



2016 FINANCIAL STABILITY REPORT

CENTRAL BANK OF LESOTHO
BANKA E KHOLO EA LESOTHO



CENTRAL BANK OF LESOTHO
FINANCIAL STABILITY REPORT
December 2016 | Issue No.1

The *Financial Stability Report* is available on the Bank of Lesotho's website at www.centralbank.org.ls.

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GOVERNANCE, MISSION & OBJECTIVES

Ownership and Governance

The Central Bank of Lesotho is a statutory organisation fully owned by the Government of Lesotho.

The Central Bank enjoys a fair amount of independence in formulating and implementing monetary policy. The Governor, who is also the chairman of the Board of Directors, together with the two Deputy Governors, are appointed by His Majesty The King on the advice of the Prime Minister. The Minister of Finance appoints the other Board Members.

Mission Statement

The Mission of the Central Bank of Lesotho is to achieve and maintain monetary and financial system stability to support balanced macroeconomic development of Lesotho.

Objectives

The principal objective of the Central Bank of Lesotho, as stipulated in the Central Bank of Lesotho Act of 2000, is to achieve and maintain price stability. Other related objectives which are supportive to this mission are:

- To foster the liquidity, solvency and proper functioning of a stable market-based financial systems;
- To formulate, adopt and execute the monetary policy of Lesotho;
- To issue, manage and redeem the currency of Lesotho;
- To formulate, adopt and execute the foreign exchange policy of Lesotho;
- To license, register and supervise institutions pursuant to the Financial Institutions;
- To own, hold and manage its official international reserves;
- To act as a banker and advisor to, and as fiscal agent of the Government of Lesotho;
- To promote the efficient operations of the payments system;
- To promote the safe and sound development of the financial system; and
- To monitor and regulate the capital market.

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PREFACE

The purpose of financial stability surveillance is to identify risks and vulnerabilities in the financial system and assess resilience of the financial system to domestic and external shocks. This Financial Stability Report is a tool used by the Central Bank of Lesotho (CBL) to achieve this purpose.

Financial stability can be viewed as the resilience of the financial system to adverse shocks, while continuing to function smoothly and supporting the ability of households and firms to use their financial assets with confidence. A stable financial system contributes towards broader economic growth and rising living standards of all people. The CBL has the mandate to promote the stability and soundness of the financial system of the country. It achieves this objective through delivering on its core functions, notably: fostering the liquidity, solvency and proper functioning of a stable market-based financial system; promoting the safe and sound development of the financial system, conducting effective supervision and regulation of banks; and providing efficient, reliable and safe payment and settlement systems.

The CBL publishes the Financial Stability Report once a year, in March. The Report reviews international and domestic macro-financial developments and assesses potential risks to the stability of the domestic financial system. Although the ultimate goal is to focus on banking and non-banking developments, and vulnerabilities that may affect the financial sector's overall soundness, the report focuses solely on the banking sector. This is due to data challenges regarding the non-banks financial institutions. It also highlights measures taken by the CBL and other regulatory authorities to mitigate financial risks. Through this Report, the CBL seeks to enhance awareness of the soundness of Lesotho's financial system ▣

— PREFACE

The purpose of financial stability surveillance is to identify risks and vulnerabilities in the financial system and assess resilience of the financial system to domestic and external shocks



LIST OF ABBREVIATIONS

AGOA	Africa Growth Opportunity Act
BIS	Bank for International Settlements
CAR	Capital Adequacy Ratio
CBL	Central Bank of Lesotho
CMA	Common Monetary Area
CPSS	Committee on Payment and Settlement Systems
CSD	Centralised Securities Depository
EU	European Union
EWI	Early Warning Indicator
GDP	Gross Domestic Product
IOSCO	International Organisation of Securities Commission
LACH	Lesotho Automated Clearing House
LSW	Lesotho Wire
MNO	Mobile Network Operators
NPL	Non-performing Loans
NSDP	National Strategic Development Plan
PAL	Payments Association of Lesotho
PFMI	Principles for Financial Market Infrastructures
ROA	Return on Assets
ROE	Return on Equity
RTGS	Real Time Gross Settlement System
RWA	Risk Weighted Assets
SA	South Africa
SACU	Southern African Customs Union
SIPS	Systemically Important Payment Systems
UK	United Kingdom
US	United States
MoF	Ministry of Finance

— EXECUTIVE SUMMARY

Stress-test results revealed that, overall, credit and liquidity risks were moderate in 2016 while credit concentration risk was high.



EXECUTIVE SUMMARY

1. Risks to the Lesotho's financial system emanating from the international developments remained elevated throughout 2016. Weak international economic activity, fluctuations in commodity prices and global financial markets as well as investor-sentiments contributed to the fall in demand for Lesotho's exports. The rand, which is pegged 1:1 to the loti, remains sensitive to international developments and has put a lot pressure on the export sector. The decision by rating agencies to put South Africa (SA) on review for sovereign credit rating downgrades exacerbated contagion risk.
2. Lesotho's international competitiveness has also been in a precarious position and has impaired achievement of increased export-growth. Exchange rate volatility, among other factors, has posed an upside risk to the inflation outlook, thereby signalling the possibility of further interest rate hikes. The Southern African Customs Union (SACU) revenues remain volatile amid low regional economic activity and this has created uncertainty on Lesotho's fiscal position.
3. Lesotho's banking system remained sound throughout 2016. The banks remained adequately capitalised and continued to maintain a good quality of assets. The level of liquidity within the banking system remained fairly adequate to withstand shocks and the industry remained satisfactorily profitable. Banks' exposure to foreign exchange risk has decreased during the review period manifesting decreased sensitivity to market risk. Credit extension to the private sector declined significantly during 2016 in an environment of low economic growth.
4. Stress-test results revealed that credit risk was moderate during the review period since all banks have been sufficiently capitalised to absorb losses caused by assumed deterioration in assets quality. However, credit concentration risk in banks' loan books appeared high. Liquidity risk related to a bank-run was also found to be moderate. The results showed that the amount and quality of liquidity the banks held appeared sufficient, in lower stress periods, to absorb shocks but inadequate in high stress periods.
5. The payment system and infrastructure operated effectively and efficiently during 2016 and continued to anchor financial stability. The systemically important payment system maintained high system availability despite low system utilization rate. The transaction volumes and values processed through Lesotho Wire (LSW) decreased on account of subdued economic activity in the country. Mobile money business has grown tremendously since 2012, but in a stable environment. However, a large share of mobile money market in Lesotho remained untapped during the period ending December 2016. Nonetheless, the number of active agents and customers, the transactions volumes and values continued to grow over time and have bridged the financial inclusion gap. Vulnerabilities related to mobile money operations have been minimal during the review period and posed fewer systemic threats ▣

1 MACRO-FINANCIAL ENVIRONMENT

Weak growth coupled with an appreciating dollar led to an even more feeble global trade and economic activity.



MACRO-FINANCIAL ENVIRONMENT

Global economic activity followed different paths in the first and second half of 2016.

1.1 INTERNATIONAL DEVELOPMENTS

Global economic activity followed different paths in the first and second half of 2016. The first half was dominated by declines in overall global growth, sharp declines in commodity prices, and uncertainty relating to the Brexit referendum. Weak growth coupled with an appreciating dollar led to an even more feeble global trade and economic activity. However, the second half showed improved prospects with oil prices recovering from their lows, accompanied by improved growth rates in the United States (US). Countries like Brazil and Russia continued to show better than expected rates of growth even though they have been trapped in prolonged recessions. However, there has been a level of ambiguity clouding the global economy with respect to anticipated normalisation of the US monetary policy. This coupled with the uncertainty relating to the US elections and the resulting change in administration resulted in elusive trade policies. Moreover, the aftermath of the Brexit vote also increased uncertainty relating to future trade arrangements between the United Kingdom (UK) and the rest of the European Union (EU). The knock-on effects of the past oil price declines have also weighed heavily on global inflation.

