Bank of Uganda

FINANCIAL STABILITY REPORT

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GLOSSARY

ALSI	All Shares Index
BCBS	Basle Committee on Banking Supervision
DIR	Debt service-to-income ratio
EAC	East African Community
EMEs	Emerging market economies
FSI	Financial Services Index
FSR	Financial Stability Report
GDP	Gross domestic product
IMF	International Monetary Fund
LCR	Liquidity coverage ratio
NPLs	Non-performing loans
NSE	Nairobi Stock Exchange
NSFR	Net Stable Funding Ratio
RHS	Right hand side
ROA	Return on assets
ROE	Return on equity
UBOS	Uganda Bureau of Statistics
USh.	Uganda shilling
USE	Uganda Securities Exchange
USD	US dollar

A NOTE ON FINANCIAL STABILITY

The Bank of Uganda has a mandate to foster macroeconomic and financial system stability. A stable financial system is one in which financial institutions carry out their normal function of intermediating funds between savers and investors, and facilitating payments. By extension, financial instability is a systemic disruption to the intermediation and payments processes, which has damaging consequences for the real economy.

Financial stability analysis involves a continuous assessment of potential risks to the financial system and the development of policies to mitigate these risks. The early detection of risks to the financial system is necessary to give policy makers sufficient lead-time to take pre-emptive action to avert a systemic crisis.

The *Financial Stability Report (FSR)* is intended to enhance the understanding of financial system vulnerabilities among policymakers, financial market participants and the general public. By making the *FSR* available to the public, the Bank aims to stimulate debate on policies necessary to manage and mitigate risks to the financial system. A better public awareness of financial system vulnerabilities may itself serve to encourage financial institutions to curb activities which might exacerbate systemic risks and will also help to promote policy reforms to strengthen the resilience of the financial sector.

FOREWORD AND ASSESSMENT OF FINANCIAL STABILITY

The Bank of Uganda's Financial Stability Report analyses the performance and condition of the Ugandan banking system and assesses threats to systemic stability. Financial stability has improved in advanced economies over the last one year, but risks continue to rotate toward emerging markets. Emerging markets face several vulnerabilities and policy challenges that could pose risks to the Ugandan financial system including lower growth in key markets such as China, slumping commodity prices and pressure on exchange rates.

During the year to June 2015, Uganda's banking sector was resilient and in a financially sound condition and the financial infrastructure is considered to be safe and efficient. The banking sector registered strong growth in assets and capital base with the capital adequacy ratio of 18.8 percent as of June 2015, far higher than the statutory minimum of 8 percent. Profitability was boosted by an improvement in asset quality manifested by the fall in the ratio of non-performing loans to total loans to 4 percent. Nevertheless, going forward, the operating environment for commercial banks is likely to become more challenging due to a number of emerging risks. Credit risk is likely to rise as the upward trend in lending rates is likely to affect loan quality and increase NPLs. Given the rising exposure of banks to foreign currency lending especially to the real estate sector, the recent depreciation pressures are likely to increase risks from these loans. In addition, the recent global market turmoil and declining growth in emerging economies has heightened risks of a slowdown in capital flows.

This report outlines the steps that the Bank of Uganda is taking to improve its understanding and monitoring of the financial system. The Bank of Uganda, in collaboration with the Uganda Bureau of Statistics (UBOS), will start to collect information on household and corporate debt on a quarterly basis starting in July 2015. The aim of this exercise is to compile indicators on the leverage of households and corporate sector and the risks this poses to banks. The Bank of Uganda is also working with other central banks of EAC Partner States to conduct a regional stress test regarding the effect of declining commodity prices and capitals flows and coordinate policy response.

The overall assessment of financial stability in Uganda, presented in this report, is that there are some headwinds that may affect bank performance, but overall, there are no major threats to the systemic stability. Stress tests conducted by Bank of Uganda indicate that the banking sector holds substantial levels of capital and liquidity buffers, above the statutory minimum, against shocks from credit risks and capital flows. Bank of Uganda will continue to monitor potential systemic vulnerabilities closely and tackle any threats to stability which might emerge in the future.

Emmanuel Tumusiime-Mutebile
GOVERNOR

1. The Macroeconomic Environment And Financial Developments

At global level, financial stability risks continue to rotate toward emerging markets. Risks to the global financial system increased over the year to June 2015 due to expectations of an increase in the US federal funds rate and monetary policy normalisation. A triad of policy challenges also affected many emerging markets with several key economies facing substantial domestic imbalances and lower growth and slumping commodity prices. This resulted in emerging markets facing higher financial stability risks from the rapidly depreciating exchange rates and capital outflows. In Uganda, the key risks that could lead to financial stress for Uganda's banks arose from strengthening of the US dollar on the global market, which continues to impact the Uganda shilling and the fall in commodity export prices that has macroeconomic consequences for Uganda.

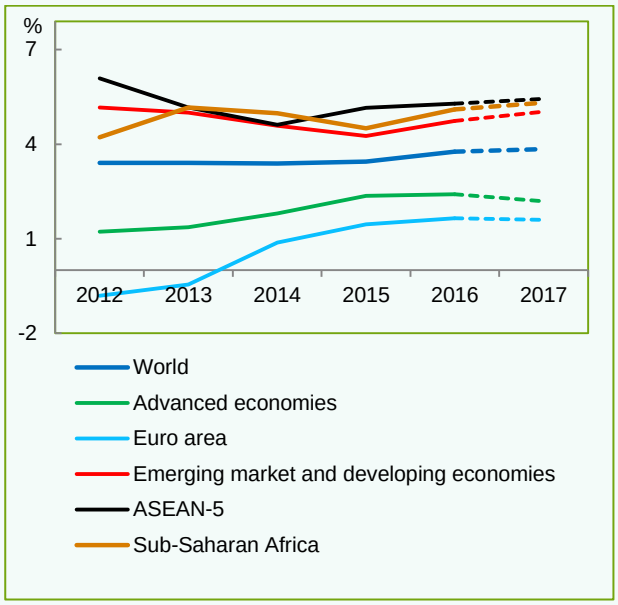
1.1 Global economic conditions

Financial stability has improved in advanced economies, but risks continue to rotate toward emerging markets (*GFSR, April 2015 and October 2015*). Developments in the global economy in the year to June 2015 have mainly been characterised by falling commodity prices, below-target inflation and appreciation of the US dollar. Furthermore, the stability of the global financial system was affected by a series of changes in financial markets, reflecting diverging growth patterns and monetary policies as global growth prospects weakened.

Global growth for 2015 is projected at 3.1 percent slightly lower than the 3.5 percent registered in 2014. It is forecast to rise to 3.6 percent in 2016 (IMF, WEO October 2015). The decline in growth reflects a further slowdown in emerging markets and a weaker recovery in advanced economies. However, recovery in advanced economies is expected to pick up slightly in 2016, driven by the United States. This is mainly due to markedly lower energy prices, reduced fiscal drag, strengthened balance sheets, and an improving housing market.

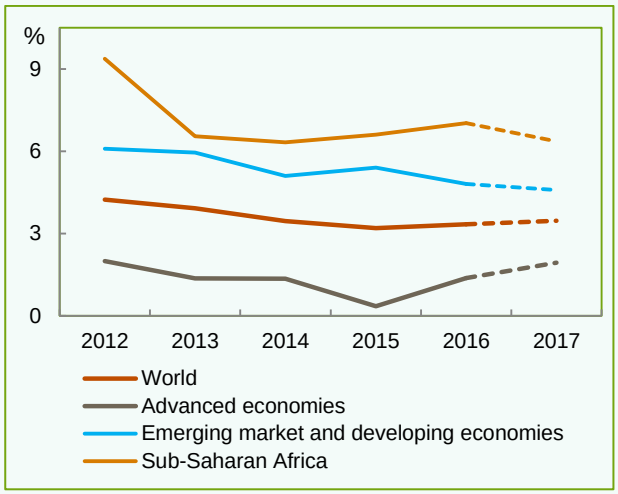
Conversely, growth in the euro area remains weak due to shocks from slower global demand, geopolitical events, faltering euro area reforms, political and policy uncertainty. In addition, private investment in the euro area remained weak, with Ireland, Spain, and Germany being notable exceptions.

Chart 1: Projected annual GDP growth (percent)



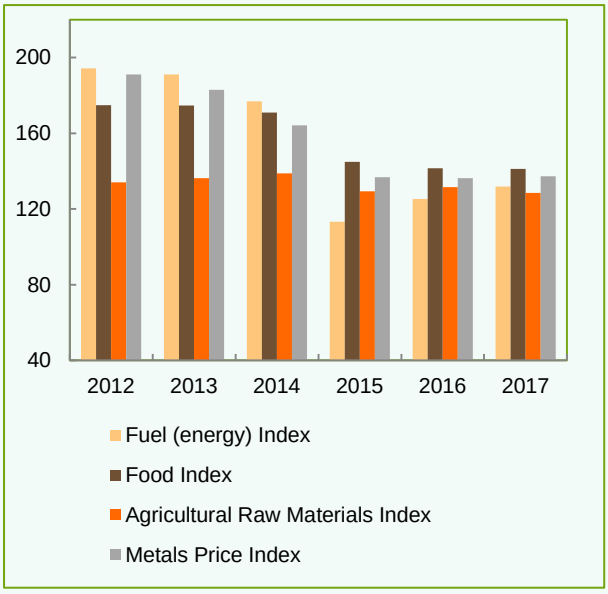
Source: IMF World Economic Outlook Update, April 2015. Notes: 2016 and 2017 figures are forecasts.

Chart 2: Projected inflation rates (percent)



Source: IMF World Economic Outlook Update, April 2015

Chart 3: Global commodity price indices, 2005=100



Source: IMF World Economic Outlook Update, April 2015

1.2 Emerging and developing countries

In emerging markets, growth is projected to decline in 2015 as several key economies face substantial domestic imbalances and lower growth. This follows sharp downward revisions to growth for oil exporters, a slowdown in China[1] that reflects a move toward a more sustainable pattern of growth that is less reliant on investment, and weakening of the outlook for Latin America due to a softening of other commodity prices. Ongoing events in Russia and Ukraine, the Middle East, and parts of Africa[2] could lead to escalation in tensions and increased disruptions to global trade and financial transactions.

Emerging markets also face higher financial stability risks, as companies that borrowed heavily on international markets could face balance sheet strains from revalued foreign currency liabilities should the U.S. dollar strengthen further (*GFSR April 2015 and October 2015*). Furthermore, a reversal in capital flows, disruptive asset price volatility and financial market turmoil are expected following the first interest rate increase in the United States after a long period of very accommodative monetary policy. In an environment of declining commodity prices, reduced capital flows to emerging markets and pressure on their currencies, and increasing financial market volatility, downside risks to the outlook have risen, particularly for emerging market and developing economies.

Sub-Saharan Africa

Growth in Sub-Saharan Africa is expected to slow down to 3.8 percent in 2015 from 5 percent in 2014 driven by the repercussions of declining commodity prices especially oil, as well as lower demand from China (the largest single trade partner of sub-Saharan Africa) and the tightening of global financial conditions for the region's frontier market economies. (*WEO October 2015*). The oil price continues to severely impact the region's oil exporters. In contrast, projected growth in the region's oil importers is expected to remain strong where investment in infrastructure and private consumption continues.

The risks to the region's outlook stem from both domestic and external factors. A prolonged period of lower oil prices, weakness in the developed economies and a further slowdown in China's demand for commodities could negatively affect the continent's trade earnings. Tighter global financial conditions in developed economies such as the US may also result in the outflow of private capital and increase currency volatility. In addition, the Ebola outbreak has already had a significant human toll as well as a negative impact on trade. Political instability, terrorism, civil and labour unrest in a number of African countries will continue to be a source of disruption and damage, and negatively weigh on investment, trade and tourism. Weather-related shocks will also be a source of downside risks, since agricultural production in most African economies remains weather dependent.

1 Growth in China is expected to decline to 6.8 percent in 2015.

2 Recession in Russia,Geopolitical tensions and political unrest in Ukraine, Middle East and parts of Africa

Implications for Uganda

The strengthening of the US dollar on the global market continues to affect the Uganda shilling through increased depreciation pressures. The depreciation of the shilling makes Uganda's exports cheaper on the global market. However, since the country imports more than it exports, the benefits from the shilling's depreciation are negated by the increased import bill.

The increase in interest rates in the United States will enhance the appeal of US assets and result in a flight to quality with negative implications for Uganda's economy due to capital outflows. Capital outflows may create a source of financial instability through disruptions in the financial markets by causing unanticipated exchange rate movements. In addition, the slowdown in China may foreshadow a reduction in Chinese government aid and investment in the country. This may translate to reduced economic activity with a negative impact on GDP.

The fall in commodity prices has macroeconomic consequences for Uganda which is heavily reliant on agricultural export revenues. This is mainly through the decline in incomes of households and commercial farmers which in turn affects government revenues.

1.3 Developments in the East Africa region

Growth in East Africa's economies is expected to slowdown in 2015 largely driven by the repercussions of declining commodity prices, security threats, decline in tourism and the tightening of global financial conditions for the region's frontier market economies. However, Tanzania is still expected to register growth of about 7 percent or above this year and next supported by rising infrastructure investments, lower energy prices, and a dynamic private investment environment. Growth in the region is forecast to fall to lows of 3.6 per cent in 2015 but will rise to highs of 6.3 per cent in 2016 with Tanzania and Rwanda as the key drivers of growth.

Table 1: East African countries' GDP growth rates (percent)

	2012	2013	2014	2015
Burundi	4.0	4.5	4.7	4.8
Kenya	4.5	5.7	5.3	6.9
Rwanda	8.8	4.7	7.0	7.0
Tanzania	5.1	7.3	7.2	7.2
Uganda	2.6	3.9	4.9	5.4

Source: IMF, WEO Database April 2015, Note that 2015 figures are IMF forecasts

Table 2: Annual inflation for East African countries (percent)

	2012	2013	2014	2015
Burundi	18.2	7.9	4.4	5.0
Kenya	9.4	5.7	6.9	5.1
Rwanda	6.3	4.2	1.8	2.9
Tanzania	16.0	7.9	6.1	4.2
Uganda	14.0	4.8	4.7	4.9

Source: IMF, WEO Database April 2015, Note that 2015 figures are IMF forecasts

All the countries in the region maintained single digit inflation rates in fiscal year 2014/2015. However, regional inflation rates are projected to rise to 5.4 percent in 2015 from lows of 4.8 percent registered in 2014 due to increased depreciation pressures across the region in line with the developments in the international financial markets. Furthermore, the drop in global commodity and energy prices weighed on the region's exports earnings. Nevertheless, import demand remained strong spurred by infrastructure projects.

Table 3: Current account balance for East African countries (percent of GDP)

	2012	2013	2014	2015
Burundi	-17.3	-18.4	-17.6	-13.3
Kenya	-8.4	-8.7	-9.2	-7.7
Rwanda	-11.4	-7.1	-12.0	-10.5
Tanzania	-11.6	-10.3	-10.2	-10.0
Uganda	-8.1	-6.4	-7.5	-8.8

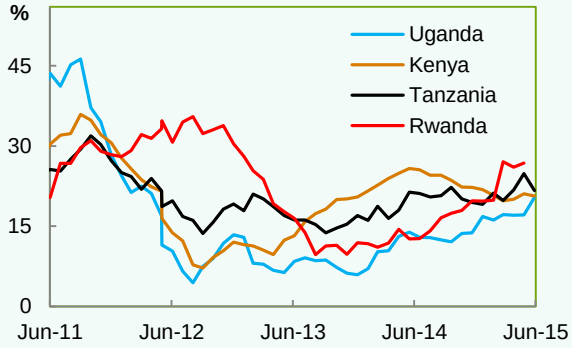
Source: IMF, WEO Database April 2015, Note that 2015 figures are IMF forecasts

Key downside risks to growth in the East African region include security risks posed by the terrorist group Al Shabaab[3], and weakening global commodity prices that are likely to reduce export revenues for the region. Also, conflicts in South Sudan and Central Africa Republic could deteriorate further with harmful regional spill-overs. A sudden increase in volatility in international financial markets, and the reversal of accommodative monetary policies in developed countries may affect liquidity of banks in the region through reversal of capital flows.

Financial performance of banks in the region

The East African region experienced reduced inflationary pressures in 2014/2015, which culminated in a reduction of the policy rates by the respective Central banks. As a result, bank lending in all the East African countries maintained an upward trend for the period 2014/2015 with Rwanda witnessing the highest annual growth in private sector credit of 27 percent for the period under review. The growth rate of credit to the private sector in the year to June 2015 improved markedly to a regional average of 22 percent compared to 18 percent recorded in June 2014. Increased credit extension is expected to enhance investment as well as private consumption thus promoting economic growth in the region.

Chart 4: EAC annual growth of credit extended to the private sector by banks (percent)



Source: EAC Central Banks

Developments in regional securities markets

Stock market activity across the three regional exchanges registered improved activity during 2014/15 as compared to 2013/2014. This was on account of increased foreign investor activity coupled with favourable macroeconomic conditions in the region.

In Kenya, significant activity was realised, buoyed by a favourable economic environment and increased foreign investor participation. The Dar-es-Salaam bourse witnessed significantly high activity in the period under review supported by the high returns the bourse delivers to investors in its listed stocks.

In Uganda, the stock market recorded a total turnover of USh.310 billion in 2014/2015 as compared to a turnover of USh.333 billion in 2013/2014. The drop in equity turnover was driven by rising interest rates that have seen investors shift to the government bond market and a weak shilling that has seen off-shore investors' scale down activity. On the other hand, a positive development at the Uganda Securities Exchange (USE) is the switch to a system of electronic trading. The development will help increase trading volumes, boost foreign participation and reduce the settlement period from five days to three days.

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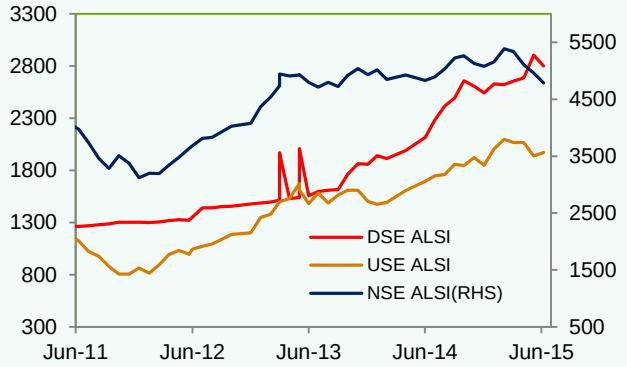
3 Mutambo, Aggrey; Hajir, Abdimalik, The East African, (2 April 2015) 147 killed as Garissa University College attacked by gunmen,

Chart 5: East African stock market indices

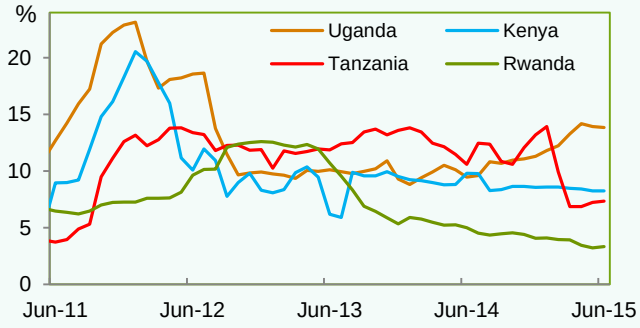


Source: Nairobi Securities Exchange, Dar-es-Salaam Securities Exchange, Uganda Securities Exchange

Regional Treasury securities markets

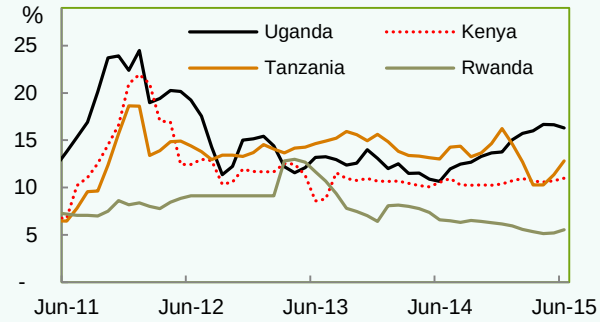
Treasury bill yields for all East African countries, increased noticeably during 2014/15. The 91-day and 364-days Treasury bill rates for Uganda increased from 9.5 and 10.6 percent in June 2014 to 14.9 percent and 16.3 percent in June 2015, respectively. In the same period, Rwanda registered the lowest Treasury bill rates for 91 day at 5.0 percent and 364 days at 6.6 percent. Foreign investor participation in Uganda rose following the high Treasury bill yields in the period under review.

Chart 6: EAC yields for 91-day treasury bills (percent)



Source: EAC Central Banks

Chart 7: EAC yields for one-year treasury bills (percent)



Source: EAC Central Banks

1.4 Uganda's macro financial environment

Real GDP is estimated to have grown by 5.0 percent in 2014/2015 compared to 4.6 percent in 2013/2014. It is projected to expand by 5.3 percent in 2015/16 supported by scaled-up public investment. Growth is also expected to be supported by private consumption driven by stronger credit growth and a recovery in the agricultural sector.

