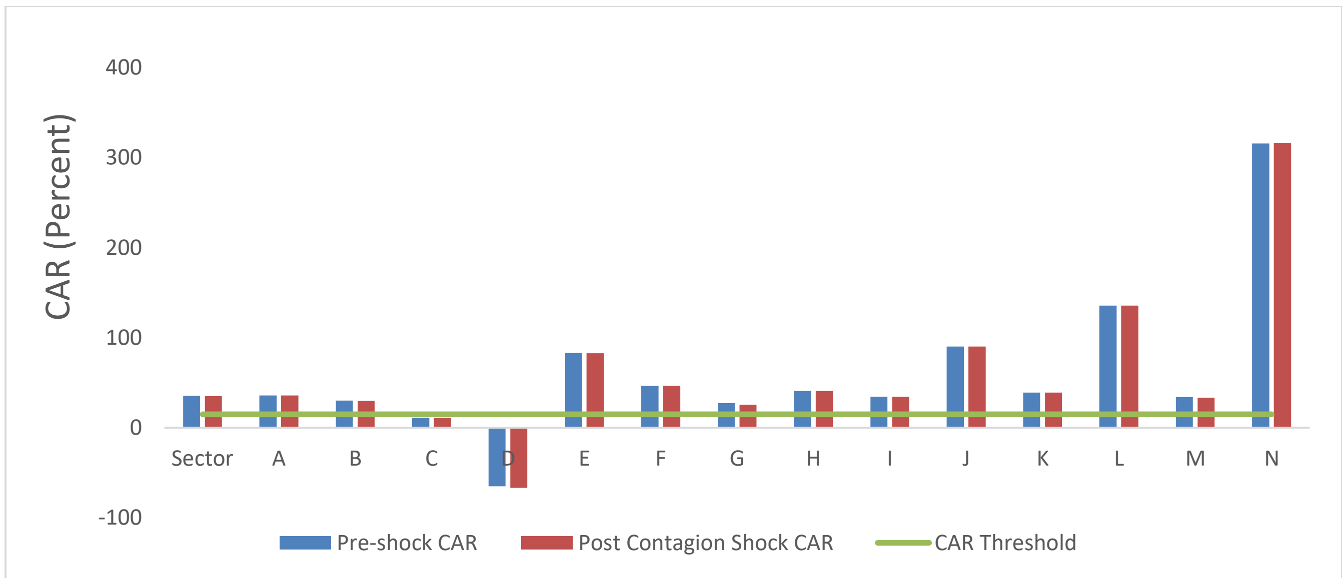


Source: FSD, BSL

3.3.2 Impact of Proportional Increase in NPLs Shock on Individual Banks

The results indicate that the banking sector maintains its resilience even after experiencing a proportional increase in Non-Performing Loans (NPLs) by 40 percent. However, when assessing individual banks, it's noteworthy that only two out of the fourteen banks failed to meet the Capital Adequacy Ratio (CAR) threshold of 15 percent. It's important to note that the banks that failed the test are not considered systemic in nature (*Figure 3.3*).

Figure 3.3: Stress Test Results of Proportional Increase in NPLs

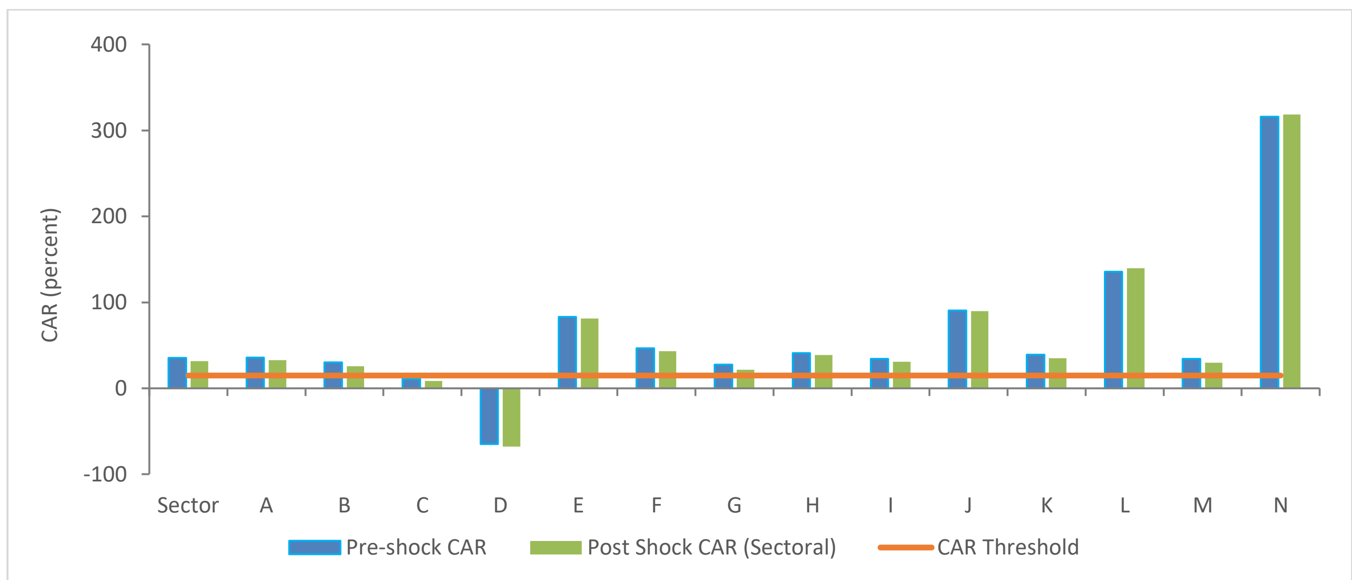


Source: FSD, BSL

3.3.3 Impact of Sectoral Shocks on CAR

The results from the stress test reveal that the banking sector exhibits resilience in the face of sector-specific shocks, with the system's Capital Adequacy Ratio (CAR) remaining comfortably above the prudential threshold of 15 percent. However, when we examine individual banks, it becomes evident that two banks witnessed their CAR decline below the prudential threshold of 15 percent, and one came dangerously close to this threshold (*Figure 3.4*).

Figure 3.4: Results of Sectorial Shocks to NPLs on Individual Banks

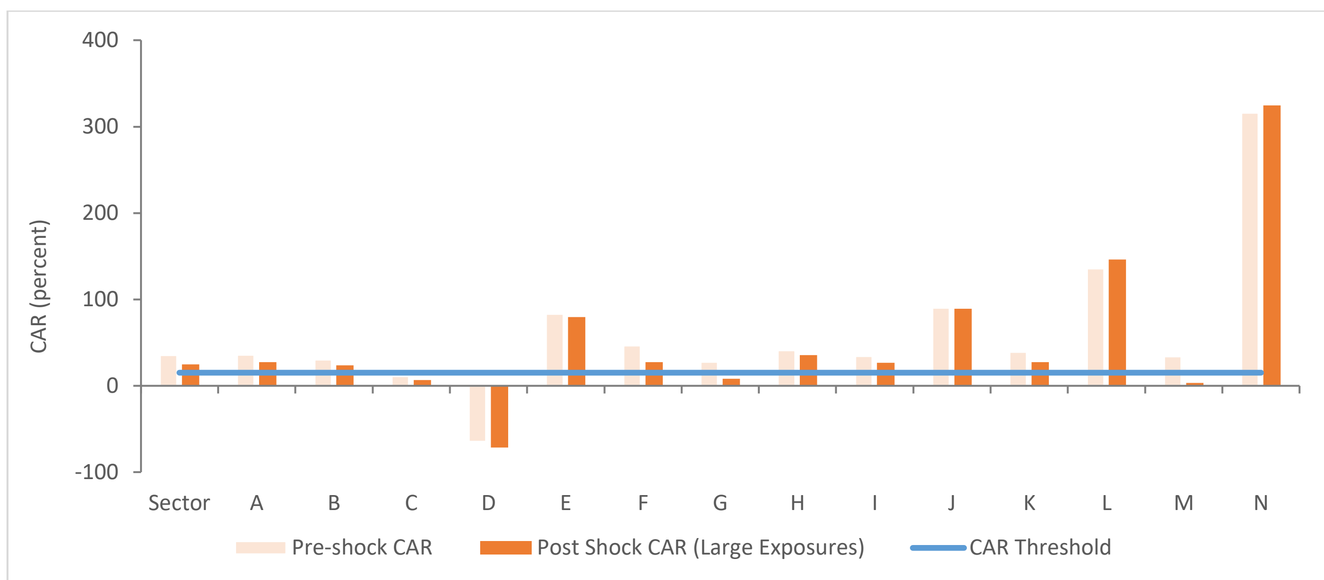


Source: FSD, BSL

3.3.4 *Impact of Large Exposure Shocks on CAR*

The results of the large exposure (or loan concentration) shock reveal that the banking sector exhibits resilience to such shocks. However, when we examine individual banks, the Capital Adequacy Ratios (CARs) of four banks dropped below the prudential threshold of 15 percent (refer to Figure 3.5). It was observed that banks with fewer holdings of government securities experienced more pronounced impacts from this shock, while banks with substantial holdings of government securities remained protected, even in the face of this extreme shock.

Figure 3.5: Results of the Ten Large Exposures of the Banking Sector Becoming NPLs



Source: FSD, BSL

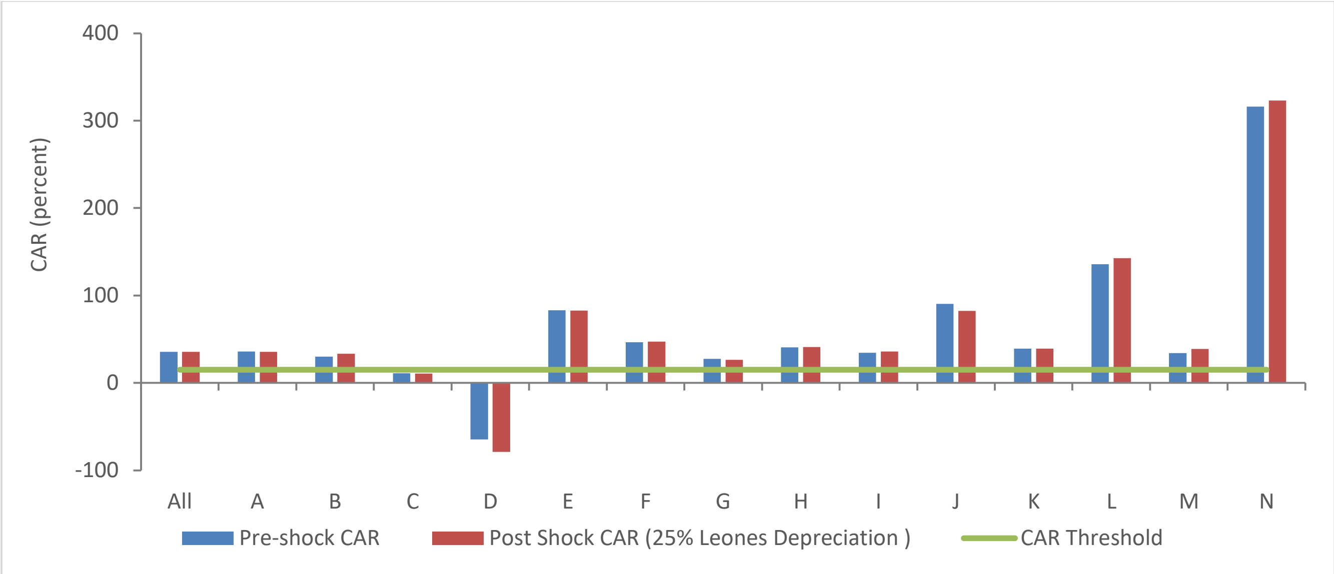
3.3.5 Stress Testing Foreign Exchange Risk

