Bank Of Uganda

FINANCIAL STABILITY REPORT

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GLOSSARY

ALSI	All Share Index
BCBS	Basel Committee on Banking Supervision
CAR	Capital adequacy ratio
CBR	Central bank rate
CCB	Countercyclical capital buffer
C&E	Central and Eastern Europe
CIS	Commonwealth of Independent States
DSE	Dar-es-Salaam Stock Exchange
E&D	Emerging and developing countries
EAC	East African Community
ECB	European Central Bank
EMEs	Emerging market economies
FSR	Financial Stability Report
GDP	Gross domestic product
IMF	International Monetary Fund
LCR	Liquidity coverage ratio
MENA	Middle East and North Africa
NPLs	Non-performing loans
NSE	Nairobi Stock Exchange
OECD	Organisation for Economic Cooperation and Development
RHS	Right hand side
ROA	Return on assets
ROE	Return on equity
SSA	Sub-Saharan Africa
UBOS	Uganda Bureau of Statistics
UGX	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. Better public awareness of financial system vulnerabilities may encourage financial institutions to curb activities, which might exacerbate systemic risks and would 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.

The global economy remains vulnerable to financial instability despite an improvement in financial market sentiment since the start of 2012. In Europe, policy measures by the European Central Bank (ECB), including provision of long-term funding to the banking system, have helped to partly alleviate the effects of a slowdown in economic growth although addressing fiscal imbalances and competitiveness remains a challenge. Many emerging economies, including Uganda's financial system, face pass-through risks arising from exchange rate and capital flow volatility.

The Ugandan banking sector remained largely resilient during the year to June 2012, registering strong growth in assets of 15.1 percent. Profitability was boosted by interest income from lending which outstripped growth in banks' operating expenses and thus resulted in a lower cost-to-income ratio. Credit risk remains elevated, manifested by a reduction in asset quality with the ratio of non-performing loans to total loans rising to 3.9 percent. The rise in foreign currency loans could also generate risks to the quality of loans in the event of exchange rate depreciation. Nevertheless, the banking system holds substantial capital buffers to absorb future loan losses and hence, its vulnerability to financial fragility is low. The sector is in a financially sound condition, with a capital adequacy ratio of 18.3 percent as of June 2012, far higher than the statutory minimum of 8 percent. Although deposit growth slowed, many banks turned to the strong portfolio inflows to meet their liquidity and funding requirements.

The Bank of Uganda is continuing to strengthen regulation and monitoring of the financial system. All commercial banks will be expected to raise their minimum paid-up capital to at least Ushs.25 billion by March 2013, in line with the revisions to the statutory minimum capital requirements. The Bank will also publish statutory instruments to introduce the Basel III capital and liquidity measures over the next six months to enhance the resilience of the banking sector. The pilot phase for the liquidity coverage ratio (LCR) is now being finalised, aimed at enhancing liquidity management at commercial banks, and the Bank will fast track its introduction from January 2013. The Bank has further strengthened efforts to collect information on real estate prices, by increasing collaboration with the Uganda Bureau of Statistics (UBOS), the Ministry of Lands Housing and Urban Development and other stakeholders.

It is our overall assessment, as presented in this report, that for now, threats to the systemic stability of the financial system are mild. Although macroeconomic conditions during the year presented significant challenges to the sector, banks remain well capitalised with substantial levels of capital, which provide a buffer against shocks to their balance sheet. The 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

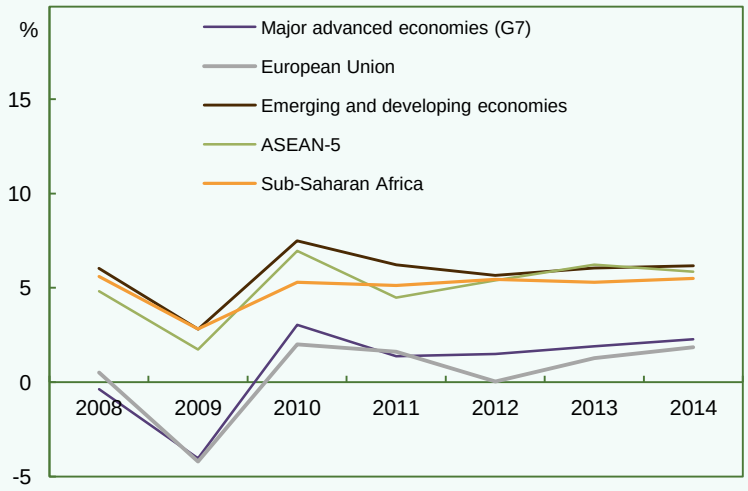
1. THE MACROECONOMIC ENVIRONMENT AND FINANCIAL DEVELOPMENTS

Global financial stability continues to be threatened by the raging Europe debt crisis, and the associated strains in the euro area banking system. Although growth in East Africa has slowed down, the European crisis has not yet created disruptions to the region's banking system. However, risks from pass-through effects remain.

1.1. Global economic conditions

Global economic conditions have a major bearing on international trade and investment flows. Uganda is greatly influenced by trade, investment flows, remittances and development aid from the advanced economies in North America, Europe and China. The growth of advanced, emerging and developing economies is expected to fall in 2012 compared to 2011. According to the IMF World Economic Outlook Update for July 2012, global GDP was projected to grow by 3.5 percent in 2012, from 3.9 percent in 2011. Growth is forecast to rebound to 3.9 percent in 2013.

Chart 1: Projected annual GDP growth for major regions



Source: IMF World Economic Outlook Update, April 2012
Notes: 2013 and 2014 figures are forecasts

Growth in advanced economies is expected to slow down from an already meagre 1.6 percent in 2011 to 1.4 percent in 2012. For 2013-2016, the IMF outlook suggests some recovery in advanced economies, bringing these countries back to the pre-recession growth trend of 1.9 percent. However, high debt burdens across multiple sectors continue to weigh down many advanced economies.

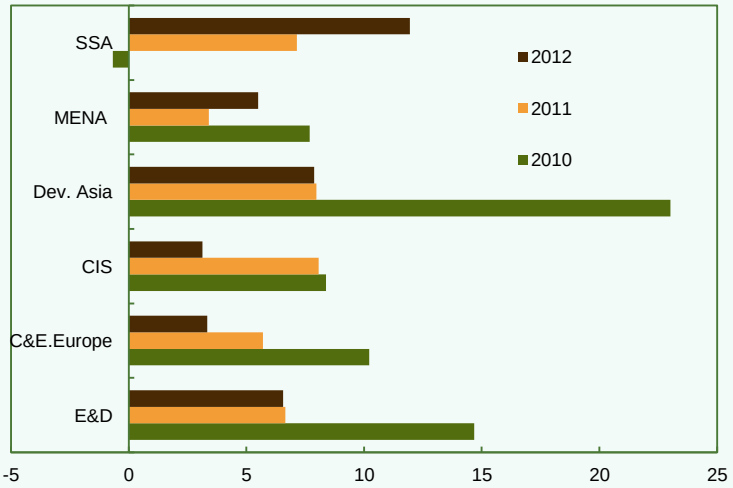
Global inflation eased from 4.0 percent in 2011 to 3.2 percent in 2012. In advanced economies, the median inflation rate fell from 2.6 percent in 2011 to a projected 1.6 percent in 2012.The weakening of the global economy resulted in a fall of commodity prices through May 2012 after a strong start in the first quarter of 2012.

As the world economy remains fragile, further deterioration of growth in Europe, volatile financial flows and the risk of higher oil prices on account of geo-political tensions and supply disruptions are among the most important of these downside risks that could stall global growth.