Furthermore, a sound financial system and low government debt should provide the Ugandan economy with a strong cushion against external shocks.

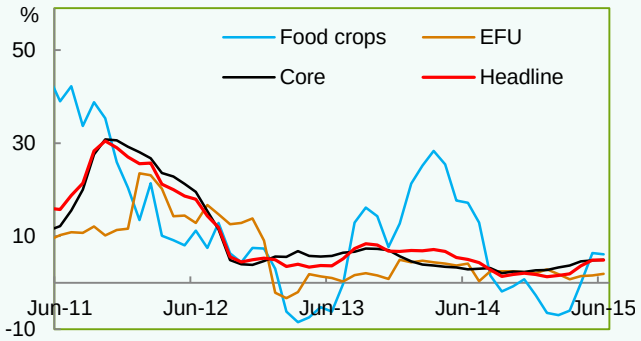
Chart 8: Annual real GDP growth rates at market prices (percent)

Source: Bank of Uganda

Inflation and interest rates

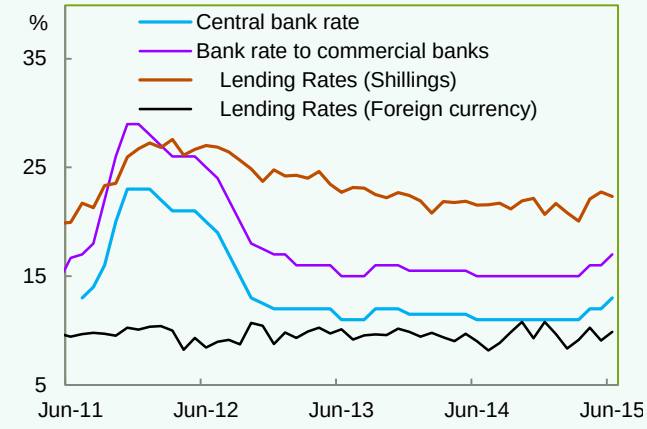
Annual headline inflation for the year ending June 2015 stood at 4.9 percent almost unchanged when compared to the 5.0 percent registered in the year ending June 2014. However, the second half of 2014/2015 registered a significant increase in the inflation rate following pass through effects of the exchange rate depreciation. In addition, fuel prices rose culminating in higher prices of food and other utilities. In response to high inflation pressures, the Central Bank increased the policy to 13 percent in June 2015 from of 11 percent in June 2014 to stem further increase in inflation. However, the cost of borrowing is likely to increase following the policy rate increase culminating in lower credit growth with negative implications for economic activity in the long run.

Chart 9: Domestic annual inflation (percent)



Source: Bank of Uganda

Chart 10: Monthly interest rates (percent)

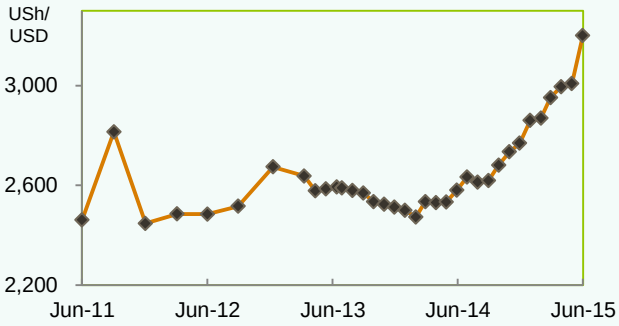


Source: Bank of Uganda

Foreign exchange market

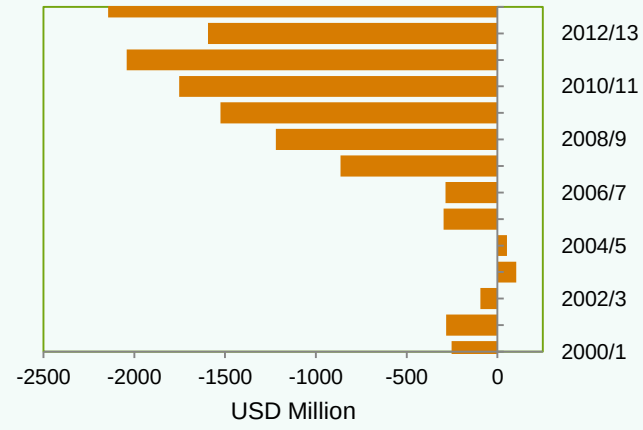
The Uganda shilling experienced strong depreciation pressures in 2014/15. The shilling depreciated by 24 percent on an annualised basis against the US dollar to reach an average of USh.3,199.9 per USD in June 2015 as compared to USh.2,580.9 per USD in June 2014. This was on account of the US dollar appreciation on the global market following positive growth of the US economy in the period under review. Furthermore, demand for foreign exchange increased strongly, mainly from the corporate sector, to fund imports and dividend payments to foreign shareholders following improved corporate profits in 2015. In addition, the volatility in international markets coupled with market sentiments increased the depreciation pressures on the shilling.

Chart 11: Monthly average exchange rate for the Ugandan shilling against the US dollar



Source: Bank of Uganda

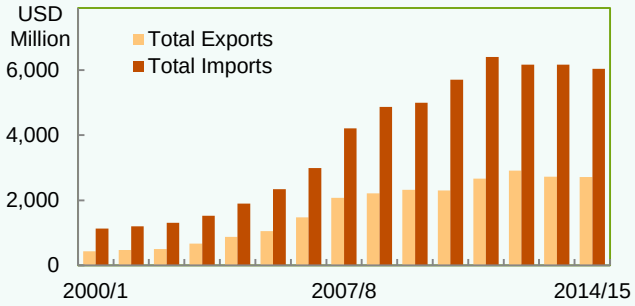
Chart 12: Current account balance (million USD)



Source: Bank of Uganda

Uganda's external sector experienced an imbalance between growing imports and the poor performance of exports. In the year to June 2015, the trade balance stood at negative USD 2,251.5 million in the year to June 2014. This was on account of political instability faced by some of Uganda's trading partners in the region (South Sudan), economic slowdown in Europe and lower global commodity prices.

Chart 13: Exports and imports

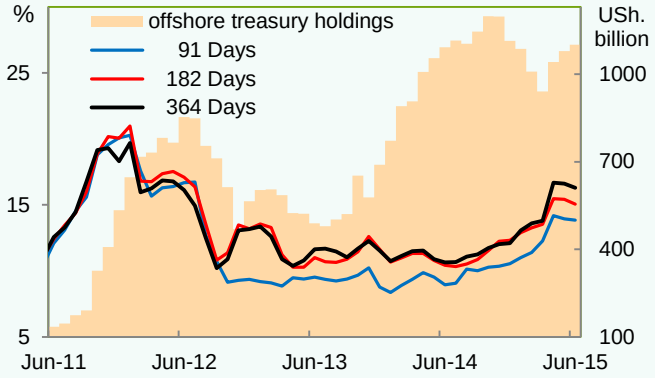


Source: Bank of Uganda

Yield on treasury securities

The yields on Government securities increased considerably over the year to June 2015. This is evident in the rise in 91-days, 182-days and 364-days Treasury bill rates from 8.9 percent, 10.4 percent and 10.6 percent in June 2014 to 13.8 percent, 15.1 percent and 16.3 percent in June 2015, respectively. The volume of offshore holdings increased from USh.1,092.6 billion in June 2014 to reach USh.1,101.2 billion in June 2015.

Chart 14: Treasury bill yields and offshore holdings of treasury securities



Source: Bank of Uganda

1.5 Conclusion

In 2014/2015, risks to financial stability from the macroeconomic environment increased. This was on account of the sharp drop in commodity prices that affected export revenues and the strengthening of the US dollar against the Uganda shilling.

However, the economy is projected to grow in 2015/2016 supported by scaled-up public investment.

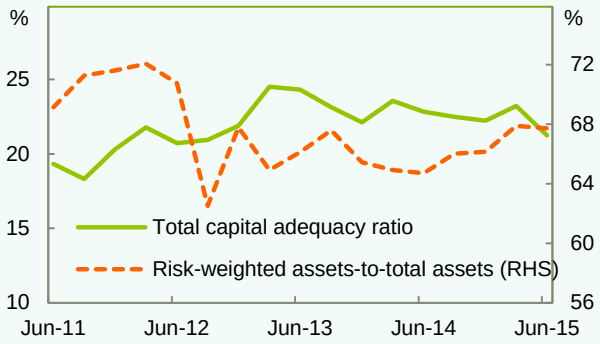
2. KEY DEVELOPMENTS IN UGANDA'S BANKING SECTOR

As at the end of June 2015, the banking system held levels of capital, stable funding and liquid assets above regulatory requirements. It is important that these buffers are maintained in view of the economic outlook. Banking system profitability also increased, supported by cost containment and asset growth. Credit risk remains the principal source of systemic risk.

2.1 Capital adequacy of the banking sector

The Ugandan banking sector held strong capital adequacy to sustain its resilience to adverse shocks. The sector's total regulatory capital rose by USh.353.4 billion in the year to June 2015 to reach USh.3.1 trillion. However, growth in risk-weighted assets far exceeded that of total capital, such that the ratio of total regulatory capital to risk-weighted capital dropped from 22.8 percent to 21.2 percent between June 2014 and June 2015.

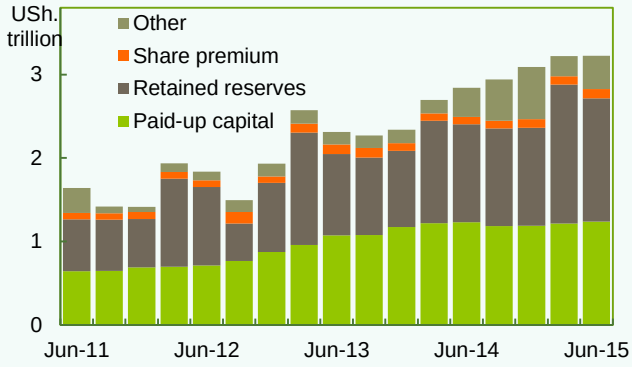
Chart 15: Regulatory capital and risk-weighted assets



Source: Bank of Uganda

Nevertheless, robust profitability during this period helped banks accumulate common equity capital mainly through retained earnings which accounted for 44.5 percent of total equity at the end of June 2015. The banking sector's capital adequacy was also examined using the leverage ratio, which Basel III defines as the ratio of tier one capital to non-risk-weighted exposures. The aggregate leverage ratio for the sector was 11.0 percent at the end of June 2015, well above the BCBS recommended minimum of 3.0 percent.

Chart 16: Shareholders' funds



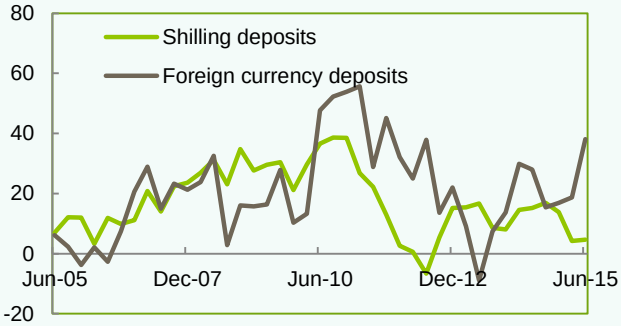
Source: Bank of Uganda

2.2 Market and funding liquidity

Funding liquidity

Deposit funding accounted for 80.2 percent of banks' core funding4. Despite the high levels of core funding, annual deposit growth slowed down from 19.5 percent in the year to June 2014 to 16.5 percent in the year to June 2015.

Chart 17: Annual growth in deposits by currency (*percent*)

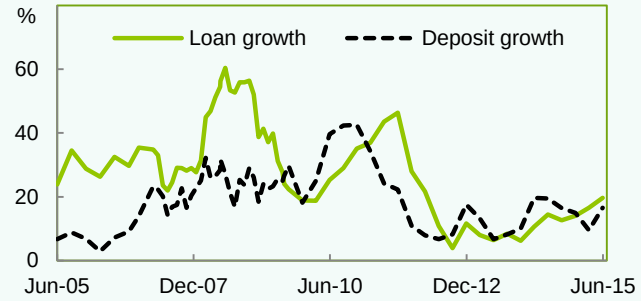


Source: Bank of Uganda

4 Core funding is an approximate metric computed by BOU to monitor the banking sector's level of stable and reliable funding, and it consists of core capital, deposit funding and long-term wholesale market funding.

Although foreign currency deposits contributed strongly to deposit growth during this period, the overall increase was dampened by shilling deposits whose annual growth rate dropped from 15.2 percent to 4.6 percent. The strong growth in foreign currency deposits increased their share of total deposits from 35.6 percent to 42.2 percent.

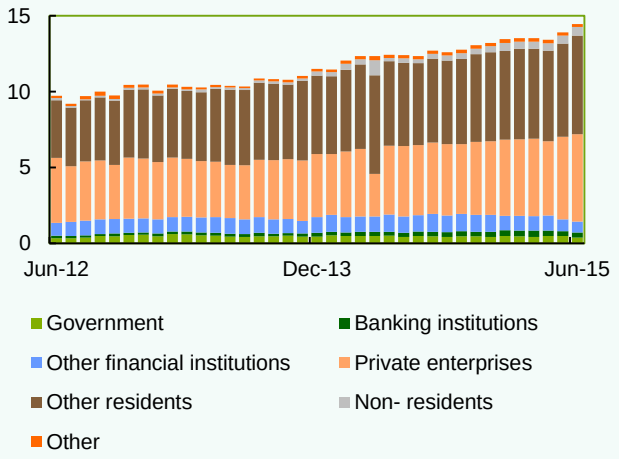
Chart 18: Annual growth of loans and deposits (*percent*)



Source: Bank of Uganda

By sector, households made the largest contribution to banks' deposit funding with a share of 44.9 percent. Additionally, banks were able to accommodate domestic credit demand without recourse to market funding. Although deposit growth remained strong, it did not exceed growth in bank lending. The ratio of total loans and advances to total deposits increased from 70.8 percent to 72.8 percent between June 2014 and June 2015.

Chart 19: Distribution of deposits (*USh. trillion*)



Source: Bank of Uganda

In order to monitor the banking sector's level of short-term funding, all commercial banks are subject to a minimum liquidity coverage ratio (LCR) requirement of 100 percent. At the end of June 2015, all banks adhered to the minimum LCR requirement by holding a sufficient amount of high quality liquid assets to be able to address any potential 'mismatch' between cash inflows and outflows in the event of financial stress lasting over one month. The increase in banks' funding liquidity was further indicated by the liquid assets-to-total deposits ratio of 46.4 percent in June 2015, which was far above the regulatory minimum of 20 percent.

By analysing changes in the banking sector's stable funding sources, we are able to determine whether there exist maturity mismatches between key assets and liabilities which would render the sector's core business activities unsustainable. Table 4 shows that growth in key assets far exceeded the annual changes in core funding by USh.915.1 billion at the end of June 2015. The computation of the funding gap provided in the table assumes that for most banks, retail deposits are used to fund investments in government securities and deposit placements abroad.

Table 4: Annual nominal changes in keys assets and core funding components (*USh. billion*)

	Jun-12	Jun-13	Jun-14	Jun-15
Deposits	613.8	652.8	2,021.1	2,044.5
LESS:				
Loans	700.8	460.3	1,106.5	1,733.7
Government securities	81.1	536.9	921.1	246.3
Balances abroad	910.0	-605.8	-312.3	841.8
	-1078.1	**261.3**	**305.8**	**-777.2**
ADD:				
Equity	500.9	426.8	275.7	114.1
Balances held for non-resident institutions	190.2	-56.1	119.6	-127.3
	-387.0	**632.0**	**701.1**	**-790.4**

LESS:				
Fixed assets	61.2	60.2	239.4	124.7
FUNDING GAP	**-448.2**	**571.8**	**461.7**	**-915.1**

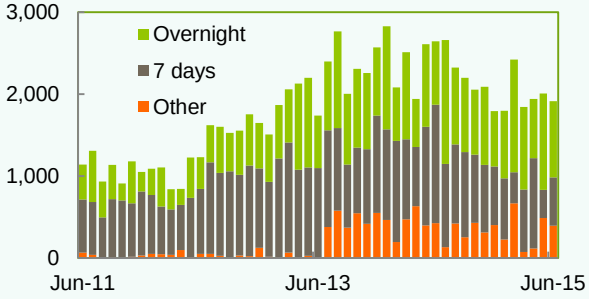
Source: Bank of Uganda

It can be seen that for the year ending June 2015, banks were able to cover lending activities, and while they scaled back on investments in government securities, it was the strong growth in balances placed with financial institutions abroad that created a shortfall in deposit funding of USh.777.2 billion. Furthermore, gains in profitability and long-term wholesale funds failed to sufficiently support banks' additional asset investments such that the sector was left with a funding deficit of USh.915.1 billion. The impact of this deficit is still minimal considering that balances abroad are easily accessible in case of a funding shortfall.

Market liquidity

Conditions in domestic deposit markets eased significantly from the peaks recorded in 2012. In the year to June 2015, banks traded a total of USh.25.0 trillion on the interbank market, compared to USh.28.9 trillion in the year to June 2014. During this period, volatility in the interbank market rates followed a downward trend, with the overnight interbank rate averaging 10.1 percent. Furthermore, the spread between the 7-day interbank market rate and the CBR remained low as the cost of interbank funds fell below the policy rate.

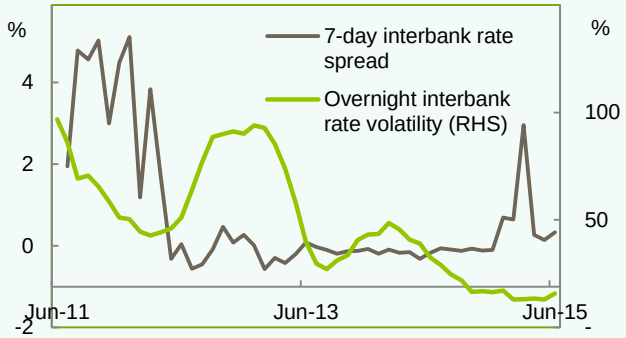
Chart 20: Domestic interbank market volumes (*USh. billion*)



Source: Bank of Uganda

However, increased volatility in the currency market translated into rising funding costs during the first half of 2015. BOU's decision to raise the CBR to 13.0 percent in June 2015 resulted in tightened liquidity conditions in the domestic money markets, such that the interest rate on overnight trades rose from 8.4 percent in December 2014 to 11.1 percent in June 2015. The 7-day interbank rate rose from 11.0 percent to 13.3 percent during the same period.

Chart 21: Domestic interbank market interest rates (*percent*)

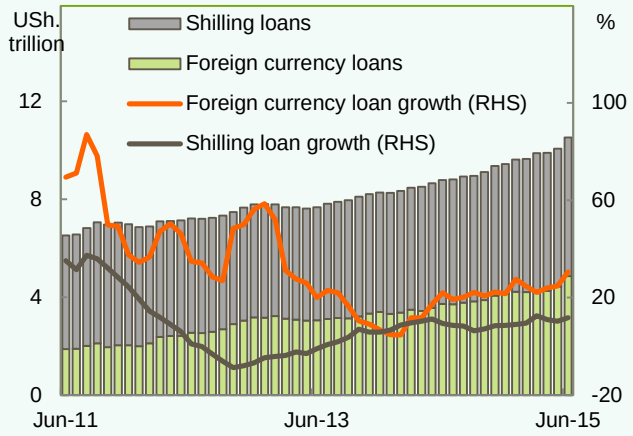


Source: Bank of Uganda

2.3 Banks' lending activity

Total bank lending grew by 19.7 percent in the year to June 2015, up from an annual growth rate of 14.4 percent in June 2014. Credit growth was attributed to an increase in foreign currency loans outstanding which grew by 30.6 percent from USh.3.7 trillion to USh.4.9 trillion, mainly due to the impact of revaluation of these loans to Uganda shillings during that period. The increase in foreign currency loans resulted in their share of total loans increasing from 42.4 percent to 46.2 percent between June 2014 and June 2015.

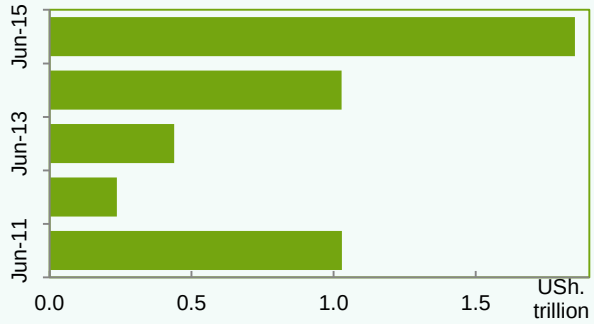
Chart 22: Shilling and foreign currency loans



Source: Bank of Uganda

Banks increased lending in the year to June 2015, and this can be further seen from the level of annual net credit extensions during that period. It can be noted from chart 23 that credit supply by banks started to recover in 2013 after dipping in 2012, such that in the year to June 2013, net credit extensions amounted to USh.1.8 trillion to bring the total stock of loans to USh.10.5 trillion.

