



JUNE 2023
No. 04 | Year 04

FINANCIAL STABILITY REPORT



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Foreword

In light of Law No. 1/92 of 3 January, the mission of Banco de Moçambique (BM) is to preserve the value of the national currency and promote a robust and inclusive domestic financial sector.

As part of this mission, BM implements macroprudential policy with a view to ensuring that the financial system, especially the banking sector, maintains adequate levels of solvency and liquidity, enabling it to contribute to crises resolution and management, minimizing overall systemic risk, and thus ensuring the preservation of financial stability.

BM defines financial stability as maintaining a financial system that is robust, efficient and resilient to financial shocks and imbalances, ensuring that the confidence of economic agents is preserved, while contributing to the mitigation of systemic risk.

In order to assess systemic risk, BM relies on a quantitative matrix that presents the risk dynamics of the domestic financial system, with a view to measuring its resilience and enabling timely measures to be taken.

BM issues the Financial Stability Report (FSR) to strengthen communication on financial stability between the central bank and the general public. This edition highlights the main vulnerabilities and risks in the international and domestic macrofinancial context, as well as the performance of the Mozambican financial system in 2022.

The Governor

Rogério Lucas Zandamela

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Acronyms and abbreviations

BM	Banco de Moçambique
CE/PIB	Ratio of Credit to the Economy to Gross Domestic Product
COVID-19	Infectious disease caused by SARS-CoV-2, discovered in 2019
D-SIBs	Domestic systemically important banks
DO	Demand deposits
DP	Term deposits
DTI	Debt-to-income
ICSF	Credit institutions and financial companies
IHH	Herfindahl-Hirschman Index
ISSM	Insurance Supervision Institute of Mozambique
LTV	Loan-to-value
ME	Foreign currency
MEF	Ministry of Economy and Finance
MVM	Securities Market
MZN	Metical
NPL	Non-performing loan
PIB	Gross Domestic Product
Pb	Base points
Pp	Percentage points
ROA	Return on assets
ROE	Return on equity
SADC	Southern African Development Community
USD	United States Dollar

Executive summary

In 2022, the global macroeconomic landscape continued to deteriorate, raising the risk to financial stability. The conflict in Ukraine and slower growth in China increased uncertainty in international financial markets. This environment resulted in higher energy and food costs, following supply difficulties caused by supply chain disruptions, particularly in the conflict region, leading to persistent high inflation, especially in the Eurozone.

In the domestic context, the consolidation of economic growth (4.15%) contributed to maintaining a moderate level of systemic risk, reflecting the continued improvement in domestic and external demand and the implementation of energy projects. Even so, the domestic financial system suffered from some vulnerabilities, especially military instability in the north of the country and the occurrence of extreme weather events.

The banking sector remained solid and resilient during the period under review, with growth in earnings and adequate levels of capitalization and liquidity. Meanwhile, in terms of asset quality, the non-performing loan ratio stood at 8.97%, above the acceptable benchmark of 5.0%.

The banking sector recorded an annual increase in the solvency ratio of 77 basis points (bp) to 26.96%, a growth in assets of 5.14% (to 856 billion meticaís), an increase in profits of approximately 16.13% and liquidity that enables financing operations to continue without any significant change in asset quality. In turn, overall production of companies in the insurance sector grew by 26.10% to 5,569.01 million meticaís, explained by the positive variation in insurance subscriptions by companies and individuals. Market capitalization, the main indicator of the Securities Market (MVM), recorded a positive variation of 30.0% (standing at 164,287.5 million meticaís).

In the period under review, systemic risk remained moderate, despite the reduction of the financial stability index by 35 bp, compared to December 2021, standing at 37.50% in December 2022. This decrease in the financial stability index was mainly underpinned by the credit risk slowdown.

In order to contain risks and mitigate the vulnerabilities of the domestic financial system, BM decided to maintain all the macroprudential policy instruments. In the period under review, the conservation buffers for domestic systemically important and quasi-systemically important banks remained at lows of 2.0% and 1.0%, respectively. The macroprudential lending requirements imposed on credit institutions and financial companies (ICSFs), namely the loan-to-value ratio (LTV) and the debt-to-income ratio (DTI), remained capped at 100%.

I.INTERNATIONAL MACROFINANCIAL ENVIRONMENT

The global macroeconomic environment continues to deteriorate, raising the risk to financial stability. The protracted conflict in Ukraine and China's slower growth due to the “zero-Covid” policy, impacting economic activity and inflation, have exacerbated uncertainties in international financial markets.

In 2022, the global economic environment was marked by prevailing high inflation, particularly in the Eurozone and the US, as a result of rising energy and food costs following supply bottlenecks caused by the ongoing conflict in Ukraine, in the former case and rising property prices and rents in the latter.

In addition, the maintenance of the “zero-Covid” policy in China, which imposed strong restrictions on mobility, combined with the deceleration of the real estate sector, hampered the performance of the economy and domestic assets, with a negative impact on the volume of

international trade, furthermore resulted in net investment outflows¹, an aspect that extended to other emerging market economies.

Faced with this backdrop, the prospects for global growth deteriorated, and aversion to risk increased, even for the emerging market economies, which had a greater appetite for risky investments.

In order to tackle inflationary pressures and contain risks to financial stability, the central banks of several countries in advanced and emerging economies have sought to align their monetary policies, which has increased financing costs, conditioning the borrowing capacity of the most vulnerable sectors and segments.

The loss of purchasing power of households, amid high inflation and cost shocks, has affected the ability to honor debt service and the demand for corporate products and services, increasing the vulnerability of households and companies faced with the current

¹ Due to the interest rate differential with advanced economies

setting of higher inflation and interest rates.

Fears of a global recession and intensifying geo-political tensions weighed on investor sentiment and contributed to increased global financial market volatility.

Signs of slowing economic activity and expectations that central banks in advanced economies would slow their asset purchases led to sharp price reductions of financial assets, in the second half of 2022.

This dynamic of financial assets generated times of stress in the public securities markets in advanced economies, with lower liquidity and higher volatility, which in some cases reached the peaks seen at the onset of the pandemic.

Global banks, especially those of systemic importance, increased their provisions, pre-emptively, so as to address macroeconomic challenges and sustain vulnerabilities, albeit bank defaults remained low and stable in advanced economies.

Faced with the unfavorable global macrofinancial environment, coupled

with increased risks in real estate markets, several countries maintained or increased the countercyclical capital buffer (CCyB).

Despite deteriorating economic and financial conditions, stress tests conducted by macroprudential authorities, in advanced and developing economies, indicate that financial institutions in these countries maintain robust capital and liquidity levels and the global financial system remains prepared to withstand additional shocks.

The recent episodes involving banks in the US and Europe (see box 1) have heightened uncertainty and volatility in the markets and require monitoring.

At the regional level, the SARB's assessment of the stability of the South African financial system shows that, despite the increase in global systemic risk, from a domestic perspective, the system remains resilient under difficult global and domestic conditions, partly due to its ability to maintain adequate capital reserves to absorb the impact of shocks.

In Mauritius, the results of the stress tests, carried out by the macroprudential authority, show that the banking sector remains resilient to a series of unusual but not unlikely macroeconomic shocks. The

capital and liquidity buffers held by banks were broadly adequate to sustain the stability and resilience of the sector.

II. VULNERABILITIES AND RISKS OF THE MOZAMBIKAN FINANCIAL SYSTEM

The financial year 2022 was characterized by the consolidation of the recovery of economic growth, reflecting the continued improvement in external demand, coupled with the normalization of the economy and the implementation of energy projects.

This economic performance contributed to systemic risk remaining moderate. However, the domestic financial system suffered from some vulnerabilities, especially military instability in the north of the country and extreme weather events, namely cyclones and floods.

2.1. System vulnerabilities

The post-pandemic recovery in economic activity has contributed to the positive performance of the domestic financial system. However, the following vulnerabilities persist: (i) military instability in Cabo Delgado, (ii) adverse climatic factors, (iii) public sector

indebtedness, and (iv) the international market's confidence in the country.

Notwithstanding the vulnerabilities identified, the system is resilient and capable of supporting the economy in a particularly adverse domestic and international context.

2.1.1. Military instability in the north of the country

In 2022, the country has made progress towards restoring security in the areas devastated by terrorism. Nevertheless, instability prevails in several parts of the Cabo Delgado province and in some districts of neighboring provinces, in particular Memba and Eráti in Nampula.

The instability outbreaks justified maintaining the onshore development of the Mozambique LNG - TotalEnergies project suspended. Meanwhile, the country has started producing and exporting natural gas from offshore exploration off the Afungi peninsula by ENI.

The uncertainty regarding the resumption of onshore exploration activities for energy resources in the Rovuma basin hinders the energy sector's growth

prospects, and hampers the country's economic performance.

Military instability in Cabo Delgado increases Government spending on military logistics and humanitarian assistance, makes access to financial services more expensive, delays financial inclusion and compromises the ability of affected economic agents to honor their commitments to the banking sector, with repercussions on the increase of credit risk and financial instability.

2.1.2. Adverse climatic factors

The risks of climate change for the financial system may arise from natural disasters, caused by environmental degradation, or the result of the economic effects of policies adopted by governments to contain climate effects.

Natural disasters degrade the environment and precipitate the rapid devaluation of real estate properties exposed to risk, which can affect the asset portfolios of many banks, insurance companies and other financial institutions.

Mozambique is geographically located in the inter-tropical convergence zone and

downstream of shared hydrographic basins, which makes the country exposed and vulnerable to adverse climatic events, a major threat to macroeconomic stability and the national financial system.

The central and northern regions of the country were affected by cyclone Gombe and the tropical depression Ana in the first three months of 2022, confirming the increased frequency and intensity of extreme weather events, with an impact on social and economic infrastructure (roads, factories, crop fields, among others) and on the well-being of the population, generating huge economic and social costs.

These extreme events affected the country's production levels, due to the destruction of infrastructure, inputs and means of production, among others, influencing the ability of households and companies to honor their commitments to the banking sector, with an impact on the increase in credit risk.

2.1.3. Public sector indebtedness

The pressure on domestic public debt with the financial system continued in 2022 (Table 1), partially driven by the

limited availability of financial resources to the State.

Table 1. Public debt stock - billion meticaïs

Description	Dec-20	Dec-21	Dec-22
External debt	752,75	663,30	645,30
Domestic debt	195,96	227,43	281,55
Total debt	948,71	890,73	926,84

Source: MEF

Cumulatively, domestic public debt increased by about 54.0 billion meticaïs, essentially reflecting the increase in financing through Treasury Bonds (T-Bonds) and the issue of Treasury Bills (T-Bills).

The State's internal financing, which absorbs a significant part of the banking sector's resources, has the potential to increase sovereign risk, and exacerbate systemic risk, against a backdrop of subscription to public securities at high interest rates.

Meanwhile, the inflow of funds from partners to provide direct support to the State Budget in the period under review helped to ease the pressure on domestic sources for financing public debt.