1.2. Emerging markets and developing countries

The IMF[1] has projected that growth in emerging economies will slow down by 0.7 percentage points on average, from 6.3 percent growth in 2011 to 5.6 percent in 2012, partly as a result of slower export growth and partly because several of these economies had been growing above trend. According to the April 2012 Global Financial Stability Report, a key challenge to financial stability in emerging market economies (EMEs) will be to control spill-overs from the euro area. Some of the emerging economies which are key economic partners of Uganda, including China, also started to report declining growth prospects for the medium-term. Therefore, the impact of the global economic environment on Uganda will also reflect the economic trends in these emerging economies. The spill-over risks from the global economy on Uganda are expected to pass through primarily to increased domestic inflation and reduced bank funding.

Chart 2: Volume of exports of goods and services (percentage change)



Source: IMF World Economic Outlook Update, April 2012

Notes: E&D, Emerging and Developing countries; C&E, Central and Eastern Europe; CIS, Commonwealth of Independent states; MENA, Middle East and North Africa; SSA, sub-Saharan Africa

Exposure to deleveraging by OECD countries

The impact of the deleveraging process on emerging markets has been manageable, but risks and challenges remain. Pressure on European banks to deleverage[2] intensified in the second half of 2011, following increased funding and regulatory requirements. Furthermore, rising funding costs, increased counter-party risk assessments, deteriorating bank asset quality, and growing concerns over the adequacy of capitalisation, all contributed toward a deleveraging trend among European banks.

Consequently, European banking-sector deleveraging cut into trade finance flows because European banks play a pivotal role in the provision of global trade finance. Their funding problems, in particular dollar liquidity constraints, negatively affected the availability and pricing of trade finance in the last quarter of 2011.

So far, deleveraging has occurred predominantly through buttressing capital positions and reducing non-

[1] IMF World Economic Outlook Update for July 2012

[2] Deleveraging is the process of paying off debt on the balance sheet. It reduces the total amplification of market volatility on the borrower's balance sheet.

core activities, leaving the impact on the rest of the world manageable. However, any synchronised, large-scale and aggressive trimming of balance sheets could do serious damage to asset prices, credit supply, and economic activity in Europe and could weaken portfolio flows to Uganda.

1.3. Developments in the East Africa region

The five economies in the East African region registered a slowdown in growth during 2011/2012, except for Burundi and Kenya which experienced an increase in growth compared to 2010/2011. The EAC grappled with rising inflation on basic food commodities and price increases on essential imports such as oil. In particular, Kenya, Tanzania, and Uganda witnessed rising and double-digit inflation levels coupled with significant policy tightening which reduced spending on consumer goods.

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

	2010	2011	2012
Burundi	3.8	4.2	4.8
Kenya	5.6	5.0	5.2
Rwanda	7.5	8.8	7.6
Tanzania	6.5	6.7	6.4
Uganda	5.9	6.7	4.2

Source: IMF, WEO Database April 2012

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

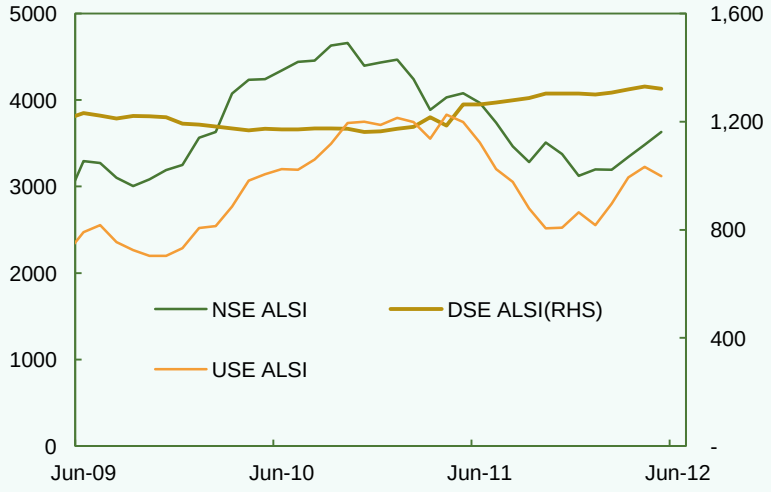
	2010	2011	2012
Burundi	4.1	14.9	10.3
Kenya	4.1	14.0	10.6
Rwanda	2.3	5.7	7.9
Tanzania	10.5	7.0	17.4
Uganda	9.5	6.5	23.4

Source: IMF, WEO Database April 2012

Equity markets

Stock market activity was diverse across the three regional exchanges during 2011/2012. The Nairobi Stock Exchange (NSE) All Share Index suffered significant losses at the end of 2011 but later made notable gains at the beginning of 2012. In mid 2012, the NSE All Share Index rose significantly due to the listing and commencement in trading of new shares by Kenya Airways (KQ). On the other hand, the Uganda Securities Exchange (USE) All Share Index dropped from the highs observed at the beginning of 2011 to lows in December 2011 and recovered in March 2012. The losses resulted from dampened market perception. The Dar-es-Salaam Stock Exchange (DSE) All Share Index remained relatively stable for the same period.

Chart 3: Monthly East African stock indices

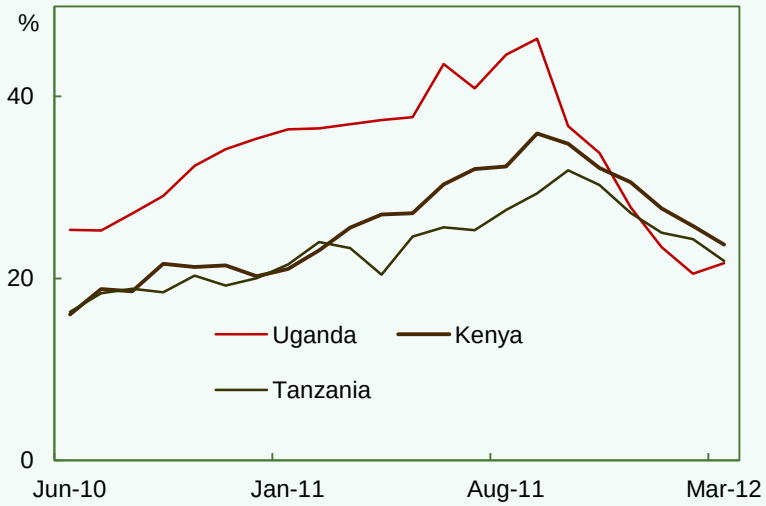


Source: Uganda Securities Exchange, Nairobi Stock Exchange and Dar-es-Salaam Stock Exchange

Financial performance of banks in the region

Bank lending in the East African region reduced to lower levels for the period 2011/2012 as compared 2010/2011. Data from commercial banks in the region show that the average rate of annual growth of private sector credit was lower in June 2012 at a regional average of 22.4 percent compared to 28.6 percent in June 2011.

Chart 4: Year-on-year growth of credit extended to the private sector by banks (*percent*)



Source: Central banks of Kenya, Tanzania and Uganda

The ratio of non-performing loans (NPLs) to total gross loans remained below 10 percent for all the East African countries except for Rwanda. The ratio of NPLs to total loans rose in Uganda, Kenya and Tanzania between June 2011 and June 2012, reflecting the difficult macroeconomic environment in the region and higher lending rates. The reduction in inflationary pressures in the three countries is expected to lead to an easing of lending rates and enhance loan performance.

Generally, banks in East Africa remain well capitalised, with the average regulatory capital to risk-weighted assets ratio at approximately 20.1 percent at end of June 2012. Banks' profitability in the region improved with the average returns on assets increasing from 3.4 percent to 4.2 percent between June 2011 and June 2012. However, average returns on equity dropped from 21.8 percent to 20.8 percent in the same period.