Chart 23: Annual net credit extensions



Source: Bank of Uganda

Of the key business sectors, banks' lending to manufacturing registered the highest annual growth rate in the year to June 2015, at 40.6 percent. Lending to the agriculture sector slowed down from 43.1 percent in June 2014 to 21.3 percent. Loans to the trade and commerce and household sectors displayed similar trends, slowing down from 15.0 percent and 44.3 percent in June 2014 to 2.0 percent and 7.6 percent respectively. The building and construction sector maintained the highest share of bank lending during the year at 23.2 percent. Growth in credit to the construction sector was mostly driven by borrowing for land purchases, despite its small contribution to the sector's overall credit levels. The annual change in mortgage lending reduced from 26.3 percent in June 2014 to 9.0 percent in June 2015.

The share of foreign currency loans to total loans has almost doubled in the last five years. This indicates the rising demand for foreign currency loans, especially in the manufacturing and trade sectors. Bank of Uganda is studying the extent to which the depreciation pressures in May-July 2015 may affect the repayment of these loans.

Chart 24: Share of foreign currency loans to total loans (*percent*)

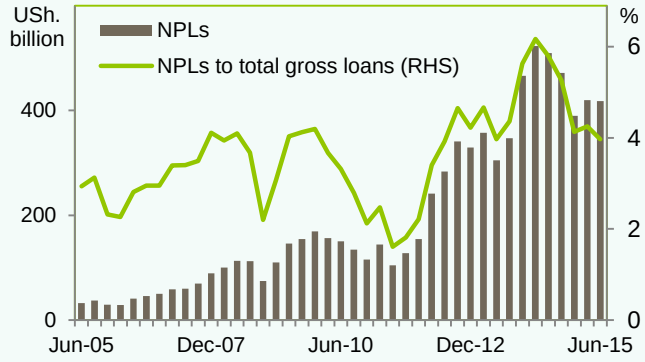
Source: Bank of Uganda

2.4 Banks' asset quality

Non-performing loans (NPLs) declined over the past year, helping to support bank profitability. The level of NPLs declined by 18.0 percent during the year to June 2015, and their share as a percentage of total lending fell from 5.8 percent to 4.0 percent. The overall drop in NPLs was mainly driven by a decline in the impaired loans to two major business sectors, trade and commerce and building and construction, whose NPLs fell by 39.0 percent and 29.5 percent

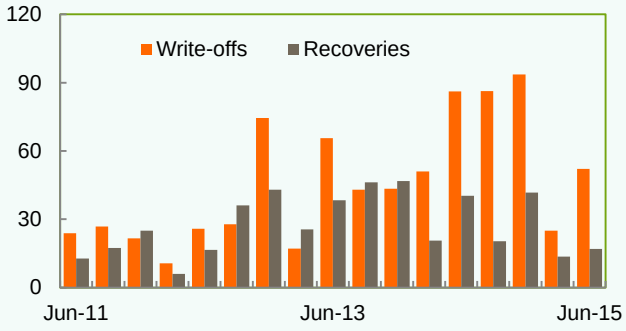
respectively between June 2014 and June 2015. During this period, banks wrote off NPLs amounting to USh.257.0 billion, and were able to recover USh.92.6 billion of impaired loans, which also contributed to the drop in total NPLs.

Chart 25: Banks' non-performing loans



Source: Bank of Uganda

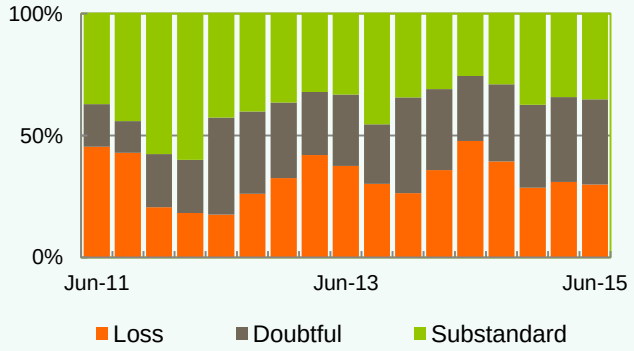
Chart 26: Write-offs and recoveries on banks' loans (*USh. billion*)



Source: Bank of Uganda

The decline in NPLs translated into a reduction in the annual amount of provisions for impaired assets (which directly affect profitability), from USh.333.0 billion in the year to June 2014 to USh.250.4 billion in 2015. Further analysis of impaired loans also revealed that watch loans, which are a leading indicator of future problem loans, started to rise in June 2014, going from USh.656.6 billion to USh.792.9 billion in June 2015. The rise in watch loans is a possible reflection of the impact of recent economic pressures on the borrowers' debt-servicing costs.

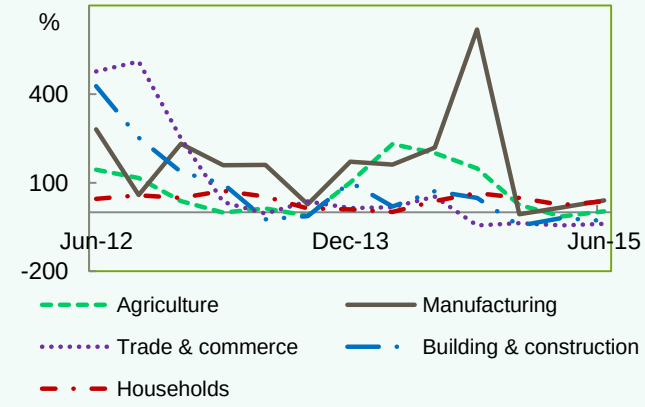
Chart 27: Breakdown of non-performing loans by category



Source: Bank of Uganda

The decline in non-performing loans to businesses was most evident in the foreign currency loans to the trade and commerce sector, whose impairment rate declined from 6.9 percent to 3.7 percent between June 2014 and June 2015. The share of banks' non-performing loans to the building and construction sector dropped by 2.3 percentage points to reach 3.3 percent in June 2015.

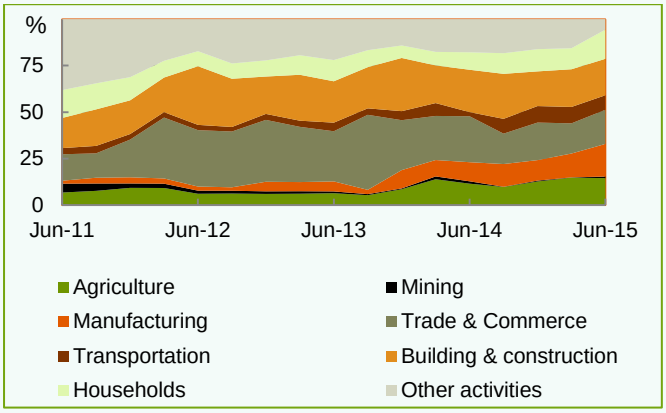
Chart 28: Annual changes in sectoral non-performing loans



Source: Bank of Uganda

The NPL ratio of the household sector rose during this period as the foreign currency component of the sector's loan portfolio deteriorated, resulting in its foreign currency NPL ratio rising from 3.1 percent to 5.7 percent. The most notable change in sectoral NPLs was loans to the manufacturing sector, where NPLs grew by 40.0 percent between June 2014 and June 2015, thus increasing the sector's share of NPLs from 10.3 percent to 17.5 percent.

Chart 29: Distribution of non-performing loans by sector



Source: Bank of Uganda

More generally, it is possible that the tightening in lending standards starting in the first quarter of 2015 contributed to improving the underlying quality of banks' business loan portfolios, and hence strengthened the banking sector's resilience to possible adverse macroeconomic conditions. In the *BOU Bank Lending Survey* for June 2015, commercial banks cited reducing market value of collateral (especially land collateral), the dry season effects which greatly affected the agricultural sector and the increasing foreign exchange risk, as the main factors for the net tightening in the majority of the sectors. Going forward into the next financial year, banks expect an increase in credit demand for investment and growth-related asset purchases from corporates. For small-to-medium sized enterprises (SMEs), the demand for working capital is expected to increase, while demand for credit by households will be driven by increased consumption and rising domestic costs due to upward inflationary pressures. The tighter lending conditions coupled with rising interest rates may lead to reduced demand for credit by both households and firms and also affect their willingness to take on higher investment risks.

BOX 1: Performance of Domestic Systemically Important Banks (DSIBs)

Uganda's Domestic Systemically Important Banks (DSIBs), as identified at the end of December 2014[5], comprise of three commercial banks. At the end of June 2015, the three DSIBs accounted for 40 percent of total bank assets and 40.7 percent of total bank lending.

During the year to June 2015, indicators show that in aggregate, the financial performance of DSIBs remained satisfactory. DSIBs' aggregate core capital adequacy ratio stood at 15.3 percent and asset quality remained fairly stable with the average ratio of non-performing loans to total gross loans at 4.6 percent at the end of June 2015. At the end of June 2015, monthly liquidity coverage ratio (LCR) results illustrate that each individual DSIB held sufficient liquidity to sustain the bank through a 30-day stressful period. The three banks' average LCR stood at 267.8 percent in the year to June 2015.

Table 5: Selected financial soundness indicators for DSIBs (*percent*)

	Jun-12	Jun-13	Jun-14	Jun-15
Total capital adequacy ratio	22.84	24.91	23.5	17.1
Tier 1 capital adequacy ratio	20.62	22.74	22.0	15.3
NPLs-to-total gross loans ratio	4.03	5.16	5.0	4.6
Liquidity coverage ratio	449.64	438.85	260.4	267.8
Total DSIBS assets to total industry assets	49.71	44.67	43.45	40.0

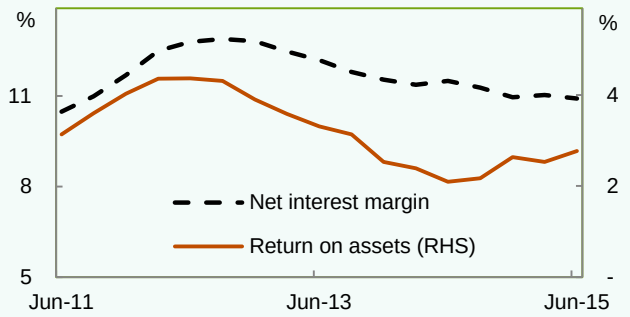
Source: Bank of Uganda

[5] *DSIBs are identified annually, using the indicator-based framework by the BCBS (2010) and supervisory judgment by Bank of Uganda*

2.5 Profitability

Banks' profits were driven by improving loan performance and solid income growth. In the year to June 2015, the level of after-tax profits for the banking sector increased by 55.1 percent, which was an improvement on the decline of 27.8 percent in the year ended June 2014. The banking system's return on assets increased by 0.1 percentage points over the year to reach 2.5 percent, while the return on equity increased from 14.2 percent to 15.6 percent. The rise in profitability over the past year was driven by a combination of factors, including increased net interest income, falling operating expenses as a share of income, and further declines in the impaired asset expense.

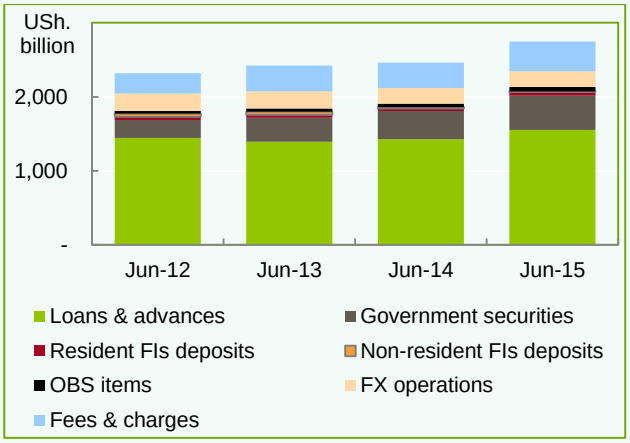
Chart 30: Indicators of bank profitability



Source: Bank of Uganda

Total interest income increased by 9.8 percent in the period under review, owing to the stock of outstanding credit and high interest rates. Although interest earned on loans and advances continued to contribute the largest share of interest income, it was income from banks' holdings of government securities that registered the highest rate of growth at 22.7 percent, boosted by a rise in interest rates during the year. Between June 2014 and June 2015, interest rates on 91-day treasury bills increased by 3.8 percentage points, compared to average lending rates on shilling loans which rose by 1.2 percentage points.

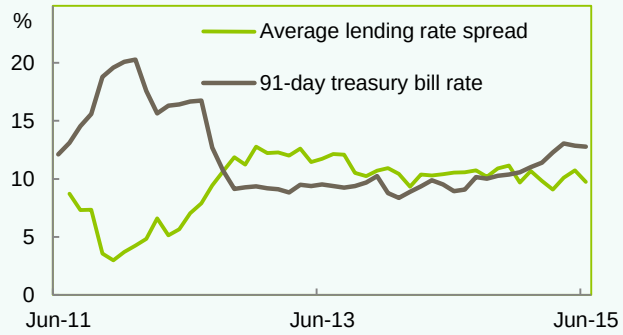
Chart 31: Breakdown of banks' annual income (*USh. billion*)



Source: Bank of Uganda

Non-interest income was mainly driven by the growth in earnings on off-balance sheet activities and fees and charges on deposits and loans.

Chart 32: Lending and securities interest rates (*percent*)



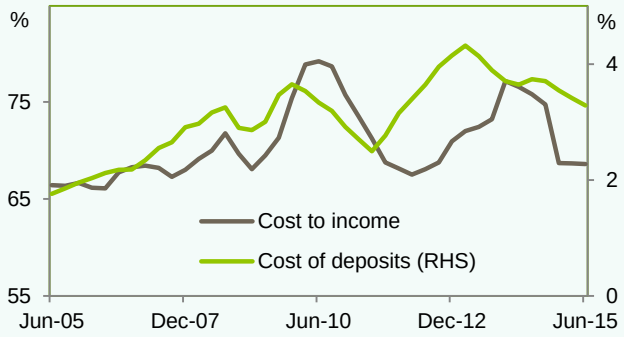
Source: Bank of Uganda

Despite the strong recovery witnessed in the sector's net interest income since 2013, the aggregate net interest margin[6] dropped from 11.5 percent to 10.9 percent between June 2014 and June 2015. This was mainly because during this period, the level of interest-earning assets, which consist mainly of loans and government securities for Ugandan banks, rose

[6] *Net interest margin (NIM) is a measure of the difference between interest income and interest expenses, relative to the amount of their (interest-earning) assets.*

at a faster rate than that at which the numerator (difference between interest income and interest expenses) was increasing. However, it is expected that if the current rate of growth in lending activity continues, along with increased investment in government securities, and that interest rates also continue to rise, banks' profit margins will widen.

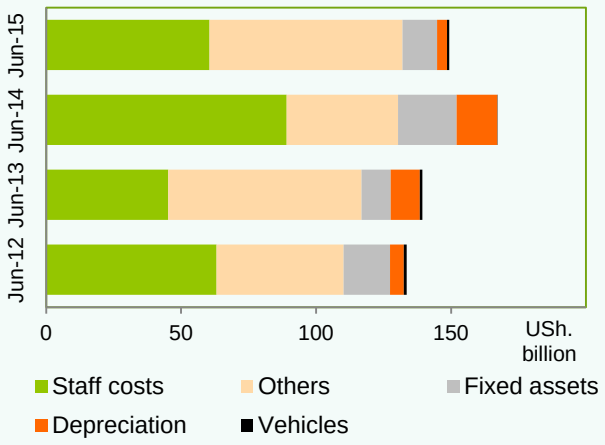
Chart 33: Indicators of banks' costs



Source: Bank of Uganda

Interest expenses also contributed to the strengthening of banks' net interest income. Specifically, the cost of deposits followed a downward trend throughout the period under review, falling to 3.3 percent by the end of June 2015. Interest paid on deposit funding was kept low by both the modest growth in deposit levels, and the low interest rates offered by banks for customer deposits.

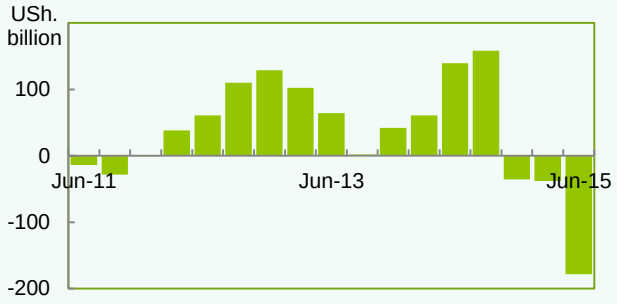
Chart 34: Annual changes in banks' operating costs



Source: Bank of Uganda

On the upside, the cost-to-income ratio dropped from 75.8 percent to 68.6 percent as the rate of growth in banks' earnings exceeded that of their operational costs. Total operating costs rose by USh.149.3 billion between June 2014 and June 2015, compared to USh.167.2 billion in the previous year. In spite of the growing competition in the banking sector, the majority of banks were able to rein in their business costs and thus grow their profit margins. It is also important to note that the improved performance of the banking sector's loan portfolio greatly contributed to increasing their profit buffers. In the year to June 2015, banks' losses due to default by borrowers amounted to USh.153.8 billion, compared to USh.332.1 billion in the year to June 2015.

Chart 35: Annual changes in banks' losses on impaired loans



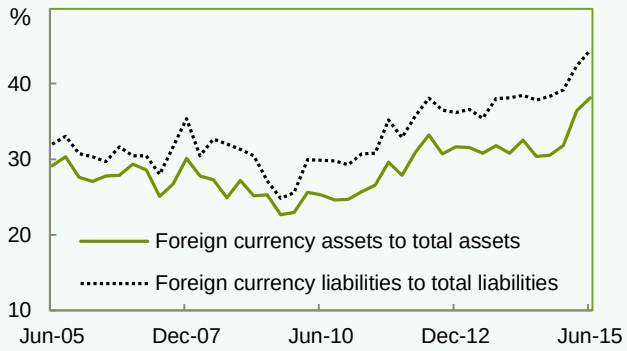
Source: Bank of Uganda

2.6 Market risk

In the year to June 2015, there were significant changes in the proportion of banks' foreign currency denominated components, compared to the previous year. Continued exchange rate depreciation during this period contributed to a rise in demand for foreign currency, thus resulting in increased dollarization in the banking system. At the end of June 2015, foreign currency assets as a share of total assets stood at 38.1 percent while the ratio of foreign currency liabilities to total liabilities stood at 44.4 percent during the same period. The ratio of foreign currency denominated assets to liabilities rose from 95.4

percent to 101.4 percent during the period under review.

Chart 36: Dollarization of banks' balance sheets (*percent*)



Source: Bank of Uganda

2.7 Credit Intermediation Channels

Overall, the Credit Institutions were adequately capitalized and liquid as at June 30, 2015. Total assets held by the Credit Institutions grew by USh.67.8 billion mainly on account of total advances which increased by USh.37.1 billion between June 2014 and June 2015. The overall core capital of the Credit Institutions stood at USh.51.9 billion while total capital amounted to USh.63.7 billion. Credit Institutions recorded overall year-to-date profits of USh.1.0 billion, reflecting a slight decline from the profits of USh.2.9 billion reported for the year ended June 30, 2014. The resultant ROA and ROE ratios stood at 0.3 percent and 1.6 percent respectively. Credit risk remains a concern as indicated by an increase in the sector's NPL ratio from 4.2 percent to 4.4 percent during the period under review.

The Microfinance Deposit-taking Institutions (MDIs) sub-sector continued to be financially sound, profitable and adequately capitalized as at June 2015. All the MDIs maintained paid-up capital above the statutory minimum requirement translating into aggregate core capital ratio and total capital ratio of 38.8 percent and 42.8 percent, respectively. MDIs' year-on-year after tax earnings declined by USh.807.2 million to reach USh.8.5 billion, in the year to June 2015. This was mainly on account of an increase of USh.2.5 billion or 72.6 percent in interest expenses on deposits. The loan portfolio quality remained unchanged with a portfolio at risk ratio of 2.3 percent.

2.8 Conclusion

Overall assessment of the banking sector shows an improvement in banking sector performance in the year to June 2015. Bank lending has continued to grow and this has led to an increase in interest income for the banks. Liquidity risk remains low and banks have adequate liquid assets to cope with short term liquidity stress scenario. Concerns remain over slow growth in shilling deposits and asset quality of banks moving forward.

3. FINANCIAL INFRASTRUCTURE AND OTHER FINANCIAL CORPORATIONS

This chapter examines the payments system in Uganda, highlighting key systems' performance and trends. Also included is an overview of performance of Uganda's capital markets and other regulated financial institutions outside the banking sector. There was a mixed performance overall as shown by decline in capital markets activity and growth in both Insurance and Retirement Benefits sectors. The systemic risk posed by these institutions is still low given the relative size of these institutions and market activity when compared to the banking sector.