Foreign exchange risk pertains to the potential impact of exchange rate fluctuations on the local currency value of financial institutions' assets, liabilities, and off-balance sheet items. In this evaluation, we exclusively consider the direct solvency risk stemming from banks' net open positions (NOP) in foreign currency. We do not factor in the indirect solvency risk associated with the creditworthiness of foreign exchange loan borrowers, as the banking sector is restricted from providing foreign currency loans by regulatory guidelines. We assess the direct exchange rate risk by examining the NOP in foreign exchange. A depreciation of the local currency will have a positive effect on banks with a long (positive) NOP in foreign currency and a negative impact on those with a short (negative) NOP in foreign currency. Our

assumption for the direct foreign exchange shock is that the Leone will depreciate by 50 percent over the next 6 months.

The test results demonstrate that the foreign exchange shock had a minimal impact on the resilience of the banking sector. The pre-shock system Capital Adequacy Ratio (CAR) of 35.5 percent experienced only a marginal decline to a post-shock level of 35.4 percent. As of the end of 2022, the banking sector as a whole had virtually zero NOP, but individual banks displayed significant disparities, with eight banks holding long positions and six reporting short positions. The direct effects of depreciation remained modest due to the relatively small open positions, despite a few banks having NOPs exceeding regulatory limits. Therefore, the key takeaway is that the direct channel's impact of a depreciation shock on the banking sector is minimal (*Figure 3.6*).

Figure 3.6: Result of Direct Forex Shocks



Source: FSD, BSL

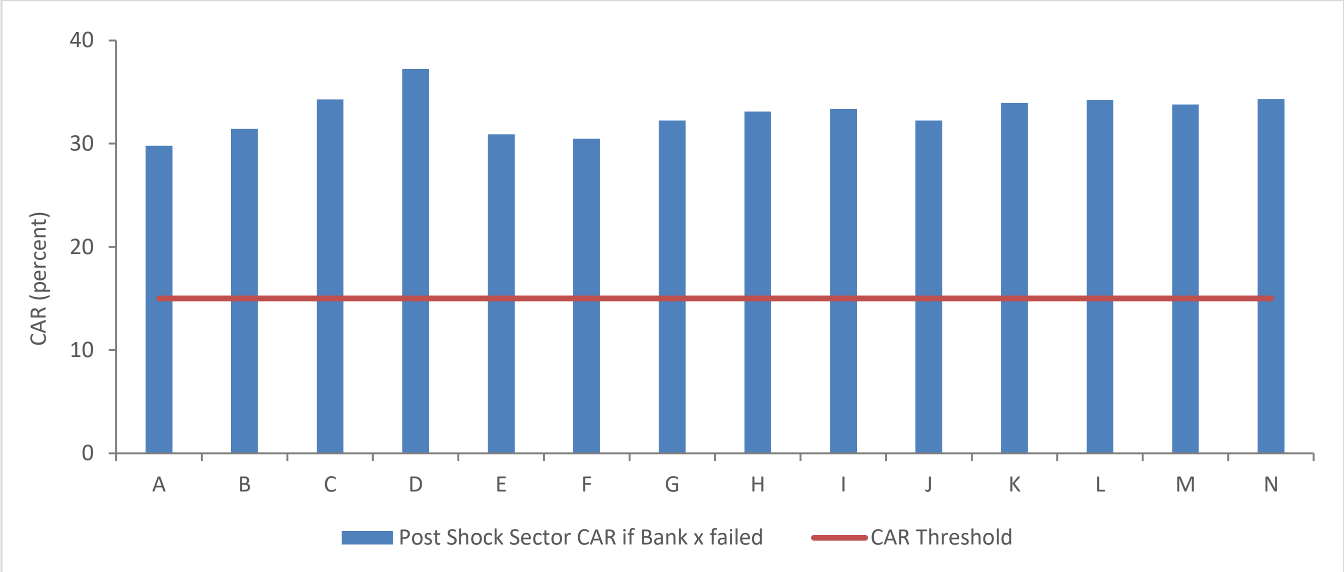
3.3.6 Stress Testing the Interbank Market (Contagion risk)

Contagion risks stem from the interconnected nature of banks, facilitated by interbank placements and transactions. The interbank or contagion stress test is structured in two dimensions. Firstly, the "pure" contagion test elucidates the potential repercussions on the capital of the banking sector and individual banks if one bank were to fail and default on all its interbank borrowings. This measurement can also be interpreted as an assessment of the systemic importance of individual banks. In essence, the greater the decline in the Capital Adequacy Ratio (CAR) of the banking sector due to the failure of bank "X," the

more significant the systemic importance of bank "X" becomes. Secondly, the "macro" interbank contagion test is designed for scenarios in which bank failures are triggered by macroeconomic developments affecting multiple banks in the sector, leading to the failure of more than one bank.

The test results revealed the resilience of the banking sector for a "pure" contagion shock. The post-contagion CAR of the banking sector is above the CAR threshold of 15 percent, and none of the individual banks would face failure due to the default of another bank (Figure 3.7). These results are not surprising, given the exceptionally low level of interconnectedness between banks. The volume and value of interbank transactions are minimal in relation to the asset size of the banks.

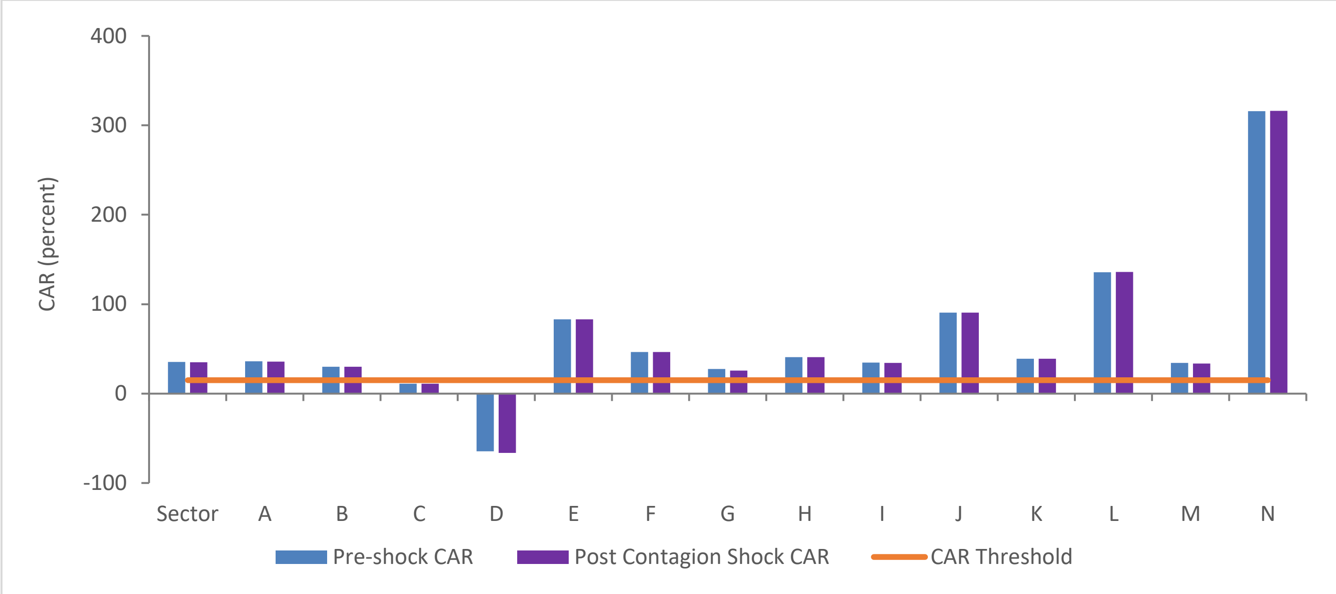
Figure 3.7: Results of the "Pure" Interbank Contagion Shock



Source: FSD/BSL

The outcome of the "macro" contagion test reaffirmed the banking sector's resilience in the face of contagion shocks. The impact of contagion on the Capital Adequacy Ratio (CAR) of the banking sector is negligible, originating from only two banks within the sector. Consequently, the post-shock CAR for the banking sector experienced only a marginal decline of 0.4 percent, settling at 35.1 percent from a pre-shock level of 35.5 percent. This remains well above the CAR threshold of 15 percent. Furthermore, all individual bank CARs remain above the 15 percent threshold, with the exception of two banks, one of which had already breached this threshold before the shock occurred (*Figure 3.8*).

Figure 3.8: Results of "Macro" Contagion Stress Test



Source: FSD, BSL

3.3.7 Liquidity Stress Test

The liquidity stress test encompasses two distinct examinations: (i) a straightforward test for liquidity shock (entailing a uniform run on all banks) and (ii) a liquidity shock test based on a flight to safety (resulting in varying impacts on different banks).

The straightforward test replicates a liquidity drain that affects all banks in the sector proportionally, contingent on the volumes of their demand and time deposits. This assumes that customers do not transfer their deposits from one bank to another but rather reduce their deposits across all domestic banks. The outcome of the simple liquidity stress test indicates that no banks will face illiquidity after the first day, and only one on the second day. Given the extremely conservative nature of the liquidity drain assumptions and the availability of the BSL's liquidity facilities to the banks, these results signify a low overall liquidity risk. Even after the fifth day, only two banks would potentially encounter illiquidity (refer to Table 3.2).

The flight to safety test is grounded in the concept of "liquidity contagion," modeling a liquidity drain that originates in the smallest or weakest banks and subsequently assesses its impact on the larger or stronger banks. In other words, bank customers perceive stronger banks as safer than weaker ones. According to the flight to safety liquidity test, only one bank is projected to face illiquidity after the second day. The number of banks in illiquid positions increases to four from the third day through the fifth day (as depicted

in Table 3.2). Given the even more stringent liquidity drain assumptions in comparison to the simple test, and the disproportionate impact on weaker banks in this scenario, these results align with expectations. However, banks affected by this should take measures to enhance their liquidity positions.