1.4. Uganda's macro financial environment

In 2011/2012, preliminary data show that real GDP at market price grew by 3.2 percent compared to the 6.7 percent growth in 2010/2011.[3]

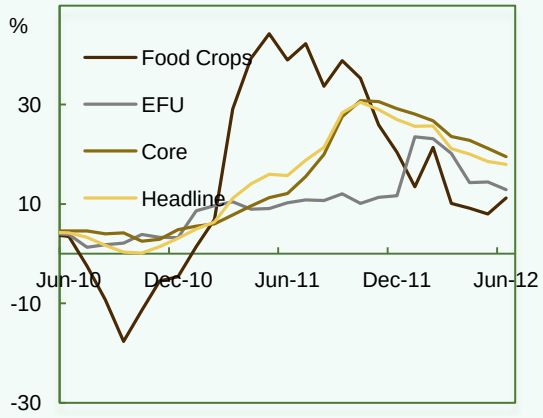
Movements in interest rates

The BOU adopted the Inflation Targeting Lite (ITL) monetary policy framework in July 2011, which employs a policy interest rate – the central bank rate (CBR) – as the operating target of monetary policy. The primary goal of monetary policy in 2011/12 was to rein in inflationary pressures and anchor medium- to long-term inflation expectations. A higher CBR meant that banks and other financial institutions would raise their savings and lending rates and this would curb private sector borrowing and

[3] Uganda Bureau Of Statistics Statistical Abstract, June 2012

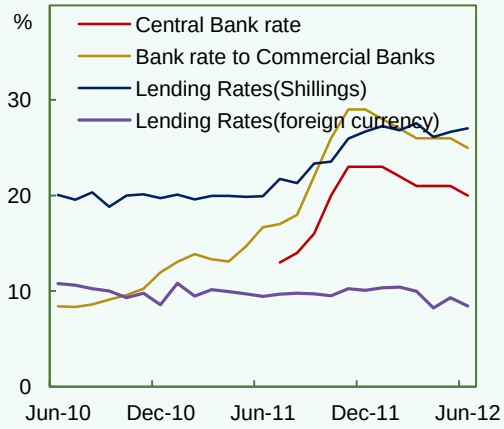
spending. The CBR was raised from 13 percent in July 2011 to 23 percent in December 2011, which brought about a marked slowdown in the growth of bank lending. The CBR had reduced to 20 percent by June 2012 as inflation pressures abated.

Chart 5: Annual headline inflation in Uganda (*percent*)



Source: Bank of Uganda

Chart 6: Monthly changes in interest rates (*percent*)

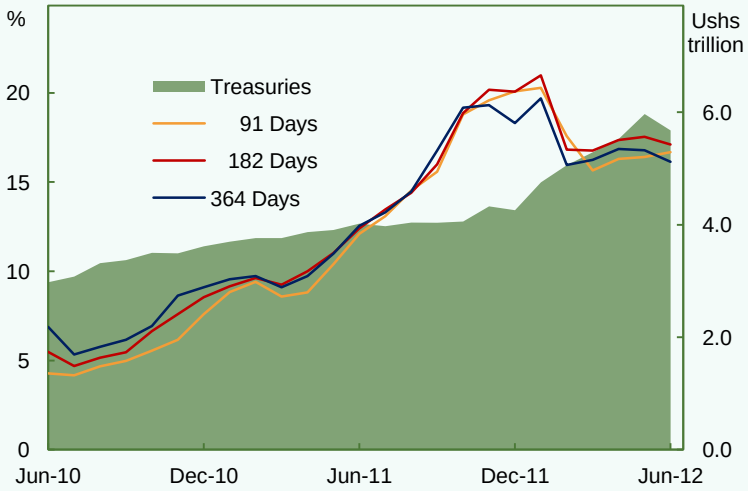


Source: Bank of Uganda

Yields on treasury securities

The average yields for government securities increased during 2011/2012, reflecting the general rise in interest rates. The yield on the 364-day treasury bill peaked at 24.5 percent in January 2012 compared to 15.3 percent in June 2011. The outstanding stock on treasury bills and bonds increased from Ushs.4 trillion in June 2011 to Ushs.5.7 trillion by the end of June 2012. While Ugandan banks continued to hold a substantial amount of treasury securities, the rise in the yields attracted growing investment from offshore financial institutions, which held stock worth Ushs.853 billion in treasury bills and bonds in June 2012, up from Ushs.135 billion in June 2011. The share of the outstanding stock of treasury securities held by Ugandan banks dropped from a high of 62.1 percent at the end of June 2011 to 45.4 percent at the end of June 2012.

Chart 7: Stock of treasury bills and yields



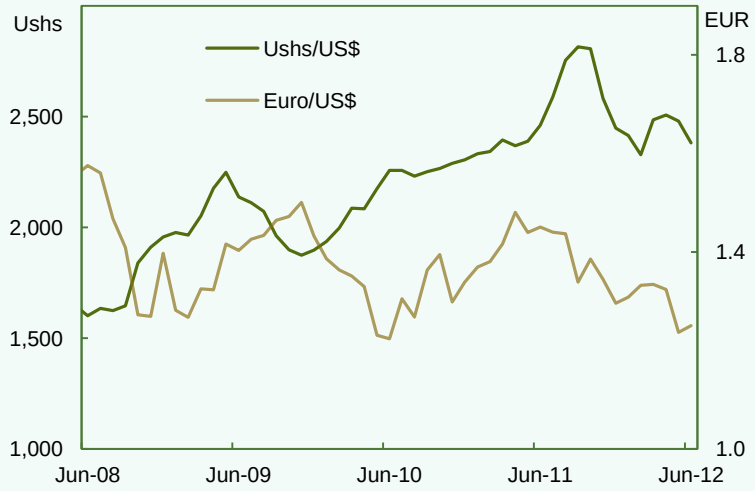
Source: Bank of Uganda

The foreign exchange market

The Uganda shilling suffered depreciation pressures in mid-2011, which were mainly attributed to

demand by offshore investors, energy and manufacturing sectors[4]. In addition, speculative behaviour amplified exchange rate variability. This trend was reversed in the final quarter of 2011 due to strong portfolio inflows amidst tight liquidity conditions and low corporate demand[5].

Chart 8: Monthly average exchange rate for the shilling the US Dollar and Euro



Source: Bank of Uganda

Conclusion

Risks to financial sector stability during 2011/2012 from the Ugandan macro financial environment reduced in the second half of the year. Although domestic macroeconomic conditions weakened during the first half of 2011/2012, with higher inflation, exchange rate depreciation and lower aggregate demand affecting loan performance, during the second half of the year, inflation started to fall. This development, coupled with the recent easing of Bank of Uganda's monetary policy stance is likely to enhance aggregate demand and improve economy activity and bank loan performance. Nevertheless, although the European sovereign debt crisis has not created major disruptions to the banking system in Uganda for now, the possibility of risks to capital flows from second round effects cannot be ruled out at this stage.

[4] Bank of Uganda Monetary policy report for July 2011
[5] Bank of Uganda Monetary policy report for February 2012

2. KEY DEVELOPMENTS IN THE BANKING SYSTEM

The Ugandan banking system registered subdued growth amid tougher macroeconomic conditions in the year to June 2012. Growth was mainly in foreign currency denominated assets and liabilities. Asset quality deteriorated compared to the same period in 2011. However, bank profitability rose as banks increased interest rates on loans. There are concerns about further deterioration of loan quality arising from high interest rates, and the increased lending in foreign currency.

2.1. Growth of the banking sector

Total bank assets grew by 15.1 percent in the year to June 2012, which was lower than 23.3 percent growth recorded in the previous year. The fall in asset growth was mainly due to a decline in the loan growth rate from 43.6 percent in 2010/2011 to 10.8 percent in 2011/2012. Similarly, deposit mobilisation by banks slowed during this period, to a rate of 6.7 percent in 2011/2012 compared to 24.2 percent in the previous year.