Table 2. Public revenue and expenditure - billion meticaïs

Description	Dec-20	Dec-21	Dec-22
State Revenues	281.71	265.94	283.14
State Expenditure	305.86	362.29	422.58
Deficit/Financing	24.15	96.35	139.44

Source: MEF

² The international market's confidence in a country is used by investors to make investment decisions in a given economy.

Budget implementation (Table 2) shows that in 2022 the pressure on the public expenditure side came from general public services, underpinned by efforts towards promoting good governance, quality public service delivery, decentralization and integrity of public administration.

2.1.4. International market confidence in the country

The resumption of the programme with the International Monetary Fund marked the year 2022, following a six-year period of this institution not supporting the State Budget, and signals a gradual improvement in the international market's confidence in the country.

The main rating agencies maintained the country's rating in international market² at the substantial risk, despite the slight improvement in the assessment.

Table 3. Country rating in the international market³

Agency	Dec-19	Dec-20	Dec-21	Dec-22
Moody's	Caa2 (stable)	Caa2 (stable)	Caa2 (stable)	Caa2 (positive)
Standard & Poor's	CCC+ (stable)	CCC+ (stable)	CCC+ (stable)	CCC+ (stable)
Fitch Ratings	CCC	CCC	CCC	CCC+

Source: <https://countryeconomy.com/ratings>

³CCC+: substantial risk; Caa2: substantial risk; Caa3: substantial risk; CCC: substantial risk; SD: default; RD: default.

This risk rating imposes restrictions on access to financial markets, which increases market risk in the domestic financial system⁴ in the exchange rate and interest rate components (Table 3).

The ongoing low rating of the country indicates the existence of risk for investors, considering the country's current financial situation, characterized by a State budget deficit, and uncertainties regarding future revenues.

Compared to other SADC countries, Mozambique has one of the lowest financial ratings, which makes investing in the country less appealing (Table 4).

Table 4. Rating of SADC countries in the international market

Countries/Agency	Moody's	Standard & Poor's	Fitch Ratings
Mozambique	Caa2 (positive)	CCC+ (stable)	CCC+
South Africa	Ba2 (stable)	BB-(stable)	BB-
Angola	B3 (stable)	B-(stable)	B-(stable)
Zambia		SD	RD
Botswana	A3	BBB+ (stable)	
Mauritius	Baa3 (stable)		
Malawi			B-(stable)

Source: <https://countryeconomy.com/ratings>

2.2. Systemic risk assessment

Systemic risk in the Mozambican banking sector is measured through a financial

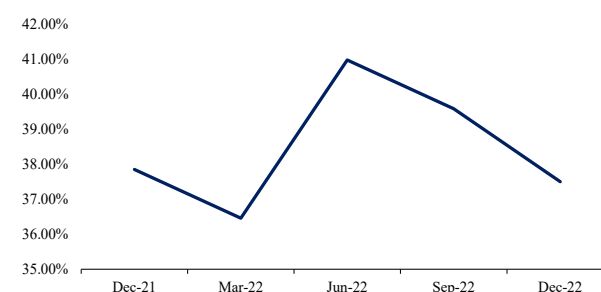
⁴ Considering the weight of the banking sector in the domestic financial system.

stability index, and can be classified as low, moderate, high or severe.

In turn, the financial stability index is calculated based on a matrix, composed of 19 indicators, and grouped into 6 risk categories, namely: macroeconomic risk, sovereign risk, profitability and solvency risk, credit risk, funding and liquidity risk and market risk (see Box 2, on the methodology for calculating the financial stability index).

In the period under review, systemic risk remained moderate, although the financial stability index fell by 0.35 pp, from 37.85% in December 2021 to 37.50% in December 2022 (see charts 1 and 2. Note that chart 2 shows the risk level increasing from the center to the outside of the web).

Chart 1. Global systemic risk index

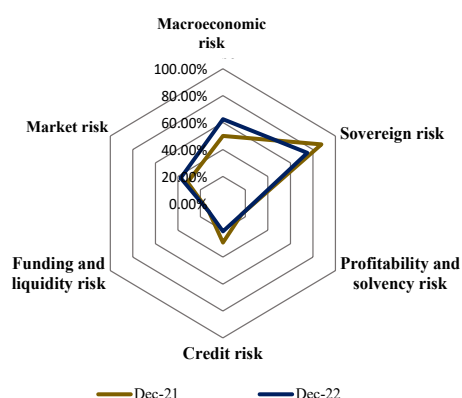


Source: BM

This decrease in the financial stability index was essentially influenced by the slowdown in credit risk, which decreased from moderate in December 2021 to low in December 2022.

Additionally, there was a reduction in the sub-index of the sovereign risk category, which, despite remaining severe, dropped from 87.50% to 75.00%, due to the improvement in the public debt to GDP ratio component.

Chart 2. Systemic risk sub-indices (%)



Source: BM

The assessment by risk category shows the following:

2.2.1. Macroeconomic risk

Macroeconomic risk remained high, despite the increase in the level of risk of the inflation rate indicator during the period, which rose from high in December 2021 to severe in December 2022.

The ongoing high macroeconomic risk was favored by the steady moderate risk of the GDP growth indicator.

Table 5. Macroeconomic risk indicators

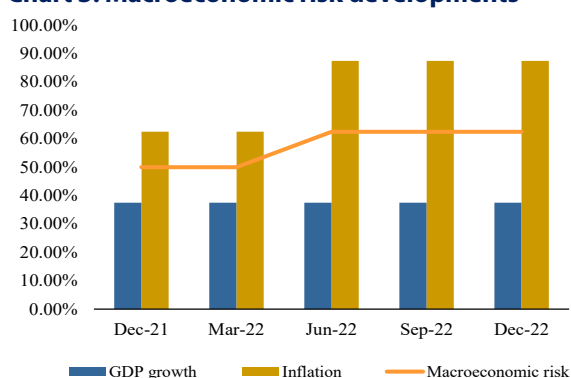
	Dez-21	Mar-22	Jun-22	Set-22	Dez-22
GDP growth	3.57%	4.14%	4.59%	3.60%	4.24%
Inflation	6.74%	6.67%	12.10%	12.01%	10.29%

Source: BM and INE

In effect, inflation rose by 3.55 pp from 6.74%, high risk, in December 2021, to 10.29%, corresponding to a severe risk, in December 2022.

In turn, GDP growth remained at moderate risk, rising to 4.24% in December 2022, following a 3.57% growth in December 2021.

Chart 3. Macroeconomic risk developments



Source: BM and INE

The trend of the indicators in this risk category was driven by the following factors:

- Progressive recovery of economic activity, amid the easing of the restrictive measures imposed to contain the negative effects of COVID-19; and,
- The export sector performed satisfactorily, mainly due to the improvement in the prices of the main export commodities.

2.2.2. Sovereign risk

Sovereign risk remained severe, while leaning towards high, having dropped 12.50 pp compared to December 2021, and standing at 75.00% in December 2022.

Table 6. Sovereign risk indicators

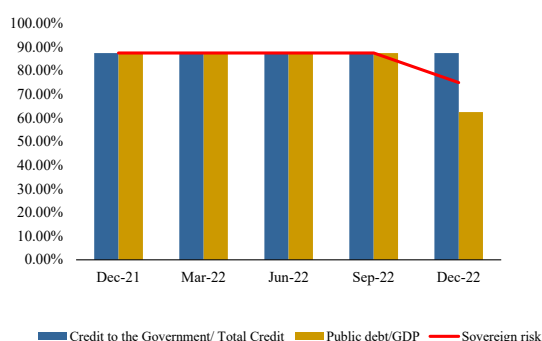
	Dez-21	Mar-22	Jun-22	Sep-22	Dez-22
Credit to the Government/ Total Credit	44.88%	45.48%	45.38%	40.58%	44.11%
Public Debt/GDP	86.14%	85.68%	87.92%	88.85%	79.50%

Source: BM e INE

This reduction in magnitude was driven by the lower risk of the public debt to GDP ratio indicator, which went from severe in December 2021 to high in December 2022.

The ratio of loans to the Government to total loans, another indicator of the category, also registered a slight improvement, reducing 0.77 pp in the same period to 44.11% in December 2022. Even so, it remained at severe risk.

Chart 4. Sovereign risk



Source: BM e INE

2.2.3. Profitability and solvency risk

In December 2022, the profitability and solvency risk remained low, which shows that the banking sector has performed positively, and remains solid and sufficiently capitalized.

With regard to profitability, all the indicators show the resilience of the banking sector and the maintenance of satisfactory levels of efficiency in the face of the adversities faced in the period.

Table 7. Profitability and solvency indicators

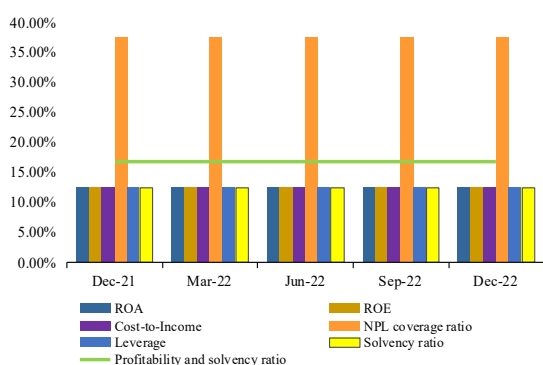
	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22
ROA	3.10%	3.43%	3.29%	3.17%	3.42%
ROE	25.15%	27.54%	26.40%	25.36%	27.29%
Cost-to-Income	53.75%	53.57%	53.34%	53.70%	53.84%
NPL coverage ratio	72.63%	70.67%	67.99%	70.97%	71.84%
Leverage	13.27%	12.26%	12.92%	13.41%	12.49%
Basic solvency ratio	26.71%	26.01%	27.33%	27.16%	27.52%

Source: BM and INE

In fact, the banking sector had a positive financial performance during the period, with return on assets (ROA) standing at 4.70% and return on equity (ROE) at 19.10% in December 2022, following 3.10% and 25.15%, respectively, in December 2021.

With regard to solvency, the sector continued to show robustness, with the basic solvency ratio increasing from 26.71% in December 2021 to 27.52% in December 2022.

Chart 5. Profitability and solvency risk



Source: BM and INE

2.2.4. Credit risk

Credit risk slowed, as the concerning sub-index fell from 29.17%, moderate risk, in December 2021, to 20.83%, low risk, in December 2022.

Table 8. Credit risk indicators

	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22
Ce-to_GDP gap	-2.77%	-5.77%	-5.30%	-5.30%	-4.28%
NPL ratio	10.60%	9.19%	10.02%	9.20%	8.97%
CEgrowth	2.66%	4.63%	1.20%	6.21%	3.65%

Source: BM and INE

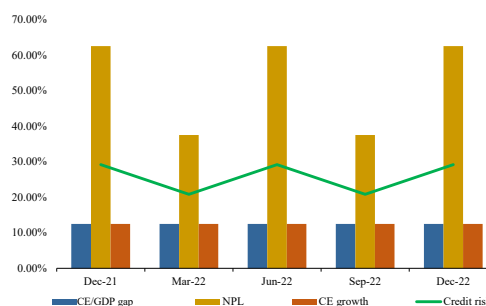
This reduction was favored by the decrease in the NPL ratio risk, which stood at 8.97%, moderate risk, in December 2022, following 10.60%, high risk, in the same period of 2021.