Vulnerabilities and risks associated with international developments

Weak international economic activity lowers demand for Lesotho exports. Lesotho is a small, open economy with a number of industries that are dependent on good performance of the global economy. If international growth remains weak for protracted periods, it may have major repercussions for the Lesotho's economy through the export channel. Exporting companies are highly dependent on banks for their funding hence any shock to their revenues could compromise their ability to service their debt which will ultimately affect banks' profitability.

The rand remains very sensitive to international developments, changes in commodity prices, global financial markets and investors' sentiments. Lesotho's macroeconomic stability is anchored upon the loti's peg to the rand, which is crucial in containing inflation and strengthening the country's close economic and financial ties with South Africa. Therefore, a volatile rand becomes a threat to Lesotho's financial system stability. The value of loti is mostly affected by changes in the capital flows to EMEs and global risk perception through the rand-loti peg. Depreciation of the currency against major international currencies increases headwinds to the inflation outlook and can lead to further monetary policy tightening in SA. The loti generally appreciated in 2016 as a result of extended accommodative monetary policy in advanced, economies increasing commodity prices and increased capital inflows. However, it remained highly volatile and vulnerable to domestic and external developments.

Sovereign credit rating downgrades of SA by rating agencies remains a potential spillover risk for the domestic financial system. The downgrades could trigger capital outflows and generate negative feedback loops due to extensive macro-financial linkages between SA and the rest of the world. Such linkages could amplify shocks given SA's high reliance on external finance and banks' increasing role in intermediating capital flows. The resulting capital outflow will ultimately lead to higher cost of capital and reduced access to funding. This poses contagion risks since two-thirds of banks operating

in Lesotho are subsidiaries of South African banks, which will most likely be downgraded as well. Such downgrades would likely squeeze the funding for banks, increase the cost of borrowing for the consumers and result in increased non-performing loans.

1.2 DOMESTIC DEVELOPMENTS

Real GDP growth has slowed down during the review period mainly reflecting recent weaknesses in the manufacturing and construction sub-sectors and spillovers from slower growth in neighboring SA. Furthermore, Lesotho's current business environment has weakened, partly because of the challenging political landscape. Implementation of Lesotho's National Strategic Development Plan (NSDP) has stalled in this environment and investment has slowed down. In addition, some development partners have reduced their economic support. Inflationary pressures have, however, subsided domestically because of easing food and energy prices together with the appreciation of the loti¹. But there are still concerns over the overall inflation trajectory.

Key policy interest rates were raised twice during 2016 to ease inflationary pressures in SA and Lesotho. The mounting price pressures stemmed from the drought-induced increase in food prices and aftershocks of the exchange rate depreciation towards the end of 2015 and the early weeks of 2016. Having increased in January and March 2016, the rates were subsequently maintained at 7.0 percent amidst weak economic growth. The cost of intermediation in Lesotho remained the highest in the CMA countries. On average, the lending rate in Lesotho was higher than in SA, while deposit rate in Lesotho was lower than that in SA by 500 basis points. In domestic money market, the spread measured by the difference between the prime lending and overnight rates, has been widening over time as a result of a sustained decline in the overnight rate. As at December 2016, the money market spread grew by 70 basis points from the rate observed in December 2015 to 110 basis points. The spread was largely influenced by the prime lending rate, which grew by 80 basis points during the same period while the overnight rate stayed relatively constant at 106 basis points. In addition, the risk premium was higher in Lesotho than in SA at the end of 2016. The average yearly premia were 4.8 percent and 3.2 percent in Lesotho and SA, respectively. Year-on-year, risk premium remained relatively unchanged in SA while it increased by 70 basis points in Lesotho. Higher risk premium can be an indication of higher charges for credit assessments and therefore a reflection of the perceived level of risk in the credit market.

Vulnerabilities and risks associated with domestic developments

Volatility in SACU revenues put pressure on Lesotho fiscal position. In Lesotho, the private sector survives largely by doing business with government. Therefore, when government spending declines, businesses experience difficulties with regard to their profitability hence their ability to service debt. Two important areas for commercial bank lending, which are likely to get affected negatively, are personal loans and construction sub-sector. With government being a major employer and

¹ CBL, MPC 27 September 2016.



MACRO-FINANCIAL ENVIRONMENT

source of construction contracts, the anticipated cutbacks in government spending during the fiscal adjustment could weigh heavily on banks' loan portfolios.

Lesotho's international competitiveness makes it harder to achieve greater export growth. The Africa Growth Opportunity Act (AGOA) program, especially its textile and apparel industry in Lesotho, is under threat of not being renewed due to Lesotho falling short on the eligibility criteria for the program. The impact facing Lesotho in the event of a withdrawal of AGOA benefits include increased unemployment and low export revenues. The textile manufacturing firms are the second largest employers in Lesotho after the government, employing around 43 000 people. Without AGOA, most firms would hibernate to jurisdictions still favoured under AGOA and leave a lot of factory workers unemployed. This will have knock-on effects on the broader economy. For example, workers who have loans from banks and micro-financial institutions would no longer service their loans, causing an increase in bad loans. Moreover, most firms' profitability will take a knock and affect their ability to service their obligations. This would affect commercial banks' balance sheets adversely and put them under stress.

High volatility in both exchange and interest rates can threaten financial stability. During the review period, exchange rate volatility has posed an upside risk to the inflation outlook, thereby signaling the possibility of further interest rate hikes. First, in a fixed exchange rate regime, volatility in exchange rate poses a challenge to monetary policy authorities because there is limited scope to deal with exchange rate shocks. Second, higher interest rates increases the cost of borrowing which may result in higher probability of defaults ▣

2 BANKING SECTOR

Lesotho's banking industry remained sound and continued to operate effectively throughout 2016.



BANKING SECTOR

Credit growth continued to decelerate during the review period and the credit-to-GDP gap has been narrowing.

Lesotho's banking industry remained sound and continued to operate effectively throughout 2016. It remained highly capitalised during 2016 relative to 2015 and continued to maintain a good quality of assets. The level of liquidity within the banking system remained fairly adequate to withstand shocks to banks' balance sheets and the industry remained satisfactorily profitable. Banks' exposure to foreign exchange risk decreased during the review period manifesting decreased sensitivity to market risk.

2.1 CREDIT DEVELOPMENTS AND CREDIT RISK

Credit growth in the economy continued to decelerate. Year-on-year, credit shrunk marginally by 0.80 percent and in December 2016 credit advanced by banks stood at M5.4 billion. As shown in Figure 1, for a five year period, credit to the private sector decelerated by 29.4 percent. This came as a result of low demand for credit due to low economic activity after the 2008 economic and financial crisis. On the supply side, the reduction in lending due to rising NPLs following a surge in credit extension prior to 2012, contributed to the decline. Banks revised their lending parameters on personal loans in an attempt to "re-balance" their loan books by shifting to asset backed loans (mortgages) from unsecured lending (personal loan). However, growth in mortgages could not offset the fall in personal loans and as a result overall credit declined.