Table 3: Growth in banks' assets and deposits

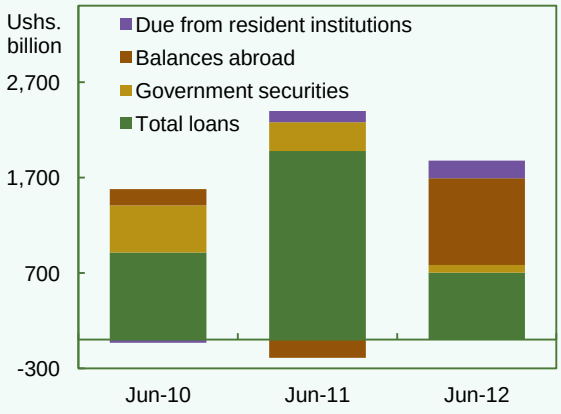
	Jun-10	Jun-11	Jun-12
Assets			
Amount (Ushs. trillion)	10.2	12.5	14.4
Annual growth (%)	*22.7*	*23.3*	*15.1*
Deposits			
Amount (Ushs. trillion)	7.3	9.1	9.7
Annual growth (%)	*38.2*	*24.2*	*6.7*
Loans			
Amount (Ushs. trillion)	4.5	6.5	7.2
Annual growth (%)	*25.2*	*43.6*	*10.8*

Source: Bank of Uganda

Changes in the structure of banks' assets

In 2011/2012, risk-weighted assets as a share of total assets rose from 69.1 percent to 70.8 percent. Although interest rates on government securities rose, their share of total assets fell from 19.9 percent in June 2011 to 17.9 percent in June 2012 as banks shifted more exposure to balances held with banks abroad, thus reflecting the higher proportion of balance sheet assets in foreign currency. The share of banks' balances held with banks abroad rose from 7.9 percent in June 2011 to 13.2 percent in June 2012 while loans as a share of total assets marginally dropped from 52.1 in June 2011 to 50.1 percent in June 2012.

Chart 9: Annual change in volumes of banks' assets



Source: Bank of Uganda

2.2. Funding and liquidity

Banks in Uganda are primarily funded by customer deposits. However, the annual deposit growth rate dropped to 6.7 percent in 2011/2012 from 24.2 percent in the previous year, partly a reflection of the tighter monetary policy stance by Bank of Uganda, while growth of foreign currency deposits rose to 37.9 percent from 28.8 percent. The ratio of total loans to total deposits increased from 71.5 percent in June 2011 to 74.2 percent in June 2012, largely reflecting the decline in deposit growth, but remaining within the prudential limit of 82.5 percent.

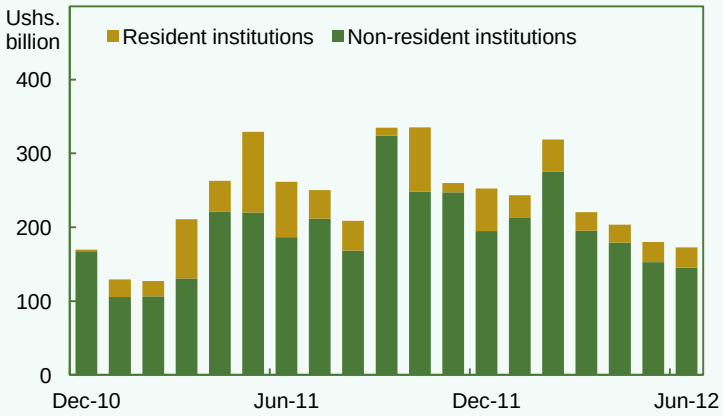
Table 4: Sources of bank funding as a share of total liabilities (*percent*)

	Jun-10	Jun-11	Jun-12
Balance sheet			
Deposits	84	85	80
Resident banks	1	2	4
Non-resident financial institutions	3	1	2
Others	12	13	15
Off-balance sheet			
Foreign exchange swaps	N/A	3	4

Source: Bank of Uganda

Other than deposits, banks increased their borrowing through foreign exchange swaps for additional funding mainly from financial institutions abroad. The amount payable on swap transactions rose to Ushs.172.8 billion and US$116.1 million in June 2012 compared to Ushs.181.0 billion and US$59.7 million in June 2011. The rise in balances with banks abroad partly reflected the rise in swaps with foreign banks as Ugandan banks provided foreign currency to borrow shillings at relatively lower rates at a time when interbank rates were rising sharply. While these foreign exchange swaps pose little credit risk to financial stability, their rising volumes point to other vulnerabilities, which are explained further in Section 3 of the report.

Chart 10: Outstanding amounts due to financial institutions on swap transactions



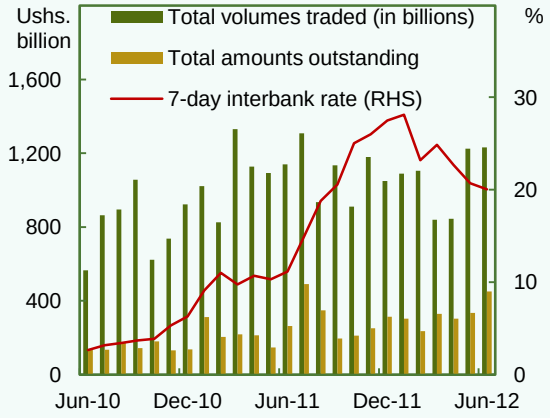
Source: Bank of Uganda

The interbank market

The interbank market was an important source of liquidity for banks during the year to June 2012. The total volume traded in the interbank market increased to Ushs.12.8 trillion in the year to June 2012, up from Ushs.11.6 trillion in the previous year. However, interbank activity was subdued during the last half of 2011 due to the high interest rates. The overnight and seven-day weighted average interbank market rates rose

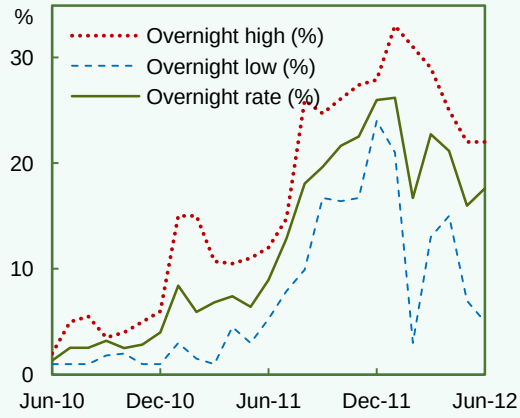
from 8.9 percent and 11.1 percent in June 2011 to 26.0 percent and 27.5 percent in December 2011 respectively. The increase in rates followed the raising of the central bank rate from 13 percent in July 2011 to 23 percent in November 2011.

Chart 11: Monthly interbank market activity (Ushs. billion) and 7 day interbank rate



Source: Bank of Uganda

Chart 12: Monthly weighted average overnight interbank rates (*percent*)



Source: Bank of Uganda

Indicators of liquidity

There was an increase in the growth of liquid assets in the year to June 2012 to 16.8 percent from 6.3 percent in June 2011, driven mostly by amounts held abroad by banks which registered the largest change in assets during the period under review. This resulted in an improvement in the key indicators of banks' liquidity between June 2011 and June 2012, such that all commercial banks were able to meet the regulatory liquidity requirements during the year.