The other two indicators in this risk category, namely, “CE-to-GDP gap” and “growth rate of credit to the economy” remained at low risk, underpinned by the contraction in both the financial and business cycles.

On the one hand, the “CE-to-GDP gap” stood at -4.28% in December 2022, following -2.77% in December 2021, and remained at negative levels, below its long-term trend.

In turn, the growth rate of credit to the economy accelerated by 0.99 pp, from 2.66% in December 2021 to 3.65% in December 2022, but remained below the minimum threshold of moderate risk.

Chart 6. Credit risk



Source: BM and INE

2.2.5. Funding & liquidity risk

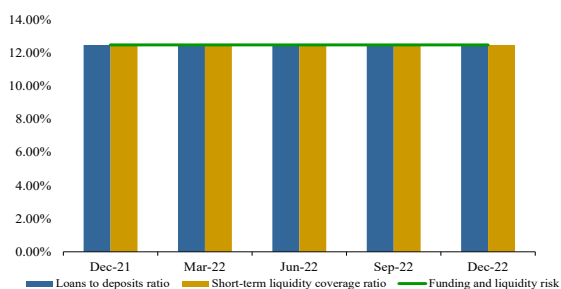
Funding and liquidity risk remained low, driven by weak credit growth in the economy and high liquidity in the market.

Table 9. Funding and liquidity risk indicators

	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22
Loans to deposits ratio	50.22%	47.90%	48.07%	51.60%	47.06%
Short-term liquidity coverage ratio	68.30%	69.80%	68.81%	67.15%	69.79%

In December 2022, the loans-to-deposits ratio stood at 47.06%, low risk, and in the same period the short-term liquidity coverage ratio increased by 1.49 pp, standing at 69.79%, also low risk.

Chart 7. Funding and liquidity risk



Source: BM and INE

2.2.6. Market risk

In December 2022, market risk remained moderate, despite the increase of 6.25 p.p. in the respective sub-index when compared to the same period in 2021, to 37.50%.

Table 10. Market risk indicators

	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22
USD/MZM volatility (quarterly)	0.00%	0.00%	0.05%	0.00%	0.00%
FC Credit/Total Credit	0.00%	0.00%	20.40%	17.64%	17.86%
FC Deposits/Total Deposits	0.00%	0.00%	27.45%	25.35%	25.20%
Financial System Prime Rate	18.60%	18.60%	20.60%	20.60%	22.60%

Source: BM and INE

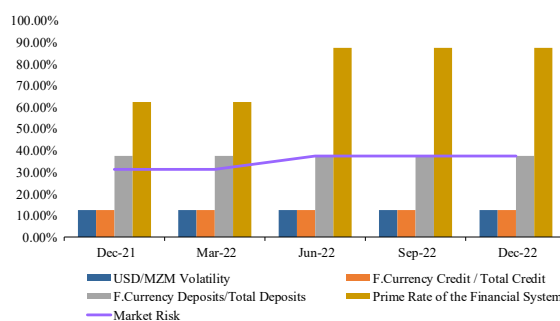
This increase was driven by the increase in the prime rate of the financial system, which rose from 18.60%, high risk, in December 2021, to 22.60%, severe risk, in December 2022.

It should be noted that market risk remained moderate due to the stability of the other indicators in the category, namely the volatility of the MZN/USD exchange rate, the ratio of foreign currency loans to total loans, and the ratio of foreign currency deposits to total

deposits, which remained at low and moderate risk, respectively, during the period under review.

In December 2022, market risk remained moderate, despite the increase of 6.25 p.p. in the respective sub-index when compared to the same period in 2021, to 37.50%.

Chart 8. Market risk developments



Source: BM and INE

Box 1. Banking turmoil - could it be the beginning of a crisis?

In what has been called “the biggest banking crisis since 2008”, both Silicon Valley Bank (SVB) and Signature Bank collapsed, and Credit Suisse was rescued. We present below some lines for understanding this phenomenon.

What happened?

For 40 years, SVB (the sixteenth largest bank in the United States) acted as an ally and bank of reference for the technology industry (and especially for startups) and looked like the “financial partner of the innovation economy”. As a preferred bank, SVB offered various services to startups, including high-risk ones.

During the Covid-19 pandemic, SVB raised significant volumes of new deposits. On the other hand, demand for loans remained weak, with only a small portion directed to loans, leading the rest of deposits to be invested in securities portfolios and held for cash, with most of the securities designated in “held-to-maturity”, i.e., securities held to maturity, and which do not follow the trend of portfolio volatility as those “available-for-sale”.

As the economies reopened post-Covid-19, SVB's customers began to intensify their demand for more funding, however, the supply was far below their demands because of the bank's investments in “held-to-maturity” securities.

As a way to circumvent the weak supply of funding, SVB customers began withdrawing their deposits. The news of SVB's stock decline on 9 March 2023 exacerbated deposit withdrawals, leaving the institution without liquidity to fund applications, whose applications totaled around USD 42 billion a day before its closure and thus becoming the second largest bank failure in US history, since Washington Mutual in 2008.

After Silicon Valley Bank closed, Signature Bank's corporate customers began to worry about the safety of their deposits as they had more than USD 250,000 in their accounts, while the North American guarantee fund, the Federal Deposit Insurance Corporation (FDIC), covers deposits up to USD 250,000.

Two days after SVB collapsed, Signature bank could not withstand the depositors' panic, given the large amounts of uninsured deposits and exposure to the crypto sector, becoming the third largest bank failure in US history, after customers withdrew their deposits following a drop in share prices and concerns that Signature could follow in SVB's footsteps.

The FDIC stepped in to ensure that all SVB and Signature depositors had access to all their deposits, in addition to creating a new facility to give banks access to emergency funds in order not to make the crisis systemic. Similarly, the Federal Reserve also made it easier for banks to access loans in emergencies.

Despite the US government's promise to depositors of SVB and Signature Bank, the collapse of the US banks has conveyed some panic throughout the global banking system. Credit Suisse's track record in recent years, despite its long history in the market, characterized by a series of scandals, management changes and significant losses, was central to its downfall, notwithstanding the encouraging signals conveyed by the Swiss bank following the financial scandals.

Credit Suisse could not resist the scare triggered by the statement from one of the representatives of its largest shareholders, the Chairman of Saudi National Bank, informing that there was no intention to increase its shareholding. The statement's timing gave way to panic, given that a few days earlier SVB and Signature Bank had gone bankrupt.

The Swiss regulator's intervention momentarily calmed the situation but did not quell investors' fears about the bank's withdrawal of capital. The situation evolved until Swiss bank UBS agreed to buy Credit Suisse for \$3.25 billion after negotiations brokered by the country's regulators, creating one of Europe's largest banks, averting a crisis of confidence that could spread to the global financial system.

Brief assessment of the global banking system after the panic

- The banking system, thanks in part to peremptory action by central banks, remains resilient enough to avoid a systemic crisis.
- While banks are typically resilient, deposit withdrawals threaten their survival and there are still vulnerabilities in the market (such as rising interest rates, inflation and problems in the cryptocurrency industry) that could lead other institutions to suffer from similar problems.

Banks in the US and Europe are in better shape than at the time of the financial crisis in 2008, have very robust ratios and are expected to strengthen further after recent events. Although credit risk in the Eurozone has increased, it remains lower compared to previous crises, such as the Russia-Ukraine war outbreak in 2022.

Box 2. Methodology for calculating the financial stability index

The systemic risk assessment is based on a financial stability index determined through a systemic risk matrix, composed of 19 risk indicators, grouped into six risk categories that make up the main sources of systemic risk in the Mozambican banking sector, namely:

- macroeconomic risk;
- sovereign risk;
- profitability and solvency risk;
- credit risk;
- funding and liquidity risk; and
- market risk.

Four risk levels were set for each indicator, characterized by limits that define them, namely: i) the low-risk range; ii) the moderate-risk range; iii) the high-risk range; and iv) the severe-risk range.

Given the disparate nature of the indicators and the difference in measurement units, the observed values are coded according to the corresponding risk ranges, as illustrated in the Table below:

Table 11. Risk levels

Risk levels	Low	Moderate	High	Severe
Risk ranges	0% - 25%	25% - 50%	50% - 75%	75% - 100%
Risk weights	12.50%	37.50%	62.50%	87.50%

Table 12 shows the risk ranges of the 19 systemic risk indicators.

The first step in determining the general index of financial stability is to calculate the index for each risk category, which is obtained from the average of the weighted risk values of the respective indicators. In turn, the financial stability index is determined through the average of the indices of the risk categories.

Systemic risk may be classified as low, moderate, high and severe, in accordance with the risk range in Table 11, which corresponds to the percentage of the financial stability index.

Table 12. Risk ranges of the 19 systemic risk indicators

Macroeconomic risk							
Indicators	Risk range				Risk direction		
	Low	Moderate	High	Severe			
GDP growth	8,00% - 5,00%	5,00% - 3,00%	3,00% - 1,50%	≤ 1,5%	100,00%	→	-100,00%
Inflation	2,00% - 4,00%	4,00% - 6,00%	6,00% - 10,00%	≥ 10%	-100,00%	→	100,00%
Sovereign risk							
Indicators	Risk range				Risk direction		
	Low	Moderate	High	Severe			
Credit to Government/Total Credit	< 10,00%	10,00% - 20,00%	20% - 30,00%	≥ 30%	0,00%	→	100,00%
Public Debt/GDP	< 40,00%	40,00% - 60,00%	60,00% - 80,00%	≥ 80%	0,00%	→	100,00%
Rendibility and solvency risk							
Indicators	Risk range				Risk direction		
	Low	Moderate	High	Severe			
ROA	> 2,00%	2,00% - 0,75%	0,75% - 0,25%	≤ 0,25%	100,00%	→	-100,00%
ROE	> 10,00%	10,00% - 5,00%	5,00% - 2,50%	≤ 2,50%	100,00%	→	-100,00%
Cost-to-Income	< 60,00%	60,00% - 80,00%	80,00% - 90,00%	≥ 90,00%	0,00%	→	100,00%
NPL Coverage	> 75,00%	75,00% - 50,00%	50,00% - 25,00%	≤ 25,00%	100,00%	→	0,00%
Leverage	> 10,00%	10,00% - 8,00%	8% - 6,00%	≤ 6,00%	100,00%	→	0,00%
Solvency ratio	> 16,50%	16,50% - 12,00%	12,00% - 10,00%	≤ 10%	100,00%	→	0,00%
Credit risk							
Indicators	Risk range				Risk direction		
	Low	Moderate	High	Severe			
CE-to-GDP gap	< 0,00	0,00 - 0,02	0,02 - 0,03	≥ 0,03	-1,00	→	1,00
NPL	< 5,00%	5% - 10,00%	10% - 15,00%	≥ 15%	0,00%	→	100,00%
Credit to economy - growth	< 15,00%	15,00% - 20,00%	20% - 30%	≥ 30%	-100,00%	→	100,00%
Funding and liquidity risk							
Indicators	Risk range				Risk direction		
	Low	Moderate	High	Severe			
Loans/Deposits ratio	< 70,00%	70,00% - 85,00%	85,00% - 90,00%	≥ 90%	0,00%	→	100,00%
Short term liquidity coverage ratio	> 40,00%	40,00% - 15,00%	15,00% - 10,00%	≤ 10%	100,00%	→	0,00%
Market risk							
Indicators	Risk range				Risk direction		
	Low	Moderate	High	Severe			
USD/MZM volatility	0,00% - 2,00%	2,00% - 4,00%	4,00% - 6,00%	≥ 6,00%	0,00%	→	100,00%
Credit in foreign currencies/Total credit	< 25,00%	25,00% - 50,00%	50,00% - 75,00%	≥ 75,00%	0,00%	→	100,00%
Deposits in foreign currencies/Total deposits	< 25,00%	25,00% - 50,00%	50,00% - 75,00%	≥ 75,00%	0,00%	→	100,00%
Prime Rate - Financial system	< 10,00%	10,00% - 15,00%	15,00% - 20,00%	≥ 20,00%	0,00%	→	100,00%