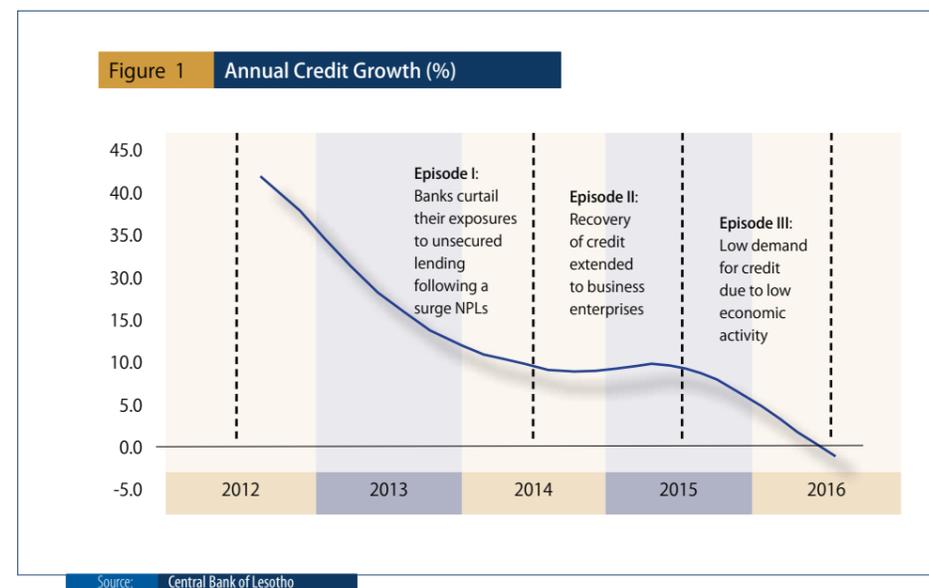
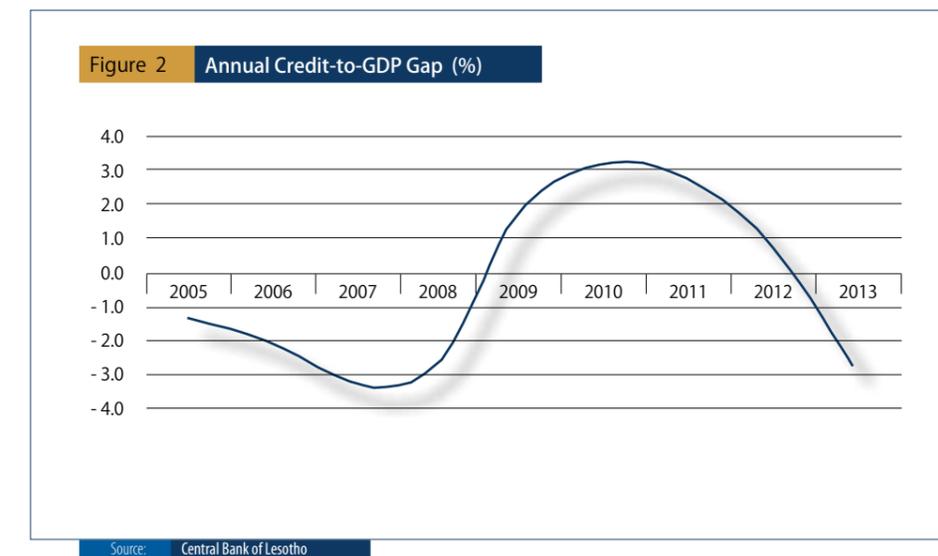


Figure 2 shows the evolution of annual credit-to-GDP gap. The credit-to-GDP gap is used to capture build-up of excessive credit in a financial system, which is a prominent lead indicator to financial crises. From a policy perspective, it is regarded as a reliable early warning indicator (EWI) of banking crises or severe distress. A higher positive gap means that the private sector borrows at a level that is perhaps not justified by the current output-producing capacity of the economy while a negative gap theoretically implies that there is scope for additional safe borrowing for consumption or investment purposes. The credit-to-GDP gap in Lesotho has been positive but narrowing since 2013 and turned negative in 2015 as shown in Figure 2. This shows that the credit-to-GDP ratio had been falling and is below its long-term trend, an indication of reduced likelihood of a crisis. The narrowing gap is underpinned by the declining rate of credit (Figure 1).



The Loans to deposits ratio, shown in Figure 3, is an important indicator of the transformation of savings into investments in the economy. The ratio increased by 3.1 percentage points to 61.1 percent at the end of 2016. This means that the banking industry lends out about 62 cents on every loti held as deposits and shows that banks were able to transform deposits into loans efficiently.

² Private sector credit has been dominated by credit to households which has experienced a slow paced growth as banks continue to curtail their exposure to unsecured lending in favour of asset backed lending. While this has translated into a drastic growth in mortgages, the gains have not offset the losses hence total private sector credit continues to grow at a decelerating rate.

³ Structural reforms, in particular the 2012 Land Act, allowed land to be used as collateral, which led to a surge in credit.

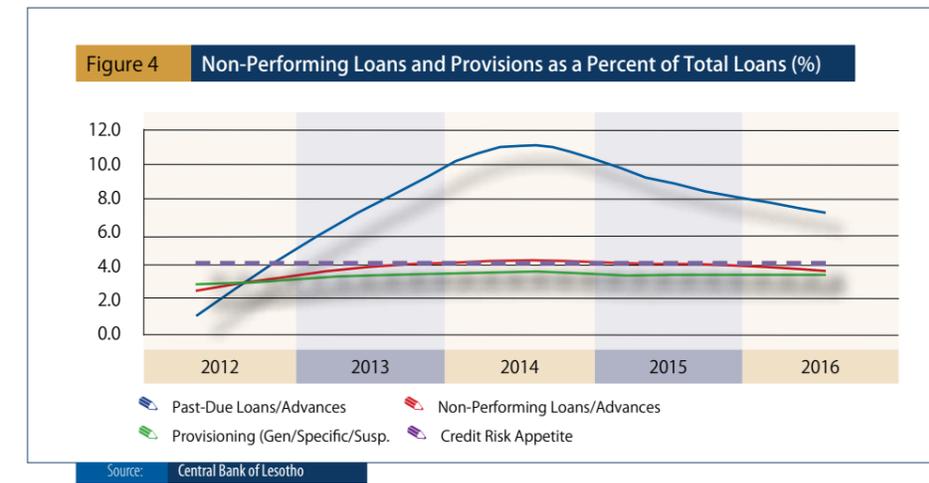


BANKING SECTOR

Loans to households, consisting of personal and mortgage loans, constituted more than half of the banks' loan book.



Credit risk continued to be moderate because banks still operated within the bounds of their risk appetite⁴. However, concentration in certain loan types and exposures to single or group of borrowers remain a concern. On the one hand, past-due loans continued to decline while non-performing loans (NPLs) remained relatively stable. Past-due loans fell by 16.9 percent and (NPLs) by 5.9 percent to M413 million and M207 million in December 2016, respectively. On the other hand, provisioning levels remain adequate in the banking industry and grew marginally by 3.4 percent to M197 million in December 2016.



Loans to households, consisting of personal loans and mortgage, constituted more than half of the banks' loan book. This shows the extent to which the banking sector is exposed to the household sector. On a yearly basis, personal loans grew by 13.4 percent to M2.8 billion while mortgage loans declined by 4.8 percent to M843 million in December 2016. Loans to business enterprises have also increased since 2012. However, year-on-year, they declined by 6.5 percent to M2.0 billion in December 2016.



⁴ Banking industry risk appetite is measured as the average of the four banks risk appetites (4% of gross loans and advances).