Table 3.2: Simple Liquidity Stress Test Results

Days after shock	Number of illiquid banks	
	Run on all banks	Flight to safety/contagion
After day 1	0	0
After day 2	1	1
After day 3	1	4
After day 4	2	4
After day 5	2	4

Note: The assumed shock is 20 percent daily withdrawals of deposits for five days
Source: FSD, BSL

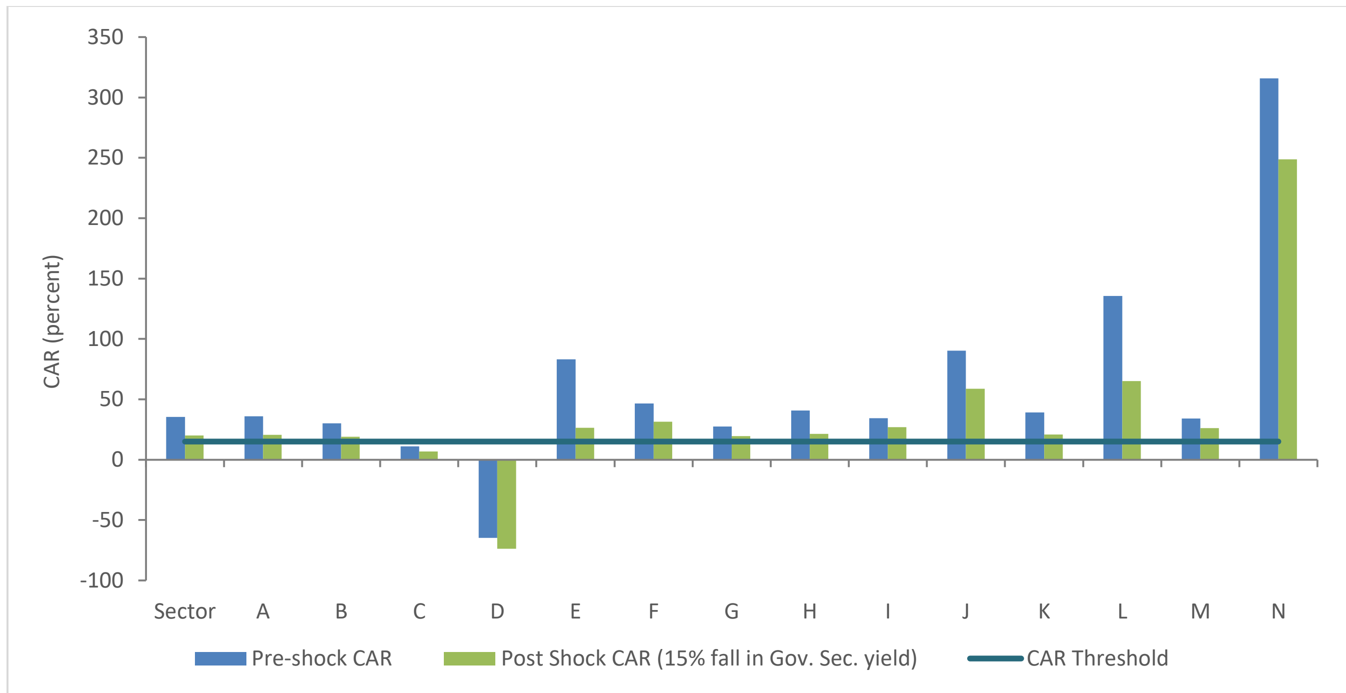
3.3.8 Stress Testing Interest Rate Risk

With regards to the interest rate stress test, we assessed the banking sector's ability to withstand direct interest rate risk. Direct interest rate risk emerges when there is an imbalance between the volumes of interest rate-sensitive assets and liabilities. It's important to note that this test does not encompass indirect interest rate risk, despite banks being exposed to it.

The test results indicate that the Capital Adequacy Ratio (CAR) of the banking sector demonstrates resilience to interest rate shocks, albeit with a notable post-shock reduction. The CAR post-shock declines to 20.0 percent from the pre-shock level of 35.5 percent but still remains above the prudential threshold.

On an individual basis, only two banks breached the prudential threshold of 15 percent due to the impact of the interest rate shock. However, it's worth noting that one of these banks had already fallen below the CAR threshold prior to the occurrence of the shock (*Figure 3.9*).

Figure 3.9: Results of Interest Rate Shock



Source: FSD, BSL

3.3.9 Combined Stress Test (Recession and financial repression)

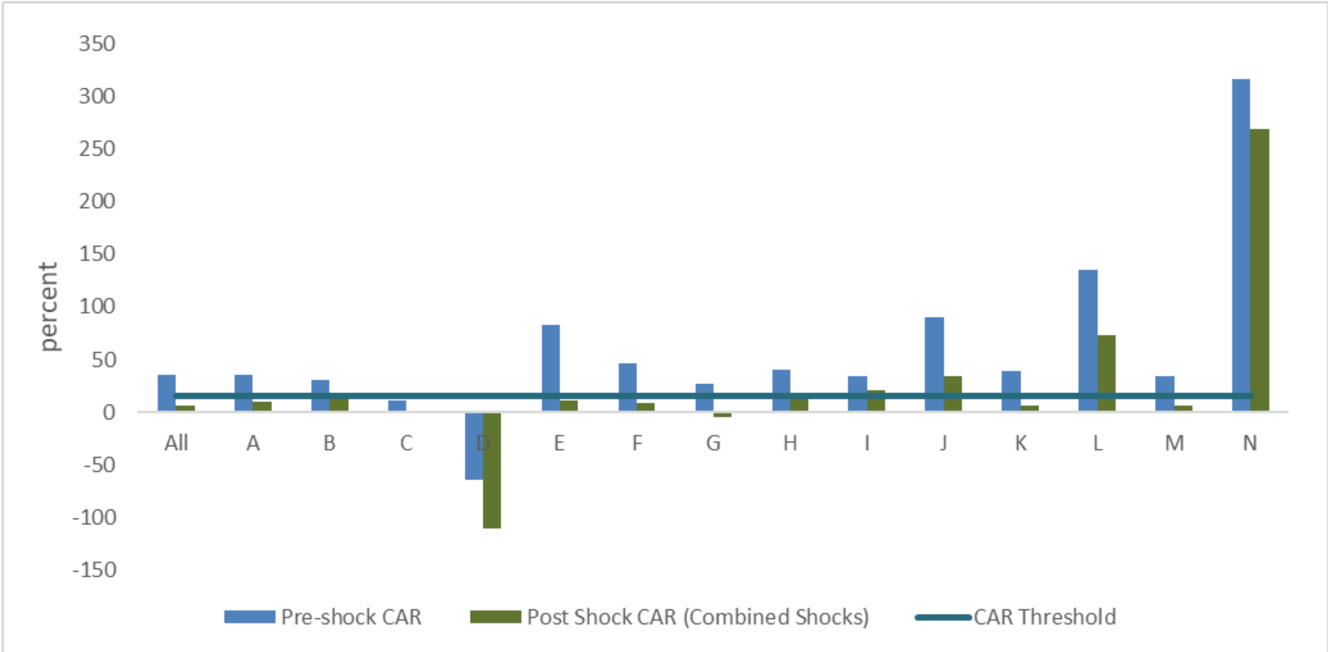
The combined stress test was employed to assess the banking sector's resilience against multiple shocks stemming from credit risk (large exposures), exchange rate depreciation, declining government security yields, liquidity shock, and interbank contagion shock. This test aggregates the impacts of these multiple shocks to determine their cumulative effect on the Capital Adequacy Ratio (CAR) of the banking sector. It scrutinizes the sector's ability to withstand exceedingly adverse events, such as a pandemic significantly affecting the economy, leading to a recession. This exercise is of a technical nature, and the likelihood of the combined scenario occurring is marginal.

The results indicate that the banking sector would not withstand a combined shock involving asset quality, depreciation, interest rate decline, and interbank contagion. These findings are primarily driven by the interest rate level shock and the large exposure shock. The post-shock CAR for the banking sector is substantially lower at 6.8 percent compared to the pre-shock CAR of 35.5 percent. It falls short by 8.2 percentage points of the regulatory threshold of 15 percent. When considering individual banks, only 5 out of the 14 banks, mostly mid-sized and small banks, managed to meet the regulatory capital threshold of 15 percent, while the remaining nine banks saw their CAR fall below the regulatory minimum. Seven banks experienced their CARs dip below 10 percent. Notably, only one of the 14 banks among individual

banks appears incapable of taking remedial actions to meet the regulatory capital threshold of 15 percent, but it had already breached the CAR threshold even before the test was conducted. Strengthening the currently weak banks is imperative to address this situation. The key takeaway is that shocks of such magnitude and severity will significantly impact the banking sector but will not lead to a systemic banking sector crisis. However, even considering the substantial negative impact, caution must be exercised when interpreting these results, as the combined scenario represents an exceptionally extreme situation.

However, two of these banks had already breached the CAR threshold. The key lesson here is that the convergence of shocks of this nature could lead to a systemic banking sector crisis. Nevertheless, caution is warranted when interpreting these results, as the combined scenario represents an exceedingly extreme situation. When considering individual banks, only one of the 14 banks appears incapable of taking remedial actions to meet the regulatory capital threshold of 15 percent, but it had already breached the CAR threshold even before the test was conducted. Strengthening banks currently in a weakened state is necessary to mitigate this situation. The primary takeaway is that shocks of this caliber and severity will have a significant impact on the banking sector but will still not trigger a systemic banking sector crisis. Nonetheless, even given the substantial negative impact, caution must be exercised when interpreting these results, as the combined scenario represents an exceedingly extreme situation.

Figure 3.10: Result of Combined Stress Scenario Test



Source: FSD, BSL

3.4 Conclusion and Recommendations

In summary, the results of the stress test have revealed that the banking sector generally exhibits resilience against potential adverse shocks in the future, despite the conservative assumptions. However, a unique combination of extreme shocks could still precipitate a systemic banking crisis, albeit with a low probability. None of the individual macro shock scenarios considered would result in the sector's Capital Adequacy Ratio (CAR) falling below 15 percent. This is attributed to the banks' already high CAR levels stemming from their distinctive business model, characterized by substantial holdings of government securities deemed risk-free and yielding substantial returns. Consequently, even in the face of severe credit risk shocks, the banking sector's CAR remains sufficient. Nonetheless, the banking sector should contemplate assigning greater significance to alternative financial stability indicators, as the risk-weighted assets are significantly skewed by the banks' extensive government security portfolios, which may not be sustainable in the long term.