Box 3. Methodology for calculating the D-SIBs

Background

In light of Notice No. 10/GBM/2018, of 22 October, BM periodically carries out, for macroprudential purposes, the identification of systemically important credit institutions operating in the Mozambican financial system, with the aim of minimizing the negative repercussions that imbalances in this type of institution may cause on the economy, as well as preserving their normal operation in the following areas:

- (i) Making resources available to the public and the economy in general, in satisfactory quantity and quality;
- (ii) Deposit-taking and lending to corporations, households and the public sector;
- (iii) Exchanging funds among themselves in the Interbank Money Market;
- (iv) Financing the State by acquiring treasury bonds, treasury bills and other securities; and
- (v) Other basic functions inherent to its financial intermediation and payment mediation activities.

Thus, all credit institutions in the Mozambican banking sector are important, in that most receive deposits or other types of (repayable) funds from the public in order to apply them for their own account by granting credit and seek to ensure that savings are channeled into investment in financial markets through the purchase and sale of financial products.

The difference between a normal domestic credit institution and a systemically important domestic credit institution (D-SIB) is that the latter type of institution, if it fails, has the potential to cause significant disruption to the banking sector, the financial system and economic activity in general.

Methodology

The determination of systemically important domestic credit institutions is based on an average score of three key pillars, with different weights:

Table 13. Methodology for calculating the D-SIBs: category, indicators and weight

Size (50%)	Balance sheet total assets	A	25%
	Number of branches	B	25%/3
	Number of ATM	C	25%/3
	Number of POS	D	25%/3
Interconnection (25%)	Intra-financial system resources (assets)	E	25%/3
	Liabilities of the intra-financial system	F	25%/3
Substitutability (25%)	Securities in portfolio	G	25%/3
	Payment activity	H	25%

Source: BM

It should be noted that the resources and liabilities of the intra-financial system are the liquidity swaps on the Interbank Money Market (liquidity loans between banks, mostly without collateral), where the operations are resources (assets) and responsibilities (liabilities) for the lending and borrowing credit institutions, respectively.

Payment activity refers to all debit and credit transactions of each credit institution's account with Banco de Moçambique carried out in December of each year.

Based on banking sector data reported to December of the previous year, the final score of each credit institution is calculated using the formula below:

$$Score_{ICI} = \left(\left[25\% \left(\frac{A}{\sum_i^n A} \right) + \frac{25\%}{3} \left(\frac{B_i}{\sum_i^n B} + \frac{C_i}{\sum_i^n C} + \frac{D_i}{\sum_i^n D} \right) \right] + \dots + \frac{25\%}{3} \left(\frac{E_i}{\sum_i^n E} + \frac{F_i}{\sum_i^n F} + \frac{G_i}{\sum_i^n G} \right) + 25\% \left(\frac{H}{\sum_i^n H} \right) \right) * 100$$

Classification

According to the score resulting from the application of the above-mentioned regulations, credit institutions are classified into:

- **Systemically Important** - credit institutions scoring above 130 points (**D-SIBs**);
- **Quasi-systemically important** - credit institutions scoring between 65 and 130 points (**Quasi-D-SIBs**);
- **Not systemically important** - credit institutions scoring below 65 points.

Conservation buffers

D-SIBs and Quasi D-SIBs are subject to the establishment of a conservation buffer that complies with the tiers provided by the table below:

Table 14. Conservation buffer scales

Buffers	Scores
Tier 4 (+5.0% Capital level 1 and 2)	430-529
Tier 3 (+4.0% Capital level 1 and 2)	330-429
Tier 2 (+3.0% Capital level 1 and 2)	230-329
Tier 1 (+2.0% Capital level 1 and 2)	131-229
Tier 0 (+1.0% Capital level 1 and 2)	065-130

Source: BM

III. FINANCIAL SYSTEM PERFORMANCE

3.1. Banking sector

The banking sector remained solid and resilient during the period under review, with growth in earnings and adequate levels of capitalization and liquidity. Meanwhile, in terms of asset quality, the non-performing loan ratio stood at 8.97%, above the conventional benchmark of 5.0%.

3.1.1. Concentration levels in the banking sector

In December 2022, the Hirshman Herfindahl Index⁵ (HHI) of banking sector assets, deposits and credit stood at 1,533, 1,707 and 1,294 points respectively, so the level of market concentration remained moderate.

The three (3) systemically important domestic credit banks (D-SIBs), namely BCI, BIM and Standard Bank jointly accounted for 64.45%, 68.01%, 54.23% of the assets, deposits and credit, respectively, of the banking sector in the period under review (Table 15).

⁵ Method for assessing the degree of concentration in a market, widely used by national and international entities, to measure competition between institutions. It is calculated by summing the squares of the market shares of the institutions operating

Table 15. Concentration of the banking sector – Herfindahl Hirschman Index

HHI - Assets	1,572	1,501	1,533
Three largest banks (D-SIBs)	65.33%	63.16%	64.45%
Five largest banks	77.51%	76.70%	77.74%
HHI - Deposits	1,778	1,703	1,707
Three largest banks(D-SIBs)	69.94%	67.63%	68.01%
Five largest banks	82.46%	82.39%	82.04%
HHI - Credits	1,486	1,388	1,294
Three largest banks(D-SIBs)	58.75%	56.80%	54.23%
Five largest banks	77.86%	74.71%	72.63%

Source: BM

3.1.2. Balance sheet structure

3.1.2.1. Assets

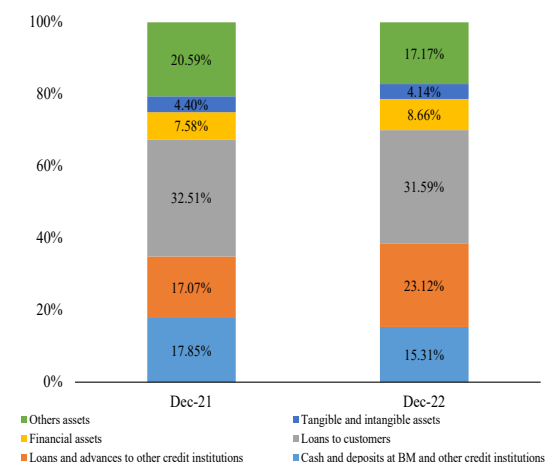
At the end of 2022, total assets amounted to 856.2 billion meticaís, an increase of 5.14% in relation to the same period of the previous year, and a decrease in GDP from 74.71% in December 2021 to 72.63% in December 2022. This variation was mainly driven by the increase in investments in credit institutions (42.42%) and financial assets (20.12%) (Chart 9).

Credit institutions continued to opt for investing in highly liquid, profitable and lower risk assets, consisting of cash and cash equivalents, investments in credit institutions and financial assets, representing 47.09% of total assets (against 42.50% in December 2021).

in a market and varies between 0 and 10,000. Values between 0 and 1,000 indicate that market concentration is low; between 1,000 and 1,800 is moderate, and above 1,800 is high.

Net impairment credit continues to account for substantial portion of the banking sector's balance sheet, reaching the weight of 31.59% (32.51% in December 2021).

Chart 9. Asset items - December 2022



Source: BM

3.1.2.2. Liabilities and equity

Where liabilities are concerned, customer resources in the form of deposits remained the credit institutions' main source of funding.

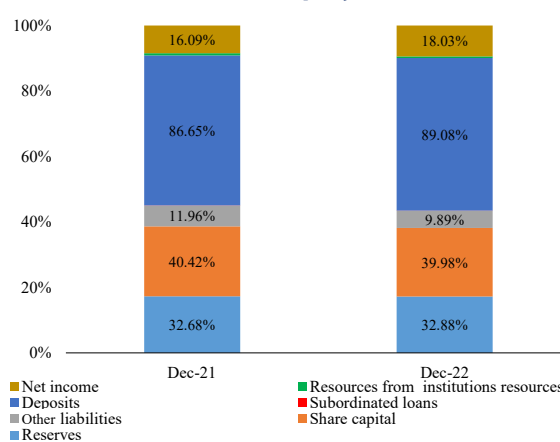
In the period under review, this aggregate amounted to 698.3 billion meticaís, an increase of 5.48% compared to December 2021. Of the total deposits of 465.3 billion meticaís, 74.80% were denominated in national currency and the remainder in foreign currency.

The banking sector's equity stood at 157.9 billion meticaís, an increase of 3.66% over

the same period last year. The annual variation in this item was basically due to the increase in net income for the year by 4.0 billion meticaís, i.e., 16.13%.

Of the total equity, around 63.1 billion meticaís (39.98%) corresponded to share capital (Chart 10).

Chart 10. Liabilities and equity items



Source: BM

3.1.3. Financial strength indicators

3.1.3.1. Capital adequacy

In December 2022, the capital adequacy indicators remained above the applicable regulatory thresholds.

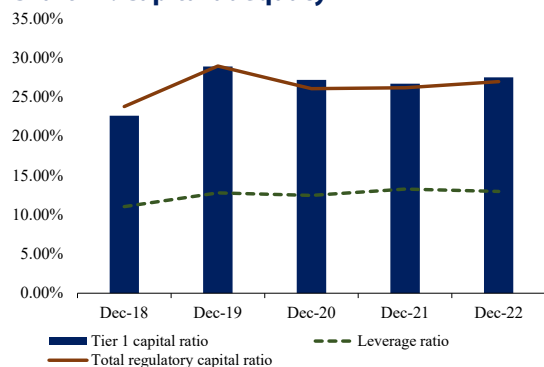
The aggregate solvency ratio stood at 26.96% (26.19% in December 2021), a figure 15.0 pp above the regulatory minimum of 12.00%. This increase (0.8 pp) in December 2022, results from the increase in eligible equity (2.56%) as

opposed to the decrease in risk-weighted assets (0.31%).