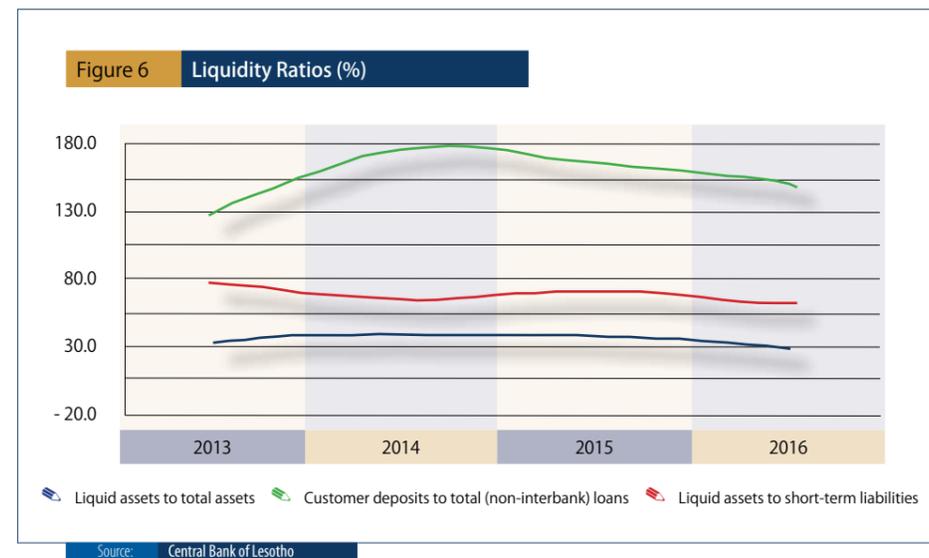


BANKING SECTOR

Banks' exposure to foreign exchange risk decreased during the review period making the banking industry less sensitivity to market risk.

2.2 LIQUIDITY RISK

Liquidity risk is one of the major risks faced by financial intermediaries and in particular banks⁶. Liquidity ratios⁷ are meant to measure the institution's ability to pay off its short-term debt obligations. The ratio of liquid assets to short-term liabilities decreased from 63.5 percent in December 2015 to 52.4 percent in December 2016. Both the liquid assets and short term liabilities continued to decline during the review period.



The ratio of liquid assets to total assets is used to assess on an on-going basis the extent to which liquid assets can support the asset base. In the year ending December 2016, the ratio declined by 0.09 percentage points from 40.4 percent that was observed in December 2015. Another measure of liquidity is customer deposit to total (non-interbank) loans. It compares the stable deposit base with gross loans excluding interbank activity⁸. For the year ending December 2016 the ratio was 149.4 percent, reflecting a decline of 0.14 percentage points from 163.3 percent observed in December 2015 due to a decline in customer deposits.

2.3 MARKET RISK

Market risk encompasses the risk of financial loss resulting from movements in market prices⁹, such as interest and exchange rates. In this report, market risk is assessed on the basis of one FSI, the net open position in foreign exchange

⁶ <http://www.capco.com/insights/capco-institute/liquidity-risk-management-structure-and-competition-in-banking>.

⁷ The more liquid assets a bank has compared to short term liabilities, the greater the ability to pay its debts when they fall due and still fund its on-going operations. There is no threshold for this ratio, but the higher the ratio the better.

⁸ IMF (2006) Financial Soundness Indicators, Compilation Guide.

⁹ www.federalreserve.gov/bankinforeg/topics/market_risk_mgmt.html.

to capital¹⁰, due to unavailability of required data to assess interest rate exposures. Banks with a short open position in a currency are exposed to the risk that the foreign currency might appreciate, while those with a long open position in a currency are exposed to the risk that the foreign currency might depreciate.

During the review period, the banks' maintained a long position in foreign currency despite a decrease in assets denominated in foreign currencies. This exposed banks a bit to revaluation risk because loti appreciated against foreign currencies during this period. The ratio of net open position in foreign exchange to capital decreased to 10.5 percent from 17.5 percent that was observed in December 2015. The ratio declined as a result of the narrowing net open position in foreign exchange due to the decrease in assets denominated in foreign currencies and an increase in capital. Nonetheless, from the point of view of the banking sector in Lesotho, exchange rate risk remains less of a concern in the short to medium term, given that banks have a positive net foreign asset position, which benefit them when the loti depreciates against other currencies.



2.4 CAPITAL ADEQUACY

Capital adequacy ratios (CAR) measure the bank's health and soundness in relation to risk of insolvency. Minimum CAR serves to protect depositors and promote the stability and efficiency of the financial system¹¹. The purpose of having minimum CAR is to ensure that banks can absorb a reasonable amount of losses before becoming insolvent and before depositors funds are lost. The higher the CAR bank has, the greater the level of unexpected losses it can absorb. Currently, the minimum requirement for CAR is eight percent.

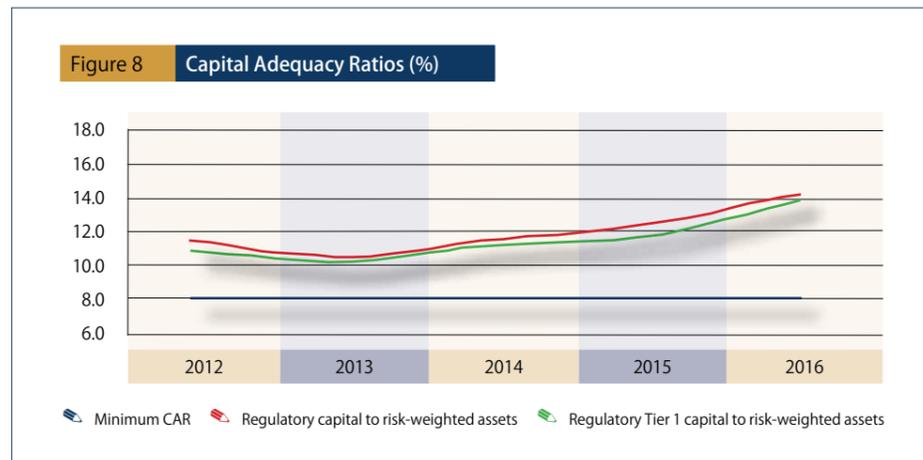
¹⁰ Open position is described as a situation where the value of asset/inflow exposures in one currency is not equal to the value of liability/outflow exposures in that currency. Open positions may be short (liabilities exceed assets) or long (assets exceed liabilities).

¹¹ <http://www.rbnz.govt.nz/finstab/banking/regulation/0091769.html>.

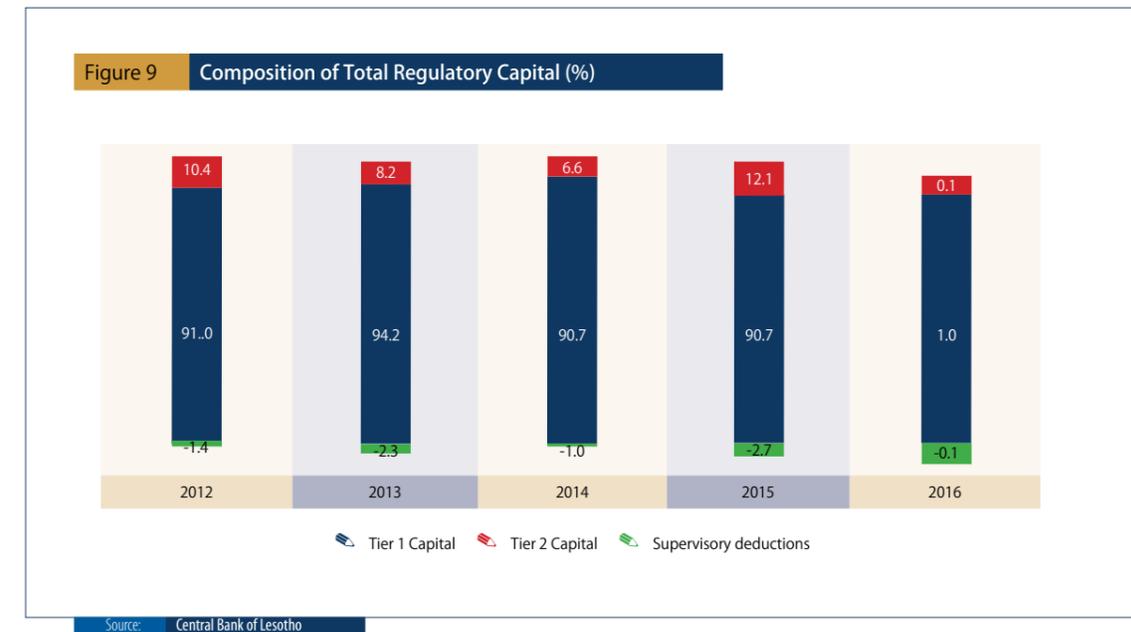


BANKING SECTOR

The banks maintained capital adequacy ratios above the minimum prudential requirements