3.1 Payments systems oversight

3.1.1 Introduction

Payment Systems are fundamental to the functioning of the economy as they provide a means of settling transactions. But payment systems can also involve significant exposures and risks for members, and can be a channel for the transmission of disturbances from one part of the economy or financial system to another.

Bank of Uganda's continued effort to reform the national payments system in Uganda has prompted the implementation of modern interbank clearing and settlement systems over the past decade. Currently, there is a large value funds transfer system, Uganda National Interbank Settlement System (UNISS), an electronic clearing system for cheques and direct debit and credit transfers, and an electronic Central Securities Depository (CSD) for government securities. Additionally, the private sector continued implementation of innovative initiatives such as mobile money and chip and pin cards, has also significantly contributed to the payment systems and payment instruments market in Uganda.

3.1.2 Payment Systems Oversight at the Bank of Uganda

Bank of Uganda's focus remained on ensuring the stability and resilience of the payments infrastructure in the country while enhancing the efficiency and cost effectiveness of the major payment systems. There were a number of payment system oversight activities conducted by the BoU during the financial year to June 2015 and these include; monitoring the usage and operational performance of Uganda's Real Time Gross Settlement System (RTGS), UNISS, and the Electronic Clearing System (ECS) as well as payment instruments' such as mobile money and Automated Teller Machines (ATMs).

3.1.3 Performance of payment systems

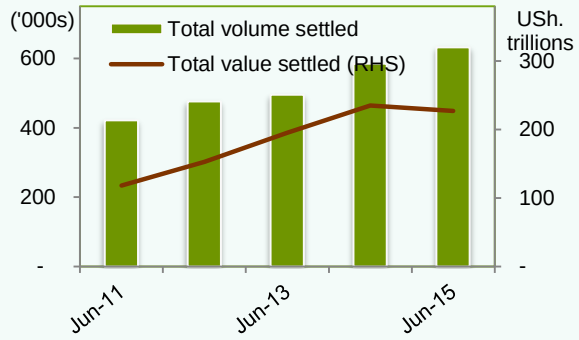
a) Uganda National Interbank Settlement System

Uganda's real-time gross settlement system, UNISS, is an advanced, interbank electronic payment system that facilitates the efficient, safe, secure and real-time transmission of high value funds between accounts in different financial institutions. There were no significant disruptions to the operation of UNISS in the year ending June 2015 as the system was available 99.5 percent of its required time.

Transactions in Ugandan Shillings

The overall UNISS transactions volume throughout the year ending June 2015 totalled 623,370 with a value of Ush.227.2 trillion. This represents an 8.1 percent increase in the volume of transactions but a 3.3 percent reduction in the value of these transactions respectively, when compared to the previous year ending June 2014, where the overall UNISS transaction volume was 584,842 with a value of Ush.235.0 trillion.

Chart 37: UNISS Transactions by volume and value



Source: Bank of Uganda

Transactions in foreign currencies

UNISS also clears transactions in key foreign currencies, namely, United States dollars (USD), European Union Euros (EUR), the Great British Pound (GBP), Kenyan Shilling (KES), Tanzanian Shilling and Rwandan Franc. Transactions in dollars registered the highest activity in terms of both value and volumes settled in the year ending March 2015 with USD 7.5 billion settled in 93,363 transactions. The Euro recorded the second highest number of transactions with the equivalent of USD$0.156 billion settled in 1,665 transactions.

Table 6: UNISS volume and values transacted in foreign currencies[7]

	Jun-13	Jun-14	Jun-15
Total value settled (USD millions)	4,109	6,690	8,260
Proportion by currency (value)			
USD (%)	98.0	97.7	93.5
EUR (%)	1.8	1.8	2.4
GBP (%)	0.2	0.3	0.4
KES (%)	0.04	0.18	3.66
TZS (%)	0.00	0.00	0.01
RWF (%)	0.00	0.00	0.00
Total volume settled	58,871	85,761	102,381
Proportion by currency (volume)			
USD (%)	96.5	96.2	94.2
EUR (%)	2.6	1.9	1.9
GBP (%)	0.8	0.7	0.7
KES (%)	0.10	1.08	3.04
TZS (%)	0.02	0.10	0.13
RWF (%)	0.00	0.00	0.02

Source: Bank of Uganda

b) East African Payment System (EAPS)

The East African Payment System (EAPS) is a multicurrency system, which connects the RTGS Systems of the East African Community (EAC) member countries. Rwanda joined Kenya, Tanzania and Uganda on the EAPS network in December 2014.

In terms of value the majority of transactions have been made in Kenyan Shillings, whereas in terms of volume the majority of transactions received (inward) by Uganda are made in Ugandan shillings, with the majority sent transactions (outward) by Uganda are in Kenyan shillings.

Table 7: Performance of EAPS (*year to end of June 2015*)

	Inward	Outward
Total value settled (USh. billions)	455.52	455.28
Proportion by currency (value)		
UGX (%)	9.7	9.3
KES (%)	90.0	90.4
TZS (%)	0.3	0.2
RWF (%)	0.003	0.036
Total volume settled	1,991	3,553
Proportion by currency (volume)		
UGX (%)	70.4	34.2
KES (%)	28.5	62.2
TZS (%)	0.8	3.3
RWF (%)	0.3	0.3

Source: Bank of Uganda

[7] *Note that RWF figures are relatively low as UNISS only began settling RWF transactions in December 2014.*

c) COMESA Regional Payment and Settlement System

REPSS is a cross-border clearing system for transfer of funds within the Common Market for Eastern and Southern Africa (COMESA) in both United States dollars and Euros. The first REPSS Uganda generated transaction was effected on September 29, 2014. Since then, there have been a total of 59 transactions to the end of June 2015.

Table 8: Performance of REPSS (*Year to end of June 2015*)

Currency	Volume	Value
USD	55	USD $1,940,081
EUR	4	EUR 52,789

Source: Bank of Uganda

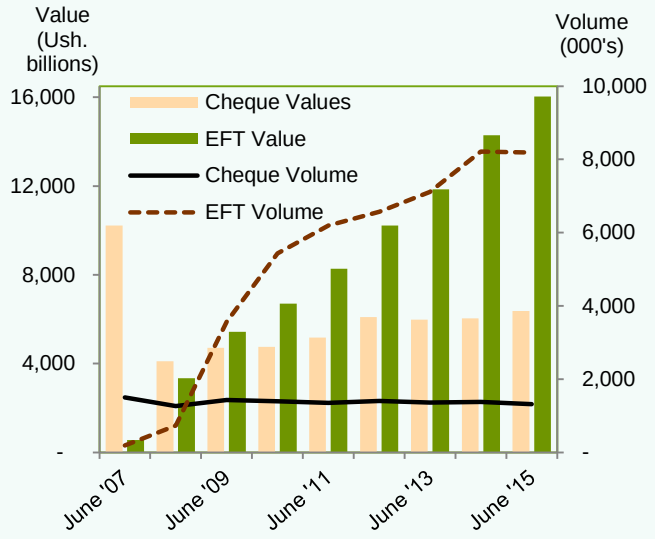
d) Electronic Clearing System (ECS)

ECS is a clearing system which automates the processing of cheque clearing and execution of EFT transactions.

Transactions in Ugandan Shillings

During the year ending June 2015, 1.32 million cheque transactions valued at USh.6.37 trillion were cleared in the ECS. This is a decrease in volume and increase in value, from 1.37 million cheque transactions valued at Ush.6.04 trillion cleared in the year ending June 2014. The overall EFT transaction volume; both credits and debits, stood at 8.19 million with a value of USh.16.04 trillion in the year ending June 2015; a decrease of 0.3 percent in volume and an increase of 12.3 percent in value respectively when compared to the previous year ending June 2014, where the overall EFT credits and debits volume was 8.21 million with a value of USh.14.28 trillion.

Chart 38: ECS Volume and Values



Source: Bank of Uganda

Transactions in foreign currencies

The ECS also clears cheques and EFTs in widely used foreign currencies, namely: United States dollar (USD), European Union Euros (EUR), Great British Pounds (GBP), and Kenyan Shillings (KES). Throughout the year ending March 2015, transactions made in US dollars registered the highest activity with the USD cheque transaction volume at 74,123 with a value of USD 267.1 million, whereas EFT transactions were 39,264 with a value of USD 574.2 million.

e) Mobile money

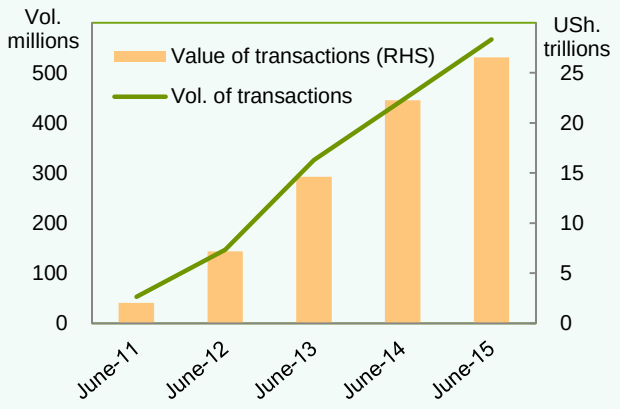
Mobile money continues to perform well especially in respect of the volume, the value of transactions, and the number of registered users.

Table 9: Mobile money performance

Period	June 2014	June 2015	% Change
Transactions (millions)	445.7	566.4	27.1
Value of transactions (UGX trillions)	22.2	26.5	19.3
Registered customers (millions)	17.6	19.5	10.5
Number of agents (000s)	64.0	96.5	50.8

Source: Bank of Uganda

Chart 39: Mobile money volumes and values



Source: Bank of Uganda

Mobile money is likely to continue to record robust performance given the innovative services that are in the pipeline in the market. For instance, some networks have already begun the process to operationalise cross-border mobile money transactions to take place between Uganda and other EAC countries.

f) Bank branches, ATMs and Interswitch

As at June 31, 2015 the total number of bank branches stood at 570 compared to 561 as at June 31, 2014. The number of automatic teller machines stood at 834 as at June 31, 2015, compared to 803 as at June 31, 2014.

Table 10: Number of commercial banks, bank branches and ATMs

	Bank braches	ATMs	Percentage change
June 2013	500	712	42
June 2014	561	803	43
June 2015	570	834	46

Source: Bank of Uganda

The Interswitch network links participating institutions and enables their customers' access to shared ATMs and Points of Sale (POS) services. As at the end of June 2015, there were 10 commercial banks, 2 credit institutions and 1 MDI connected to the Interswitch network[8], with a total of 307 interconnected ATMs.

The continued growth of bank branches and ATMs improves access points for financial services increasing the incentive to be part of the formal financial sector.

3.2 Financial crisis preparedness

Since the 2007 Global Financial Crisis, Central Banks have taken steps to enhance their capacity to prepare for and manage systemic crises. Bank of Uganda developed a Crisis Management plan for the Banking Sector, which was approved by the Bank's Financial Stability Committee in February 2015. The key policy measures of the plan are highlighted in Box 2.

[8] *GTBank Uganda, Opportunity Bank Uganda, Postbank Uganda, United Bank for Africa, Cairo International Bank, Centenary Rural Development Bank, DFCU, Finance Trust Bank, Global Trust, Imperial Bank Uganda, Orient Bank, Commercial Bank of Africa, FINCA Uganda and NC Bank Uganda*

BOX 2: Summary of the BOU Crisis Management plan for the Banking Sector

a) Introduction

The 2007 global financial crisis demonstrated the importance of having an effective framework to minimise and resolve a crisis at the first signs of distress in the financial system. Since 2012, the financial system regulators and the Ministry of Finance, Planning and Economic Development (MoFPED) have taken significant steps to enhance the capacity to manage a systemic crisis. First, the financial system regulators conducted a financial crisis simulation exercise in 2012 with Technical Assistance from the World Bank. Secondly, the recommendations and lessons from the exercise have been implemented, including enhancing legal powers to resolve failing institutions and drafting crisis management plans. This note highlights the steps taken to develop a crisis management plan for the banking sector.

b) Crisis Management Plan for the banking sector

The objective of the plan is to facilitate the orderly resolution of a crisis, while minimising losses to depositors, the government and the real economy by stabilising market confidence and reducing the risk of bank runs. The plan ensures this through providing guidance and requirements, by developing appropriate capacity for crisis detection, crisis management and crisis resolution.

Financial crisis detection

Given its role as regulator of the financial system, the plan provides BOU with a robust framework that allows for prompt detection of disturbances within the financial system. Following international best practice, the framework includes indicators that act as early warning signals including;

(i) Abnormal payment flows within the national payments system or irregular behaviour in the domestic money and foreign exchange markets.

(ii) Intelligence about the financial condition of individual banks through supervision and regulation, which covers both on-site and off-site reviews to assess the financial strength of licensed institutions in Uganda.

(iii) Macro variables.

Other financial regulatory agencies also play a role in safeguarding financial stability in Uganda. The Insurance Regulatory Authority (IRA), the Uganda Retirement Benefits Regulatory Authority (URBRA) and the Capital Markets Authority (CMA) may become aware of potential threats in the course of exercising their statutory responsibilities. Therefore, the framework includes a mechanism for all financial regulators to work closely together through the Financial Sector Surveillance Committee (FSSC) to share information and coordinate policy measures and undertake consolidated supervision.

Financial Crisis Management

Once a disturbance has been detected, the response must be quick in order to maintain confidence within the system. First, the systemic consequences of the disturbance will be determined to assess whether the problems of the distressed bank have the potential to inflict damage on the financial system, and ultimately the wider economy. In order to achieve this, the liquidity and solvency position of any distressed financial institution will be assessed, consideration will be given to cross-border implications when foreign-owned banks are involved, and the 'corrective actions' available under the Financial Institutions Act (2001) will be evaluated.

Financial Crisis Resolution

BOU will utilise options for resolving the crisis consistent with its mandate for safeguarding the stability of the financial system, while striving to ensure that the distressed bank meets its existing obligations and its core functionality is retained, in order to prevent distress to the financial system and wider economy. To achieve this, there are several resolution tools available including liquidity support to alleviate short-term cash flow shortages in the financial system. BOU is also empowered by the Financial Institutions Act (FIA) 2004 to intervene when it believes or finds that the affairs of a financial institution are conducted in a manner that is detrimental to the interests of depositors or prejudicial to the interests of the financial institution. Mergers between financial institutions can be arranged, as can the sale of a financial institution, and the purchase of assets and assumption of all or some liabilities using receivership powers (Section 95 of FIA 2004). These resolutions can be carried out without shareholder or creditor consent. If none of the above resolution tools are adequate, Ministry of Finance, Planning and Economic Development (MoFPED) to request further assistance in order to maintain stability in the system.

c) Going Forward

Additional steps will be undertaken to further enhance the framework for financial crisis resolution. These include;

(i) Strengthening coordination with other financial sector regulators and the Ministry of Finance, Planning and Economic Development to ensure that problem banks that are part of a group can be quickly resolved.

(ii) BOU will also strive to strengthen cross-border coordination. There is already cooperation among EAC Central Banks to establish a mechanism of resolving cross border banks. BOU will continue to work closely with home supervisors of foreign owned banks, increasing cooperation and establishing Memorandums of Understanding (MOUs) to safeguard financial stability in Uganda.

3.3 Other Financial Corporations

3.3.1 Developments in Capital Markets

Secondary market activity

There was a slight decline in secondary market activities in the year to June 2015 compared to the previous financial year. Equity turnover declined by over 7 percent to USh.310 billion, from USh.333 billion the previous financial year. This led to a 7 percent decline in the average turnover per trading session to USh.1.2 billion from USh.1.3 billion in the previous fiscal year. Share volume also dropped by 24 percent to USh.1.8 billion from 2.4 billion in the previous fiscal year. The drop in equity turnover and share volume was driven by rising interest rates that have seen investors shift to the government bond market and a weak shilling that has seen off-shore investors' scale down activity. Domestic market capitalization rose by 18 percent to close the fiscal year at USh.3.7 trillion from USh.3.2 trillion. This was due to an increase in the prices of most locally listed companies at the Uganda Securities Exchange (USE).

Table 10: Equity Market indicators

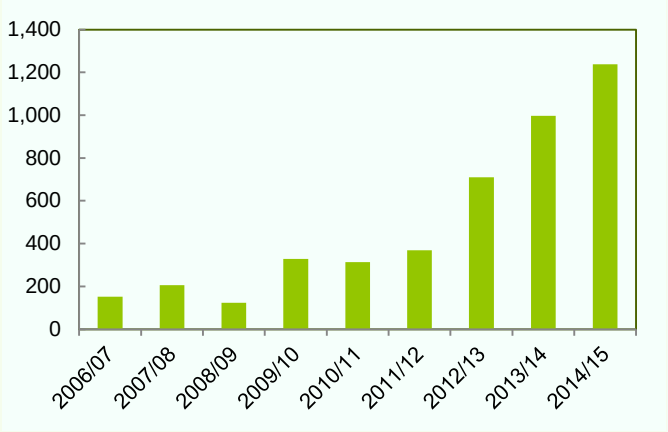
	2014/15	2013/14	Change (%)
Equity Turnover (USh. Billion)	310	333	(7)
Average Turnover per session (USh. Billion)	1.2	1.3	(7)
Share Volume (Million)	1,848	2,436	(24)
Domestic market Capitalization (USh. Trillion)	3.7	3.2	18

Source: USE Market Reports

Fund Management

The total funds under management by fund managers licensed by CMA stood at USh 1.24 trillion as at the end of the third quarter of the fiscal year 2014/15. This was an increase of 24 percent from USh 997 billion as at the end of the fiscal year 2013/14. The increase in funds under management was as a result of the appreciation in value of underlying assets as well as the recruitment of new members by schemes whose funds are under management.

Chart 40: Funds under Management (USh. Billion)



Source: Capital Markets Authority

3.3.2 The Retirement Benefits Sector Performance

Total industry investment portfolio was compiled based on 20 licensed Retirement Benefits schemes that submitted financial statements for the period ending December 2014 out of a total of 64 licensed schemes. The total asset value of the schemes was USh.5.1 trillion.

Table 12: Overall Industry Investment Portfolio

	Investment Class Category	USh. (Millions)	Percentages
1	Treasury Bills	67.8	1
2	Government Bonds	2,858.2	56
3	Corporate Bonds	211.9	4
4	Quoted Equity	450.4	9
5	Unquoted Equity	71.5	1
6	Fixed & Term Deposits	804.1	16
7	Cash & Demand Deposits	110.1	2
8	Offshore Investment	10.8	0
9	Immovable Property (land and buildings)	451.4	9

10	Other	40.2	1%
	TOTAL	**5,076.2**	**100%**

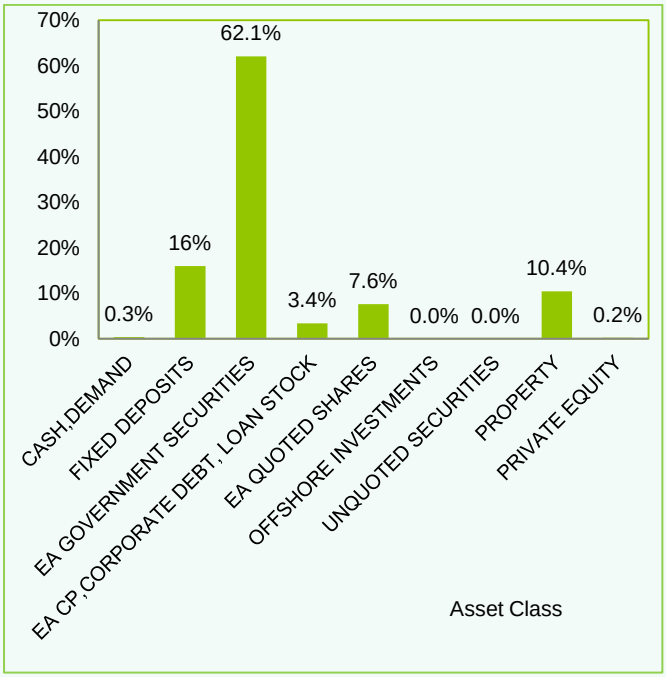
Source: Uganda Retirement Benefits Regulatory Authority database

The total asset value of Schemes was USh.5 trillion in December 2014. In terms of portfolio allocations, 56 percent of the investments were undertaken in government securities, 9 percent in quoted equities and 9 percent in real estate. Overall 77 percent of the total assets allocation was to Fixed Income securities in the EAC region.

The National Social Security Fund (NSSF)

The value of NSSF assets as at June 2014 was USh.4.4 trillion. This was a significant increase in the Fund value up from USh.3.48 trillion in 2013 and USh.2.74 trillion in 2012.