The Tier I ratio on risk-weighted assets stood at 27.52%, up 0.8 pp on the same period of the previous year. The increase in this indicator was mainly due to the positive variation in core capital of 2.69%, reflected into greater coverage of superior quality capital over risk-weighted assets.

The leverage ratio⁶ stood at 12.97% (13.27% in December 2021), another capital adequacy indicator that provides information on the extent to which assets are financed by equity (see Chart 11).

Chart 11. Capital adequacy

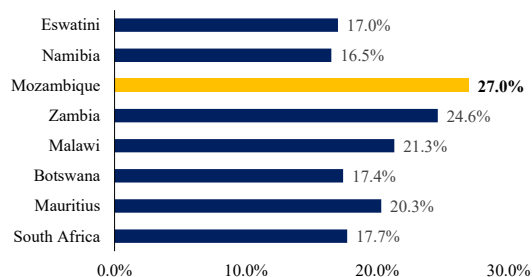


Source: BM

Compared with some countries in the southern African region, the domestic

banking sector has the highest solvency ratio (Chart 12).

Chart 12. Solvency - International Comparison



Source: FMI and BM

3.1.3.2. Asset quality

Credit granted is the main asset of credit institutions, although its weight in total assets has maintained a downward trend in recent years. Last December, gross credit represented 34.36% of total assets, following 35.43% in the same period of the previous year.

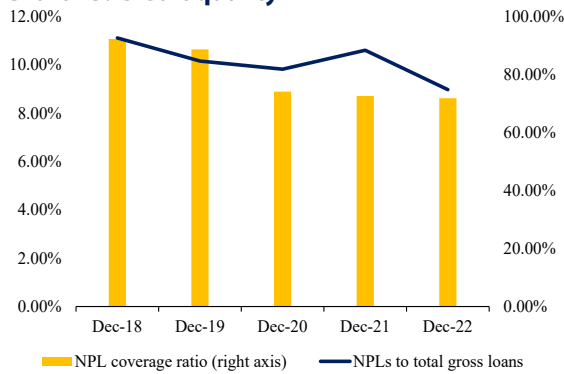
The credit quality indicators continued to trend towards improvement. In effect, non-performing loans (NPL) fell from 34.2 billion meticaís in December 2021 to 32.4 billion meticaís in December 2022, and its weight as a percentage of total credit slumped from 10.60% to 8.97%, still above the conventional benchmark of 5%.

On the other hand, the coverage ratio of non-performing loans (NPL) by specific

⁶ It establishes the relationship between Tier 1 and total assets less intangibles.

provisions decreased from 72.63% in December 2021 to 71.84% in December 2022. (Chart 13).

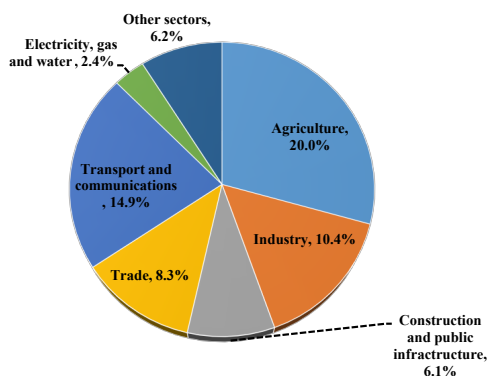
Chart 13. Credit quality



Source: BM

At the sectoral level, the non-performing loan ratio (NPL) of the Agriculture (20.0%), Transport and communications (14.9%) and Industry (10.4%) sectors, shows high figures, reflecting, among other factors, the challenges faced by the sectors with regard to dependence on unfavorable weather conditions. (Chart 14).

Chart 14. NPL ratio by activity sectors

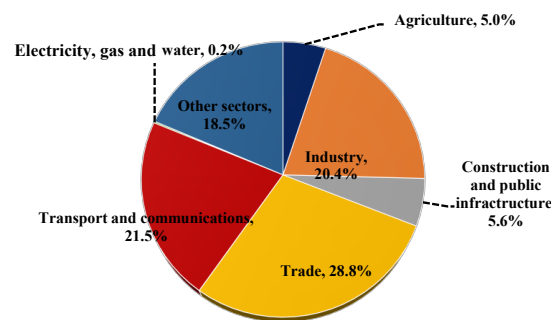


Source: BM

In terms of NPL distribution by activity sectors, in December 2022 the commerce

saw the highest concentration with 28.8%, followed by transport and communications with 21.5%, and industry with 20.4% (Chart 15). Albeit agriculture has the highest sectoral default rate, it is not very significant in terms of the NPL distribution by activity sectors with 5.0%.

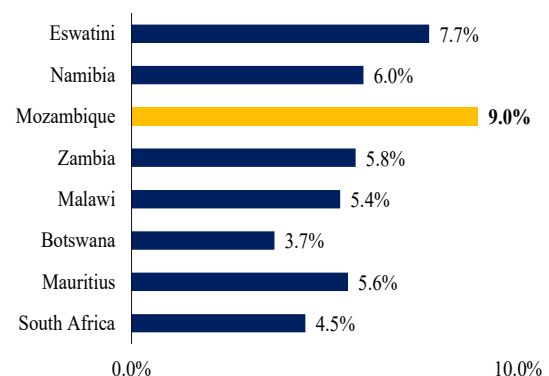
Chart 15. NPL distribution by activity sectors



Source: BM

Compared to some countries in the Southern region, Mozambique holds the highest level of default (Chart 16).

Chart 16. NPL – International comparison



Source: FMI and BM

3.1.3.3. Profitability

In December, net profit after tax reached 28.5 billion meticaais, which represents a rise of 16.13% over the same period of the previous year.

The main profitability indicators of the banking sector recorded relatively higher values than those observed in the same period of the previous year. Return on Assets (ROA) stood at 3.42% (3.10% in December 2021) and Return on Equity (ROE) at 27.29% (25.15% in December 2021).

The weight of net interest income in operating income rose from 64.08% to 68.49%, highlighting the importance of financial intermediation in generating results.

Cost-to-income stood at 53.84% (53.75% in December 2021), a slight increase of 0.1 p.p. relative to December 2021, indicating a slight reduction in banking efficiency.

Table 16. Main profitability indicators

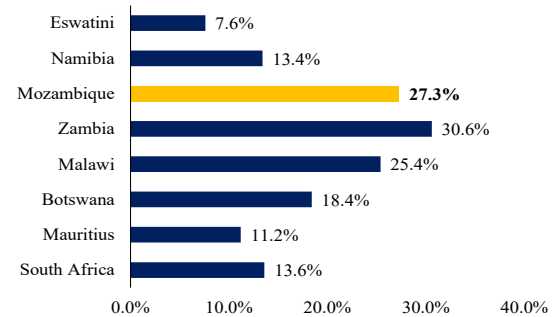
Description	Dec-20	Dec-21	Dec-22
ROA	2.20%	3.10%	3.42%
ROE	18.75%	25.15%	27.29%
Financial margin	65.89%	64.08%	68.49%
Cost-to-income	62.05%	53.75%	53.84%

Source: BM

The level of profitability of the domestic banking sector, as measured by ROE, was

higher than most of the Southern African countries included in the sample below, with the exception of Zambia (Chart 17).

Chart 17. ROE – International comparison



Source: BM

3.1.3.4. Liquidity and fund management

Amid the growth rate of deposits higher than the increase in credit to the economy, there was, on the one hand, a reduction in the ratio of transformation of deposits into credit and, on the other hand, an increase in liquidity ratios, namely net assets/total deposits, net assets/total assets and net assets/short-term liabilities (Table 17).

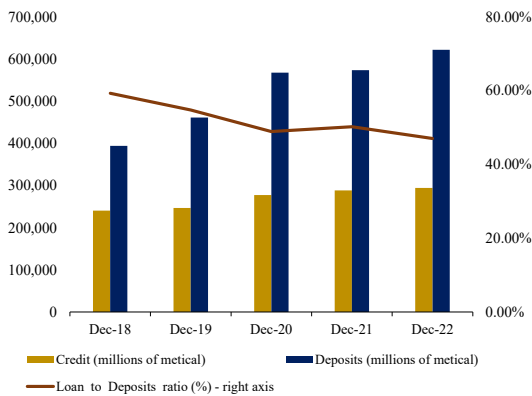
Table 17. Main liquidity indicators (%)

Ratio	Dec-20	Dec-21	Dec-22
Net assets/Total liabilities	58.89	67.98	69.49
Net assets/Total assets	42.53	47.89	50.50
Short-term liquidity coverage	58.54	68.30	69.79
Credit transfer deposits	48.94	50.22	47.06

Source: BM

The reduction in the loan-to-deposit ratio improved the liquidity position but may also negatively affect profitability. (Chart 18).

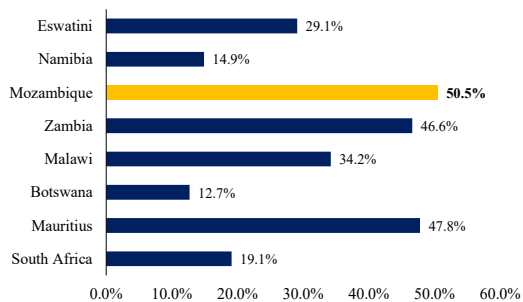
Chart 18. Credit deposits and transformation ratio



Source: BM

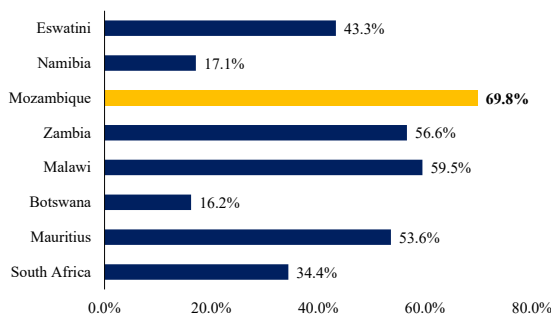
The liquidity indicators stood above the average of the economies of all the Southern African countries represented in the sample (Charts 19 and 20).

Chart 19. Net assets/total assets ratio – international comparison



Source: FMI and BM

Chart 20. Short-term liquidity coverage ratio – international comparison

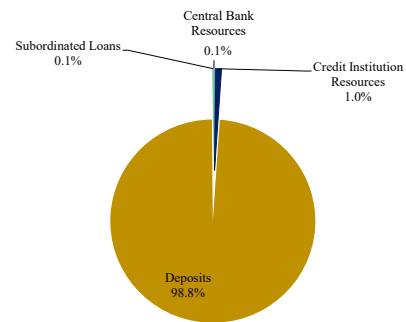


Source: FMI and BM

Deposits remained stable and represented the banking sector's main

source of funding, with a weight of 98.80% of total funding sources in December 2022, after 98.30% in the same period of 2021 (Chart 21).

Chart 21. Sources of funding of the banking sector

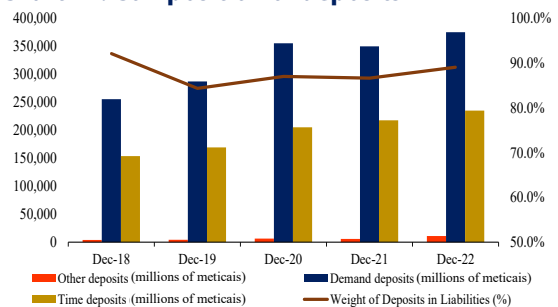


Source: BM

As regards the structure of deposits, 60.36% corresponds to demand deposits, followed by the time component (37.84%) and the remainder to other deposits (1.80%).