The banking sector in Lesotho maintained CAR above the minimum requirement for the period ending December 2016. The ratio of total regulatory capital to risk-weighted assets stood at 18.0 percent. Depicted in Figure 8, the ratio was higher than the one recorded in December 2015 by 0.03 percentage points. Similarly, the ratio of tier-1 capital to risk-weighted assets increased from 13.8 percent in December 2015 to 17.1 percent in December 2016, showing that the banking industry continued to maintain higher core capital levels.



2.5 EARNINGS AND PROFITABILITY

Profitability ratios assess the ability of a company to generate earnings, profits and cash flows relative to the amount of money invested¹². The industry remained profitable during the year 2016, and this indicates that banks efficiently utilised their resources (assets and capital) to generate income. During the review period, ROA remained relatively unchanged at 4.5 percent relative to December 2015 as illustrated in Figure 10. In contrast, ROE decreased by 2.9 percentage points relative to 40.8 percent that was observed in December 2015.

¹² <http://www.readyratios.com/reference/profitability/>.

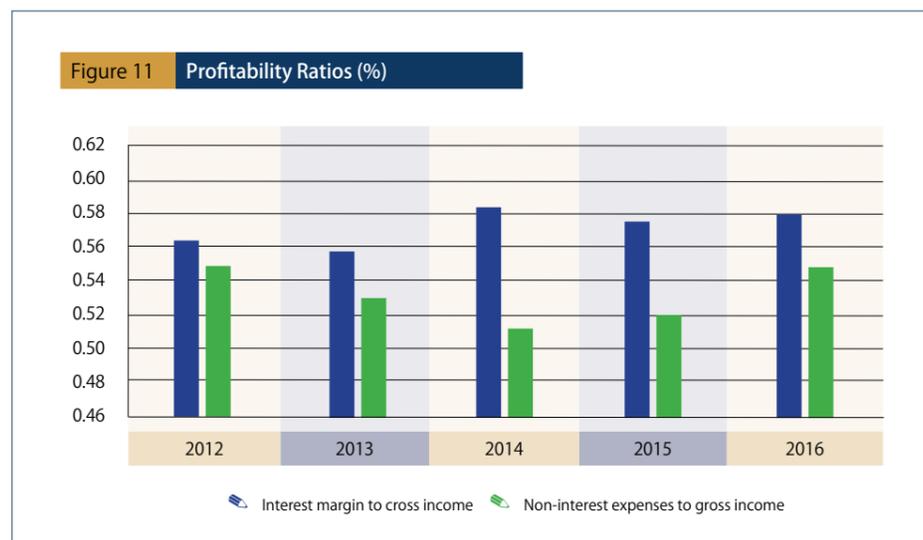


BANKING SECTOR



Source: Central Bank of Lesotho

The ratio of net interest margin to gross income was 58.0 percent at the end of December 2016 and remained relatively unchanged in comparison to the ratio observed in December 2015. At this level, it shows that over half of banks income came from their core business, which is intermediation. The ratio of non-interest expense to gross income marginally increased from 52.2 percent in December 2015 to 54.7 percent in December 2016. This shows that administration expenses relative to income had increased by 2.5 percentage points as compared to December 2015. Even though expenses increased during the review period, gross income also increased, offsetting the impact of the growth in expenses in the ratio.



Source: Central Bank of Lesotho

3 STRESS-TEST

Stress-test results revealed that credit risk was moderate in 2016 since all banks had sufficient capital to absorb losses caused by assumed deterioration in assets quality while credit concentration risk was high. Liquidity risk related to a bank-run stress was moderate.



STRESS-TEST

Lesotho's undiversified economic structure makes the banking system prone to concentration risk.

3.1 KEY ASSUMPTIONS AND SHOCKS

The Central Bank Act of 2000 gives the CBL the mandate and powers to promote and safeguard the stability and soundness of the financial system in Lesotho. The Bank uses stress-testing, among other tools, to achieve its objective of promoting the resilience of the domestic financial system and mitigating vulnerabilities arising from financial and economic shocks. In 2016, the Bank ran stress-tests to determine the resilience of the banking system in Lesotho to adverse and plausible credit and liquidity shocks. The tests covered all the four commercial banks. The results covered in this report highlight June 2016 and December 2016 stress-test results and their implications on the banking industry and Lesotho's economy as a whole. Major input data comes from aggregated banks balance sheets and income statements as well as prudential reports such as liquidity requirements, loan portfolio review, top-twenty borrowers, risk-weighted assets and total qualifying capital.

3.1.1 Credit Risk Shocks

Credit risk is defined as the potential that a bank's borrower, or counterparty, will fail to meet its payment obligations as stipulated in the contractual terms agreed with the bank. The level of NPLs is normally used as an indicator of credit risk inherent in a bank's loan portfolio. A non-performing loan is the sum of borrowed money for which the debtor has not made his or her scheduled payments for at least 90 days¹³. Banks normally set aside funds to cover for potential losses on loans in the form of loan-loss provisions. Consequently, since loan-loss provisions are an expense to the bank, they erode the capital levels of the institution by reducing retained earnings as well as the value of the risk-weighted assets (RWA). The credit risk shock transmission channel is summarised in Figure 12 and calculations of additional provisions are captured in Equations 1 and 2. Table 1 shows credit risk shocks and scenarios.

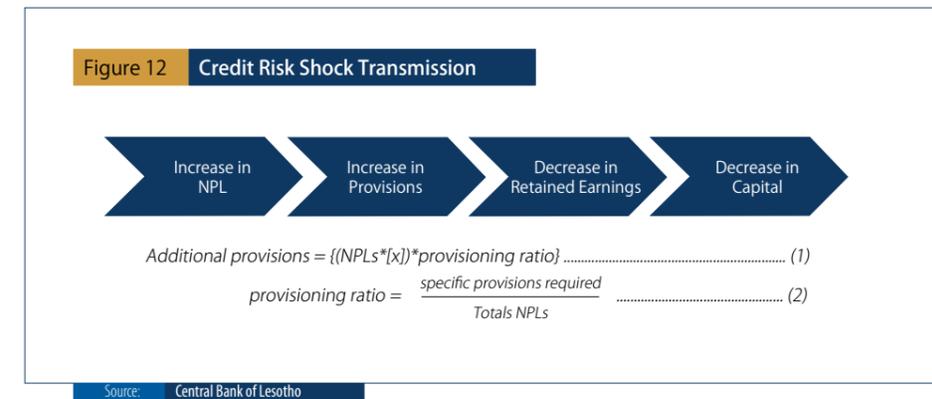


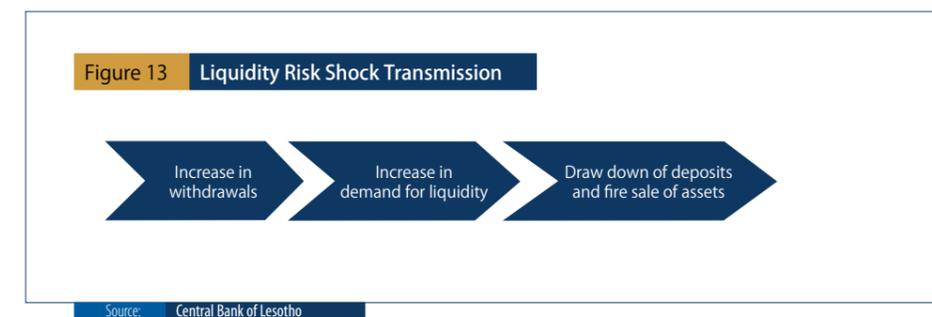
Table 1 Credit risk shocks

Shock Groups	Low	Moderate	Severe
Group I: An increase in NPLs across the credit spectrum	60%	120%	180%
Group II: Large exposures ¹⁶	Largest borrower default (20% provisioning)	Top-three borrowers default (20% provisioning)	Top-five borrowers default (20% provisioning)