Vulnerabilities do exist within the banking sector, primarily originating from a few weak banks within the sector. However, these banks are already subject to enhanced supervision. The Banking Supervision and Regulation Authority (BSL) will assess whether additional banks should also be placed under enhanced supervision. Consequently, the following recommendations are put forward to fortify the banking sector and mitigate its vulnerabilities:

- Implement Prompt Corrective Action measures to bolster the bank that has already breached the regulatory capital threshold.
- The BSL should stipulate a timeline for banks currently facing weaknesses to take steps in fortifying their capital base, commensurate with their risk appetite.
- The government should take measures to reduce its deficit and, by extension, its borrowing requirements. This action will diminish the crowding-out effect of government borrowing from the banking sector, thereby creating room for lending to eligible private sector enterprises.
- Banks should enhance the granularity of credit information reporting. Providing a detailed breakdown of borrowing by the government, individuals, non-profit organizations, corporate and non-corporate businesses, etc., would be immensely valuable.

- Encourage banks to gradually bolster their capital base over time, enhancing their resilience against shocks as they diversify their asset portfolios.
- Although the stress test results regarding foreign exchange risk indicate minimal impact, foreign exchange risk can emanate from the placement of forex funds with parent companies and other foreign banks. Hence, robust coordination with supervisors of Central Banks in countries hosting the parent companies of banks operating within the nation is imperative.

4 NON-BANK FINANCIAL SECTOR

4.1 Other Financial Institutions

4.1.1 Landscape

The landscape of other financial institutions largely remained unchanged in 2022. The number of Deposit Taking Microfinance Institutions (DTMFIs), Community Banks (CBs), Financial Services Association (FSA), Mobile Money Operators (MMOs), and Discount Houses (DHs) remained the same at five, seventeen, fifty-nine, three, and two, respectively, in 2022. The number of Credit-Only Microfinance Institutions (COMFIs) increased from 45 in 2021 to 60 in 2022. The ownership structure (foreign vs. domestic) also remained the same in 2022. In contrast, the number of employees generally increased in the other financial institutions (OFIs) sector, except for discount houses. The number of branches of both DTMFIs and COMFIs increased, while it remained unchanged for all other types of OFIs (*Table 4.1*).

Table 4.1: Structure of other non-bank financial institutions

Institutions	Number		Foreign owned		Number of branches		Number of employees		*Concentration ratio (%)	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Deposit Taking Microfinance Institutions	5	5	2	2	63	67	719	794	97.76	97.36
**Credit-Only Microfinance Institutions	45	60	2	2	150	216	925	1,101	82.11	70.33
***Community Banks	17	17	Nil	Nil	23	23	156	169	40.29	39.53
Financial Services Associations	59	59	Nil	Nil	59	59	192	198	17.64	12.61
****Mobile Money	3	3	3	3	37,772	48,087	67	105	N/A	N/A
Discount Houses (DHs)	2	2	Nil	Nil	2	2	21	21	66.33	69.56

* *Concentration = Assets of 3 largest /Total Assets, (DHs: Assets of 1 large/Total Assets)*
** *36 out of 60 COMFIs submitted returns as at end December, 2022*
*** *17 Community Banks plus 6 Cash Points*
**** *Mobile Money = No. of Agents not branches*
Source: OFISD, BSL

4.2 Deposit-Taking Microfinance Institutions (DTMFIs)

4.2.1 Activity of DTMFIs

The DTMFIs continued their expansion in 2022 in terms of assets, equity, deposits, and loans. The total assets of DTMFIs increased by 17 percent in 2022, reaching NLe576.7 million. The sector exhibited significant concentration, with the largest DTMFI accounting for 41.6 percent of the sector's assets by the end of 2022.

Total equity in DTMFIs witnessed a 27.0 percent increase, totaling NLe133.4 million by December 2022, with paid-up capital constituting NLe86.8 million. Deposits also saw a substantial growth of 23.5 percent in 2022, reaching NLe228.8 million. Although total loans increased by only 17 percent, they still surpassed total deposits by NLe81 million at the close of 2022. Investment in government securities rose to NLe84.3 million.

Table 4.2: Activities of the DTMFIs

Deposit-taking Microfinance Institutions	2021	2022
Total assets (NLe'000)	492,724	576,664
Total deposits (NLe'000)	185,344	228,815
Total loans (NLe'000)	264,626	309,747
Total equity (NLe'000)	105,000	133,400
Interest rate on loans (average) %	30	30
Interest rate on deposits (average) %	3-5	3-5
Number of clients	65,647	69,897

Source: OFISD, BSL

The increase in deposits was primarily driven by savings deposits (NLe39.9 million), while loans grew mainly due to current loans (NLe27.1 million). However, there was only a marginal change in the cost of financial intermediation by DTMFIs, as the spread remained very high (*Table 4.2*).

Table 4.3: Selected performance indicators for DTMFIs

Deposit-taking Microfinance Institutions	2021	2022
Income:		
Interest Income (NLe'000)	66,786	83,035
Expenditures:		
Interest Expense (NLe'000)	16,195	23,600
Personnel and Administrative Expenses (NLe'000)	60,905	77,892
Net Profit:		
ROA (Net Income/Total Assets), in %	3.65	2.95
ROE (Net Income/Capital), in %	17.74	13.26
Non-Performing Loans (NPL), in %	8.02	12.67

Source: OFID, BSL

4.2.2 Performance of DTMFIs

The DTMFIs encountered difficulties in 2022 as their profitability dwindled, the share of non-performing loans increased, and some institutions failed to comply with regulatory standards.

The revenues of the DTMFI sector exceeded its operating costs by 14.6 percent. Consequently, on a consolidated basis, the DTMFIs met the 112 percent MIX requirement for Operational Self Sufficiency (OSS). However, two out of five DTMFIs did not meet the MIX requirement, primarily due to high NPLs. The BSL initiated an on-site examination of one of the DTMFIs at the beginning of May 2023 to address these issues, with plans to conduct a similar examination for the other. The BSL anticipates that these institutions will successfully reduce their NPLs in 2023.

Overall, the profitability of the DTMFIs declined in 2022 (Table 4.3). The Return on Assets (ROA) decreased to 2.95 percent in 2022 from 3.65 percent in 2021, driven by increases in operating expenses and loan loss provisions. Although, on a consolidated basis, the ROA exceeded the minimum MIX requirement of 2.1 percent, two out of five DTMFIs did not meet it due to their high NPLs. The Return on Equity (ROE) of the DTMFIs declined to 13.3 percent in 2022 from 17.7 percent in 2021, slightly below the MiX benchmark of 13.6 percent, mainly because profitability was hampered by increasing NPLs and operating costs, even as paid-up capital increased by 23.74 percent. Consequently, four out of five DTMFIs recorded an ROE below the MiX benchmark.

All DTMFIs maintained a satisfactory portfolio-to-assets (PTA) ratio. However, the DTMFIs' PTA ratio slightly declined to 53.7 percent at the end of 2022 from 56.7 percent the previous year, indicating a modest reduction in the percentage of gross loans to total assets. The DTMFIs' Portfolio at Risk (PaR) ratio significantly increased to 12.7 percent in 2022 from 8.0 percent in 2021, well above the MIX requirement of 4.8 percent. All DTMFIs failed to meet the MIX standard, with three institutions exceeding the industry average. The BSL expects a decrease in PaR in 2023 as it conducts on-site examinations at institutions with PaRs above the industry average, while DTMFIs enhance their credit management practices and loan recovery strategy based on advice from the BSL.

4.3 Credit-only Microfinance Institutions (COMFIs)

4.3.1 Activity of COMFIs

The reported total assets of the **COMFIs** were NLe486.6 million in 2022. The balance sheet increase was boosted by the substantial influx of new **COMFIs**, as their total count surged by nearly 50 percent (*Table 4.4*).

Table 4.4: Activity of COMFIs*

Credit-only Microfinance Institutions	2021	2022
Total Assets *(NLe'000)*	310,936	486,591
Total Loans *(NLe'000)*	259,061	349,447
Total Equity *(NLe'000)*	121,676	180,774
Interest Rate on Loans (Average) *%*	25-30	25-30
Number of Borrowers	155,762	274,116

**Note: The figures across years are not comparable as 25 of 41 institutions reported in 2021, while 36 out of 60 COMFIs submitted returns in 2022. Also, not all institutions reporting in 2021 may have reported for 2022.*
Source: OFISD, BSL

4.3.2 Performance of COMFIs

Even though many institutions met the **MiX** standards in various areas, the share of non-performing loans has increased (Table 4.5). The **COMFIs** demonstrated satisfactory performance in terms of Operational Self Sufficiency on a consolidated basis, with an OSS of 169.5 percent, significantly surpassing the minimum **MiX** requirement of 112 percent. Twenty-one out of thirty-six **COMFIs** met the **MiX** standard. Most of the institutions that did not meet the standard are new entities, expected to gradually align with the regulatory requirements as they expand their operations.

Table 4.5: Selected performance indicators of COMFIs

Credit-only Microfinance Institutions	2021	2022
Income:		
Interest Income (NLe'000)	80,983	165,621
Expenditures:		
Interest Expense (NLe'000)	2,946	21,739
Personnel and Administrative Expenses (NLe'000)	49,348	103,169
Net Profit:		
Current year profit (NLe'bn)	26,539	48,398
ROA (Net Income/Total Assets, in %	5.84	11.17
ROE (Net Income/Capital), in %	14.29	29.00
Non-Performing Loans (NPL), in %	7.62	11.67

Source: OFISD, BSL

The sector's consolidated ROA was 11.2 percent, while the consolidated ROE stood at 29.0 percent in 2022. Both figures were significantly higher than the minimum MIX benchmark of 2.1 and 13.6 percent, respectively. Fourteen out of thirty-six COMFIs did not meet the regulatory requirements for ROA, and half of them failed to meet the ROE requirement. However, it's worth noting that most of these institutions are newly established, and they are expected to come into compliance during 2023-24.

The average outstanding loan size was NLe2,306. The consolidated yield on gross loans more than doubled in 2022, rising to 51.35 percent from 24.1 percent in 2021. This increase allowed for a real return, despite the significant rise in inflation.

The Portfolio at Risk (PaR) of the COMFIs on a consolidated basis stood at 11.7 percent at the end of 2022. However, a significant majority of the COMFIs, over 85 percent of them, did not meet the MiX requirement due to the deteriorating economic climate, especially with slowing growth, fast-paced depreciation, and increasing inflation. With the anticipated improvement in the macroeconomic environment, the increase in Non-Performing Loans (NPLs) is also expected to come to a halt and gradually reverse. The BSL continues to recommend the adoption of more prudent loan collection practices.

4.4 Community Banks (CB)

4.4.1 Activity of Community Banks

Despite the overall expansion of the CBs, driven mainly by the increase in the deposit base, their lending activity actually contracted. Total assets of the Community Banks on a consolidated basis increased by 25.1 percent to NLe162.3 million in 2022 from NLe129.8 million in 2021 (*Table 4.6*). Four CBs accounted for 48.2 percent of the total at the end of 2022.