Both demand and term deposits recorded increases equivalent to 7.26% and 8.05%, respectively, when compared with the same period of 2021, thus contributing to the continuous strengthening of the financing flows of the banking sector.

Chart 22. Composition of deposits



Source: BM

3.1.4. Domestic Systemically Important Banks (D-SIBs)⁷

In December 2022, three domestic systemically important institutions were identified, namely BCI, BIM and Standard Bank whose key financial strength indicators showed that D-SIBs have remained financially sound over the past three years (Table 18).

3.1.4.1. Capital adequacy

At the end of December 2022, all three D-SIBs met the minimum regulatory requirements for the main capital adequacy ratios. In fact, the aggregate solvency ratio increased from 28.18% in December 2021 to 29.46% in December 2022, while the Tier I/Risk Weighted Assets ratio increased from 28.95% in December 2021 to 30.40% in December 2022.

3.1.4.2. Asset quality

The asset quality of D-SIBs remains relatively stable over the last three years, with the NPL ratio standing at around 11.00%, with the value of NPL amounting to 16.7 billion meticaais in December 2022, representing 51.68% of the value of the banking sector.

3.1.4.3. Profitability

In December 2022, the net profit after tax of the D-SIBs stood at 21.8 billion meticaais, representing 76.50% of the banking sector as against 81.69% for the same period last year. As a result, ROA rose from 3.92% in December 2021 to 4.06% in December 2022 and ROE rose from 25.04% in December 2021 to 26.31% in December 2022.

3.1.4.4. Liquidity and fund management

As of December 2022, customer deposits of D-SIBs amounted to 423.0 billion meticaais, of which 259.4 billion meticaais are demand deposits, representing 68.01% of banking sector deposits.

The ratio of liquid assets to total deposits in the period under review stood at 75.80% in December 2022, compared to 73.46% in December 2021, while the short-term liquidity coverage ratio rose from 72.53% in December 2021 to 75.80% in December 2022 (Table 18).

Table 18. Comparison of financial strength indicators of D-SIBs and the Banking Sector (BS)

Ratio	Dec-20		Dec-21		Dec-22	
	D-SIBs	SB	D-SIBs	SB	D-SIBs	SB
Aggregate solvency	29.68%	26.06%	28.18%	26.19%	29.46%	26.96%
Tier I /Risk-weighted Assets	30.50%	27.18%	28.95%	26.71%	30.40%	27.52%
NPL	11.46%	9.83%	11.18%	10.60%	11.11%	8.97%
ROA	2.77%	2.20%	3.92%	3.10%	4.06%	3.42%
ROE	18.08%	18.75%	25.04%	25.15%	26.31%	27.29%
Net Assets over Total Deposits	62.22%	58.89%	73.46%	67.98%	75.90%	69.49%
Short-term Liquidity Coverage	61.61%	56.13%	72.53%	68.30%	75.80%	69.79%

Source: BM

⁷ According to Notice No. 10/GBM/2018, these are those whose financial imbalance or insolvency may cause a significant

disruption to the financial system and economic activity as a whole.

Box 4. Financial and business cycles in Mozambique

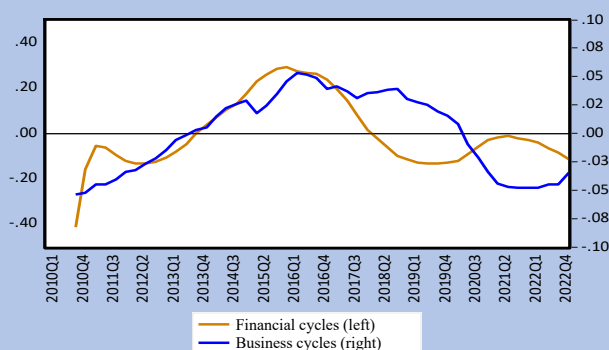
The financial cycle is defined as the deviation of financial variables (usually the ratio of credit to GDP) from their long-term trend. This cycle is characterized by periods of expansion followed by retrenchment in financial activity.

In turn, business cycles refer to the deviation of real economic activity from its long-term trend, characterized by periods of expansion followed by recession of economic activity. Essentially, the business cycle indicates the position of the economy in relation to its equilibrium level and likely impacts on inflation developments.

The Chart below shows the evolution of the business and financial cycles in Mozambique⁸ for the period 2010Q1 to 2022Q4, indicating that at the end of the period under analysis, both the financial cycle and the business cycle are below potential and moving away from their long-term trend, a situation that denotes contraction of economic activity.

The factors that justify such performance are related to the continued deterioration of the investment environment due to military instability in the northern zone in Cabo Delgado, adverse climatic factors, worsening public sector indebtedness and the country's confidence in the international market. The longer

Chart 23. Financial and business cycles in Mozambique



Source: INE e BM

duration of the financial cycle than that of the business cycle requires the conduct of monetary policy to be more forward-looking, in order to find the right balance between maintaining macroeconomic stability and financial stability, given the differences in the lengths of their cycles⁹. On the macroprudential side, the joint identification of the financial and business cycles, historically and in real time, complemented with the analysis of systemic risk in the country and of other financial variables, will allow the choice of appropriate policy measures¹⁰ to dampen the impacts on monetary and financial stability.

⁸ The cycles were determined using the Hodrick-Prescott filter (HP filter), a methodology recommended by the Basel III Committee as appropriate for this purpose.

⁹ For example, in periods when the financial cycle expands considerably or reaches a high level during a business cycle contraction, monetary policy easing aimed at stimulating the economy can lead to a greater build-up of risks to financial stability, because lower borrowing costs encourage further credit expansion and asset price increases.

¹⁰ Such measures may include requiring larger countercyclical buffers and using tighter loan-to-value (LTV) ratios in

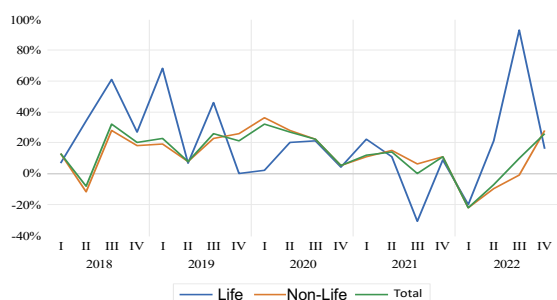
circumstances, for example, of rapid growth in house prices and credit (rather than just credit), since recessions associated with large changes in the two financial variables are longer and deeper. They may also include the use of capital or liquidity buffers, which would need to be larger for cases where markets tend to experience deeper recessions with more severe financial downturns, which, at least until the 2007-2009 global financial crisis, happened more frequently in emerging markets.

3.2. Insurance sector

The overall production of insurance companies registered, in December 2022, a growth of 26.10%, twice the value observed in the same period of 2021 (10.80%).

This performance was sustained by the positive evolution of the gross premiums issued, both in life business (16.30%) and non-life business (27.70%) (Chart 24).

Chart 24. Overall production of insurers (year-on-year change)



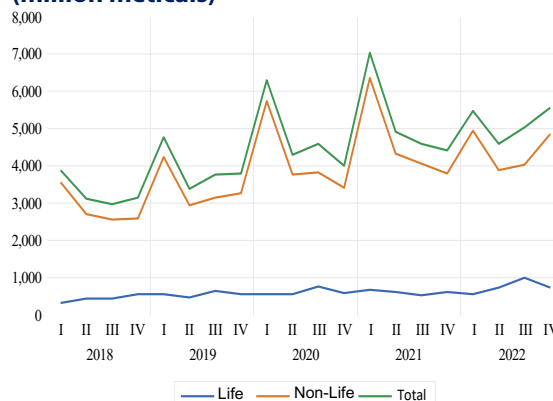
Source: ISSM

The growth in the overall production of the insurance sector in Mozambique was accompanied by a positive variation in insurance subscriptions by companies and individuals, especially health insurance, driven by a growing awareness of the importance of this type of insurance underpinned by the social impact of COVID-19.

In absolute terms, overall production grew by 1,152.42 million meticaais during the period under analysis, determined by

the production of the non-life and life branches, whose contribution to total production stood at 1,052.13 and 100.29 million meticaais, respectively (Chart 25).

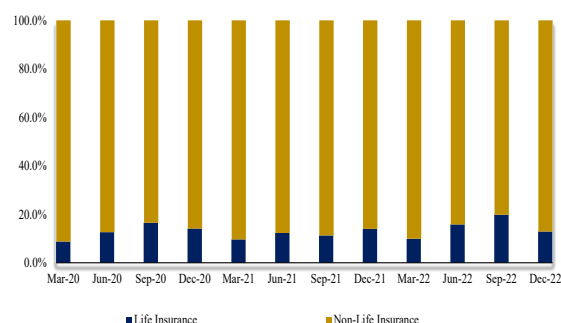
Chart 25. Overall production of insurers (million meticaais)



Source: ISSM

The performance of the non-life branch, which represents the largest share of the market, with 87.1%, was critical to this evolution (Chart 26).

Chart 26. Weight of branches in the overall production of insurers (million meticaais)



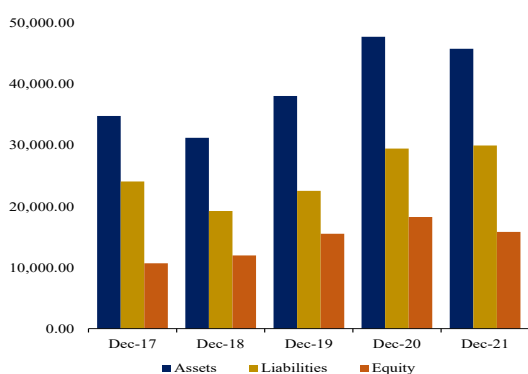
Source: ISSM

However, the financial situation and assets of the insurance sector in

Mozambique recorded, in 2021, a decrease in net assets of 13.40% compared to 2020, standing at 15,833.50 million meticaís.

In the period under review, the reduction in assets by 4.10% and the increase in liabilities by 1.70% determined the financial situation and assets of companies in the insurance sector (Chart 27).

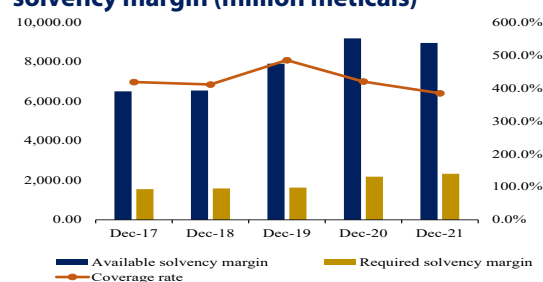
Chart 27. Asset structure of the insurance sector (million meticaís)



Source: ISSM

The coverage ratio of the solvency¹¹ margin available in the insurance sector reduced by 35.40 p.p., from 419.50% in 2020 to 384.10% in 2021. Despite this reduction, the market's level of solvency is considered comfortable and is well above the required level (Chart 28).