Source: Central Bank of Lesotho

3.1.2 Liquidity Risk

Liquidity risk is the risk that a bank will not be able to meet its current and future cash-flow and collateral needs, both expected and unexpected, without materially affecting its daily operations or overall financial condition. Liquidity stress-tests are used to assess banks' resilience against maturity mismatches between short-term assets and liabilities or in a case where banks experience unexpected adverse events such as a bank run. CBL runs stress-tests that entail the latter. The bank-run type of shock can be transmitted within the banking sector as indicated in Figure 13.



¹³ The Bank uses a simple sensitivity test model which is static and does not perform any form of forecasting. A static model assesses the impact of a particular shock or a group of shocks at a certain point in time. The stress-testing approach applied is a top-down one. This implies that CBL collected necessary data and conducted stress-testing based on the information received.

¹⁴ Shocks are defined as exceptional but plausible idiosyncratic and/or system-wide adverse economic events. They are classified in different levels of severity ranging from low to severe, and are used to stress various risk-factors to determine their resilience. The calibration of shocks is made on the basis of both historical and hypothetical approaches. The historical approach uses past-crises information to formulate shocks and scenarios while the hypothetical approach is used in the absence of such information.

¹⁵ Financial Institutions (Loan portfolio classification) Regulations 2016.

¹⁶ TLesotho's undiversified economic structure makes the banking system prone to concentration risk since banks lend mostly to businesses operating in similar sectors. This calls for prudent monitoring of large exposures.



STRESS-TEST

The amount and quality of liquidity the banks held in 2016 appeared sufficient in lower stress periods.

Table 2		Liquidity risk shocks
Shocks	Scenarios	
I. Bank-run	It is assumed that 5 percent of deposits are withdrawn in each of the first three days and 10 percent in each of the last 2 days	
II. Bank-run	It is assumed that rate of withdrawals increases by 5 percent per day over the five days	

Source: Central Bank of Lesotho

3.2 RESULTS OF THE STRESS-TEST

3.2.1 Credit Risk

Credit risk stress-test result revealed that all banks would be sufficiently capitalised to absorb losses as a result of the assumed sector-wide increase in NPLs in both June and December 2016. As illustrated in Table 3, for Group I shocks (Table 1), all the four banks' CAR would remain well above the eight percent minimum requirement and stay solvent. Therefore, based on the assumptions made and the types of shocks anticipated, the credit risk related to an increase in NPLs can be regarded as moderate because banks would have adequate capital to absorb losses induced by high NPLs.

Table 3 Credit Risk Stress Test Results					
Risks	Number of banks below 8.0% CAR	Assets share of banks < 8.0% CAR	Number of Insolvent Banks	Capital Deficiency Relative to CAR	Capital Deficiency Relative to Minimum Capital
June 2016					
Group I: System level credit risk					
Shock I: NPLs increase by 60%	0	0	0	0	0
Shock II: NPLs increase by 120%	0	0	0	0	0
Shock III: NPLs increase by 180%	0	0	0	0	0
Group II: Concentration Risk					
Shock I: Largest 1 Borrower Defaults	0	0	0	0	0
Shock II: Top 3 Borrowers Default	1	27	0	0	0
Shock III: Top 5 Borrowers Default	2	37	2	149 440	67 766
December 2016					
Group I: System level credit risk					
Shock I: NPLs increase by 60%	0	0	0	0	0
Shock II: NPLs increase by 120%	0	0	0	0	0
Shock III: NPLs increase by 180%	0	0	0	0	0
Group II: Concentration Risk					
Shock I: Largest 1 Borrower Defaults	0	0	0	0	0
Shock II: Top 3 Borrowers Default	1	29	0	85 736	15 329
Shock III: Top 5 Borrowers Default	2	42	2	213 663	125 354

Source: Central Bank of Lesotho

Concentration risk in banks' loan books was stress-tested by assessing resilience of banks to their large exposures. One bank failed the test in the moderate scenario (Table 3, shock II) while two failed in the extreme scenario (shock III) in June and December 2016, respectively. This shows that their capital would not be sufficient to absorb the losses incurred as result of the assumed shocks. Their capital levels would fall below the eight percent CAR threshold. Thus they would need to be recapitalised to meet the regulatory unimpaired capital requirements. Concentration risk associated with large exposure can be regarded as high since some banks would not have adequate capital to cover the losses should their top-three and top-five borrowers default. However, this could be mitigated by ensuring that collateral pledged is adequate and of good quality to cover the losses.

3.2.2 Liquidity Risk

The bank-run stress-test results show that in both June and December 2016 none of the banks would get illiquid after 5 days of continuous withdrawals of deposits. This shows that the amount and quality of liquidity the banks held would be enough to absorb a shock of the nature assumed in this test. All banks appeared to be liquid enough to meet withdrawal demands as set out in assumptions. However, in Scenario II, all banks could only sustain the bank-run for three days. But on the fourth and fifth day, some banks would become illiquid. Therefore, liquidity risk could also be regarded as moderate since banks would sustain a bank-run type of event for a period of five days, allowing the banks and CBL a window of three days to one week to work on a solution that would restore confidence in the industry.

Table 4 Daily Withdrawals				
June 2016				
Shocks	Scenario I		Scenario II	
	Daily Withdrawals (%)	Number of illiquid Banks (out of 4)	Daily Withdrawals (%)	Number of illiquid Banks (out of 4)
Withdrawal of deposits: 1st day by	5	0	5	0
Withdrawal of deposits: 2nd day by	5	0	10	0
Withdrawal of deposits: 3rd day by	5	0	15	0
Withdrawal of deposits: 4th day by	10	0	20	1
Withdrawal of deposits: 5th day by	10	0	25	2
December 2016				
Shocks	Scenario I		Scenario II	
	Daily Withdrawals (%)	Number of illiquid Banks (out of 4)	Daily Withdrawals (%)	Number of illiquid Banks (out of 4)
Withdrawal of deposits: 1st day by	5	0	5	0
Withdrawal of deposits: 2nd day by	5	0	10	0
Withdrawal of deposits: 3rd day by	5	0	15	0
Withdrawal of deposits: 4th day by	10	0	20	2
Withdrawal of deposits: 5th day by	10	0	25	3

Source: Central Bank of Lesotho



4 NATIONAL PAYMENTS SYSTEMS

Efficient, reliable and safe payment and settlement systems contribute to financial stability.

NATIONAL PAYMENT SYSTEMS VULNERABILITIES

The CBL is also mandated to provide efficient, reliable and safe payment and settlement systems. In line with this mandate, the Payment Systems Act 2014, Section 2(a) empowers the CBL to oversee, inspect and monitor the national payment systems in Lesotho. This mandate is not only achieved by ensuring that the payment system in Lesotho complies with the domestic legal and regulatory framework but also with other international standards and best practices in the payment system sphere¹⁸.