- On the asset side, the increase was mainly attributable to increases in cash and bank balances by 66.3 percent, recording NLe60.2 million as at December 2022. Loan disbursement declined by 5.3 percent to NLe89. 9 million in 2022.
- In terms of liabilities, the increase was mainly attributable to deposit growth. Deposits grew by 30.9 percent to NLe76.0 million in 2022. Savings deposits increased by 16.9 percent to NLe22.7 million. Long-term borrowing more than doubled to NLe5.6 million. The total equity of the CBs showed a marked increase of 22.8 percent in 2022. It was mainly due to a 28.6 percent increase in current year profit, that recorded NLe13.0 million. Paid-up capital rose by 23.7 percent to NLe14.8 million.

Table 4.6: Activity of Community Banks

Community Banks	2021	2022
Total Assets (*NLe'000*)	129,784	162,341
Total Loans *(NLe'000*)	94,921	89,896
Total Deposits (*NLe'000*)	58,062	75,991
Interest Rate on Loans (*Average*; *%*)	24	24
Number of borrowers	37,695	41,960
Number of depositors	102,904	119,803

Source: OFISD, BSL

Despite a moderate increase in the number of borrowers over the year, gross loans saw a slight decrease, and the interest rate on loans remained largely unchanged at 24 percent. In contrast, the rise in the number of depositors was also mirrored by the growth in total deposits.

4.4.2 Performance of Community Banks (CBs).

The CB sector successfully enhanced its overall profitability in 2022, despite non-performing loans remaining at high levels and many institutions failing to meet the benchmarks consistently (Table 4.7). The consolidated pre-tax profit surged by 29 percent to NLe13.1 million in 2022, with all CBs posting profits. This growth was primarily driven by net financial income, which rose by 27.8 percent. While there was a slight reduction in interest expenses, it was more than compensated for by the 20.2 percent increase in operating expenses.

Table 4.7: Selected performance indicators of Community Banks

Community Banks	2021	2022
Income:		
Interest Income (NLe'000)	18,054	23,944
Expenditures:		
Interest Expense (NLe'000)	1,057	992
Operating Expenses (NLe'000)	15,347	18,448
Net Profit:		
ROA (Net Income/Total Assets), in %	7.81	8.05
ROE (Net Income/Capital), in %	13.64	14.32
Non-Performing Loans (NPL), in %	25.65	16.08

Source: OFISD, BSL

The consolidated OSS stood at 133 percent, comfortably surpassing the MiX Standard of 112 percent. Nevertheless, five out of seventeen CBs failed to meet the MiX standard, as they continued to generate less revenue in relation to their expenses due to their high NPLs. The BSL has scheduled on-site examinations for these institutions in 2023.

The ROA was 8.1 percent in 2022, marking a marginal increase of 0.2 percentage points. All CBs met the MiX standard of 2.1 percent. The ROE also saw a slight increase, reaching 14.3 percent. Nine out of seventeen CBs fell short of the 13.6 percent MiX standard for ROE, but the disparity was generally small.

The PaR improved significantly (by 9.6 percentage points) in 2022, thanks to improved loan collection activities. However, at 16.1 percent, it still remained well above the MIX standard of 4.8 percent, indicating that the loan portfolios of these CBs are still at a high risk and require close monitoring.

4.5 Financial Services Associations (FSAs)

4.5.1 Activity of Financial Services Associations

The total assets of the FSAs increased by NLe8.1 million to NLe92.2 million in 2022. Share capital rose by NLe1.3 million to NLe27.9 million. On the assets side, the loan portfolio experienced a slight increase, **rising** by 3.4 percent (NLe2.1 million), reaching NLe64.67 million, but the number of active loan clients decreased by 11 percent to 34,321 (*Table 4.8*).

Table 4.8: Activity of the Financial Services Associations (FSAs)

Financial Services Associations (FSA)	2021	2022
Total Assets *(NLe'000)*	84,078	92,180
Share Capital *(NLe'000)*	26,575	27,892
Total Loans *(NLe'000)*	62,532	64,670
Number of Active Loan Clients	38,585	34,321

Source: OFISD, BSL

4.5.2 Performance of Financial Services Associations

The performance of FSAs in 2022 was satisfactory as, on aggregate, they managed to increase profitability while reducing non-performing loans. Total income of FSAs increased to NLe15.4 million, largely driven by interest income. Financial expenses and personnel and administrative expenses offset the rise in interest income, but overall profits still managed to increase slightly (see Table 4.9).

The consolidated ROA of FSAs was 7.1 percent, which was 1.4 percentage points higher than in 2021 and significantly higher than the MIX standard of a minimum of 2.1 percent. The consolidated ROE decreased by 0.8 percentage points to 17 percent, but it still comfortably met the MIX requirement of a minimum of 13.6 percent.

Table 4.9: Selected performance indicators of FSAs

Financial Services Association	2021	2022
Income:		
Interest on Loan Income (NLe'000)	13,703	14,348
Expenses:		
Financial Expense (NLe'000)	1,454	1,670
Admin Expenses and Personnel Expenses (NLe'000)	8,673	9,290
Efficiency Ratios:		
ROA (Net Income/Total Assets) %	5.62	7.06
ROE (Net Income/Capital) %	17.77	16.98
Non-Performing Loans (NPL) %	16.06	11.02

Source: OFISD, BSL

On aggregate, the FSAs did not meet the **MIX** standard of a maximum 4.8 percent NPL ratio, but it still reduced by 5 percent to reach 11.0 percent, indicating improvements in asset quality management.

4.6 Mobile Money Operators (MMOs)

4.6.1 Activity of the Mobile Money Operators

Mobile Money Operators expanded their activity in 2022, with both the number of agents, accounts, and transactions, as well as the value of transactions, increasing over the year (Table 4.10). The size of the MMOs' balance sheet surpasses that of the CBs and approaches that of the COMFIs.

Table 4.10: Activity of the Mobile Money Providers

Activities of MMOs	2021	2022
Number of Agents	37,772	48,087
Number of Accounts	6,839,718	7,761,188
Number of Active Accounts	3,064,492	1,446,220
Number of transactions	81,106,582	92,124,450
Value of transactions (NLe'000)	13,427,847,169	19,878,618,461

Source: OFISD, BSL

The number of active accounts declined considerably, essentially halving, but this is merely a technical adjustment reflecting a clean-up of customer account data. One of the institutions migrated customers to their new system, and during the process, accounts that were not fully registered or had a zero balance for

at least six months were automatically deleted. Mobile Money Agents held a total outstanding balance of NLe198.5 million at the end of 2022. The escrow account balances reached NLe402.2 million in 2022, and the amount of E-Money in circulation was NLe364.7 million.

4.7 Discount Houses (DHs)

4.7.1 Activity of DHs

The total assets of **Discount Houses** increased more than twofold to NLe48.31 million in 2022. The growth was mainly driven by customer treasury bill holdings, which increased to NLe24.7 million in 2022 from zero in the previous year and accounted for 51 percent of total assets. In contrast, proprietary investment in government securities decreased by 13.7 percent to NLe 6.0 million (Table 4.11). Deposits and placements decreased by 22.3 percent to NLe1.35 million.

Table 4.11: Activity of DHs*

Discount Houses	2021	2022
Total Assets *(NLe'000)*	21,732	48,315
Placement (Deposits) *(NLe'000)*	1,736	1,348
Share Holders Funds *(NLe'000)*	10,894	11,212
Investment in Gov't Securities (NLe'000)	6,895	5,959
Loan (Repo) (NLe'000)	1,368	2,310

Source: OFISD, BSL

4.7.2 Performance of Discount Houses

The DH sector showed tentative improvement in 2022 as it managed to increase its profits, especially compared to its equity.

The aggregate pre-tax profit of the **Discount Houses** increased by 39.5 percent to NLe0.60 million in 2022. Return on Assets (ROA) of the DHs on a consolidated basis decreased slightly to 1.25 percent, which was below the **MIX** benchmark of a minimum 2.1 percent. In contrast, the aggregate Return on Equity (ROE) increased significantly, by 1.59 percentage points to 4.34 percent.

Table 4.12: Selected performance indicators of DHs

Discount Houses	2021	2022
Income:		
Discount Income (NLe'000)	990	1,130
Operating Income (NLe'000)	803	948
Expenses:		
Interest Expense (NLe'000)	15	11
Operating Expenses (NLe'000)	1,349	1,471
Earnings:		
Current year profit (NLe'000)	428	597
ROA (Net Income/Total Assets, in %	1.29	1.25
ROE (Net Income/Capital), in %	2.75	4.34
Operating Expenses/Operating Income (%)	327.76	261.14

Source: OFISD, BSL

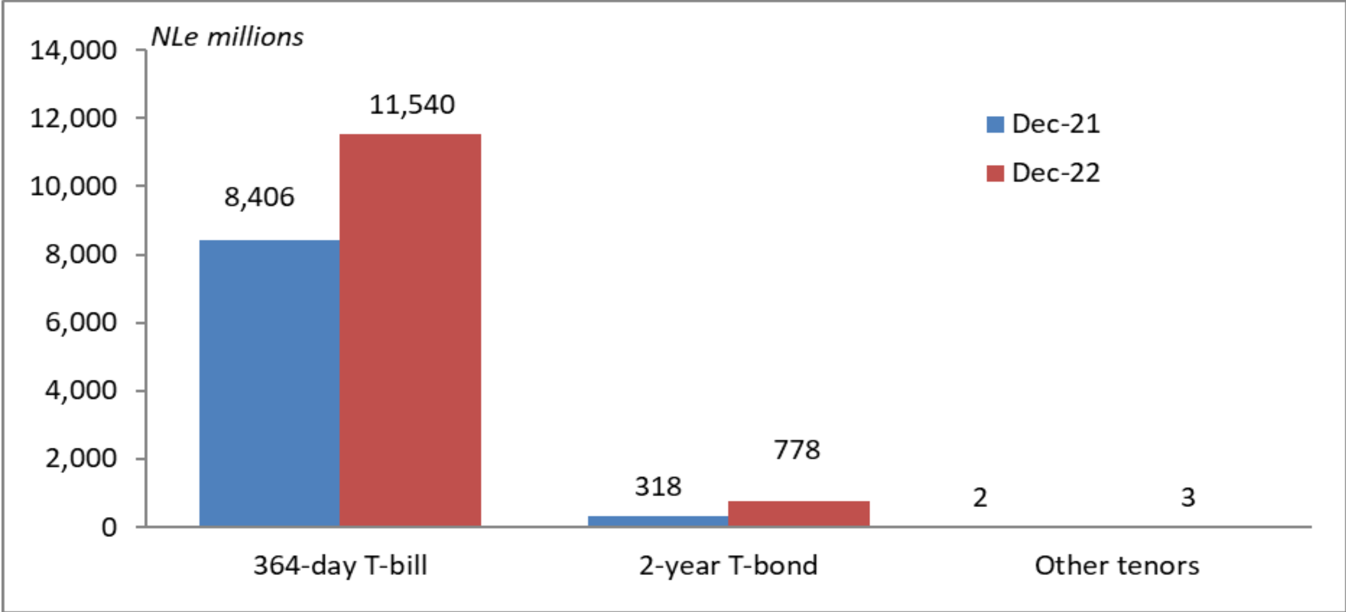
5 DEVELOPMENTS IN MONETARY POLICY IMPLEMENTATION AND THE MONEY MARKET

5.1 Government securities market

There is no liquid, well-functioning secondary government securities (GS) market in Sierra Leone. Investors typically hold the GS until maturity. Commercial banks, as the counterparties of BSL open market operations (OMOs), may be able to sell their GS if the central bank purchases T-bills to inject liquidity into the local currency interbank market.