Table 5: Banks' key indicators of liquidity (*percentage ratios*)

	Jun-10	Jun-11	Jun-12
Total loans to total deposits	61.8	71.5	74.2
Liquid assets to total deposits	41.6	35.6	38.9
Liquid assets to total assets	30.1	25.9	26.3
Foreign currency loans to foreign currency deposits	52.1	68.6	67.1

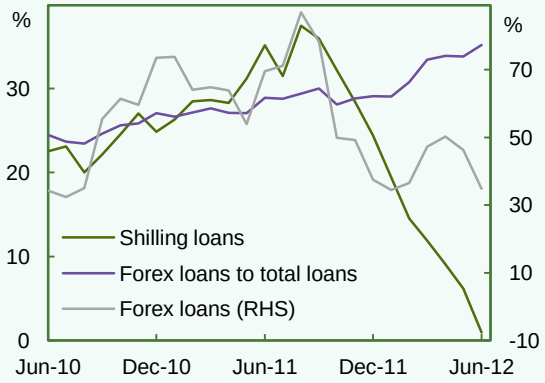
Source: Bank of Uganda

2.3. Performance of credit

The annual growth of credit to the different sectors of the economy slowed to 10.8 percent in 2011/2012 from 43.6 percent in 2010/2011. Banks scaled back lending especially for shilling loans, which recorded an annual growth rate of only 1.0 percent in 2011/2012, compared to 35.1 percent in 2010/2011. This decline largely reflected the rise in lending rates during the period, with the weighted average lending rate on shilling loans rising to 27.2 percent in January 2012 compared to 21 percent in June 2011. The downward risks from this included an overall rise in credit risk. However, the annual growth rate of foreign currency loans reduced at a slower rate to 34.9 percent in 2011/2012. Despite this, the share of foreign currency loans to total loans increased from 28.9 percent in June 2011 to 35.2 percent in June 2012, aided by lower interest rates on foreign currency loans. Interest rates on foreign currency loans fell from 9.4 percent in

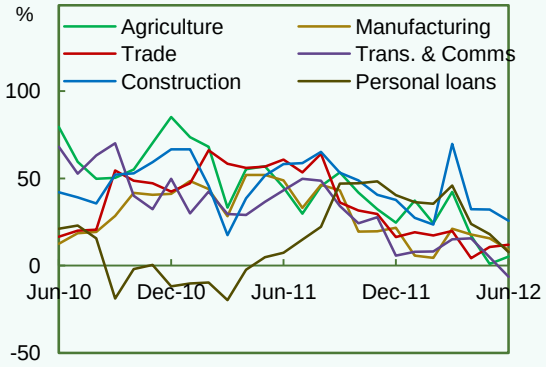
June 2011 to 9.3 percent in June 2012, compared to an average lending rate of 27.0 percent in June 2012 for shilling loans, up from 19.9 percent in June 2011.

Chart 13: Annual growth rate of local and foreign currency loans (*percent*)



Source: Bank of Uganda

Chart 14: Annual growth of bank loans by sector (*percent*)



Source: Bank of Uganda

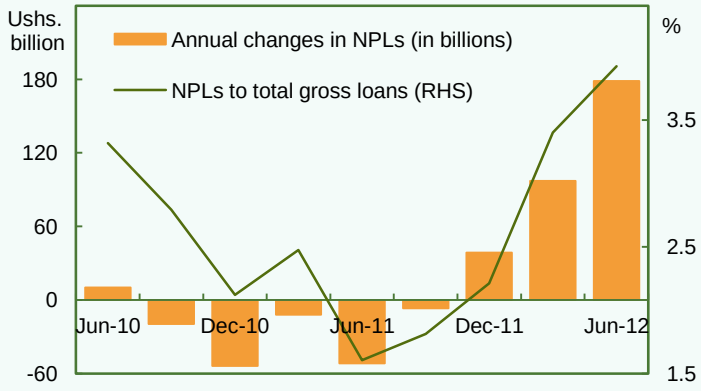
Sectoral distribution of loans

Banks maintained a similar sectoral lending strategy to that of the previous year as they continued to extend credit mainly to the building, construction and real estate sector, as well as the trade and commerce sector, whose shares of banks' total lending were 23.3 percent and 21.7 percent respectively. All major sectors experienced a slowdown in loan growth rates during the period under review, reflecting the overall trend in banks' lending during this period.

Non-performing loans and provisioning

The level of non-performing loans (NPLs) to total loans in the banking sector increased between June 2011 and June 2012 from 1.6 percent to 3.9 percent. NPL levels grew by Ushs.178.5 billion in 2011/2012 after having declined by Ushs.51.7 billion during 2010/2011.

Chart 15: Annual changes in banks' NPLs



Source: Bank of Uganda

All sectors registered an increase in their levels of NPLs over the year to June 2012. Growth in NPLs was mainly on account of a rise in bad loans to the trade and commerce and building and construction sectors. The trade and commerce sector's NPL ratio increased by 4.4 percentage points to 5.5 percent in 2011/12, while that of the building and construction sector rose from 1.3 percent to 5.3 percent.

In addition, the building and construction sector maintained the highest share of NPLs as in the year to

June 2011 from 16.2 percent to 31.5 percent. Similarly, the share of NPLs to the trade and commerce sector rose from 14.2 percent to 30.3 percent. The share of NPLs to the households had a notable reduction from 15 percent to 8.1 percent during 2011/12.

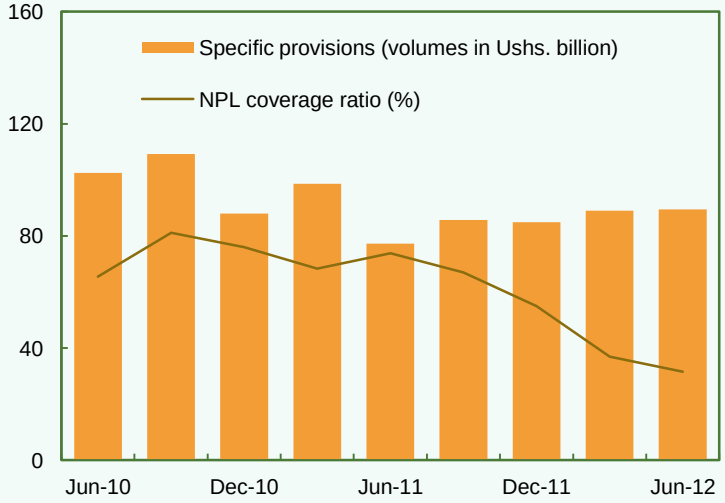
Table 6: Ratio of banks' NPLs to total loans by sector (*percent*)

	Jun-10	Jun-11	Jun-12
Agriculture	9.2	1.7	3.9
Manufacturing	2.5	0.2	0.6
Trade	4.1	1.1	5.5
Transport & communication	2.0	0.7	1.7
Building & construction	2.2	1.3	5.3
Personal loans	1.4	1.5	2.1
Other activities	5.5	4.9	5.9
Overall ratio of NPLs to total loans	**3.4**	**1.6**	**3.9**

Source: Bank of Uganda

As a result of the overall decline in loan quality, banks' loan-loss reserves increased from Ushs.77.2 billion to Ushs.89.5 billion in the year to June 2012. Although banks' provisioning against potential credit losses remained adequate, the NPL coverage ratio (*calculated as the ratio of loan loss reserves to total NPLs*)[6] fell by 42.2 percentage points from 73.8 percent to 31.6 percent. However, the decline in the NPL coverage ratio is not a point of concern as less than 100 percent provisioning is sufficient for new NPLs.