Chart 41: NSSF's Asset Allocation



Source: Uganda Retirement Benefits Regulatory Authority

A total volume of 62 percent of the NSSF's investments portfolio was in Government securities held in the EAC region and about 10 percent in real estate. Overall, 80 percent of the total portfolio of Fund is in fixed income securities. The Investments of assets is undertaken internally by the Fund with a small portion of the equities portfolio outsourced to external fund managers.

3.3.3 The Insurance sector

The total assets of the industry were USh.915.1 billion as at end December 2014, up 18.3 percent from USh.773.8 billion at end of previous year. Non-life (General) insurance accounted for 81.9 percent of total industry assets during the period under review. Industry assets were offset by liabilities of USh.560.2 billion, up 12 percent from USh 499.8 billion the previous year. Industry net assets rose by 29 percent from USh.274.1 trillion to USh. 354.9 billion.

The percentage growth in premiums from the life insurance sector (33.6 percent) was higher than that of the Non-life sector. However, the penetration continues to be low.

Table 13: Premium Incomes for Insurance sector

Year	Premium Income (Millions)	Growth rate (%)	Insurance Penetration (%)
2010	240	18.77	0.65
2011	296.8	23.69	0.65
2012	352.2	18.66	0.66
2013	461.3	32	0.85
2014	504.8	9	0.86

Source: Insurance Regulatory Authority

Financial Performance

The Industry reported record aggregate premium levels amounting to USh.504.8 million. Non-life Business accounted for USh.383.7 million while life business accounted for USh.74.0 million in 2014.

Reinsurance premium ceded for non-life business amounted to USh.162.6 million while reinsurance premium ceded for life business amounted to USh.10.8 million in 2014. Net earned premium for the industry in

the year ended December 2014 was USh.203.6 million for non-Life business and USh.63.3 trillion for life business, up 11.2 percent and 46.4 percent from the previous year respectively.

Net Incurred claims for the Industry in the year ended December 2014 were USh.80.9 million for non –life business and USh.63.3 million for life business, up 11.2 percent and 46.4 percent respectively from the previous year

Notably the Loss ratio[9] for the industry in the year ended December 2014 was 39.7 percent for non–life business, down from 39.8 percent in the previous year, while the loss ratio for life business was 34.5 percent up from 8.9 percent in the previous year.

The Insurance sector continues to benefit from high interest rates over the past three years which has boosted profitability. Underwriting profit for general business grew by 2.4 percent from 23.4 million to USh.24.0 million during this year.

3.4 Conclusion

Throughout the year ending June 2015, payment and settlement systems have continued to operate satisfactorily, with key systems processing payments effectively, and exhibiting a high degree of availability. BoU has been able to adhere to its SLA's and ensure that all systems have operated to a very high standard with minimal interruption and downtime.

Insurance sector continues to grow as shown by increase in life premiums. However, more efforts should be geared towards increased coverage and penetration over the next five years. Capital markets activity declined as shown by drop in trade volumes. This is likely to increase as investors have higher appetite for government securities during period of relatively high interest rates compared to financial year ending June 2014.

[9] ***loss ratio*** *is the ratio of total losses incurred (paid and reserved) in claims plus adjustment expenses divided by the total premiums earned*

4. THE OUTLOOK FOR FINANCIAL STABILITY

As at the end of June 2015, credit risk remains the principal source of systemic risk. Going forward, micro and macro risks are likely to increase arising from adverse macroeconomic developments. The banking sector has sufficient capital buffers to withstand these emerging risks.

4.1 Summary of risks facing the banking system

a) Credit Risk

Risks arising from the increase in lending rates

Bank lending rates have since June 2015 risen, reflecting the monetary policy actions by Bank of Uganda to curb inflation. Higher lending rates will increase the debt service-to-income ratio (DIR) for households and enterprises and hence affect their ability to service existing debt. It is expected that the rising cost of borrowing will feed into a reduction in bank asset quality with a lag of 3-6 months, and erode bank profitability. In order to effectively monitor this risk, Bank of Uganda and UBOS have started to compile data on household and corporate debt, in order to assess the capacity of the two sectors to repay their loans. Stress tests by Bank of Uganda also indicate that banks are more resilient with higher capital buffers, compared to the last high interest period in 2011

Increased exposure to foreign currency loans and exchange rate volatility

Indicators show that bank exposure to foreign currency loans has risen significantly over the 5 year cycle to June 2015. The ratio of foreign currency loans to total loans has grown from 27.4 percent in 2010 to 46.2 percent in June 2015, even after adjusting for depreciation effects. Most of this exposure is to the building and construction sector. Anecdotal information obtained has also indicated that some commercial banks are encouraging their clients to borrow in foreign currency, to hedge against rising interest rates on shilling loans. As at June 2015 however, the ratio of foreign currency loans to foreign currency deposits was at 61.3 percent in June 2015, below the limit of 80 percent.

Nevertheless, the rise in foreign currency lending poses several risks to banks going forward. Enterprises which have borrowed in foreign currency are likely to face higher debt servicing costs because of exchange rate depreciation. In addition, adverse economic shocks, the slowdown in property prices and rising construction costs may diminish property developer's profitability, while the rising cost of borrowing may affect the demand for property, thereby affecting loan repayment rates. Banks of Uganda will continue to enforce foreign exchange business guidelines that require banks to extend foreign currency denominated loans to clients with income in foreign currency.

Chart 42: Foreign currency loans as a share of total loans

Source: Bank of Uganda

b) Funding and liquidity risk

Risks from reversal of Portfolio flows

For several years, advanced economies have maintained interest rates slightly above zero to

stimulate economic growth. This led many investors to turn to emerging and developing markets in search of higher returns. However, the recent global market turmoil, declining growth in emerging economies and plans to normalise interest rates in developed economies have, again, heightened risks of a reversal of capital flows from emerging markets including Uganda.

Data shows that by August 2015, actual net outflows from the Ugandan banking sector remain low. In addition, stress tests by Bank of Uganda indicate that banks have adequate liquidity buffers to withstand withdrawal of deposits by offshore financial institutions. BOU and central banks of EAC Partner States are also coordinating policy action to address this risk and plan to conduct a regional stress test in November 2015 to establish the effect of a reversal in portfolio flows and declining commodity prices on banks.

4.2 Stress test results for the banking sector

Quarterly stress tests are carried out to assess the resilience of the banking sector to plausible systemic risks. The framework of these tests is based on work by Cihak[10] to identify the breaking point for each risk; shocks are applied to selected variables until banks fail to meet a predefined threshold. The stress tests for June 2015 focused on the two main potential sources of vulnerabilities for the Ugandan banking sector; ***credit*** and ***liquidity*** risks. The stress tests employ sensitivity analysis as opposed to a scenario-based analysis. The different breaking points[11] which were defined for each type of shock are summarised in below.

Credit risk

Credit shocks were conducted to assess the effect a further deterioration in asset quality would have on bank capital. The ratio of non-performing loans to total loans is taken as the main measure of credit risk, since credit risk is associated with the quality of the banking sector's loan portfolio.

The first test applied a uniform shock to the baseline level of performing loans[12] so that a proportion of them became non-performing loans. The results showed that the NPL ratio of each bank in the industry would have to increase by 16.9 percentage points over a one-year period before the first domestic systemically important bank's (DSIB) capital adequacy falls below the regulatory minimum requirement. When this happens, a further eleven (non-DSIB) banks will also be undercapitalised[13].

10 Cihak, M. "Introduction to applied stress testing" (2007) IMF Working Paper No. WP/07/59, International Monetary Fund, Washington DC

*11 IMF Working paper Ong et al. This approach analyses the maximum magnitude of a specific type of shock before which banks breach a regulatory requirement or 'fail'. This reverse analysis, called the **breaking point method**, involves "stressing until the system breaks". For each risk factor, this method applies shocks to different variables until a bank(s) fails to meet a regulatory requirement.*

12 Neither the baseline scenario nor the adverse shocks take into account future business strategies and management actions, and do not forecast banks' results.

13 A bank becomes undercapitalised when its capital adequacy ratio (defined as the ratio of core capital to risk-weighted assets) falls below the minimum regulatory requirement of 8 percent. Such a bank would then be required to acquire additional capital to return to the minimum required level of capital adequacy.

Table 14: Summary of stress test shocks and breaking points

RISK-TYPE	SHOCK	BREAKING POINT
Credit	Assesses the effect of a decline in banks' existing total performing loans.	The first DSIB fails following a gradual increase in NPLs.
Liquidity	A simulated bank run test which models banks' ability to survive a systemic liquidity drain without resorting to liquidity from external sources in a 7-day period.	The first bank's liquid assets are depleted following sudden withdrawal of deposits.

Source: Bank of Uganda

In the stress test, resilience is derived from the size of the credit shock, such that a larger shock implies improved resilience against credit risk. For instance, in table 2, it can be noted that in June 2014, it took a smaller change in the NPL ratio to fail the first DSIB compared to June 2013 and June 2015. Relative to the results for June 2014, it can therefore be concluded that there was in improvement in resilience during the period under review as it took a larger shock to fail the first DSIB.

Table 15: Summary of stress test results for credit risk

	CAR (%)	Tier 1 capital (in USh. billion)	NPL ratio (%)	No. of under-capitalised banks
Baseline Scenario	**18.8**	**2,746.5**	**4.0**	**1**
Shock	**Key indicators**	**June 2013**	**June 2014**	**June 2015**
Reduction in performing loans that fails the first D-SIB	Change in NPL ratio that breaks first D-SIB (%)	16.1	13.5	16.9
	CAR (%)	15.6	15.1	12.7
	NPL ratio	19.4	18.6	20.2
	Tier 1 capital (USh.bn)	1,505.1	1,710.2	1,729.8
	No. of under-capitalised banks	13	11	12
Increase in NPL ratio to highest recorded ratio in the past 10yrs	CAR (%)	19.2	18.8	17.2
	NPL ratio	8.0	6.7	6.2
	Tier 1 capital (USh.bn)	1,944.4	2,230.7	2,465.6
	No. of under-capitalised banks	7	5	1

Source: Bank of Uganda

The capital adequacy and NPL ratios for the banking system following the shock are 12.7 percent and 20.2 percent respectively. Furthermore, if industry's NPL ratio is to deteriorate to the highest recorded ratio in the past 10 years, only one bank would become undercapitalised; an additional indication of increased resilience.

Although the tests do not assist in determining the likelihood of the stated shocks or give an indication of the probability of default on loans, they do reveal that, as at the end of June 2015, the aggregate impact of a

further deterioration in the banking system's credit portfolio would be mild given the significant increase in non-performing loans required to bring banks to the point of recapitalisation. The resilience of the banking sector to these shocks is attributed to the high levels of capital held by banks.

Liquidity risk

Although indicators show that overall liquidity risk for banks has remain stable in the year to June 2015, concerns remain about the potential risks from a reversal of callable funds and whether some banks have adequate liquid assets to fund their short to medium-term funding activities in a period of stressed liquidity.

Stress test were conducted for liquidity risk, in which a simple bank run was simulated to determine the impact of adverse uniform shocks to banks' liquidity, brought on by a sudden withdrawal of customer deposits. The resilience of banks to liquidity risk is judged by their ability to withstand a liquidity drain without resorting to external liquidity support in a 7-day period. This test does not consider assumptions about rollovers, increases in borrowings and maturity extensions. The results from the test revealed that liquid assets of nine banks would be depleted over a 7-day period of distress, assuming a daily withdrawal rate of 5 percent for demand and savings deposits and 3 percent for term deposits. Compared to June 2014, the results suggest that as at the end of June 2015, banks were more sensitive to liquidity risk since the bank run test resulted in more bank failures and a lower ratio of liquid assets to total deposits.

Table 16: Summary of stress test results for liquidity risk

	Key indicators	Day 3	Day 5	Day 7
June 2013	Liquid assets to total deposits (%)	32.7	26.5	19.7
	Reduction in total deposits (%)	12.5	20.0	26.7
	No. of banks failing tests	5	8	8
June 2014	Liquid assets to total deposits (%)	38.8	33.1	26.9
	Reduction in total deposits (%)	12.6	20.0	26.8
	No. of banks failing tests	0	4	8
June 2015	Liquid assets to total deposits (%)	38.6	32.8	26.5
	Reduction in total deposits (%)	12.7	20.2	27.1
	No. of banks failing tests	2	5	9

Source: Bank of Uganda

Most banks continue to hold enough funds to meet their short-term obligations, with the ratio of liquid assets to total deposits rising to 46.4 percent as at end-June 2015, well above the regulatory minimum[14].

4.3 Looking ahead: the prospects for financial stability

In our last *Report* of June 2014, conditions in the banking system were expected to improve during the year to June 2015. This was observed and manifested in higher asset quality, profitability and robust bank asset growth.

Going forward, we expect that the banking system will face some challenges. Since the fourth quarter of 2014/2015, however, a number of vulnerabilities have

14 The BOU liquidity regulation requires banks to hold liquid assets (defined as cash, net due to and from other banks, balances with BOU, and government securities) of at least 20 percent of total deposits.

emerged. Adverse internal and external economic shocks have passed through to higher inflation and exchange rate volatility. In this landscape, interest rates and the cost of borrowing have risen, which is likely to affect loan quality. Overall, economic conditions at home and abroad are developing in directions unfavourable to firms' business operations, and concerns about profitability will increase.

The overall assessment is that the banking system remains resilient and has sufficient capital buffers to deal with increased micro and macro risks going forward.

5. SPECIAL TOPICS

5.1 Structure of Uganda's Interbank Network

By Pamela Kahwa[15]

Using network theory, we investigate the structural evolution of the Ugandan interbank system in the period between 2011 and 2015. The study examines the topology of connections and interlinkages in the banking system using data from interbank transactions. The results indicate the centrality is a determinant of liquidity access and provision. The study also provides a brief review of policy implications against contagion risk.

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Introduction

As financial sector supervisors, one of the most important issues we have to address when an institution is in distress is whether its failure will trigger the subsequent failure of other financial institutions. Robust interbank markets are important for the well-functioning of modern financial systems because they ensure bank liquidity and efficient monetary policy implementation. However, the interbank market may also serve as a channel for contagion, through which solvency and liquidity problems are transmitted through the banking system, and thus possibly creating the risk of a banking crisis.

The recent global financial crisis showed how intertwined the financial system has become, thus highlighting the potential for widespread losses and instability in case of vulnerability in one part of the system. While the direct effects of the crisis on the Ugandan financial system were modest, measuring and monitoring systemic risk and possible contagion in interbank markets remain important elements of maintaining financial stability. This section of the Report presents the work undertaken by Bank of Uganda to map the interconnectedness and completeness of the Ugandan interbank shilling market using network theory, thereby contributing to the goal of assessing contagion and strengthening macroprudential oversight

A review of approaches and studies on interbank networks

Theoretical and empirical studies

A number of recent studies have approached the assessment of systemic risk in financial markets using network theory, where a financial network consists of a set of banks (nodes) and a set of relationships (edges) between the banks. These studies focus on modelling the interbank market as a network of exposures, emphasising common risk factors and transmission as key aspects of systemic risk.

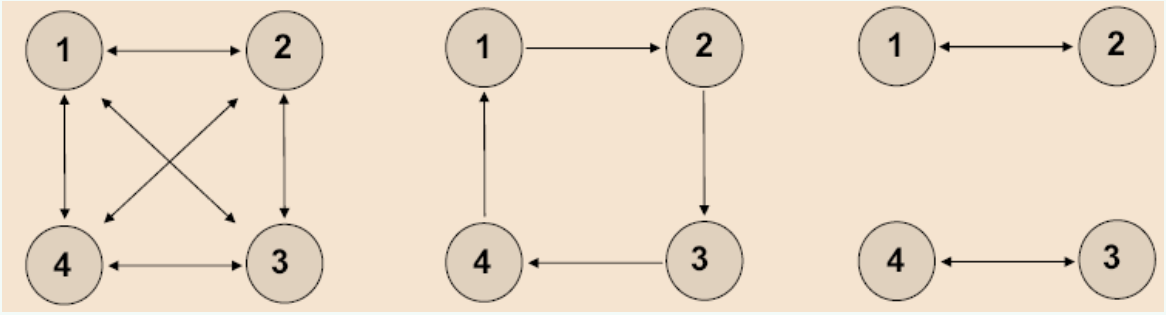
Allen and Gale (2000) examine the different types of networks by completeness and interconnectedness. They propose three types of networks: a ***complete and perfectly connected network*** in which every bank is connected to every other bank in the network; an ***incomplete network*** in which all banks have at least one connection to another bank in the network; and, a ***disconnected incomplete network*** in which some banks are disconnected from the network. Their study shows that the connections created within the interbank system can guard against liquidity shocks, although these same interlinkages may act as catalyst for multiple bank failures in the event of default by a single institution. In addition to investigating the response of different network structures to the risk of contagion, they conclude that complete claims structures are shown to be more robust than incomplete structures.

Babus (2005) investigates how banks decide on direct balance sheet linkages and also shows that complete networks ensure that banks always set the interbank linkages at a level that minimises contagion risk.

Country specific empirical studies for several countries including Austria, Belgium, Croatia, Germany, Italy and UK are also available. The added advantage of using actual interbank market data to model bank networks is that the analysis of changes in the topological properties of these networks can be used to inform conclusions about the resilience of financial systems.

For instance, Mistrulli (2005) uses data on bilateral exposures for all Italian banks to investigate the link between the structural evolution of the Italian interbank market and the risk of financial contagion in the period 1990-2003.

Chart 43: Types of networks



Complete market structure | Incomplete market structure | Disconnected incomplete market structure

Source: Allen and Gale (2000)

His findings are similar to those in the study by Degryse and Nguyen (2004) in which they conclude that a change from a complete network structure, where all banks have symmetric links, towards a multiple money centre structure where a few banks are symmetrically linked to some banks which are themselves not linked together, as well as a more concentrated banking market decreased the risk and impact of contagion. Some studies such as those by Boss *et al* (2004), Iori *et al* (2008) and Roukny *et al* (2014) concentrate on examining the topological characteristics of bank networks in order to explain banks' behaviour in establishing interbank credit relations; a unique study by Minoiu and Reyes (2013) applies to network theory to an analysis of the global banking network using data on cross-border banking flows, and they find that country connectedness in the network tends to rise before banking and debt crises and to fall in their aftermath.

This study focuses on relationships that stem from interbank borrowing and lending. It contributes to the existing body of empirical work on interbank network structures by using the theory of networks to explore changes in the topological properties of a network of a shallow interbank market such as the Ugandan domestic shilling interbank market, how these changes relate to activity in the market and how they impact on the overall stability of the market.

Summary of network measures

Following the empirical work reviewed above, this study employs various network statistics to determine the network structure completeness and interconnectedness. These metrics assist in characterising the statistical properties of the nodes and edges, and to investigate the correlations among weighted quantities. A range of binary and weighted network indicators capture the importance of nodes in the network and the degree of connectedness and completeness in the network as a whole.

Measures of cohesion and connectivity

Cohesion measures reveal key relationships within the interbank market in terms of connectivity. Minoui and Reyes (2013) suggest the ***Herfindal-Hirschmann Index (HHI)*** as a measure of network connectivity, which is traditionally a measure of market share concentration; in this setting, it allows us to determine changes in the concentration of activity in the interbank market over time. A higher value of the HHI[16] reflects higher concentration in the market, thus indicating

[16] *The HHI value falls between 0 and 1*

increasing systemic risk. ***Network density***, an aggregate measure of connectivity, represents the probability of any two random banks within the market transacting with each other. It is computed as the number of links observed in the network at a given time divided by the total number of possible links. While high network density holds the benefits of greater risk diversification, this may not hold if the exposures exceed the level of connectivity, thus increasing contagion risk.

Distance measures are indicators of cohesion and connectivity which offer insight into the span of the network and how different types of information may flow through the interbank market. The most widely used distance measures, (see Iori *et al* (2008) and Minoui and Reyes (2013)) which are also adopted for this study are ***average path***[17] ***length*** and ***network diameter***[18]. Average path length and network diameter help to identify how quickly information is spread through an entire network. Average path length is the average of the shortest path length, averaged over all pairs of nodes, while diameter is defined as the longest path of the shortest paths between any two nodes.

Measures of centrality and distribution

Centrality measures enable the analysis of the distribution of banks within the network, both on individual and aggregate levels. One of these measures is the ***degree centrality,*** which is defined as the number of edges connected to a node. In terms of the interbank network, this indicates the number of other banks that a given bank has lending and borrowing relationship with. The greater the total degree of a bank, the higher is the interconnectedness of the bank to other banks in the system through interbank lending. ***Betweenness centrality*** of a node, which is defined as the number of shortest paths from all vertices to all others that pass through that node, captures the frequency with which a given bank lies on the shortest path between all sets of possible bank pairs within the sample. ***Node strength*** is used to determine the actual weight of each node, that is, the total size of the links through that node. For Uganda's directed interbank network, we compute in-strength for a bank's total amount borrowed and out-strength for a bank's total amount lent.