The primary market for GS comprises weekly auctions of 91-day, 182-day, and 363-day T-bills. The 91-day and 182-day T-bill auctions are dysfunctional, as they are usually significantly undersubscribed, often receiving no bids. The only well-functioning market segment is the 364-day T-bill auctions (Figure 5.1), which are mostly oversubscribed. Commercial banks are the leading participants in these auctions.

Figure 5.1: Stock of Marketable Government Securities by Tenure

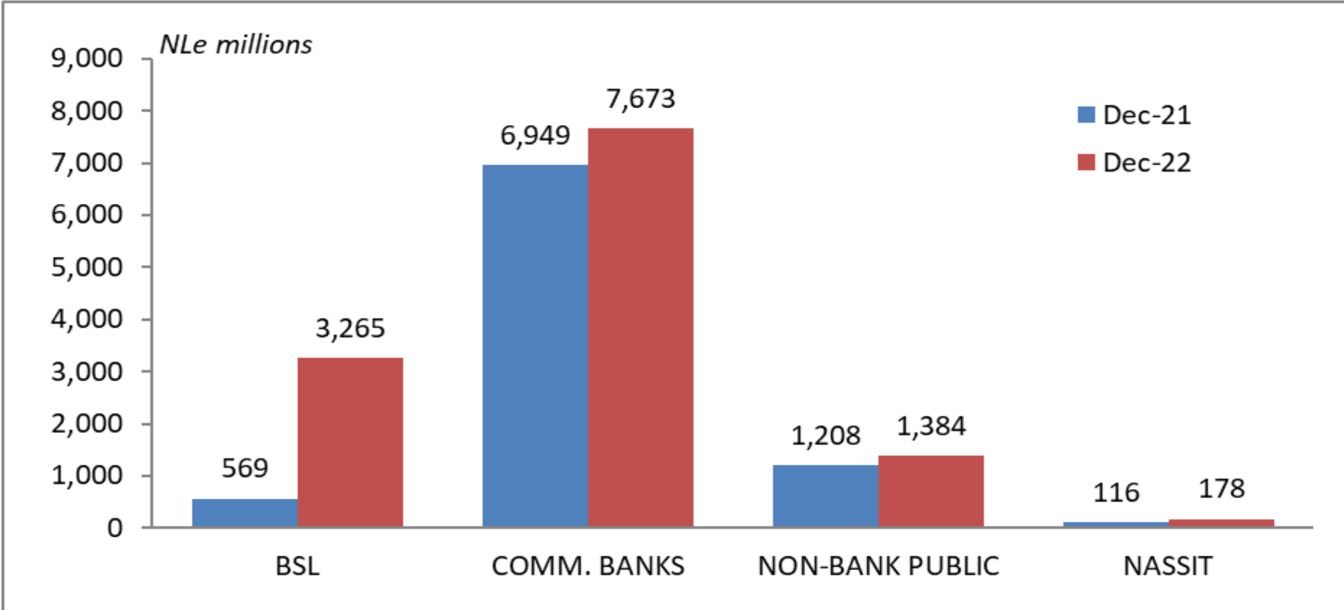


Source: FMD/BSL

The total stock of GS increased by NLe4.3 billion (45.6%) to NLe13.8 billion in 2022. Marketable securities accounted for 89.5 percent of the total. Marketable securities primarily finance the budget deficit, while non-marketable securities (2-year and 3-year Treasury bonds) are used for the financing of specific infrastructural projects.

The holdings of government securities increased in all three sectors in 2022. The largest increase was due to purchases through OMOs by the BSL, whose holdings increased almost five-fold (+473.7 percent). Commercial banks held 10.4 percent more GS, while the non-bank public increased its holdings by 14.6 percent. NASSIT's holdings grew by 53.8 percent, albeit from a very low base.

Figure 5.2: Holdings of Marketable Government Securities by Sector



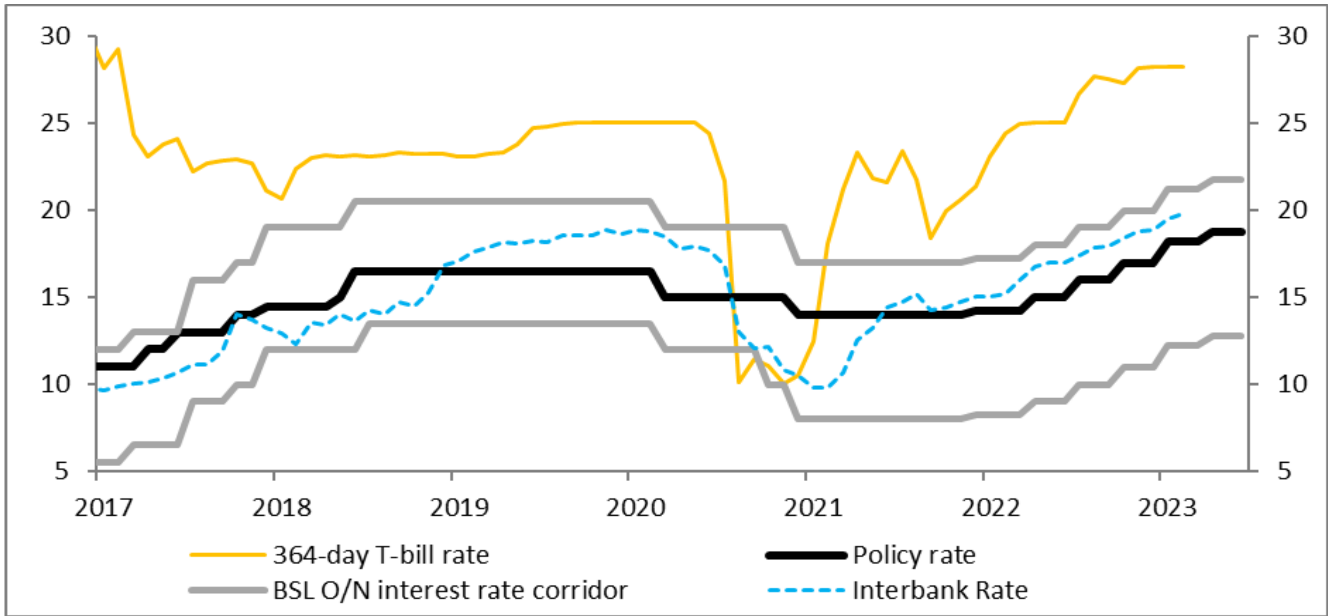
Source: FMD/BSL

The 364-day Treasury bill yield increased significantly, by 685 basis points, to 28.2 percent in 2022. This surpassed the increase in the MPR but fell far short of the uptick in inflation, resulting in the real rate of the 364-day T-bill becoming deeply negative by the end of 2022 and early 2023.

5.1 Interbank market

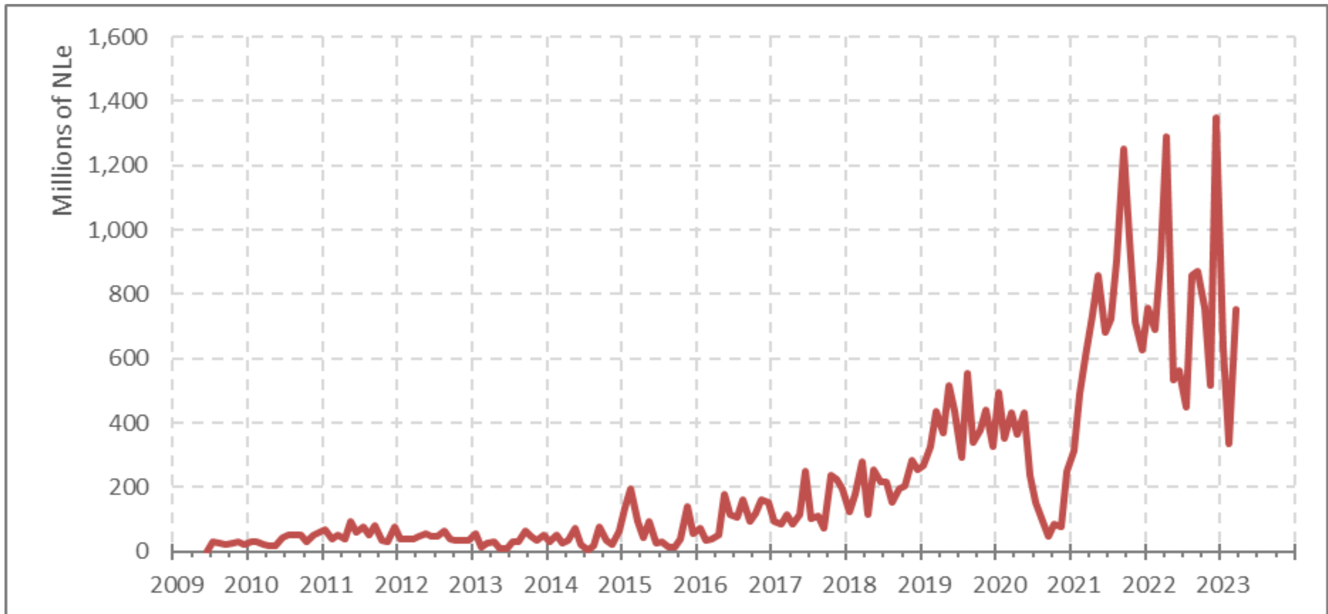
The interbank money market in Sierra Leone is a market for managing liquidity surpluses and shortages between banks on a secured basis, primarily through the use of repos. Turnover increased significantly, by 23.5 percent, in the interbank money market in 2022. However, this was largely due to the fact that interbank activity was very subdued during the Covid-19 period, and it only began to normalize in the first half of 2021. Since the middle of 2021, turnover has been fluctuating around NLe800 million (Figure 5.3: BSL Policy Rates, the Interbank Rate, and the 364-day T-bill rate).