Chart 16: Banks' provisions and NPL coverage ratio



Source: Bank of Uganda

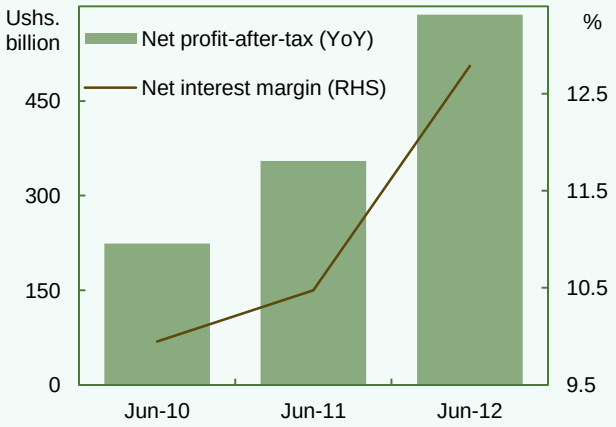
2.4. Drivers of banks' profitability

The profitability of the banking sector rose in the year to June 2012, largely on account of the increase in net interest margins, which averaged 13 percent in 2011/12 compared to 10 percent in the previous year and, a large fall in the overheads-to-income ratio from 51 percent in 2010/2011 to 40 percent in 2011/2012. Net profit-after-tax rose to Ushs.587 billion in 2011/2012. Banks' average return on assets (ROA) increased by 1.3 percentage points during the year 2011/2012 to reach 4.4 percent while the average return on equity (ROE) went up by 7.1 percentage points to 29.5 percent in June 2012. The net interest margin increased

[6] The NPL coverage ratio is a measure of a bank's ability to absorb potential losses from its non-performing loans.

from 10.5 percent to 12.8 percent during the year to June 2012.

Chart 17: Banks' profitability (year-on-year)



Source: Bank of Uganda

Although operating costs increased to Ushs.961.6 billion in the year to June 2012, up from Ushs.828.1 billion in 2010/11, earnings grew much faster and as a result the industry-wide cost-to-income ratio fell from 71.2 percent to 68.1 percent.

Table 7: Indicators of banks' profitability (*year-to-date*)

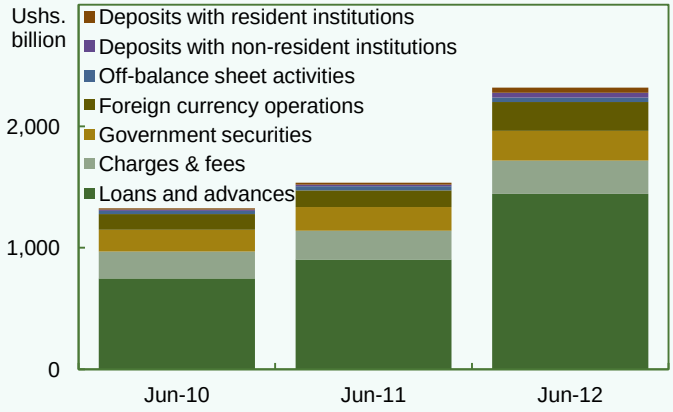
	Jun-11	Sept-11	Dec-11	Mar-12	June-12
Net profit-after-tax (Ushs. billion)	354.7	423.2	488.9	552.2	587.0
Net interest margin (%)	10.5	11.0	11.7	12.5	12.8
ROA (%)	3.1	3.6	4.0	4.4	4.4
ROE (%)	22.4	25.4	27.4	28.1	29.5
Cost to income (%)	71.2	68.8	68.2	67.5	68.1

Source: Bank of Uganda

Earnings were largely driven by interest from lending

As in the year to June 2011, the main driver of banks' earnings was lending activities. The share of interest income on loans and advances to total income grew by 4.3 percentage points to 59.4 percent between June 2011 and June 2012. Income on government securities as a share of total income reduced from 11.9 percent to 10.1 percent, which could be explained by continued decline in banks' holdings of this asset type. Another significant reduction was in the share of income from charges, fees and commissions on loans and deposits from 14.4 percent to 11.2 percent.

Chart 18: Breakdown of banks' financial income (*year-to-date*)



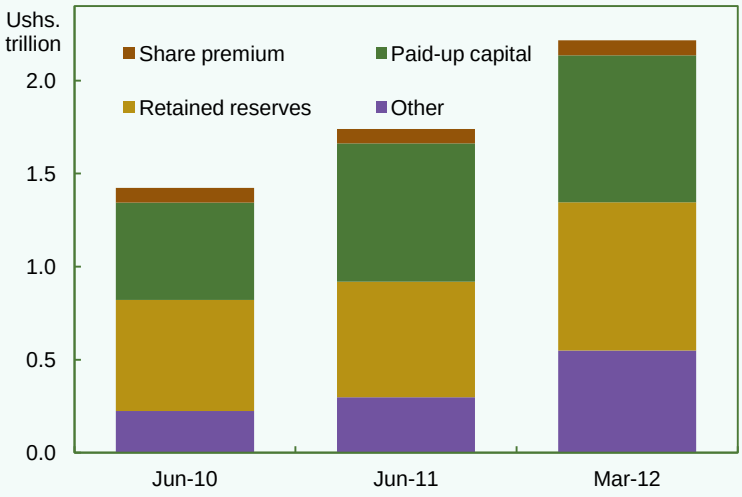
Source: Bank of Uganda

2.5. Capital adequacy

Banks remained well capitalised

The banking sector's capital adequacy ratio (core capital to risk weighted assets) increased by one percentage point in 2011/2012 to 18.3 percent, more than double the regulatory minimum of 8 percent. The improvement in the ratio is an indication of the improved capital adequacy to cushion banks against losses. Banks increased their tier 1 capital by 25.1 percent from Ushs.1.5 trillion to Ushs.1.9 trillion during the year to June 2012, while risk-weighted assets grew by 17.8 percent.

Chart 19: Composition of banks' total capital



Source: Bank of Uganda

Bank leverage remained unchanged

The leverage ratio (*regulatory tier 1 capital to total assets plus off-balance sheet items*), which is another indicator of banks' capital adequacy, increased slightly from 10.2 percent to 10.6 percent. This indicator shows the amount of bank capital relative to their balance sheet as well as off balance sheet exposure.

Table 8: Indicators of banks' capital adequacy (*percentage ratios*)

	Jun-10	Jun-11	Jun-12
Tier 1 capital adequacy ratio	19.2	17.3	18.3
Leverage ratio	9.9	10.2	10.6

Source: Bank of Uganda

2.6. Sensitivity to market risk

Banks' exposure to movements in foreign exchange rates remained low during 2011/12. The industry-wide ratio of foreign currency exposure to core capital widened from -0.9 percent to -5.2 percent during the year. Commercial banks also maintained a fairly steady ratio of foreign currency assets to liabilities recorded at 103.4 percent at June 2011, implying virtually zero risk of currency mismatches. However, there was a significant increase in the level of dollarization of the banking sector as the proportion of foreign currency assets to total assets increased from 26.6 percent to 33.2 percent, and the proportion of foreign currency deposits to total deposits increased from 30.1 percent to 38.9 percent.

Interest rate risk is also low because most lending rates which banks charge customers are variable and banks have been able to react to recent macroeconomic developments by raising lending rates. Nevertheless, credit risk on foreign currency loans may increase because of exchange rate depreciation and rising interest rates.

Table 9: Indicators of banks' foreign currency exposure and intermediation (*percentage ratios*)

	Jun-10	Jun-11	Jun-12
Foreign currency exposure to regulatory tier 1 capital	-3.5	-0.9	-5.2
Foreign currency loans to foreign currency deposits	52.1	68.6	67.1
Foreign currency assets to foreign currency liabilities	98.4	100.1	103.4
Foreign currency assets to total assets	25.3	26.6	33.2
Foreign currency loans to total loans	24.5	28.9	35.2
Foreign currency deposits to total deposits	29.0	30.1	38.9

Source: Bank of Uganda

2.7. Conclusion

The banking sector in the last year registered slower growth compared to the previous year to June 2011 and remained financially sound, despite a difficult macroeconomic environment which included a sharp rise in inflation, a slowdown in economic growth in the second half of 2011 and, substantial exchange rate volatility. Although deposit growth slowed, the banking system was very profitable and remained well capitalised. The exchange rate volatility which occurred during 2011 had very little impact on the financial condition of banks because their exposure to foreign exchange denominated liabilities was closely matched by their foreign exchange denominated assets. However, concerns remain regarding the potential consequences for future loan quality.