The evolution of the Ugandan interbank market

Data

Our study utilises data on the total volumes of bilateral exposures in the domestic unsecured shilling market[19]. The data set allows for a distinction among different claims classified according to their domestic counterpart[20].

The Ugandan money market is not limited to the interbank shilling market, but also includes exposures in other sources of wholesale funding such as repos, foreign currency swaps and the interbank foreign exchange market, whose data is available and

[17] *A path in a network is a sequence of alternating nodes and edges that starts with a node and ends with a node such that adjacent nodes and edges in the sequence are incident to each other (Bollobás, 2001; Newman, 2010). The number of edges in a path is the length of the path.*

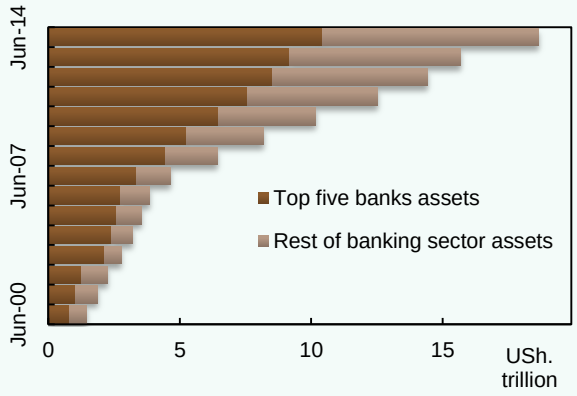
[18] *A network's diameter is the maximum distance between node pairs.*

[19] *Although the data set on the overall banking system is available from the year 2000, the data that is specific to this study only covers the period between September 2011 and December 2014.*

[20] *Bilateral exposures can also be estimated from payment data as in Furfine (2003). Such data has an advantage that it can be estimated for each trading day. On the downside, exposures can only be identified after having been repaid, meaning that the exposure matrix is obsolete by construction.*

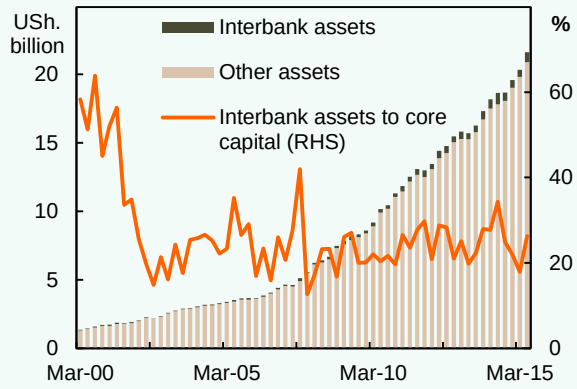
classified by maturity but is not the focus of our study. As at the end of June 2015, the Ugandan banking system comprised 25 commercial banks representing assets of UShs.21.6 trillion. Between 2000 and 2015, the degree of concentration in the banking system reduced significantly, such that the share of assets held by the five largest banks dropped from 80.8 percent to 55.7 percent. The reduction in banking sector concentration followed the lifting of the moratorium on opening new banks in 2005, such that competition in the sector increased as new players entered the market.

Chart 44: Total banking sector assets



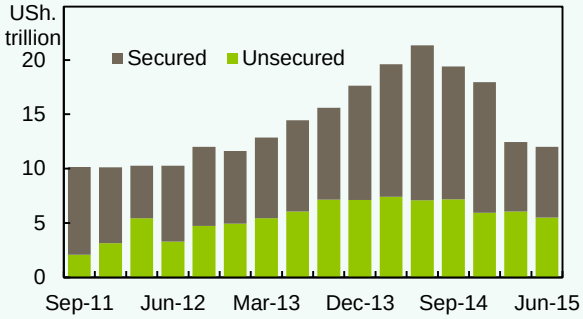
Source: Bank of Uganda

Chart 45: Total interbank assets



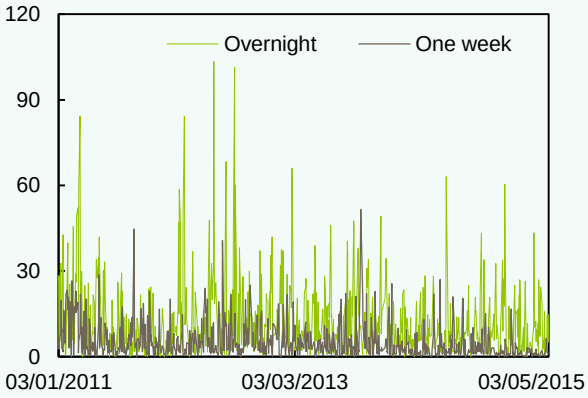
Source: Bank of Uganda

Chart 46: Breakdown of total interbank shilling credit volumes



Source: Bank of Uganda

Chart 47: Volatility in overnight and 7-day interbank lending rates (percent)



Source: Bank of Uganda

Activity in the domestic interbank market has gained momentum over the last few years. Total volumes traded in the market rose from USh.11.7 trillion in 2011 to USh.24.7 trillion in the year to June 2015. Developments in interbank market activity signal the

increased importance of the domestic interbank market as a source of short-term wholesale funding, with the incidence of interbank assets on core capital averaging 25.2 percent during the same period. Furthermore, the market has gained substantial stability as the weighted average interest rates on overnight interbank lending gradually dropped from a peak of 23.4 percent in December 2011 to 12.2 percent in June 2015. As at the end of June 2015, the overall domestic interbank assets of Ugandan banks represented a gross exposure of USh.723.0 billion; of this amount, 26.7 percent was unsecured short-term credit (shilling). A significant trend in interbank market activity during the period under review is that the majority of unsecured credit transactions were overnight loans, and over the last six months, a rise in the volatility in interest rates on overnight loans has acted as an indicator of increased funding pressures in the market. In our analysis of the network topology and the risk of contagion in the market, this information is useful in determining how changes in overall activity within the domestic interbank market have shaped the network and more importantly, how they have impacted the market's ability to withstand a potential contagion shock.

Constructing the network of Interlinkages

We construct the network of interbank transactions as a banking system consisting of commercial banks represented by a set of nodes that are connected by directed links. The weight of these links (the size of transactions) determines the capacity for losses to flow from one bank to another. Each bank is represented by a node on the network, and the bilateral interbank transactions of each bank define the links with other banks. These links are directed, reflecting the fact that interbank connections comprise both sent and received payments; no netting of transactions is assumed. The number of individual interbank transactions varies across banks.

In order to construct the interbank network, we define a matrix of interbank exposures, capturing bilateral liabilities and claims. If the banking system consists of *N* banks, the matrix *X* will be of the order *NxN*, where x_{ij} represents the claims of bank *i* in a row against bank *j* in column, such that $a_i = \sum_j x_{ij}$ and $l_i = \sum_i x_{ij}$. The interbank market can then be represented as an *NxN* matrix:

Chart 48: Representation of matrix of bilateral interbank exposures

$$X = \begin{bmatrix} 0 & \cdots & x_{1j} & \cdots & x_{1N} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ x_{i1} & \cdots & 0 & \cdots & x_{iN} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ x_{N1} & \cdots & x_{Nj} & \cdots & 0 \end{bmatrix} \begin{matrix} \sum i \\ a_1 \\ \vdots \\ a_i \\ \vdots \\ a_n \end{matrix}$$

$$\sum j \quad l_1 \quad \cdots \quad l_j \quad \cdots \quad l_N$$

The zeros on the diagonal are due to the fact that banks do not lend to themselves.

Further, we determine completeness and interconnectedness of the interbank network by analysing the change over time in different measures of cohesion, centrality and distribution. These indicators are used to investigate the statistical and structural properties of the Ugandan interbank system. By determining the level of completeness and interconnectedness in the interbank network, we are able to verify the possibility and impact of contagion in the system. From the theoretical findings of Allen and Gale (2000), we should expect that there would be greater diversification of contagion risk the more complete the interbank market network becomes. As connectivity in the network decreases, the interbank market becomes more vulnerable to contagion risk.

However, if the network were to become highly disconnected, the extent of contagion would be limited as the risk would be isolated to only the connected groups within the network.

Study Results and Topological properties of Uganda's interbank network

Cohesion and connectivity

Cohesion measures reveal key relationships within the interbank market in terms of connectivity and offer insight into the span of the network and how different types of information may flow through the interbank market. Figures 49 and 50 are network maps illustrating the level of interconnectedness within Uganda's interbank lending market through the volume of unsecured lending in shillings for the quarters ending June 2015 and June 2011 respectively. The nodes represent banks and the connecting arrows represent the presence of a lending or borrowing relationship between the banks.

Chart 49: Interbank network for quarter ending June 2015

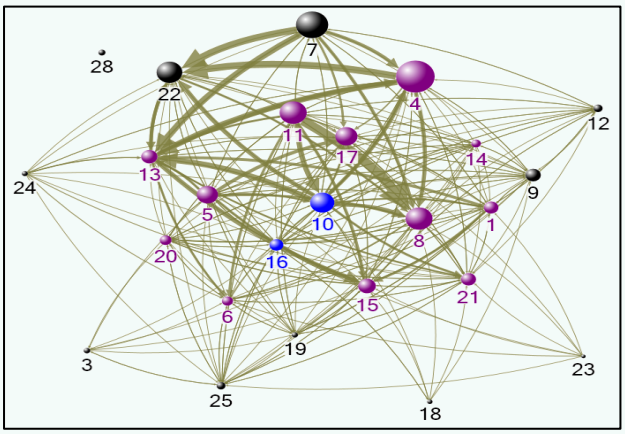
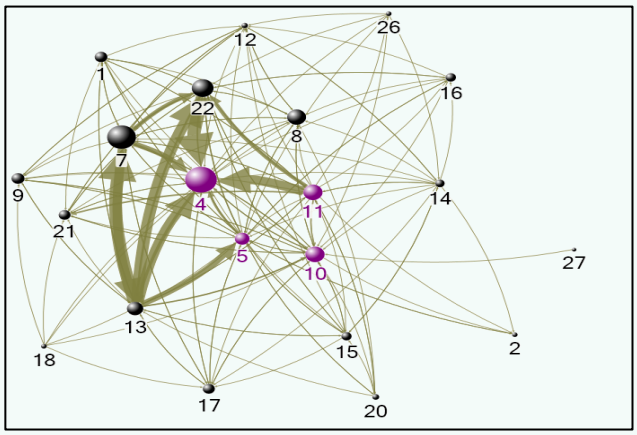


Chart 50: Interbank network for quarter ending June 2011



Source: Bank of Uganda

Notes:

a) The size of the nodes in the network graphs represents each bank's level of assets as at the end of each respective quarter.
b) The blue nodes represent banks which are both core borrowers and core lenders
c) The purple nodes represent banks which are either core borrowers or core lenders, but not both.

The network maps and the data presented in Table 17 below, which provides a summary of key aggregate measures of network cohesion and connectivity indicate that quarterly activity in the interbank market over the years.

Following Lori *et al* (2008), we used average path length and network diameter as measures of the network's distance. The number of edges in the network increased from 169 among 21 banks in June 2011 to 303 among 25 banks in June 2015, signifying an increase in the number of transactions in the interbank market. The increase in interbank activity is further reflected in the distance measures. As the number of transactions in the market increased, the average path length dropped from 1.4 edges to 1.2 edges between 2011 and 2015. It appears that

Uganda's interbank network has become more complete and experienced increased connectivity.

The extent of the connectivity within the interbank market can be further analysed with the network's density and the borrower and lender HHIs. The borrower HHI measures the concentration of borrowing activity in the market, while the lender HHI measures the concentration of lending activity in the interbank market. The statistics show that the changes in network distance measures were matched by a rise in network density, from 40.2 percent to 50.5 percent. In addition, the borrower and lender HHIs remained low and stable over the period of analysis, implying that activity in the interbank market was widespread and evenly distributed, as opposed to being concentrated among few banks.

The changes in the connectivity and overall activity during the period under review suggest that banks increasingly used the market as a source of short-term funding and also created new trading relationships, leading to a rise in the number of direct counterparty exposures. These changes in the interbank network's structure could mean two things. On the one hand, increased completeness of the network has led to increased market efficiency regarding distribution of funding. On the other hand, increased connectivity may increase the sector's vulnerability to contagion risk as a sudden shock would be transmitted through fewer banks.

Table 17: Summary of key aggregated network statistics for Uganda's interbank market

	Borrower HHI (%)	Lender HHI (%)	Density (%)	Average path length (edges)	Diameter (edges)	Vertices	Edges
Jun-11	15.1	14.7	40.2	1.39	3.0	21	169
Jun-12	12.6	9.6	40.3	1.35	2.0	23	204
Jun-13	10.0	9.4	49.3	1.31	2.0	24	274
Jun-14	9.3	12.9	41.7	1.32	2.0	26	271
Jun-15	8.5	7.3	50.5	1.23	2.0	25	303

Source: Bank of Uganda

Centrality and distribution

Centrality measures enable us to study the distribution of banks within the network and determine their power, influence and control. The directed network represented by our matrix of interbank exposures shares many of the features observed in studies of other interbank networks. In particular, the Ugandan interbank network exhibits the characteristics of a "small world" network[21], that is, relatively small distance between any two nodes and, a relatively high average clustering coefficient[22] (0.64 for the quarter ending June 2015).

To study the distribution of banks within the network, we use a generalisation of the core decomposition methodology for directed networks as described by

[21] *Watts, Duncan J.; Strogatz, Steven H. (June 1998). "Collective dynamics of 'small-world' networks". Nature 393 (6684): 440–442. The name comes from the so-called "small world" phenomenon in which two strangers often find that they have a friend in common.*

[22] *The clustering coefficient enables the determination of the proportions of nearest neighbours of a node that are linked to each other. Clustering is indicative of the presence of smaller sub-networks or cliques within a large network of banks. The clustering co-efficient is used to check if a certain group of banks transact or interacts within itself, and more importantly how this behaviour changes over time. A high network clustering coefficient means that any two banks that already transact with a third bank are more likely to maintain this relationship than to establish new connections with any other bank in the network.*

Batagelj and Zaversnik (2002). We obtain the subnetwork of banks that have more than 15 borrowing and lending links each. We observe that in the subnetwork, some banks feature as both core borrowers and lenders. Specifically, in the quarter ending June 2015, there were two banks belonging to the innermost borrowing and lending cores, seven banks belonging only to the innermost borrowing core, and five banks in the innermost lending core.

Therefore, 14 banks formed the highly connected central nucleus of the network to which the rest of the interbank market was connected. This core subnetwork can be compared to that of June 2011 whereby only four banks formed the central nucleus of the network.

Which banks are central to the network? The study results for degree, betweenness centrality and strength are shown in Table 18 for the quarters ending June 2011 through to June 2015. The results revealed that over the years, banks identified as central to the functioning of the interbank market varied. In addition, an interesting development is that the betweenness centrality value declined gradually, dropping from 65.9 edges to 20.4 edges. The decline in the betweenness centrality measure further reiterates our findings that the concentration of activity in the network reduced over time as connectivity increased, and that reliance on funding predominantly from the most central banks reduced as other banks in the market became more involved in liquidity supply.

Overall, the results show that key players in Uganda's domestic interbank market as at the end of June 2015 were BANK8, BANK10, BANK13 and BANK16. BANK16 had the highest degree centrality with 37 transactions, 18 of which were borrowing and 19 were lending. BANK10's role in the interbank market is that of a liquidity provider. BANK13 was the strongest borrower during this period, borrowing a total of USh.791.2 billion from 16 banks.

The bank that is important for connectivity in the network is BANK8, not only in the first degree (direct) links but also in the multiple-degree (indirect) links that connect any given pair of banks, meaning that it had the highest level of connectivity in the network and, through its centrality measures, displayed its importance in connecting other banks in the network and facilitating the efficient spread of liquidity within the interbank market.

Table 18: Most central banks in the Ugandan interbank market

	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15
Degree centrality	BANK5	BANK5	BANK10	BANK1	BANK16
Value (no. of edges)	32	33	39	37	37
Betweenness centrality	BANK10	BANK15	BANK5	BANK11	BANK8
Value	65.9	44.4	28.5	28.3	20.4
In-strength	BANK4	BANK7	BANK7	BANK10	BANK13
Value (USh. billion)	995.4	743.3	1273.8	1127.5	791.2
Out-strength	BANK13	BANK11	BANK22	BANK13	BANK10
Value (USh. billion)	863.8	607.5	1043.5	2199.3	695.2

Source: Bank of Uganda

We further analyse the distribution and behaviour of banks within the network with respect to the amount of core capital they hold, following Sinha et al. (2013), By doing so, we are able to determine whether banks' lending patterns are affected by the amount of core capital they hold to cover for losses due to counterparty default in the interbank market. We compute linear correlation coefficients between banks' in-degree, out-degree, in-strength, out-strength, and core capital.

From Table 19, we note that the strongest linear relationships are between the banks' in-degree and in-strength ($r = 0.65$), in-strength and out-strength ($r = 0.57$), and out-strength and core capital ($r = 0.51$).

Thus, an important relationship shown by this study is that between banks' out-strength and core capital; the coefficient we obtain suggests that on average, banks with high levels of core capital will lend more than their counterparts. This relationship is important in analysing the impact on banks' capital of the default of one or more banks in the interbank market.

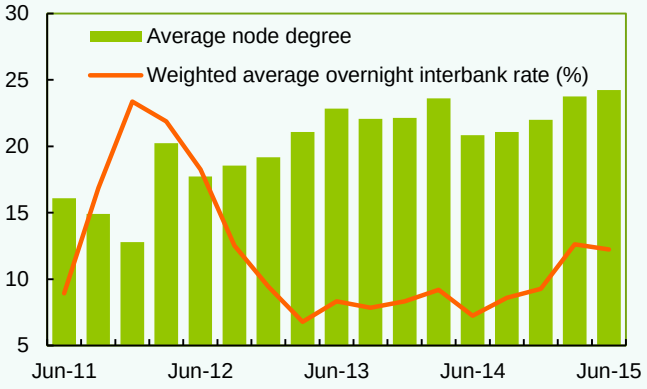
Table 19: Correlation analysis of centrality measures and core capital

	In-degree	Out-degree	In-strength	Out-strength	Core capital
In-degree	1.00				
Out-degree	0.40	1.00			
In-strength	0.65	0.23	1.00		
Out-strength	0.10	0.21	0.57	1.00	
Core capital	0.27	0.28	0.35	0.51	1.00

Source: Bank of Uganda

Even through measures of network centrality focus on identifying key individual participants in a network, we also compute aggregate network measures in order to observe the overall distribution of players in the network over a specified period of time. In particular, we obtain the average network degree in the Ugandan interbank network which is simply the average number of transactions per bank. The statistics show that connectivity has remained evenly distributed across the network during the review period. Even in periods of heightened interest rates, these levels of connectivity were maintained, allowing for effective distribution of funds under tight liquidity conditions.

Chart 51: Overnight interbank rates versus network distribution



Source: Bank of Uganda

The measures of the network's centrality mirror those of cohesion in showing that banks usually do not cluster within smaller cliques but transact widely with all the participants in the network. In times of stress, this would mean that the network can efficiently distribute

liquidity uniformly, and that preferential relationships do not occur often.

Policy considerations

The network analysis of the Ugandan interbank exposures indicates that the network has maintained a high level of connectivity since most banks have exposure to one or more banks. In addition, there has been little concentration of activity. However, centrality plays a key role in access to liquidity and thus assessing possible contagion remains an important element of maintaining financial stability. This has several implications.

First, are the banks that are dominant in the interbank network, the same as the DSBIs? Our analysis indicates that two of the banks that are central to the interbank network are not DSIBs. The implication of this is that there may be need to revisit the DSIB framework and examine whether to include the two banks.

Second, in terms of prudential measures, policy direction to address interconnectedness, at present, could work within the DSIB framework to design prudential tools that indicate levels of contagion and concentration, and establish enforceable limits to control financial institutions' exposures and linkages. The DSIB framework requires larger and more interconnected banks to hold additional loss absorbency as a common equity capital surcharge. Going forward, the DSIB framework could be reinforced to include banks that are dominant in the interbank network and monitor their performance closely to mitigate risks that may impact on their stability, in order to reduce the incentives to become "too connected to fail" (Upper, 2011).

Thirdly, this study focuses on relationships that stem from interbank borrowing and lending only. Going forward, further analysis will be undertaken to expand the scope of the study, to include other relationships that exist between banks including payment systems data.

Lastly, it is expected that the work in this study will contribute to the development of BOU's macro stress testing framework in order to assess contagion risk on a regular basis as well as overall systemic risk.

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5.2 BASEL III - Net Stable Funding Ratio

By Irene P. Nabwire Jingo[23]

This Chapter sets out the proposal by Bank of Uganda to implement the Basel III Liquidity measure – Net Stable Funding Ratio (NSFR). It highlights the rationale for the NSFR, its computation and potential impact on the banking system in Uganda and ways to achieve the minimum standard.