4.1 SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS (SIPS)

The systemically important systems (SIPS) in Lesotho include Lesotho Wire (LSW) and Centralised securities depository (CSD) operated by the CBL, Lesotho Automated Clearing House (LACH) operated by Payments Association of Lesotho (PAL) and other retail payment systems. The failure of these systems could pose significant negative repercussions for financial stability, monetary policy implementation and financial inclusion, among others. Safe and efficient systems are fundamental to money being an effective means of payment system and to the smooth functioning of financial markets. A well designed and managed system helps to maintain financial stability by preventing or containing financial crisis and help to reduce the cost and uncertainty of settlements, which could otherwise act as an impediment to economic activity¹⁹.

Lesotho Wire (Real Time Gross Settlements (RGTS)) is the most critical payment system because it processes and settles large values and time-critical payments between system participants and also has linkages with other payment systems such as LACH and CSD. Therefore, its failure could have systemic impact; with negative repercussions for financial stability within the country. Moreover, this system must meet high safety²⁰ and efficiency standards to manage and/or mitigate all risks arising from its operations.

There are a number of ways through which risks may manifest in large value payment systems such as LSW. These include (a) system unavailability (downtimes), (b) the degree of utilization and (c) inability of system participants to settle their obligations. Therefore, close monitoring of these key aspects in LSW is crucial as they represent the main operational and financial risks that could adversely affect LSW and potentially culminate in systemic crisis. The LSW system utilization indicates that in December 2016, the transaction volumes and values processed through LSW decreased as compared to December 2015. This decline was on account of subdued general economic activities in the country.

As a large value payment system, LSW must be available to all the participants at all times during the business day to process and settle interbank transactions. Any system availability rate below 96 percent is not acceptable as it has a potential to undermine the smooth functioning of the financial sector in the economy. In 2016, the system remained available to participants for about 1890 hours out of a total of 1920 hours for which it must be available. This constitutes approximately 98.5 percent system availability. The system downtime incidents were on account of intermittent

¹⁸ These include the CPSS-IOSCO Principles for Financial Market Infrastructures (PFMI's) and the CPSS-BIS Central Bank Oversight of Payment and Settlement Systems.

¹⁹ CBL Payment System Oversight Policy Framework.

²⁰ Among other safety threats, which continue to escalate globally, is cyber-crime. Therefore, there is a need to continue to improve security measures and to launch cyber-crime awareness campaign to help people protect themselves this type of crime. In addition, cyber security law is of paramount importance to protect the financial system.



NATIONAL PAYMENT SYSTEMS VULNERABILITIES

disruptions in internet and/or server connection. However, such disruptions were resolved within a reasonable time period. Therefore, overall a substantial number of large value and time-critical payments were able to be processed and settled despite the experienced disruptions.

4.2 MOBILE MONEY

Mobile money like any other payment system in Lesotho, must be inspected, monitored and overseen by the National Payment System Division (NPSD) on regular basis to ensure that it does not pose significant risks to the national payment systems and the participants (users) in the economy. In December 2016, the registered mobile money customers (end-users) were recorded at 1 137 903 throughout the country compared to 1 064 025 that were registered in December 2015. This amounts to 6.9 percent growth from December 2015. This was attributed to new agent registrations that were done by the MNOs following the public outreach activities undertaken. However, there are some challenges since about 40 percent of the registered agents were located in Maseru while 60 percent in other districts. This was due to unavailability of agents (or inactive agents) in some parts of the country and these acts as an obstacle to people who have registered for mobile money services for different uses but cannot access the services.

In light of this, MNOs in collaboration with the Ministry of Finance (MoF), CBL as well as other relevant stakeholders in the mobile money ecosystem should devise strategies that can be used to build a strong and active agent network in the country; especially in the districts where there are few agents. A strong and broad active agent network is a backbone of mobile money and it strengthens the payment system efficiency. Besides an inactive agent network, another challenge facing mobile money, as a tool for increasing financial inclusion, is that the number of active mobile money customers (users) still remains very low relative to the total number of registered users. In this regard, a large mobile money market share in Lesotho still remained untapped during in the period ending December 2016. Furthermore, in accordance with the observed increase in the number of active agents and customers, the transactions volumes and values continue to grow over time and continue to bridge the financial inclusion gap. Vulnerabilities related to mobile money operations have been minimal during the review period and pose fewer systemic threats ▣

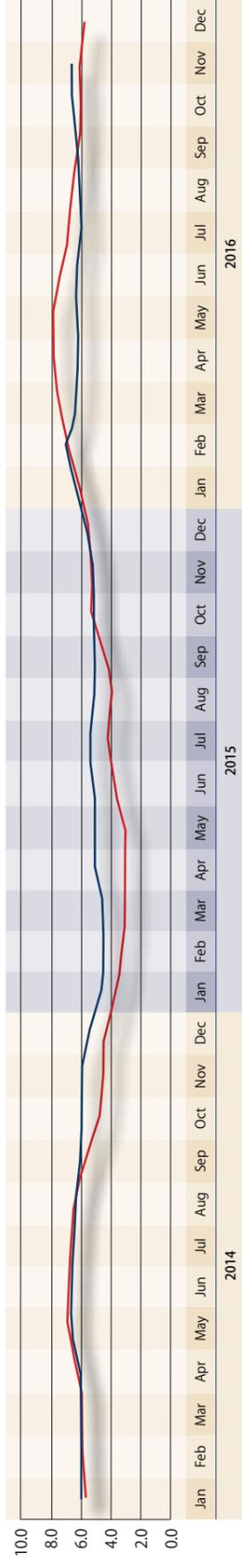
— APPENDICES

Graphs and Table



APPENDICES

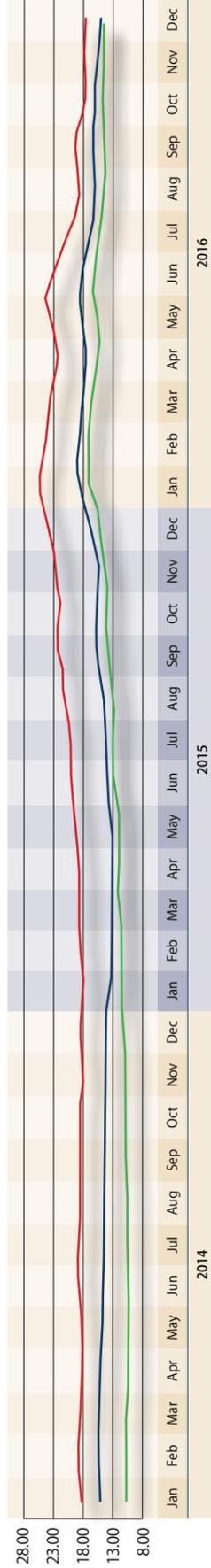
Appendix 1 A - Lesotho and RSA Inflation (%)



Lesotho Republic of South Africa (RSA)