Chart 28. Evolution of the insurance sector solvency margin (million meticaís)



Source: ISSM

In order to fulfil their responsibilities towards policyholders and beneficiaries, insurers must establish adequate and sufficient technical provisions to fully cover their commitments.

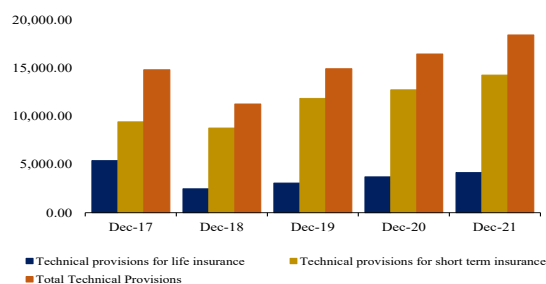
In 2021, insurers established technical provisions totaling 18,426.50 million meticaís, compared to 16,455.30 million meticaís in 2020.

Technical provisions must be represented in their entirety by equivalent assets, so insurance undertakings must have assets that serve as a guarantee for the assumed liabilities.

From 2020 to 2021, total technical provisions increased by 1,971.2 million meticaís in the Mozambican insurance sector, driven by the increase of 438.60 million meticaís and 1,532.60 million meticaís, in life and non-life, respectively (Chart 29).

¹¹ Pool of resources consisting of uncommitted own assets available to insurance companies to face uncertainties inherent to the insurance business risk.

Chart 29. Technical provisions in the insurance sector (million meticaís)

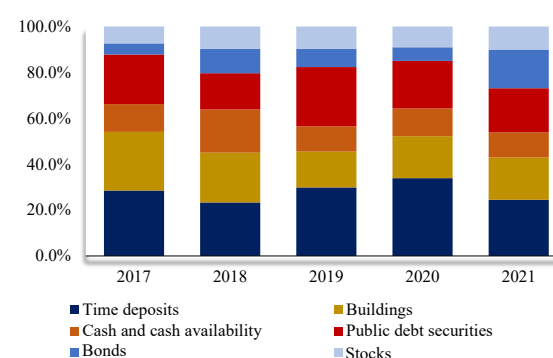


Source: ISSM

In addition, it is necessary to diversify the composition of these assets, respecting quantitative thresholds and ensuring correspondence with security, liquidity and profitability imperatives.

From this perspective, at the end of 2021, the structure of investments representing technical provisions in the Mozambican insurance sector continued to be dominated by financial investments, with about 81.60% of the total (Chart 30), while investments in buildings accounted for 18.40%, with their weight declining in recent years¹².

Chart 30. Investments representing technical provisions



Source: ISSM

It is important to highlight that, in the set of financial investments, the weight of the public debt component has tended to grow in recent years, rising from 5.60% in 2015 to around 19.20% in 2021.

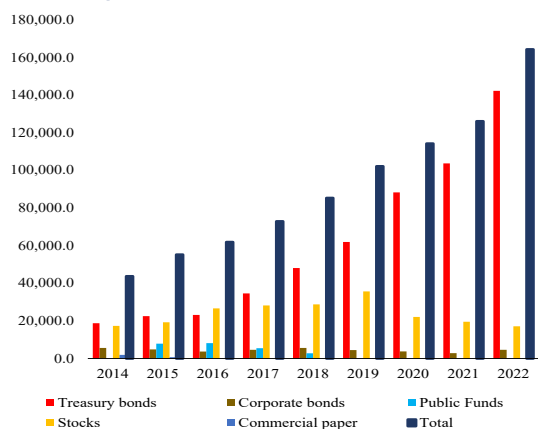
This stance once again signals the preference of the financial system in general for investments in public fixed-income securities rather than investments in other corporate debt instruments (namely shares), increasing the exposure of the insurance sector to sovereign risk and with the potential to impact on financial stability as a whole.

¹² This type of investment has already accounted for over 50.0% of the insurance sector's investments.

3.3. Securities market

Market capitalization, which is the main indicator for the Mozambican securities market, increased by 30%, rising from 126,105.4 million meticaais in 2021 to 164,287.5 million meticaais in 2022 (Chart 31). This performance is explained by an increase in the market capitalization of treasury bonds (T-Bond) of 37% (38,541.37 million MT) and corporate bonds by 62.5% (1,790.29 million MT), offset by a reduction of 12.3% (2,399.56 million MT) in the market capitalization of shares.

Chart 31. Market capitalization (million meticaais)



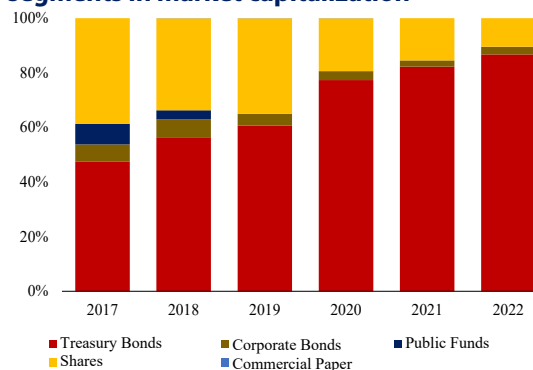
Source: BVM

Treasury bonds accounted for about 86.6% of market capitalization in 2022 (82.3% in 2021), signaling the high weight of the State in the securities¹³ sector (Chart 32), which increases the sovereign risk to

¹³ This weight of treasury bonds has been consistently increasing in the last five years. It should be noted that T-

which holders of these securities are subject, particularly those in the banking and insurance sectors, and also influencing systemic risk and financial stability in general.

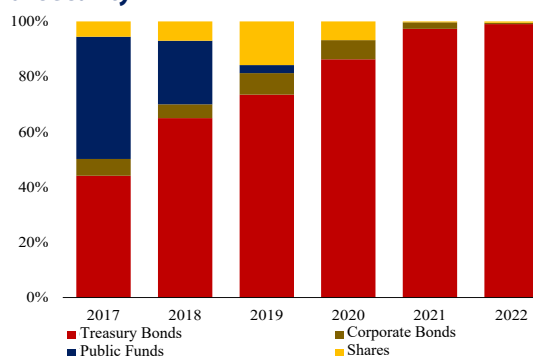
Chart 32. Weight of the various MVM segments in market capitalization



Source: BVM

With regard to the volume of transactions by category of listed securities, treasury bonds once again recorded the highest weighting in 2022, with approximately 99% of the total, followed by corporate bonds and shares, with 0.49% each (Chart 33).

Chart 33. Weight of trading volume by type of security



Source: BVM

Bonds represented only 15.5% (in 2022) of the total public debt (10.89% in 2021).

On the other hand, the low trading volume in the equity and corporate bond segments suggests that the capital market continues to be underutilized in its function as an alternative for private corporate financing.

This fact can also be confirmed by the number of instruments listed by each segment of the Securities Market (MVM), where corporate bonds and shares have a relatively small participation compared to government bonds¹⁴ (Table 19).

Table 19. Issues listed on the BVM

	2017	2018	2019	2020	2021	2022
Treasury Bonds	17	26	31	35	33	39
Corporate bonds	13	16	15	13	9	13
Public Funds	1	1	0	0	0	0
Equity	6	7	10	11	12	12
Commercial Paper	0	1	1	3	0	1
Total	37	51	57	62	54	65

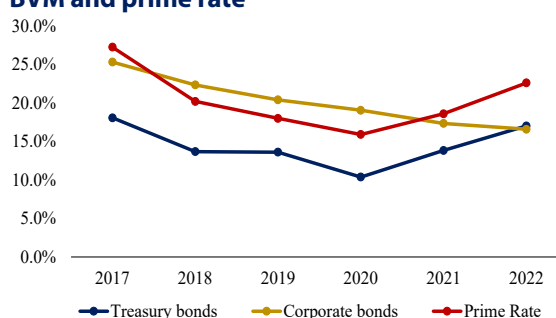
Source: BVM

This dynamic does not favor the widening of financing alternatives for companies, which could eventually contribute to reducing their cost of financing from the banking sector.

Indeed, increased competition in private funding allows resources to be obtained at more attractive rates, which would influence the reduction of market risk, with a consequent improvement in the financial stability index.

In addition, the fact that an important part of brokers is, at the same time, intervening in the banking sector, seems to condition the growth dynamics of private corporate financing through the MVM, causing corporate bond rates to be aligned with retail banking rates for long periods (Chart 34).

Chart 34. Interest rates on bonds listed on the BVM and prime rate



Source: BVM

¹⁴ In 2022 they represented about 60% of the total issues listed on the MVM.

IV. MACROPRUDENTIAL POLICY DECISIONS

BM, as the national macroprudential authority, defines and executes macroprudential policy, as well as regularly analyses the financial system to identify current and future vulnerabilities and risks under more likely and adverse scenarios. In other words, the central bank identifies monitors and assesses systemic risks.

The aim of macroprudential policy is to make the financial system resilient to risk absorption, ensuring adequate levels of financial intermediation and contributing to sustainable economic growth.

In the first half of 2022, BM decided to keep unchanged the macroprudential policy measures already established to mitigate systemic risk, namely:

- Conservation buffer for D-SIBs set at a minimum of 2.0%;
- Conservation buffer for quasi-D-SIBs set at 1.0%;
- Limit of 100.0% on the LTV indicator in the granting of credit to ICSF customers;
- Establishment of the countercyclical capital buffer of equity as a tool to prevent and mitigate excessive credit growth and excessive leverage.

It is important to note that the countercyclical capital buffer is an additional capital requirement aimed at smoothing the effects of variations in the economy's credit cycle.

The non-activation of this buffer is due to low or negative nominal growth of credit to the economy and the fact that the CE/GDP ratio maintains growth below the potential long-term trend.

Box 5. Macroprudential solvency stress test

Macroprudential solvency stress testing (STMaP) is one of the monitoring tools that macroprudential authorities use to assess the resilience of the banking sector to risks and disturbances affecting the financial system and the economy. In contrast to microprudential stress testing, used specifically for individual institutions, which is based on their own assumptions, the macroprudential approach considers the banking sector as a whole, and all institutions involved in the process use homogeneous assumptions for their simulation exercises.

The solvency stress test is performed every financial year, covers systemically important financial institutions, and may include other banking institutions, without losing sight of the assessment of the cost/benefit of this insertion, in a scenario in which systemic institutions hold a significant percentage of the banking sector's assets.