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Introduction

Following the Global Financial Crisis of 2007, the Basel Committee on Banking Supervision (BCBS, hereafter the Committee) developed new liquidity rules for banks in an effort to promote a more resilient banking sector. The BCBS set out these rules in its paper on *Principles for Sound Liquidity Risk Management and Supervision (Sound Principles)*[24], which strengthened bank's liquidity standards by introducing two minimum standards for funding and liquidity. These included the Liquidity Coverage Ratio (LCR), which was rolled out by Bank of Uganda in 2014, and the Net Stable Funding Ratio (NSFR). The BCBS set out the final standard for the Net Stable Funding Ratio (NSFR) on October 31, 2014.

This chapter is aimed at highlighting the proposed method to implement the NSFR and the potential impact on the banking system in Uganda, with a view to soliciting for comments from the public.

Rationale for introducing the NSFR

The NSFR is important in order to minimize bank's overreliance on short-term wholesale funding by encouraging better assessment of funding risk and promoting funding stability, reducing the extent of maturity mismatch and in theory, lowering a bank's probability of experiencing liquidity runs and associated default[25]. The fundamental role of banks in financial intermediation makes them inherently vulnerable to liquidity risk, of both an institution-specific and market nature. However, private incentives to limit excessive reliance on unstable funding are weak. The Net Stable Funding Ratio (NSFR) is intended to reduce funding risk over a longer time horizon by requiring banks to fund their activities from sources that are sufficiently stable to mitigate the risk of future funding stress[26]. The NSFR will require banks to maintain a stable funding profile in relation to the asset composition and off-balance sheet activity with a view to ensuring a stable funding structure. It is designed to complement the Liquidity Coverage Ratio, which is intended to ensure that banks can withstand a 30 day liquidity stress scenario.

Lastly, by moving to implement the NSFR, BOU will comply with the BCBS timescale for implementing the NSFR globally, of January 1, 2018[27].

What is the Net Stable Funding Ratio?

The NSFR is defined as the amount of available stable funding relative to the amount of required stable funding. This ratio should be equal to at least 100 per cent on an ongoing basis (BCBS 2014). Available stable funding refers to the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which is one year. Required stable funding of a specific institution is a function of liquidity characteristics and residual maturities of the various assets held, and off-balance sheet exposures, at that institution.

Computation of the NSFR

Based on guidelines issued by the Committee[28] this paper highlights the various components of the NSFR. The NSFR comprises internationally agreed-upon

[24] *Principles for Sound Liquidity Risk Management and Supervision ("Sound Principles"), September 2008.*

[25] *IMF (April, 2011). "How to address the systemic part of liquidity risk", Global Financial Stability Report (pp. 75-110).*

[26] *Basel III (October 2014), the Net Stable Funding Ratio*

[27] Basel III (December, 2010). International framework for liquidity risk measurement, standards and monitoring.

[28] *Basel III: Net Stable Funding Ratio, October 2014.*

definitions and calibrations. Some elements, however, remain subject to national discretion to reflect jurisdiction - specific conditions. The definition for the NSFR is as follows;

Net Stable Funding Ratio (NSFR) =

$$\frac{\text{Available amount of stable funding (ASF)}}{\text{Required amount of stable funding (RSF)}} \geq 100\%$$

Source: Basel III

The amounts of available and required stable funding specified in the standard are calibrated to reflect the presumed degree of stability of liabilities and liquidity of assets in the banking sector. This means, NSFR articulates how much of long-term assets are backed by long-term stable funding and thus speaks about the gap between long-term stable funding and long-term assets.

a) Available stable funding (ASF)

Available Stable Funding is defined as the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which extends to one year. The amount of available stable funding (ASF) is measured based on the broad characteristics of the relative stability of an institution's funding sources. It is then calculated by assigning the carrying value of capital and liabilities to one of the categories presented in Table 20. Amounts assigned to each category are then multiplied by the corresponding ASF conversion factor and the total ASF is the sum of the weighted amounts.

b) Required stable funding (RSF) for assets and off-balance sheet exposures

Required stable funding is a function of the liquidity characteristics and residual maturities of the various assets held by an institution as well as those of its off-balance sheet exposures (OBS) exposures. Calculation of the RSF is similar to that for the ASF. The RSF factors are presented in Table 20. Assets should be allocated to the appropriate RSF factor based on their residual maturity or liquidity value[29].

c) Off-balance sheet exposures (OBS)

Many potential OBS liquidity exposures require little direct or immediate funding but can lead to significant liquidity drains over a longer time horizon. The NSFR assigns an RSF factor to various OBS activities in order to ensure that institutions hold stable funding for the portion of OBS exposures that may be expected to require funding within a one-year horizon. The RSF factors and categories relating to OBS exposures are highlighted in Table 20.

d) Interdependent assets and liabilities

The final NSFR standard introduced the concept of interdependent assets and liabilities, which gives national supervisors discretion to determine whether certain asset and liability items, on the basis of contractual arrangements, are interdependent such that the liability cannot fall due while the asset remains on the balance sheet, the principal payment flows from the asset cannot be used for something other than repaying the liability, and the liability cannot be used to fund other assets. For interdependent items, supervisors may adjust RSF and ASF factors so that they are both 0%, subject to a set of criteria[30].

Estimating NSFR for banks in Uganda

To estimate the NSFR for Ugandan banks, Bank of Uganda, following a rigorous study, developed components and applicable factors that will be used for computing the ASF and RSF, which are outlined in Table 21. The components of RSF and OBS exposures

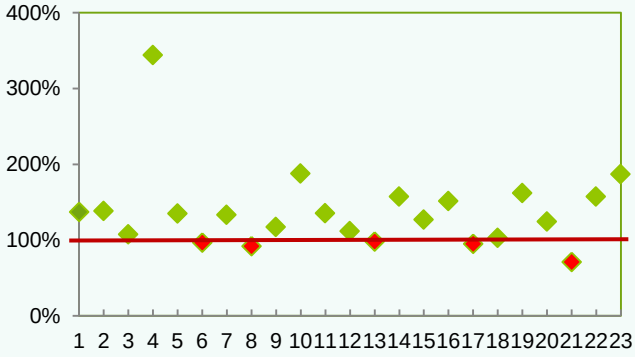
[29] *Basel III: Net Stable Funding Ratio, October 2014*

[30] *Basel III: Net Stable Funding Ratio, October 2014 paragraph 45*

were subjected to an RSF factor based on their liquidity in a tight liquidity situation.

A preliminary estimation of the NSFR for Domestic Systemically Important Banks (D-SIBs) and other banks in Uganda based on financial data as at March 31, 2015 (*see Table 22 and 23, respectively*) was undertaken. It revealed that only five banks would fail to meet the minimum NSFR standard and all the DSIBs will meet the standard.

Chart 52: NSFR for Banks in Uganda as at 31st March 2015



Source: Bank of Uganda

The five banks failed to meet the minimum standard due to insufficient available stable funding from sources like time deposits with residual maturities of one year or more and demand deposits with residual maturities of less than one year compared to required stable funding for uses that include loans and advance, securities and loans due from other banks with residual maturities of one year or more.

Cognizant of the fact that banks in Uganda don't categorize deposits as either stable or non-stable but as demand, savings and time deposits, to compute the ASF, we treated 85 percent of demand and savings deposits as stable deposits and applied a factor of 95 percent. Time deposits with a maturity of more than a year were regarded as relatively stable while time deposits with a residual maturity between 6 months to less than one year were considered less stable.

NSFR adoption and its implications for banks

The introduction of the NSFR is likely to have several implications for Ugandan banks. First, banks that do not meet the minimum requirement of 100 percent, will have to increase either their stable funding sources or reduce illiquid assets[31]. While this can be achieved by taking several types of actions, under normal circumstances each of the potential adjustment actions are likely to affect profitability[32] as it requires the bank to continuously hold sufficient stable liabilities that support long and medium-term assets.

On one hand, to increase the Amount of Stable Funding (ASF), a bank has to increase capital and/or such other liabilities that have higher ASF factor such as secured or unsecured borrowings and term deposits with maturities of one year or more and deposits with residual maturity of less than one year provided by retail and small business customers. On the hand, to decrease the Required Amount of Stable Funding (RSF), the bank would have to hold a greater proportion of assets assigned lower RSF factors i.e. assets that are very liquid in nature for instance cash, investments in government and other approved securities and reduce their exposures to assets like loans and non-performing loans that attract a higher RSF factor. However, such measures to achieve the minimum standard for NSFR have a cost. Increasing capital would have a bearing on return on equity, assuming all other factors remain the same. Long-term deposits and borrowings come at a cost resulting in higher interest expenses while increasing investments

[31] *King M.R. (2010), "Mapping capital and liquidity requirements to bank lending spreads", BIS Working Papers No 324, November*

[32] *Santos A.O. & Elliott D. (2012). "Estimating the costs of financial regulation", IMF Staff Discussion Note, International Monetary Fund, September*

in 'government and other approved securities' and reducing other investments could impact interest income.

Second, the impact of the NSFR requirement on profitability can be measured through Net Interest Income (NII). Net interest income (NII) is defined as the difference between interest income and interest expense. The NII will decline if a bank raises long-term deposits and long term borrowing keeping all other items the same. By expanding investment in government and other approved securities and reducing other investments (like investments in corporate bonds, shares etc.) a bank's interest income is likely to decline and hence less NII (as the rate of interest on 'government and other approved securities' is bound to be lower than that available on other investments due to association of higher risk with the latter). To maintain NII at least at the same level, a bank would have to increase its interest income, possibly through an appropriate increase in its lending rate in order to maintain the same level of profitability.

Third, a retail bank's business model rests upon the transformation of short-term and cheap borrowing (e.g. savings account, wholesale funding) into long-term and more profitable investments (e.g. loans). Banks then generate profits through the interest margin gained from difference between the interests paid and the ones received. This business model is based on the maturity mismatch between the assets (long-term at high interest rate) and the liabilities (short-term at low interest rate). By requiring banks to match the maturities of assets and liabilities, the NSFR is bound to impact this model and could result in unintended consequences, since stable funding tends to be relatively expensive, which may drive down the profitability of their lending activities.

Other potential impacts include:

a) **Modest decrease in loans**: with the net interest margin decreasing, banks could reduce their lending activities and focus on other more profitable activities. Banks may also increase the interest rates on loans in order to maintain profitability. This would, in turn, decrease demand for loans.
b) **Risk of financial disintermediation**: when banks reduce their lending activity, the demand for loans is likely to shift outside the formal sector to other financial players.
c) **Recapitalization:** adoption of the NSFR may require some banks to recapitalize or to find more stable funding to meet the minimum standard. This may necessitate the issuance of bonds or deposit mobilization.
d) **Concentration in some asset classes:** banks could be tempted to liquidate assets that require more stable funding and invest in those that require less stable funding. For instance, mortgage loans require less stable funding than corporate loans; this could lead to a decrease in corporate loans and an increase in mortgage loans.

The studies undertaken by Bank of Uganda, indicate that while there is potential for the above impacts, their impact on Ugandan banks is likely to be modest.

Conclusion

The NSFR aims to reduce funding risk over a longer term horizon by requiring banks to fund their activities with sufficiently stable sources of funding to mitigate the risk of funding stress. It will also help with identification of less stable funding structures among banks without unduly hampering their traditional role of maturity transformation and encourage them to develop more robust funding profiles improving the stability of a bank's funding profile and reducing its exposure to the risk of maturity mismatches outweighs the potential impact on profitability following adoption of the minimum standard for funding. This will subsequently

help to bolster confidence in individual banks and reduce the probability of financial crises. In summary, the NSFR is intended to ensure that banking organizations have a more stable, longer-term funding profile to support assets and off-balance sheet activities.

The estimate results for banks' NSFR (see Table 19) show that with the exception of five banks, the majority of banks in Uganda meet the minimum standard for funding. Banks will be expected to meet the NSFR requirement on an ongoing basis, disclose the ration and publish this disclosure with the same frequency as the publication of financial statements.

This note is intended to set out the rules for the NSFR for banks in Uganda and solicit for public comments before BOU implements the NSFR. The public may send their comments by December 30 2015 to the following address;

The Director Financial Stability Department
Bank of Uganda
P. O. Box 7120,
Kampala, UGANDA.

Data and Tables of NSFR for Banks in Uganda

A) Computation for OBS Items

For banks in Uganda, data on OBS exposures are available in three categories that include; guarantees, letters of credit and other contingent liabilities. The sums of these categories are assigned an RSF factor subject to national discretion which in this case is 20 percent (table 2).

As per the explanations stated above, we have compiled NSFR for 23 banks as at March 2015 as per the formula shown below:

$$\boldsymbol{NSFR} = \frac{Cap + Res + 95\%\big(85\%(DD + SD)\big) + 90\%TD_{\geq(1yr)} + 50\%TD_{(6mths\leq 1yr)} + 20\%TD_{(\leq 6mths)} + 90\%(Bal + BOU)_{\geq 1yr} + 50\%(Bal + BoU)_{6mths\leq 1yr} 50\%(OL)_{6mths\geq 1yr}}{5\%Msec_{(\leq 1yr)} + 15\%\big(Inv_{\leq 1yr} + LA_{\leq 6mths}\big) + 50\%LA_{6mths\leq 1yr} + 50\%\big(L_{\leq 1yr} + OA_{\leq 1\,yr}\big) + 100\%AOA_{\geq 1\,yr}AS + 20\%OBS}$$

The numerator is explained as follows;

"$\boldsymbol{Cap}$" and "$\boldsymbol{Res}$" represent capital and reserves respectively, "$\boldsymbol{DD\ and\ SD}$"*represents* Demand deposits and Savings deposits respectively "$\boldsymbol{TD_{(\geq(1yr))}}$" represents time deposits with residual maturity of more than one year. $\boldsymbol{TD_{(6mths\leq 1yr)}}$ represents time deposits with residual maturity of between 6 months and one year and $\boldsymbol{TD_{(\leq 6mths)}}$ represents time deposits with residual maturity of less than 6 months. $\boldsymbol{(Bal + BOU)_{\geq 1yr}}$ represents balances due to other banks and borrowing from BOU with residual maturity of more than one year. $\boldsymbol{(Bal + BoU)_{6mths\leq 1yr}}$

represents balances due to other banks and borrowing from BoU with remaining maturity of between 6 months and less than one year. Finally $(\boldsymbol{OL})_{\boldsymbol{6mths \geq 1yr}}$ represents other liabilities with remaining maturity of between 6 months and less than one year.

The denominator is explained as follows;

"$\boldsymbol{Msec_{(\leq 1yr)}}$" is Marketable securities with residual maturity of less than one year, "$\boldsymbol{Inv_{\leq 1yr}}$" represents other investment securities with remaining maturity less than one year, "$\boldsymbol{LA_{\leq 6mths}}$ "are loans and advances with residual maturity of less than 6 months, "$\boldsymbol{LA_{6mths \leq 1yr}}$" represent loans and advances maturing between 6 months to less than one year, "$\boldsymbol{AOA_{\geq 1\ yr}}$ " is all other assets with a maturity greater than one year, "$\boldsymbol{OBS}$" stands for off balance sheet items.

Table 20: Proposed Computation of NSFR - Available Stable Funding and Required Stable Funding for Banks in Uganda

Asset categories and associated RSF factors	
RSF factor	**Components of RSF category**
0%	Cash, all central bank reserves, all claims on central banks with residual maturities of less than six months.
5%	Unencumbered[33] Level 1[34] assets excluding coins, bank notes and central bank reserves
10%	Unencumbered loans to financial institutions with residual maturities of less than six months
15%	Unencumbered loans to financial institutions with residual maturities of less than six months not included in the above categories, unencumbered Level 2A[35] assets
50%	Unencumbered Level 2B[36] assets, loans to FIs and central banks with residual maturity of 6 months and less than one year, deposits held at other financial institutions (FIs) for operational purposes.
65%	Unencumbered residential mortgages with residual maturity of one year or more and risk

33 Unencumbered" means free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell, transfer, or assign the asset.

34 Level 1 assets include the highest quality and most liquid assets and are generally limited to cash, central bank reserves and marketable securities issued or guaranteed by a sovereigns.

35 Level 2A assets include comparatively riskier and less liquid public and private sector securities for instance; covered bonds, and corporate debt securities.

36 Level 2B assets include; residential mortgage-backed securities (RMBS) that are rated AA or higher, corporate debt securities rated between A+ and BBB- and common equities, which are exchange traded.

	weight less than 35%, excluding loans to financial institution with a residual maturity of one year or more and risk weight less than 35%
85%	Unencumbered performing loans with risk weights greater than 35% and residual maturities with one year or more excluding loans to financial institutions.
100%	All other assets not included in above categories

Off-balance sheet categories and associated RSF factors

RSF factor	RSF category
5% of the currently undrawn portion	Irrevocable and conditionally revocable credit and liquidity facilities to any client
National supervisors can specify the RSF factors based on their national circumstances	Other contingent funding obligations, including products and instruments such as: • Unconditionally revocable credit and liquidity facilities • Trade finance-related obligations(including guarantees and letters of credit) • Guarantees and letters of credit unrelated to trade finance obligations • Non-contractual obligations such as: potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities; structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes; managed funds that are marketed with the objective of maintaining a stable value.

Liability categories and associated ASF factors

ASF factor	Components of ASF category
100%	• Total regulatory capital(excluding tier 2 instruments with residual maturity of less than one year) • Other capital instruments and liabilities with effective residual maturity of one year or more
95%	• Stable non-maturity(demand) and term deposits with residual maturity of less than one year provided by retail and small business customers
90%	• Less stable non-maturity deposits and term deposits with residual maturity of less than one year provided by retail and small business customers
50%	• Funding with residual maturity of less than one year provided by non-financial corporate customers

	• Operational deposits • Funding with residual maturity of less than one year from sovereigns, PSEs, and multilateral and national development banks. • Other funding with residual maturity between six months and less than one year not included in the above categories, including funding provided by central banks and financial institutions
0%	• All other liabilities and equity not included in the above categories, including those without a stated maturity. • NSFR derivative liabilities net of NSFR derivative assets if NSFR derivative liabilities are greater than NSFR derivative assets • "Trade date" payables arising from purchases of financial instruments, foreign currencies and commodities

Source: BCBS (2014)

Table 21: Net Stable Funding Ratio for Ugandan DSIBs as at 31st March 2015

	Factor	BANK 1	BANK 2	BANK 3
ASF item *(sources) (in USh. Millions)*	**With applied factor**			
Capital and Reserves	100%	294.9	495.6	391.4
85% (Demand and savings deposits)	95%	376.9	1,633.0	1,105.9
Time deposits with maturity > 1 year	90%	131.3	0.09	11.3
Time deposits with maturity of 6 months to < 1 year	50%	0.2	5.3	24.5
Time deposits with maturity < 6 months	20%	125.7	26.7	64.6
Balances due to banks and borrowing from BoU with maturity > 1 year	90%	118.6	379.9	62.3
Balances due to banks and borrowing from BoU with maturity of 6 months to < 1 year	50%	0	119.1	0
Other liabilities with maturity of 6 months to < 1 year	50%	6.7	10.5	21.7
All other liabilities and equity not included in categories above	0%	0	0	0
Total ASF		**1,054.2**	**2,670.2**	**1,681.7**
RSF *(Uses)*				**With applied factor**
Cash and balances from BOU	0%	0	0	0
Marketable securities maturing in < 1 year	5%	0	15.5	0.9
Investment securities maturing in < 1 year	15%	0.2	39.5	38.2
Loans and advances < 6 months	15%	135	105.7	83.6
Due from banks and non-banks with maturity < 1 year	50%	35	180	163.5

Loans and advances with maturity of 6 months to < 1 year	50%	3.2	81.8	24.2
Other assets with maturity < 1 year	50%	11	44.5	59.5
All other assets with maturity ≥ 1 year that are not included in categories above	100%	566.2	1317.7	997.7
Off Balance sheet items	20%	18.5	147.3	193.9
Total RSF		769.0	1,932.0	1,561.6
NSFR = Total Available Stable Funding / Total Available Required Funding		**137.1**	**138.2**	**107.7**

Source: Bank of Uganda

Table 22: Net Stable Funding Ratio for other banks in Uganda's as at 31st March 2015

Bank 4	Bank 5	Bank 6	Bank 7	Bank 8	Bank 9	Bank 10	Bank 11	Bank 12	Bank 13	Bank 14
344.1%	135.1%	96.6%	91.9%	117.1%	187.6%	135.6%	111.9%	121.7%	98.0%	157.2%

Bank 15	Bank 16	Bank 17	Bank 18	Bank 19	Bank 20	Bank 21	Bank 22	Bank 23
127.1%	151.4%	95.0%	102.7%	162.0 %	124.3.2 %	71.0%	157.5%	187.1%

Source: Bank of Uganda

6. STATISTICAL APPENDICES

TABLE 1: Selected quarterly financial soundness indicators for East African countries (*percentage ratios*)

		Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15
Regulatory Capital to Risk-Weighted Assets	Uganda	24.3	23.1	22.1	23.56	22.8	22.5	22.2	23.2	21.3
	Kenya	23.3	22.9	23.2	18.2	17.6	17.8	19.2	19.2	18.9
	Tanzania	18.1	18.4	18.2	19.3	17.8	18.1	17.7	19.1	17.7
	Rwanda	23.1	23.0	23.1	22.6	23.6	24.0	24.0	25.9	
	Burundi	21.8	19.9	22.3	21.9	21.3	18.1	17.3	20.5	19.5
NPLS to Total Gross Loans	Uganda	4.0	4.4	5.6	6.2	5.8	5.3	4.1	4.3	4.0
	Kenya	5.3	5.2	5.0	5.6	5.7	5.4	5.4	5.8	5.7
	Tanzania	8.1	7.1	6.6	8.3	8.2	8.4	6.8	6.7	6.7
	Rwanda	6.9	7.2	6.9	6.7	6.6	6.3	6.0	6.3	
	Burundi	10.1	9.9	10.3	11.7	12.7	12.5	11.1	12.4	13.3
Return on Assets (ROA)	Uganda	4.7	4.3	3.6	3.2	2.8	2.8	3.6	3.6	3.8
	Kenya	3.9	3.7	3.6	3.7	3.7	3.6	3.4	3.5	3.3
	Tanzania	2.7	2.6	2.5	3.0	2.9	2.9	2.6	3.1	2.9
	Rwanda	2.1	1.7	1.5	3.2	2.8	1.9	1.9	2.6	
	Burundi	1.1	1.2	1.3	0.4	0.1	0.5	1.0	0.6	1.2
Return on Equity (ROE)	Uganda	20.4	18.9	12.4	14.2	12.8	17.0	22.0	21.9	24.6
	Kenya	31.2	30.4	28.9	29.5	30.9	28.5	26.6	28.0	28.3
	Tanzania	15.1	14.1	12.8	15.5	15.5	15.0	13.1	16.2	15.1
	Rwanda	9.9	8.3	7.4	11.9	12.1	10.9	10.5	14.0	
	Burundi	5.0	7.6	8.2	2.8	1.1	3.5	7.4	4.0	8.1
Foreign Currency Denominated Assets to Total Assets	Uganda	30.8	31.8	31.1	32.5	30.4	30.5	31.8	36.4	38.1
	Kenya	12.1	13.2	13.7	14.0	14.9	15.8	15.4	15.6	16.4
	Tanzania	30.4	30.9	30.2	29.6	29.3	29.6	30.3	31.7	34.3
	Rwanda	12.5	14.2	16.3	16.4	19.7	17.7	20.9	15.9	
	Burundi	17.4	15.7	17.2	18.6	18.6	15.4	16.3	14.7	15.9

Source: Central banks of Burundi, Kenya, Rwanda, Tanzania and Uganda

TABLE 2: Commercial banks' quarterly financial soundness indicators (*percentage ratios*)

	June 2013	Sept 2013	Dec 2013	Mar 2014	June 2014	Sept 2014	Dec 2014	Mar 2015	June 2015
Capital Adequacy									
Regulatory capital to risk-weighted assets	24.3	23.1	22.9	23.6	22.8	22.5	22.2	23.2	21.3
Regulatory tier 1 capital to risk-weighted assets	21.3	20.3	19.9	20.9	20.3	19.9	19.7	20.8	18.8
Leverage ratio	12.2	11.9	11.1	11.5	11.2	11.1	11.0	12.1	11.0
Asset quality									
NPLs to total gross loans	4.0	4.36	5.6	6.2	5.8	5.3	4.1	4.3	4.0
NPLs to total deposits	2.9	3.20	4.1	4.2	4.1	3.7	3.0	3.1	2.9
Sectoral distribution of loans (%)									
Agriculture	7.3	7.4	8.0	7.7	9.1	9.4	9.4	9.5	9.3
Mining and quarrying	0.4	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.5
Manufacturing	14.4	14.0	15.1	14.1	13.7	11.1	14.2	16.1	16.1
Trade	20.3	19.1	16.8	20.4	20.8	17.8	19.7	17.9	19.5
Transport and comm.	5.8	6.1	5.8	5.5	5.4	4.7	5.3	5.2	5.2
Building and construction	23.3	23.7	19.4	24.0	23.2	23.2	23.2	23.6	23.2
Personal loans	13.8	15.6	17.0	17.1	17.4	17.1	16.4	15.8	15.2
Others	13.4	7.4	8.0	7.7	9.2	14.8	9.4	9.8	9.3
Large exposures to total capital	103.4	102.2	105.2	97.7	96.4	109.7	113.2	104.5	126.4
Earnings & profitability									
Return on assets	3.3	3.1	2.5	2.4	2.1	2.2	2.6	2.5	2.8
Return on equity	20.4	18.8	15.2	14.9	12.8	13.1	16.1	15.6	17.7
Net interest margin	12.2	11.8	11.5	11.4	11.5	11.3	11.0	11.0	10.9
Cost of deposits	4.1	3.9	3.7	3.6	3.7	3.7	3.6	3.4	3.3
Cost to income	72.4	73.2	77.2	76.6	75.8	74.8	68.7	68.7	68.7
Overhead to income	43.2	45.3	46.7	45.4	41.9	41.1	40.0	40.1	42.9
Liquidity									
Liquid assets to total deposits	41.1	40.6	42.5	45.4	46.5	41.8	44.0	44.2	46.4
Total loans to total deposits	73.9	73.5	71.9	68.7	70.8	71.1	71.4	73.1	72.8
Market Sensitivity									
Foreign currency exposure to regulatory tier 1 capital	-6.7	-8.2	-3.0	-2.6	-6.8	-1.4	-6.9	-5.4	-5.7
Foreign currency loans to foreign currency deposits	70.6	61.8	62.2	59.2	55.2	53.6	53.3	49.9	47.1
Foreign currency assets to foreign currency liabilities	104.9	100.6	96.8	100.8	95.4	95.2	97.1	102.9	101.4

Source: Bank of Uganda

TABLE 3: Commercial banks' quarterly balance sheet

	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15
ASSETS (USh. Billion)									
Cash & cash assets	519.4	535.5	692.0	609.4	589.1	598.8	786.6	714.4	738.5
Balances with BOU	1689.5	1519.4	1730.1	2007.5	2263.5	1920.0	2104.8	1760.7	2025.4
Due from financial institutions	1753.5	1842.1	2043.7	2046.0	1853.4	1604.9	1502.4	2449.3	2583.2
Government securities	3116.2	3371.0	3648.7	3911.6	4037.3	4428.5	4463.1	4242.4	4283.6
Total gross loans & advances	7677.4	7953.6	8274.6	8475.5	8783.9	8955.2	9431.0	9875.8	10517.5
LESS: Provisions	-198.2	-195.0	-261.7	-332.9	-371.9	-319.9	-229.3	-259.5	-250.4
Net loans & advances	7479.2	7758.6	8012.9	8142.5	8412.0	8635.3	9201.7	9616.3	10267.1
Net fixed assets	522.3	532.4	583.2	756.0	761.7	756.8	821.3	853.3	886.5
Other assets	612.9	699.7	610.3	698.8	722.5	732.90	706.20	680.90	817.60
TOTAL ASSETS	**15693.0**	**16258.7**	**17320.9**	**18171.8**	**18639.5**	**18677.2**	**19586.1**	**20317.3**	**21601.9**
LIABILITIES (USh. Billion)									
Deposits	10385.3	10820.1	11504.3	12344.7	12406.4	12592.9	13218.7	13517.8	14450.9
Due to financial institutions	540.9	597.6	768.4	761.6	991.2	756.8	563.4	513.3	686.8
Administered funds	484.5	953.1	1033.2	1042.6	1080.7	1095.5	1187.6	1512.8	1622.3
Other liabilities	1611.8	1133.2	1157.9	1109.5	1262.6	1191.5	1425.7	1450.0	1515.0
TOTAL LIABILITIES	**13022.5**	**13504.0**	**14463.8**	**15258.4**	**15696.6**	**15636.6**	**16395.4**	**16993.9**	**18275.1**
CAPITAL (USh. Billion)									
Paid-up capital	1172.4	1177.4	1272.3	1317.8	1329.7	1284.2	1287.4	1314.1	1336.6
Share premium	114.8	115.8	91.8	88.0	90.7	92.4	102.3	103.4	110.1
Retained reserves	975.4	927.3	914.3	1229.8	1173.0	1171.4	1174.3	1664.2	1480.0
Other reserves/subordinated debt	150.6	150.5	159.7	160.1	153.4	141.0	139.2	122.4	130.3
Profit – Loss (current year)	253.6	383.6	419.1	117.7	196.2	351.6	487.4	119.3	269.8
TOTAL SHAREHOLDERS' FUNDS	**2667.2**	**2754.7**	**2857.1**	**2913.4**	**2942.9**	**3040.6**	**3190.7**	**3323.4**	**3326.8**
OFF BALANCE SHEET ITEMS (USh. Billion)									
Letters of Credit	347.6	370.4	354.2	424.0	376.4	409.7	469.0	486.5	487.8
Guarantees & performance bonds	983.0	1035.1	1157.3	1264.2	1386.1	1537.3	1573.8	1541.6	1672.3
Unused loans/overdrafts commitment	938.4	759.8	1092.8	1088.4	1137	1108.7	1162.5	986.2	1047.5
Other off balance sheet items	120.5	281.1	268.7	398.9	340.0	356.5	376.7	425.4	228.7
TOTAL OFF BALANCE SHEET ITEMS	**2389.5**	**2446.4**	**2873.0**	**3175.6**	**3239.8**	**3412.2**	**3582.0**	**3439.6**	**3436.2**

Source: Bank of Uganda

TABLE 4: Commercial banks' quarterly income statement, year-on-year figures

	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15
INCOME (USh. Billion)									
Interest income									
Advances	1391.1	1375.9	1389.5	1391.7	1427.0	1442.0	1464.1	1519.9	1551.3
Government securities	326.4	335.6	349.8	362.2	379.5	391.6	416.1	440.4	465.8
Deposits abroad	42.5	36.2	29.5	22.4	16.8	11.7	8.6	8.0	9.7
Other	95.0	86.7	91.0	102.6	111.9	136.6	132.0	116.0	98.2
Charges, fees & commissions	347.0	346.5	335.3	343.5	340.4	360.3	376.1	381.4	403.0
Foreign exchange income	234.2	214.1	216.4	211.0	210.6	203.4	197.6	204.1	210.8
Other income	113.1	119.6	127.2	132.7	161.4	165.6	207.7	224.2	207.3
TOTAL INCOME	**2549.3**	**2514.1**	**2538.7**	**2566.0**	**2647.7**	**2711.3**	**2802.3**	**2894.0**	**2946.0**
EXPENSES (USh. Billion)									
Interest expense on deposits	415.8	405.2	406.8	412.9	425.8	434.0	438.5	441.4	441.2
Other interest expenses	137.6	125.6	119.8	124.7	139.3	147.8	154.3	159.9	162.6
Provisions for bad debts	192.6	172.1	247.9	262.8	332.1	330.2	212.2	224.6	153.8
Salaries, wages, staff costs	462.4	479.6	504.4	527.0	551.5	575.0	583.9	601.0	612.1
Premises, depreciation, transport	208.0	209.4	221.7	229.0	244.8	253.0	253.9	261.3	262.1
Other expenses	430.6	449.3	458.3	459.2	471.9	479.6	494.8	523.2	543.3
TOTAL EXPENSES	**1847.0**	**1669.2**	**1711.1**	**1753.0**	**1833.2**	**1889.3**	**1925.4**	**1986.8**	**2021.2**
ADD: Extraordinary credits/charges	0.5	0.5	0	0	0	0	0	0	0
Net profit before tax	702.8	673.4	579.9	550.3	482.4	491.7	664.7	682.6	771.0
LESS: Corporation tax	205.8	187.0	165.9	145.1	123.6	112.5	179.5	195.8	214.8
NET PROFIT AFTER TAX	**497.0**	**486.3**	**414.0**	**405.2**	**358.8**	**379.2**	**485.2**	**486.8**	**556.3**

Source: Bank of Uganda

TABLE 5: Land Price Index Figures (Base period is 2009/2010)

			REGIONS							
	LPI	Annual change (%)	ENTEBBE	CENTRAL	KAWEMPE	MAKINDYE	MUKONO	NAKAWA	RUBAGA	WAKISO
Weights	**100.0**		**3.5**	**22.7**	**1.4**	**4.9**	**9.9**	**15.3**	**3.6**	**38.7**
Sep-09	**93.7**		3.4	22.6	1.1	4.3	8.1	14.8	4.0	35.6
Dec-09	**101.2**		3.3	22.6	1.5	5.5	9.5	15.9	4.8	38.1
Mar-10	**103.5**		3.4	22.6	1.8	5.1	10.6	17.2	3.1	39.8
Jun-10	**101.6**		3.9	23.1	1.5	4.7	11.3	13.4	2.5	41.4
Sep-10	**109.6**	**17.0**	4.0	32.6	0.8	6.7	9.0	16.7	2.5	37.4
Dec-10	**119.0**	**17.5**	4.1	38.6	1.1	3.9	8.9	26.5	2.6	33.4
Mar-11	**138.2**	**33.6**	5.0	42.1	1.7	6.2	10.8	27.1	2.1	43.2
Jun-11	**155.8**	**53.3**	4.7	43.9	2.2	9.2	11.9	35.3	3.3	45.3
Sep-11	**135.4**	**23.5**	5.4	44.9	1.3	10.1	10.8	22.8	2.4	37.7
Dec-11	**130.7**	**9.9**	5.8	45.4	1.9	11.2	10.2	14.7	3.4	38.1
Mar-12	**132.3**	**-4.3**	5.7	45.6	1.5	3.2	9.9	21.7	2.0	42.8
Jun-12	**122.9**	**-21.1**	6.0	45.8	1.3	2.3	13.0	7.0	4.4	43.1
Sep-12	**134.2**	**-0.9**	7.1	54.2	1.9	2.0	7.8	11.4	5.6	44.2
Dec-12	**145.8**	**11.5**	7.7	58.9	1.1	1.5	3.7	18.4	9.4	45.3
Mar-13	**197.9**	**49.6**	5.8	61.4	3.9	2.7	8.4	58.3	9.7	48.0
Jun-13	**226.9**	**84.6**	7.0	45.8	2.6	5.2	10.1	96.0	9.6	50.7
Sep-13	**233.2**	**73.8**	18.9	38.1	7.9	7.7	10.6	66.6	10.8	72.6
Dec-13	**241.5**	**65.7**	18.3	34.0	9.1	13.3	10.1	76.1	7.3	73.3
Mar-14	**291.0**	**47.0**	20.4	45.6	11.3	12.4	11.0	92.8	7.6	89.8
Jun-14	**303.1**	**33.6**	19.4	40.6	11.4	13.0	12.2	95.8	8.2	102.6
Sep-14	**318.9**	**36.8**	19.4	48.7	12.5	15.0	11.3	103.3	9.0	99.8
Dec-14	**340.2**	**40.8**	21.7	36.2	9.5	12.5	6.7	130.0	10.2	114.1
Mar-15	**364.7**	**25.3**	27.5	41.1	17.1	13.5	10.2	137.4	12.1	105.9
Jun-15	**353.8**	**16.7**	22.0	44.7	9.2	15.1	12.9	131.5	11.3	107.2
Sep-15	**364.4**	**14.3**	24.6	45.7	10.0	13.9	13.9	146.4	14.3	95.7

Source: Bank of Uganda

TABLE 6: Commercial Rent Index Figures (Base period is 2012/2013)

			REGIONS							
	CRI	Annual change (%)	ENTEBBE	CENTRAL	KAWEMPE	MAKINDYE	MUKONO	NAKAWA	RUBAGA	WAKISO
Weights	**100.0**		**0.4**	**84.4**	**4.1**	**0.9**	**1.1**	**6.1**	**2.1**	**0.9**
Dec-12	**99.5**		0.7	82.6	4.1	0.9	1.2	7.2	2.1	0.9
Mar-13	**95.0**		1.3	74.4	4.2	1.3	1.0	9.0	3.0	1.0
Jun-13	**77.9**		1.0	59.4	4.5	1.3	0.8	5.6	3.7	1.6
Sep-13	**85.8**		0.9	67.2	4.5	1.3	0.9	5.7	3.8	1.6
Dec-13	**75.9**	**-23.7**	1.0	56.8	4.6	1.3	0.9	5.8	4.2	1.4
Mar-14	**53.9**	**-43.3**	0.8	37.9	2.8	1.4	0.9	4.9	3.8	1.5
Jun-14	**66.5**	**-14.7**	0.8	49.2	3.5	1.4	0.9	6.3	2.8	1.7
Sep-14	**69.1**	**-19.5**	0.8	51.9	3.4	1.5	0.9	6.2	3.1	1.4
Dec-14	**59.0**	**-22.3**	0.8	41.2	3.5	1.4	0.6	6.3	3.4	1.9
Mar-15	**66.6**	**23.7**	0.7	50.4	3.2	1.2	1.1	6.0	2.8	1.2
Jun-15	**71.6**	**7.6**	0.6	56.0	2.9	1.1	1.0	5.7	2.9	1.3
Sep-15	**74.5**	**7.5**	0.8	56.8	3.0	1.2	0.9	7.0	3.6	1.4

Source: Bank of Uganda

TABLE 7: Residential Property Price Index Figures (Base period is 2009/2010)

			REGIONS							
	RPPI	Annual change (%)	ENTEBBE	CENTRAL	KAWEMPE	MAKINDYE	MUKONO	NAKAWA	RUBAGA	WAKISO
Weights	**100.0**		**1.6**	**0.3**	**2.0**	**46.2**	**0.4**	**39.8**	**1.2**	**8.5**
Sep-09	**83.3**		3.4	0.2	2.0	14.5	0.2	51.9	0.2	10.9
Dec-09	**121.5**		1.7	0.2	1.9	66.9	0.6	40.8	1.8	7.6
Mar-10	**111.2**		0.5	0.3	1.8	67.9	0.5	32.2	1.3	6.7
Jun-10	**84.1**		0.8	0.6	2.3	35.3	0.4	34.4	1.7	8.6
Sep-10	**88.0**	**5.7**	1.6	0.6	2.9	32.8	0.5	39.6	1.9	8.2
Dec-10	**80.8**	**-33.5**	-	0.5	1.6	31.3	0.7	36.4	2.0	8.4
Mar-11	**98.9**	**-11.0**	0.4	0.5	1.8	36.5	0.8	50.2	1.5	7.3
Jun-11	**75.1**	**-10.7**	0.8	0.5	1.9	32.0	0.3	29.9	1.3	8.3
Sep-11	**69.0**	**-21.5**	0.4	0.5	3.4	31.1	0.4	22.3	2.1	8.9
Dec-11	**61.1**	**-24.4**	0.7	0.5	1.9	30.1	0.3	16.6	1.0	10.0
Mar-12	**65.7**	**-33.6**	1.0	0.5	2.3	28.1	-	23.9	1.4	8.6
Jun-12	**72.9**	**-2.9**	1.0	-	1.7	21.8	0.3	36.3	3.0	8.9
Sep-12	**77.5**	**12.3**	1.5	0.4	1.8	36.1	0.3	27.9	1.6	8.0
Dec-12	**68.9**	**12.8**	1.4	0.5	1.3	31.1	0.4	25.1	1.6	7.5
Mar-13	**67.2**	**2.3**	1.0	0.5	1.3	34.0	0.2	22.0	0.8	7.4
Jun-13	**136.8**	**87.6**	0.7	0.4	1.4	63.4	0.1	58.1	1.0	11.6
Sep-13	**173.0**	**123.2**	0.5	2.0	2.6	86.0	0.4	65.9	2.2	13.5
Dec-13	**175.6**	**155.0**	0.5	2.2	3.3	82.8	0.4	71.7	2.0	12.7
Mar-14	**184.9**	**175.2**	0.6	2.5	3.0	79.7	0.5	79.6	2.2	16.7
Jun-14	**179.2**	**31.0**	0.5	2.3	2.5	78.7	0.3	80.5	2.0	12.5
Sep-14	**181.2**	**4.7**	0.4	2.1	2.4	88.5	0.2	73.0	2.1	12.5
Dec-14	**181.3**	**3.2**	0.8	2.7	2.2	92.8	0.4	68.0	1.9	12.4
Mar-15	**204.3**	**10.5**	0.6	2.7	2.5	101.4	0.5	81.2	1.9	13.5
Jun-15	**203.8**	**13.7**	0.5	3.5	2.3	104.8	0.5	76.4	1.9	14.0
Sep-15	**214.8**	**18.4**	0.5	3.5	2.3	107.0	0.5	81.6	1.7	17.7

Source: Bank of Uganda