Figure 5.3: BSL Policy Rates, the Interbank Rate and the 364-day T-bill rate



Source:

Figure 5.4: Monthly turnover in the interbank money market



Source: FMD

The weighted average interbank yield increased by 3.9 percentage points to 18.9 percent in 2022, in line with increases in the Monetary Policy Rate (MPR) during the period. The BSL's overnight interest rate corridor continued to be effective, as interbank rates remained firmly within its boundaries. Interbank rates, on average, stayed 170 basis points above the MPR, indicating a tight liquidity situation in the banking system (*The 364-day* Treasury bill yield increased significantly, by 685 basis points, to 28.2

percent in 2022. This surpassed the increase in the MPR but fell far short of the uptick in inflation, resulting in the real rate of the 364-day T-bill becoming deeply negative by the end of 2022 and early 2023.

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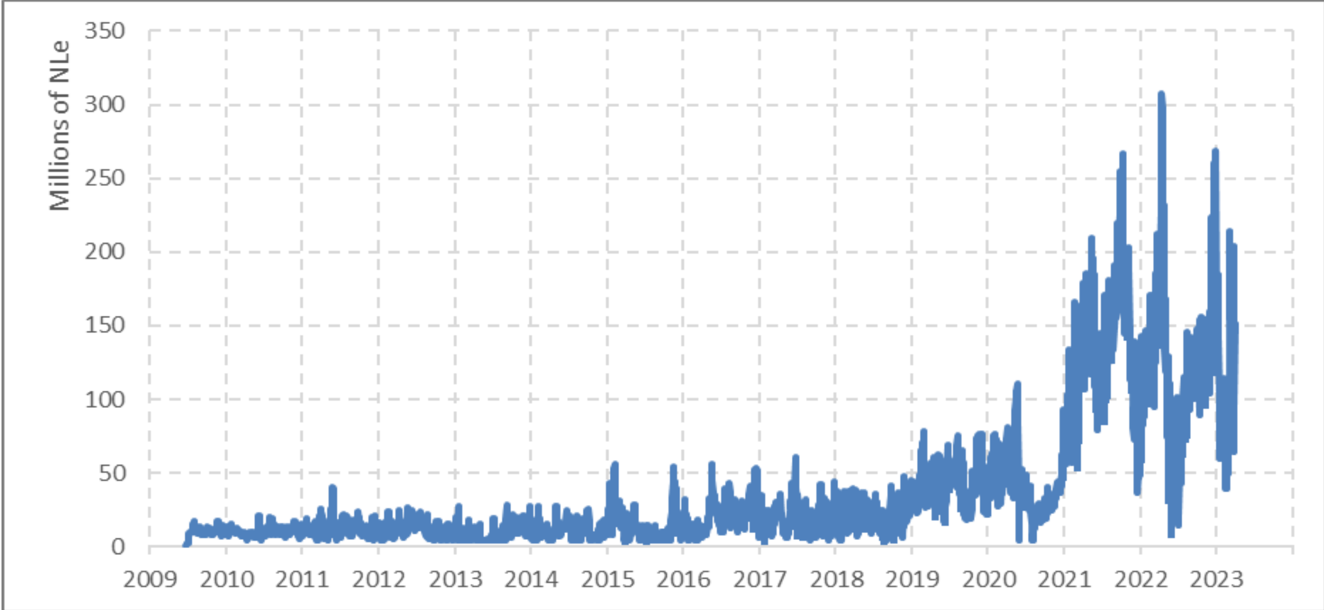
Figure 5.5: Outstanding amount of interbank loans

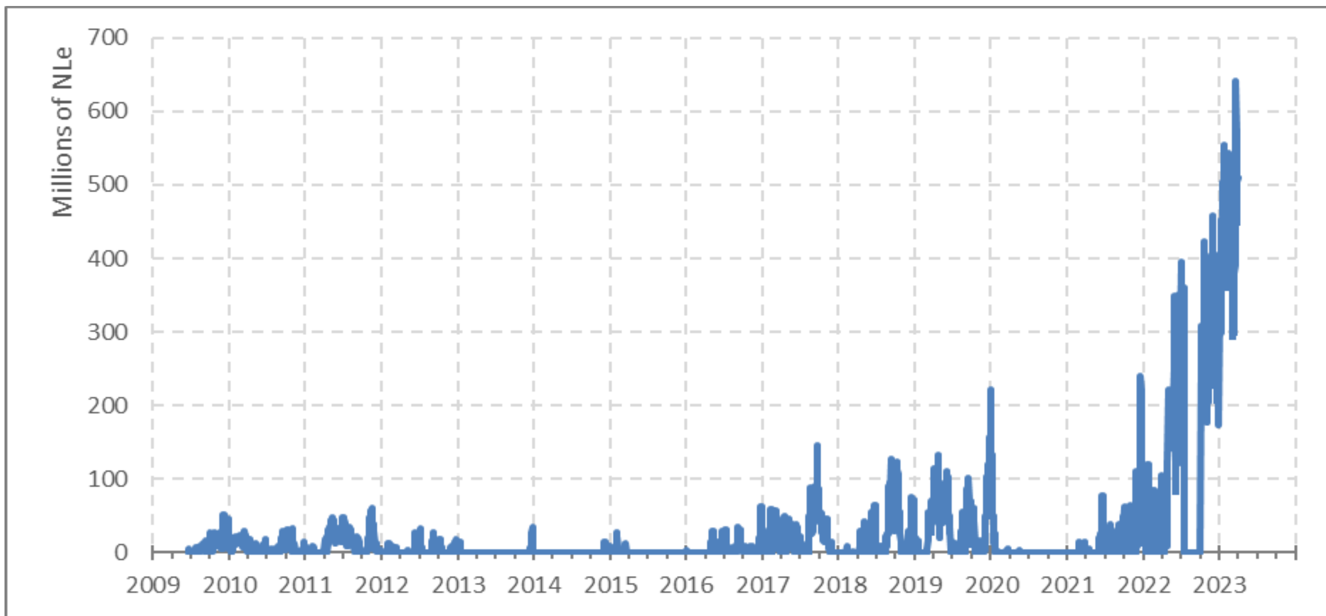


Source: FSD/BSL

5.2 BSL liquidity operations

As liquidity became tight, banks have increasingly started to use the BSL's Standing Lending Facility (SLF) window. The outstanding stock of SLF increased from an average of NLe39 million in Q1 2022 to NLe297 million in Q4 2022 and further to NLe437 million in Q1 2023 (*Figure 5.6*).

Figure 5.6: The outstanding amount of SLF



Source: FMD

Despite the overall tight liquidity situation, some banks still utilized the overnight Standing Deposit Facility (SDF), although the volume of transactions decreased significantly from NLe198 to NLe250 million in 2022, and the outstanding amount of SDF dwindled to nearly zero. The Bank increased its intervention in the secondary market through the outright purchase of Treasury Bills. The volume of outright purchases of Treasury bills in the secondary market increased significantly, more than tripling from NLe777 million to NLe3.6 billion in 2022.

5.3 Implications for financial stability

The banking sector's holdings of marketable government securities increased by 10 percent in 2022, accounting for approximately a third of total assets. Consequently, the balance sheet of the banking sector is heavily reliant on the domestic debt market. Thus, the movement of rates in the debt market has implications for interest rate risk and, by extension, the profitability and stability of the banking sector. This represents a major source of vulnerability for the banking sector. Shocks to the T-bill rate were not uncommon in the past; for example, it fell by 15 percentage points over a six-month period between May and November 2021. Such shocks can lead to a significant deterioration in banks' performance. Given this vulnerability, banks should implement measures to diversify their portfolios.

6 NATIONAL PAYMENTS SYSTEM

6.1 INTRODUCTION

Given the importance of **Financial Market Infrastructure**, The Bank of Sierra Leone (BSL) continues to monitor and assess its performance to ensure safety and efficiency.

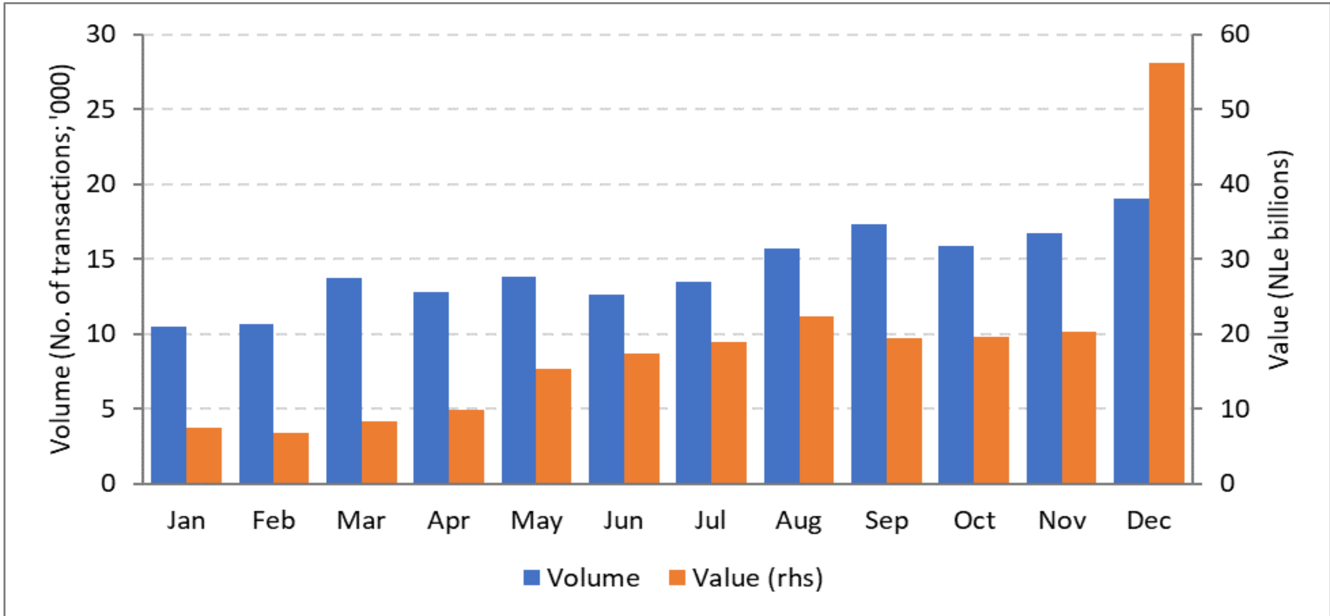
6.2 NATIONAL PAYMENTS SYSTEM LANDSCAPE

The BSL continued to focus on promoting financial inclusion, safeguarding the payment systems infrastructure, and collaborating with stakeholders. The volume of cash transactions remains high, while the volume of non-cash transactions continues to increase. Non-cash transactions are categorised into retail and large-value transactions based on their value and the interbank systems that support these transactions.