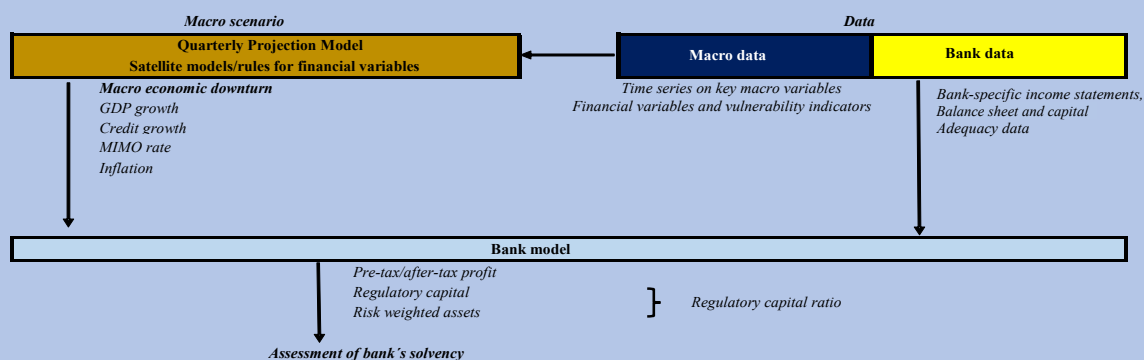
Stress testing exercises estimate potential losses and capital shortfalls in the banking sector, resulting from severe and plausible scenarios over a horizon of at least three years. In fact, this exercise seeks to assess the effects of specific risk factors that may negatively affect the solvency position or the liquidity profile of a financial institution.

The STMaP can be used for multiple purposes, most prominently for general tests of financial system resilience (incorporating financial sector feedback into simulations) and as an empirical tool for assessing the appropriate level of the countercyclical capital buffer (CCyB).

Framework of the macroprudential stress test exercise for the domestic financial system

The macroprudential solvency stress testing exercise consists of a set of macrofinancial models, namely a macro model and a banking model, complemented with other satellite and simple rules models (Figure 1).

Figure 1. BM framework for solvency STMaP



Model structure

The model structure presents:

- A macro data set with time series on key macro variables, financial variables and vulnerability indicators;
- A set of financial information, containing each bank's income statement, balance sheet and capital adequacy data;

- A macro model to assess the interaction of key macro variables and build consistent paths for the macro variables reported in the adverse scenario;
- Satellite models and simple rules to predict variables that are not part of the macro model;
- Credit loss calculation tools in the economic years subject to the stress;
- A cross-check of the severity of the proposed shock scenario to maintain a coherent and plausible narrative;
- A banking model to project banks' income statement, balance sheet and capital adequacy.

Calibration of a severe and plausible shock scenario

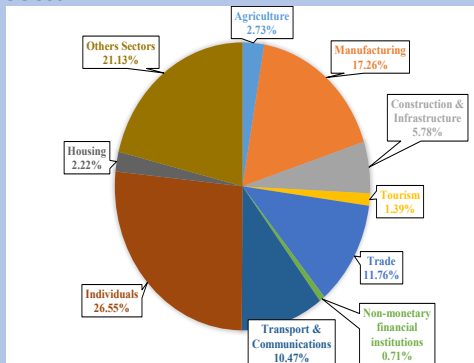
This step involves at least two procedures, namely:

- The selection of negative shocks to the economy based on the assessment of risks and vulnerabilities;
- Generation of a consistent macro scenario through the introduction of the negative shocks in the macro model; and
- Review of key macroeconomic variables and assessment of the severity of the stress scenario matched to the baseline scenario.

Box 6. Credit to the real estate sector

Home loans, one of the key components in assessing the vulnerabilities of the banking sector, through the credit variable, are the products offered by financial institutions for the purchase, construction or renovation of real estate.

Chart 35. Credit to the economy by sector



Source: BM

The distribution of credit by activity sectors, according to the Classification of Economic Activities of Mozambique (CAE_Rev.2) in 2022, reported in Chart 35, shows that the sectors that benefited most from financing were individuals (29.26%), manufacturing (16.38%), miscellaneous (16.33%), transport and communications (12.97%) and trade (11.73%).

The housing sector constitutes only 2.66%. This low appetite may be related to barriers such as:

- The high list of requirements demanded by banks in order to obtain this type of loan, namely:

- ✓ Promissory contracts, title deeds, real estate certificates, insurance, among others, for the acquisition of existing real estate;

- ✓ Right of Land Use and Exploitation (DUAT), building permits from municipalities, fees and others, for the purpose of self-construction;

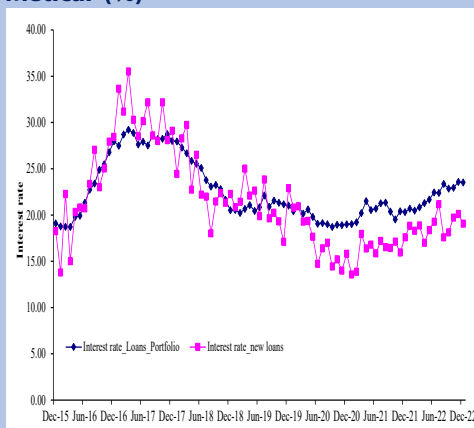
- Low income in Mozambique (GDP per capita around 467.00 USD);

- High¹⁵ interest rates (Chart 36);

- High property prices on the market, given the income of the majority of the Mozambican population;

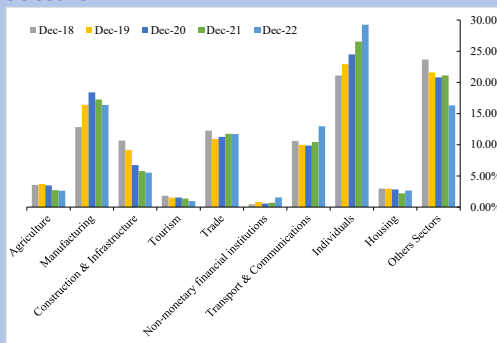
- The financial and business cycles that the country has been going through for a long time, characterized by weak aggregate demand and fears about the capacity of families and companies to honor their commitments.

Chart 36. Interest rates on loans in Metical (%)



Source: BM

Chart 37. Credit to the economy by sectors

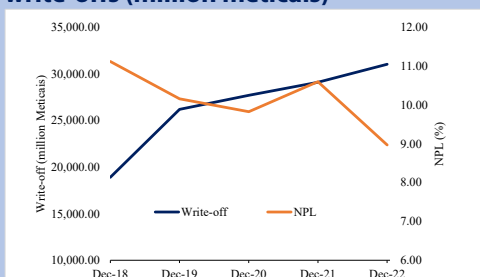


Source: BM

Meanwhile, more than 45% of total credit granted is concentrated in the miscellaneous and personal loans segments, that is, credit granted for household consumption, with emphasis on the accentuated growth in personal loans over the last five years (Chart 37). This figure should be interpreted with caution, as a considerable part of the credit to individuals and miscellaneous, may be applied in the real estate sector, due to the aspects identified above and other factors (poor sector classification, financial literacy, etc.). This may partly explain the low percentage of financing for housing.

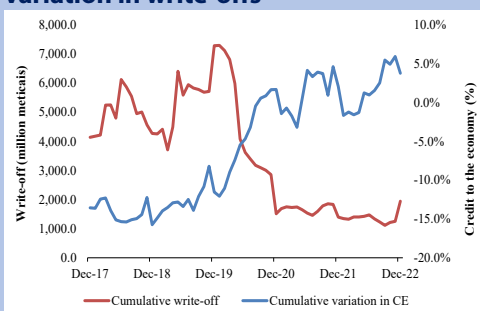
The factors described above require the observance of precautionary measures with regard to the banking sector's exposure to the financing of individuals and sundry, especially in the application of the prudential instruments and limits imposed by the regulator.

Chart 38. Evolution of NPL (%) and write-offs (million metcais)



Source: BM

Chart 39. CE variation vs cumulative variation in write-offs



Source: BM

The real estate market may represent a key element to consider, when trying to measure the costs of a potential default in the credit portfolio, particularly regarding the evolution of NPL and credit risk, the most relevant bank risk.

In fact, NPL remains above 5% (the agreed benchmark) and there is still a growth trend in reorganized credit, measured in flows, although at a less pronounced pace (Chart 38), suggesting the need for contingency plans to ensure the banking sector's resilience in the event of shocks.

Chart 39 shows that the CE has continued its growth trend in the system, particularly in the last two years, reversing a trend of negative growth rates in previous years.

In 2022, secured lending continued to decelerate, partly driven by the loan relief and renegotiation measures implemented by banks, particularly during the peak period of the COVID-19 pandemic.

¹⁵ In December 2022, the lending interest rates, with a maturity of one year, stood at 23.51% for the portfolio and 19.08% for new operations

Glossary

Risk weighted assets - the result of weighting each asset by a risk to calculate the solvency ratio. It is determined in compliance with the requirements provided by Notice no. 09/GBM/2017, of 5 June.

Cost-to-income - indicator calculated by the ratio between operational costs and banking product, which measures the efficiency of the organization.

Operating costs - sum of staff costs, other administrative costs and depreciation and amortization for the year.

Equity - concept used in banking supervision as a fundamental reference for the application of various ratios and prudential rules.

Impairments - the book value recorded in the financial statements to cover expected losses related to assets. This amount should be deducted from the value of the respective asset, with the objective of correcting its value considering the probability of associated losses.

NPL - Non-Performing Loans are those that do not generate positive flows and profitability for banks.

GDP - Gross Domestic Product.

Banking product - set of revenues receivable by a financial institution: commissions, interest, trading, interbank operations.

Solvency ratio - the ratio between equity funds and risk-weighted assets.

Risks - factors associated with uncertainties and which, should they materialize, have an impact on targets and results.

ROA - Return on Assets, which corresponds to the return on assets obtained by dividing net income by net assets and measures the profit generated by each monetary unit of assets.

ROE - Return on Equity, corresponds to the return on equity obtained by dividing net profits by equity.

TIER 1 - or Tier 1 capital, includes the best quality capital (share capital, reserves and retained earnings), which primarily meets the commitments made by the institution.

Vulnerabilities - set of characteristics that expose the weaknesses of a certain system.

Annex 1. Main financial strength indicators

Description	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Capital adequacy					
Aggregate Solvency ratio	23.79%	28.96%	26.06%	26.19%	26.96%
Tier 1/ Risk-weighted assets ratio	22.61%	28.89%	27.18%	26.71%	27.52%
Leverage ratio	11.02%	12.79%	12.46%	13.27%	12.97%
Asset quality					
Non-performing loans ratio (NPL)	11.12%	10.16%	9.83%	10.60%	8.97%
NPL Coverage ratio (right axis)	92.23%	88.65%	74.09%	72.63%	71.84%
Profitability					
ROA	3.10%	2.96%	2.20%	3.10%	3.42%
ROE	29.82%	24.93%	18.75%	25.15%	27.29%
Financial Margin ratio	71.64%	67.55%	65.89%	64.08%	68.49%
Cost-to-income ratio	57.97%	59.25%	62.05%	53.75%	53.84%
Liquidity and fund management					
Net Assets/Total Deposits ratio	57.9%	57.1%	58.9%	68.0%	69.5%
Net Assets/Total Assets ratio	39.3%	39.3%	42.5%	47.9%	50.5%
Short-term liquidity coverage ratio	56.2%	56.1%	58.5%	68.3%	69.8%
Loan-to-deposit ratio	59.3%	54.7%	48.9%	50.2%	47.1%