Source: Central Bank of Lesotho

Appendix 1 B - Loti Exchange Rate to the Euro, Pound and US Dollar



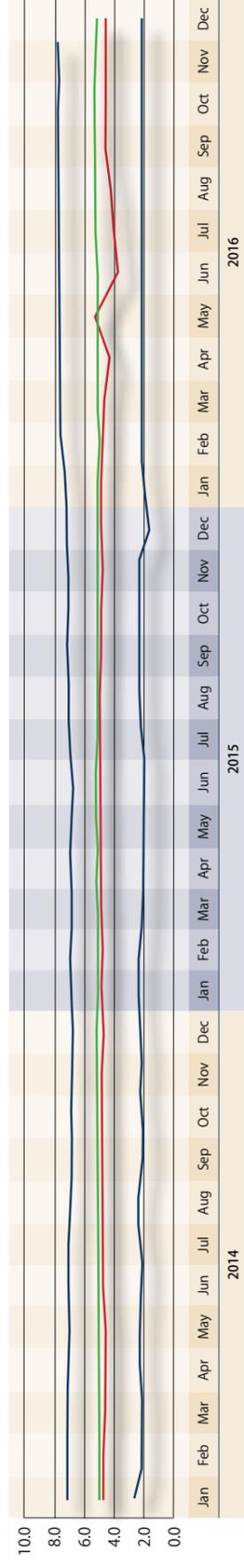
Euro Pound US Dollar

Source: Central Bank of Lesotho



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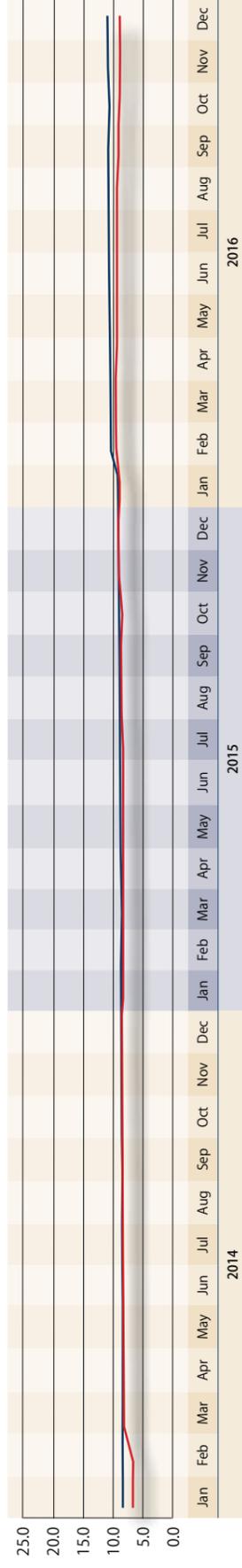
Appendix 1 C - Intermediation Spread (%)



Lesotho Spread Republic of South Africa Spread Namibia Spread Swaziland Spread

Source: Central Bank of Lesotho, Central Bank of Namibia, Central Bank of Swaziland

Appendix 1 D - Money Market Spread (%)

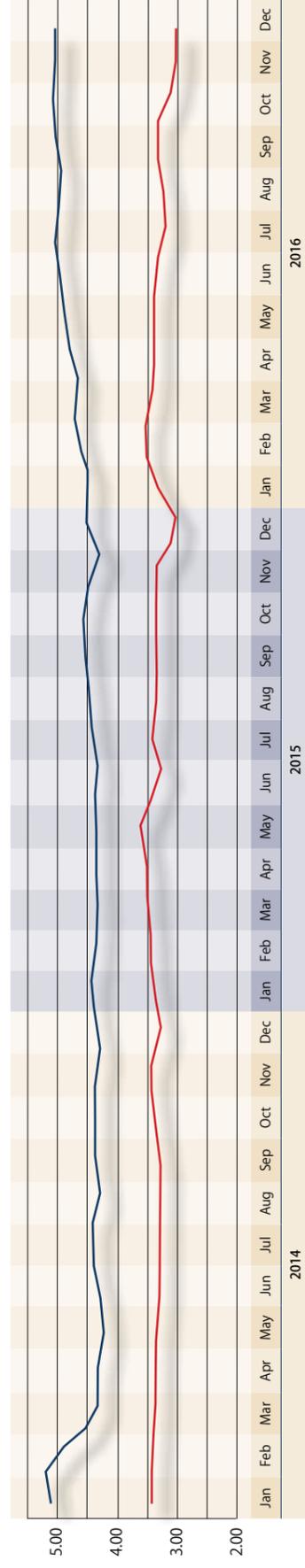


Prime Rate Overnight rate

Source: Central Bank of Lesotho

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Appendix 1 E - Lesotho and RSA Risk Premium (%)



Lesotho Republic of South Africa (RSA)

Source: Central Bank of Lesotho

Appendix 1 F - Credit-to-GDP ratio and its trend

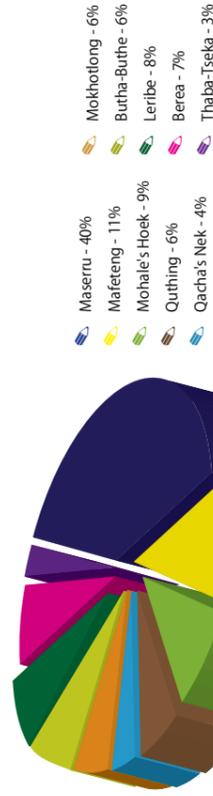


Credit-to-GDP Credit-to-GDP-trend

Source: Central Bank of Lesotho

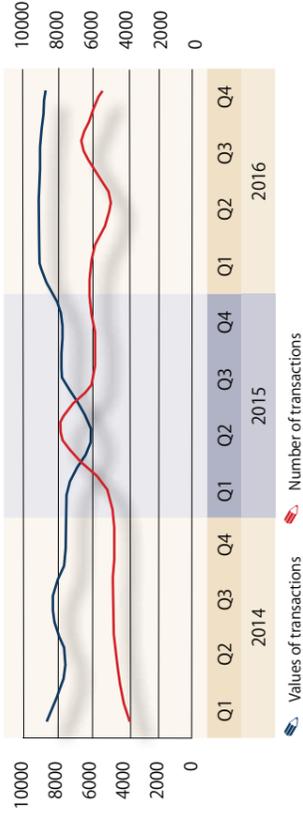
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Appendix 1 H - Mobile Money Agents (% per district)



Source: Central Bank of Lesotho

Appendix 1 J - LSW transactions and values



The primary axis is in millions while the secondary axis is in thousands.

Source: Central Bank of Lesotho

APPENDICES

Appendix II

Tables

Risk	Description	Shock	Description
1. General Credit Risk - NPL Increase	Shock 1.1	60%	Indicates increase in NPLs of 60 percent across the credit spectrum
	Shock 1.2	120%	Indicates increase in NPLs of 120 percent across the credit spectrum
	Shock 1.3	180%	Indicates increase in NPLs of 1800 percent across the credit spectrum
3. Concentration Risk	Shock 3.1	1	Indicates a default of the largest borrower
	Shock 3.2	3	Indicates a default of the largest three borrowers
	Shock 3.3	5	Indicates a default of the largest five borrowers
4. Reverse Stress-Testing	Assumed provisioning rate	20%	To calculate provisioning expense for large borrower default
	Reverse Testing - Deterioration of performing loans	7.9%	Deterioration of performing loans which causes capital to go below 8 percent
	Shock 9.1	5%	An outflow of deposits is assumed. Liquidity is generated through fire sale of assets.
9. Liquidity Shocks	Withdrawal of deposits: 1st day by	5%	Haircuts are assumed for all assets. Liquid assets generate the most liquidity while illiquid
	Withdrawal of deposits: 2nd day by	5%	Assets are assumed to generate not more than 1 percent liquidity after fire sale.
	Withdrawal of deposits: 3rd day by	5%	It is also assumed that after 5 days, there is a cooling off period to allow banks and the central
	Withdrawal of deposits: 4th day by	10%	Bank to restore confidence.
	Withdrawal of deposits: 5th day by	10%	The assumption is that 80 percent liquidity can be generated through a fire sale.
	Fire sale volume assumption: liquid assets	80%	
	Fire sale pricing haircut: liquid assets	75%	
Fire sale volume assumption: illiquid assets	1%	The assumption is that 1 percent liquidity can be generated through a fire sale	
Fire sale pricing haircut: illiquid assets	100%		

Source: Central Bank of Lesotho





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