6.2.1 Real Time Gross Settlement (RTGS) system

The Real Time Gross Settlement (RTGS) system is the large-value transactions settlement system of Sierra Leone. Participating financial institutions can settle transactions and transfer funds among each other through the RTGS virtually promptly.

Figure 6.1: Volume and value of RTGS transactions



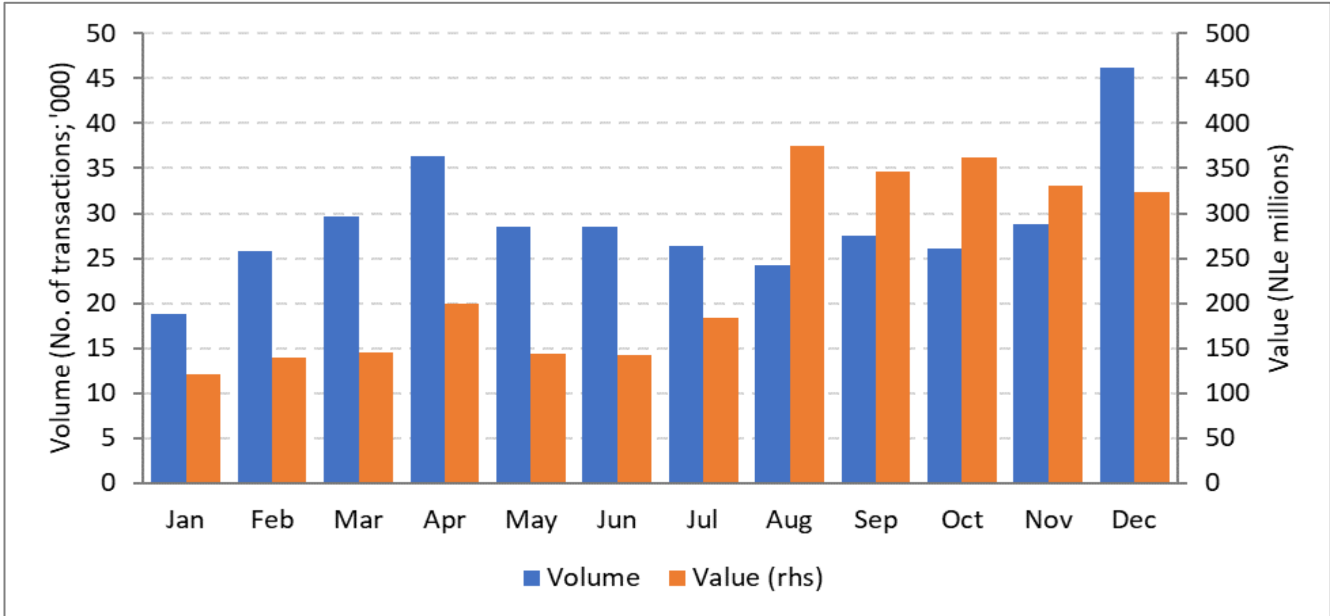
Source: Banking Department/BSL

In as much as there are fluctuations in the value and volume of transactions, the trend indicates general acceptability and increasing use of the system for the interbank transactions. The volume of RTGS transactions increased by more than 50 percent in 2022 while the value has almost tripled (*Figure 6.1*).

6.2.2 Automated Clearing House (ACH)

The ACH is the retail payment system through which a vast number of payment items (both paper-based and electronic) are cleared. These are mainly low-value (less than fifty thousand new leones) high-volume retail payment cheques.

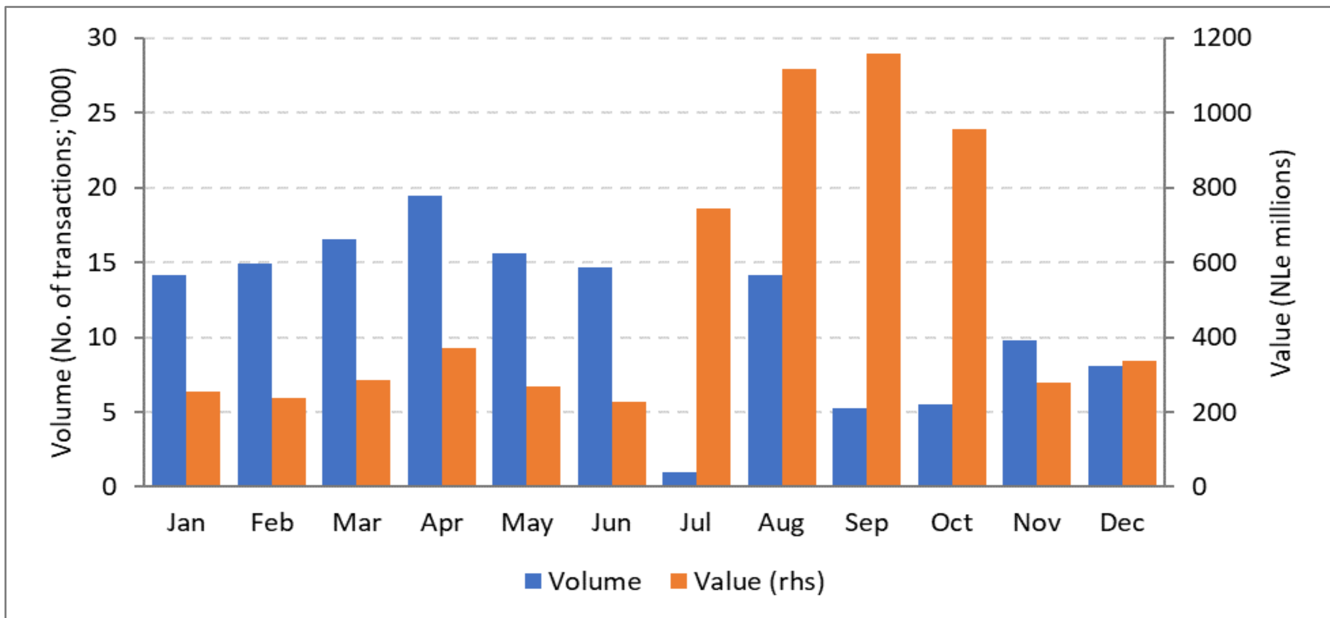
Figure 6.2: Volume and value of ACH direct credit transactions in 2022



Source: Banking Department/BSL

The use of direct credit continued to increase steadily, with their volume growing by nearly 10 percent and their value by almost 70 percent in 2022. However, the use of cheques remains higher than that of direct credit for transactions. In 2022, the volume of cheques decreased by more than 25 percent, while their overall value doubled. These trends became more pronounced in the second half of 2022. This could be attributed to the decision to remove the limit on cheque transactions from July onwards, promoting the use of cheques over over-the-counter cash transactions. Nonetheless, the use of direct credit shows promising potential for further improvement in the near future.

Figure 6.3: Volume and value of cheque transactions in 2022



Source: Banking Department/BSL

6.2.3 Other Retail Payment Systems

The public's acceptance of electronic means of transaction processing has clearly strengthened, but the distribution of ATMs and POS terminals primarily impacts the Western Area (the capital city), accounting for 77.5 percent of ATMs and 90.4 percent of POS terminals as of December 2022.

Table 6.1: Regional spread of ATMs

Regions	2019	2020	2021	2022
NORTHERN PROVINCE	16	10	10	16
SOUTHERN PROVINCE	9	11	10	10
EASTERN PROVINCE	6	5	6	7
WESTERN AREA	76	84	106	114
TOTAL	**107**	**106**	**116**	**147**

Source: Banking Department/BSL

The uneven distribution of ATMs and POS terminals leads to the de facto exclusion of large swaths of the population in the rural areas from the use of these payment services. Therefore, the planned implementation of new digital financial services solution that would ensure the smooth flow of funds, especially from Government to people (G2P), is crucial for deepening financial inclusion.

Table 6.2: Regional spread of POS terminals

Regions	2019	2020	2021	2022
NORTHERN PROVINCE	17	12	12	9
SOUTHERN PROVINCE	14	8	9	8
EASTERN PROVINCE	2	3	4	3
WESTERN AREA	268	205	207	188
TOTAL	**301**	**228**	**232**	**208**

Source: Banking Department/BSL

6.3 RECENT DEVELOPMENTS

6.3.1 Automated the Treasury Single Account (TSA) management.

The Bank automated revenue sharing for some key TSA institutions in 2021. Before automation, revenues from TSA institutions were manually calculated and shared among relevant beneficiaries as required by law on a weekly basis. In 2022, the BSL and Ministry of Finance continued working to bring the remaining revenue institutions under the automated TSA system. Through automation, revenues collected by these institutions are seamlessly shared among beneficiary entities on a daily basis, based on predefined distributional weights as required by law.

6.3.2 Electronic Fund Transfer (EFT) project

The EFT is funded by the Ministry of Finance to facilitate interoperability between the Bank of Sierra Leone's core banking application, the T24, and the Accountant General's Integrated Financial Management Information System (IFMIS). Its primary objective is to eliminate the manual processing of payments to banks through checks and letters, shifting instead to electronic transfers. The EFT was implemented in 2022, despite some challenges in the settlement of transactions from the Accountant General's Department.

6.3.3 The Payment System Act (2022)

With the modernisation and improvement of the payment systems in the country, it became necessary to revise the Payment Systems Act, which was established in 2009. In order to align with modern trends in payment and settlement infrastructure, the 2009 Act has been reviewed, and a new Payment Systems Act for 2022 was passed into law by the Parliament of Sierra Leone.

6.3.4 Currency redenomination

The Bank of Sierra Leone redenominated its currency on the 1st of July 2022 by removing three zeroes from the Leone. However, after extending the original deadline, the country will continue to use the two currencies until the 31st of December 2023 when the old currency ceases to be legal tender.

6.3.5 Financial inclusion project (first phase)

The financial inclusion project is funded by the World Bank, and its goal is to establish interconnectivity and interoperability among all retail payment infrastructures to enhance efficiency in the financial system. The project supports the National Switch and contributes to improving rural connectivity. The first phase of the Switch went live in May 2023, involving ten banks, but work is ongoing for a successful rollout of the remaining phases in 2023.

6.4 PLANNED SYSTEMS AND DEVELOPMENTS

6.4.1 Financial inclusion project

The efforts to achieve full functionality and coverage of the National Switch are ongoing. Following the successful launch of the first phase in May 2023, the project proceeded to implement its second phase and is expected to be rolled out successfully in 2023.

6.4.2 AFREXIMBANK – Pan-African Payments and Settlement Platform (PAPSP)

AFREXIMBANK, in collaboration with central banks in the WAMZ region, is working on a payment and settlement platform to address the challenges of cross-border payments in the sub-region. PAPSP has introduced an instant payment solution that will interconnect the national payment systems within WAMZ and subsequently ECOWAS to promote regional trade. The Bank of Sierra Leone is partnering with PAPSP on this project and is currently in the stage of conducting controlled transactions in the live environment.