3. The Outlook for Financial Stability

This section highlights the risks facing the Ugandan banking sector in the medium term. The potential major threats to the financial sector are credit risk, funding and liquidity risk and portfolio outflows.

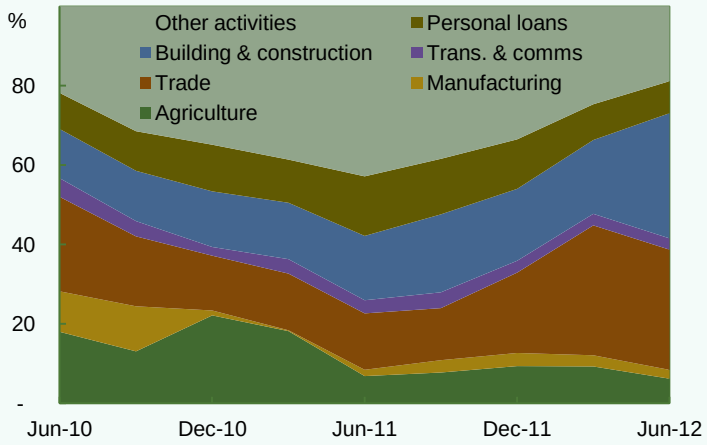
3.1. Summary of key risks facing the banking system

a) Credit risk

Deterioration of loan performance

During 2011/2012, the asset quality of banks reduced with the ratio of non-performing loans to total loans increasing from 1.6 percent at June 2011 to 3.9 percent at June 2012. The rise in non-performing loans occurred due to the combination of higher bank lending rates on new loans, the ability of banks to re-price already existing loans at higher interest rates, and a slowdown in economic growth coming on top of the very rapid expansion of banks' loan portfolios in 2010 and 2011. This raises concerns about the potential consequences on bank capital for future loan quality if the trend was to continue. In this landscape, the building and construction sector and the trade and commerce sector registered the highest increase in non-performing loans at June 2012 of 31.5 percent from 14.2 percent in June 2011 and 30 percent from 14.3 percent in June 2011 respectively. Banks are likely to be more vulnerable to losses from these sectors, especially if loan performance over the medium-term worsens.

Chart 20: Sectoral distribution of NPLs (*percent*)



Source: Bank of Uganda

Increase in foreign currency loans

Banks' exposure to foreign currency loans during 2011/2012 rose, with foreign currency lending rising by 34.9 percent in the year to June 2012 compared to shilling loan growth of 1.0 percent. This shift in currency lending was driven by lower interest rates on foreign currency loans and increase in foreign currency deposits in commercial banks. However, a depreciation of Uganda shilling against major foreign currencies could hurt borrowers in foreign currency as the repayment burden will increase if their income streams are in shillings and thus undermine their capacity to service their loans.

b) Funding and liquidity risk

Tight funding conditions

During 2011/2012, tight liquidity conditions were recorded in the banking sector with a resultant rise in

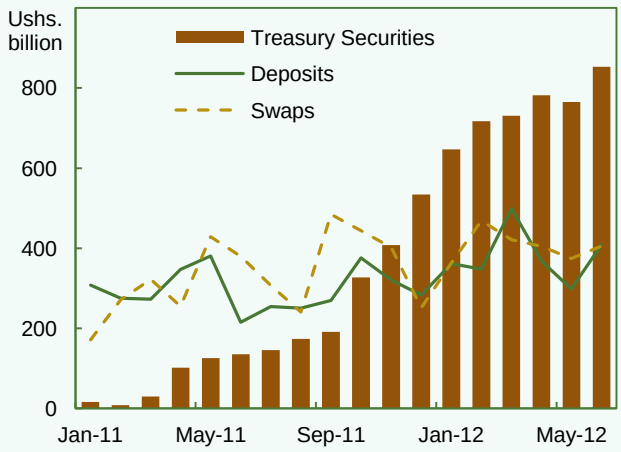
interbank rates. Deposit mobilisation, which provides the core funding to banks, was subdued with annual growth in deposits of 6.7 percent in 2011/2012 compared to 24.2 percent in 2011/2012. Given the tight liquidity, many banks relied on short-term funds from abroad with the monthly average swaps outstanding to non-residents in Uganda shillings increasing from Ushs.380 billion as at end of June 2011 to Ushs.406 billion as at June 2012. The majority of these swap transactions had a tenor of seven days and below. While these derivatives carry low credit risk, banks that rely on swaps for funding are likely to be vulnerable to roll-over risk.

Deposits of non-residents in commercial banks also rose during the last financial year, with most of the amounts held in short-term demand deposits. Non-resident deposits almost doubled in the year to June 2012, increasing from Ushs.215 billion ($82 million) to Ushs.409 billion ($165 million). This further increased the sectors' exposure to the possible risk of sudden withdrawal, should investor appetite wane or funding conditions tighten in the source countries. For now, Bank of Uganda will continue to monitor the commercial bank derivatives market and address any emerging risks. Banks also ought to step up deposit mobilisation if they are to reduce their exposure to risks from these short-term flows.

Portfolio flows

As the advanced economies maintain interest rates slightly above zero to stimulate economic growth, many investors have turned to emerging and developing markets in search of higher returns. In Uganda, offshore investors' holdings of government securities increased from Ushs.135 billion or 3.4 percent of total outstanding securities as at June 2011 to Ushs.853 billion, a 15 percent holding of total outstanding treasuries as at June 2012. This trend was largely in response to the competitive returns on government securities with 91-day, 182-day and 364-day treasury bills rising during 2011/2012 from 12.7 percent, 13.3 percent and 13.8 percent respectively in June 2011, to 18.6 percent, 19.7 percent and 19.2 percent in June 2012.

Chart 21: Evolution of amounts held by non-resident market participants



Source: Bank of Uganda

Given that the majority of these holdings are in treasury bills with maturities of less than one year, the risk of exposure to sudden exit by offshore investors needs to be addressed. The Bank will continue to monitor offshore exposure closely and take action when required.

3.2. Stress test results

To assess the resilience of the banking sector to systemic risks, the Bank of Uganda carries out quarterly

stress tests. These tests use a framework based on work by Cihak[7] to identify the breaking point for each risk i.e. shocks are applied to selected variables until banks fail to meet a minimum requirement. Given the potential for vulnerabilities from credit risk and funding and liquidity risk in during 2011/2012, the resilience of the banking system to these shocks was tested as part of the overall risk modelling tests for June 2012. The different breaking points[8] which were defined for each type of shock are summarised in Table 10 below.

Table 10: Summary of stress test shocks and breaking points

RISK-TYPE	SHOCK	BREAKING POINT
Credit	Assesses the effect of a decline in banks' existing total and sectoral performing loans.	The first large bank[9] fails following a gradual increase in NPLs.
Liquidity	A simulated bank run test which models the number of days banks would be able to survive a systemic liquidity drain without resorting to liquidity from external sources.	The first bank's liquid assets are depleted following sudden withdrawal of deposits.

3.2.1. Credit risk[10]

Three tests for credit risk 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 sector's loan portfolio.

The first test applied a uniform shock to the baseline level of performing loans so that a proportion of them become non-performing loans (NPLs). The results showed that the level of NPLs as a share of the total loan portfolio would have to increase to 8.6 percent from the current level of 3.9 percent for the first large bank to fall below the regulatory minimum capital adequacy requirement, along with six other banks.

Given that between December 2011 and June 2012, the ratio of NPLs to total gross loans rose by approximately 2 percent, a test was done to establish the resilience of banks if such a trend was to continue over the next six months from June 2012 to December 2012. The results show that three of the 23 banks would become undercapitalised, although capital for the remaining banks would also be severely eroded.

A second test was done to establish the effect of a simultaneous default by the single largest borrower for each bank[11]. The results showed that eight banks would not meet the minimum ongoing capital adequacy requirement. Increasing the number of defaulting large borrowers to three would lead to 18 banks becoming undercapitalised, straining the banking sector's stability.

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[7] Cihak, M "*Introduction to applied stress testing"* (2007) IMF Working Paper No. WP/07/59, International Monetary Fund

[8] Ong, L. et al, "*Into the unknown: stress testing with weak data"*, (2010) IMF Working Paper No. WP/10/282, International Monetary Fund

This method is recommended for economies where availability of historical data on banking variables is a challenge, as in Uganda. The **breaking point method**, involves "stressing until the system breaks".

[9] The five largest banks in the sector are identified, based on their share of total assets in the banking sector.

[10] Individual banks' credit data were adjusted to reflect the required provisioning requirements; the resultant position was considered as the baseline scenario for the stress testing exercise. Results of the tests were adjusted for estimated losses and capital needs.

[11] This test does not involve the use of breaking point analysis. A large borrower is defined as one to whom the bank has a credit exposure of more than 10 percent of its capital.

Table 11: Summary of stress test results for credit risk

		CAR (%)	Tier 1 capital (in Ushs. billion)	NPL ratio (%)	No. of under-capitalised banks
BASELINE SCENARIO for June 2012		***18.3***	***1,868.9***	***3.9***	***1***
Shock	**Key indicators**	**Jun 2012**	**Mar 2012**	**Dec 2011**	
Reduction in performing loans that fails the first large bank	Change in NPL ratio that breaks first large bank (%)	4.7	3.8	3.4	
	CAR (%)	12.7	14.4	13.6	
	NPL ratio	8.6	7.2	5.6	
	No. of undercapitalised banks	7	8	7	
Default by largest borrower	CAR (%)	12.3	12.7	10.8	
	NPL ratio	10.4	10.0	8.3	
	No. of undercapitalised banks	8	11	10	

The third test shocked the performing loans to selected business sectors; agriculture, manufacturing, trade and commerce, building and construction and personal and household loans. The results showed that the building and construction sector has the highest sensitivity to loan losses; if just 18 percent of the loans to the sector became non-performing, six banks would become undercapitalised (five of which do not have significant exposure to the sector). Deterioration of only 19.7 percent of performing loans to the trade and commerce sector would also pose challenges to bank capital. Banks appear to be more resilient to losses from other sectors and would require relatively larger losses in these sectors' performing loans to have a significant impact on capital, for example 84 percent of loans to agriculture going bad.

Table 12: Stress test results for sectoral shocks

	Breaking point (%)	CAR (%)	Tier 1 capital (in Ushs. billion)	NPL ratio (%)	No. of under-capitalised banks
BASELINE SCENARIO		***18.3***	***1,868.9***	***3.9***	***1***
SHOCKS & RESULTS FOR JUNE 2012					
Reduction in performing loans that fails the first exposed bank for;					
Agriculture	84.1	13.9	1,344.2	8.9	5
Manufacturing	33.6	14.2	1,381.8	8.5	4
Trade & commerce	19.7	14.8	1,449.2	7.9	6
Building & construction	18.0	14.9	1,454.6	7.8	6
Households	30.2	14.3	1,392.0	8.4	5

Overall, the stress tests on credit risk reveal that as at the end of June 2012, the aggregate impact of a shock to the banking system's credit portfolio is mild given that it would require a significant increase in non-performing loans to bring large banks to the point of recapitalisation. However, the picture is more mixed when assessed bank by bank, and if the trend of rising NPLs witnessed in the last six months to June 2012 was to continue to the end of December 2012, three banks would become undercapitalised. It

is also important take note of the higher impact a shock on the loan performance of the building and construction sector would have on bank soundness.

3.2.2. Liquidity risk

The decline in deposits in the period to June 2012 and concerns about the potential risks from capital flow volatility have raised questions about whether banks have adequate liquid assets to fund their activities in a period of stressed liquidity. A stress test for liquidity risk was conducted, 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 the number of days banking institutions would be able to withstand a liquidity drain without resorting to external liquidity support. This test does not consider assumptions about rollovers, increases in borrowings and maturity extensions.

Results from the test revealed that liquid assets of four banks would be depleted over a 7-day period of distress, assuming a daily withdrawal rate of 5.7 percent[12] of total deposits. This result is an improvement on that for March 2012 as the banking system can now withstand a bank run for two days longer.

Table 13: Summary of stress test results for liquidity risk

Shock	Key indicators	Jun 2012	Mar 2012	Dec 2011
Simulated bank run	Liquid assets to total deposits	15.4	12.6	12.7
	Reduction in total deposits (%)	39.9	28.5	28.5
	No. of days to depleted liquid assets	7	5	5
	No. of banks failing test	4	4	4

It appears that while the tight liquidity conditions that were witnessed during the first half of 2012 may have increased banks' sensitivity to potential liquidity risk, the results from the liquidity stress tests reveal that most banks continue to hold enough funds to meet their short-term obligations. The ratio of liquid assets to total deposits remained high at 38.9 percent as at end-June 2012, well above the regulatory minimum[13]. Nevertheless, a number of banks passed this test marginally and all banks should assess and ensure the stability of their funding on a continuous basis.

3.3. Looking ahead: the prospects for financial stability

During 2011/2012, the upside risks highlighted in our last *Report* have largely materialised, manifested in challenging conditions for the banking industry. Weak economic performance and high inflation especially during the first half of the year translated into slow asset growth and anaemic expansion of shilling loans. In addition, deposit growth dipped significantly in the six months to June 2012 leading to tight liquidity and funding conditions for banks. These trends affected banks' performance in terms of loan quality as many loans went bad and credit growth slowed down.

Going forward, the banking system although showing promising signs of improved growth, will continue to face some challenges. First, interest income is likely to be affected by a fall in interest margins given the reduction in lending rates, as well as increased competition in retail lending. Secondly, overall economic

[12] This is two times the current gross daily withdrawal rate of bank deposits. It does not take into account inflows.
[13] 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.

conditions abroad are developing in directions unfavourable to banks' and firms' business operations, and concerns about profitability and volatility of funding from portfolio flows will increase. The financial performance of the parent banks of Uganda's foreign-owned subsidiaries as well as their financial counterparties, especially in developed countries, could also be affected by the poor economic performance in these countries. Risks could therefore arise by way of a slowdown in funding from offshore banks through swaps and other instruments. Moreover, while the aggregate credit risk to the banking system remains mild, the increase in non-performing loans remains a concern for the soundness of a number of banks, especially in the building and construction sector. However, the reduction in inflationary pressures should have a positive impact on the non-performing loans.

The Bank will continue to implement policies aimed at stabilising the economy and reining in inflation and exchange rate volatility. In order to more firmly anchor banking system soundness, Bank of Uganda will enhance supervisory vigilance of commercial banks whose stability is substantially affected by non-performing loans to ensure that lending standards remain high and that loan quality does not deteriorate further. With regard to monitoring liquidity risk, Bank of Uganda piloted the introduction of the liquidity coverage ratio (LCR). This is a Basel III measure which aims to ensure that banks hold sufficient high quality liquid assets to cover their net cash outflow over a 30-day period of stressed funding conditions. The pilot phase for the LCR is now being finalised and the Bank will fast track its introduction from January 2013.

4. SPECIAL TOPICS: THE COUNTERCYCLICAL CAPITAL BUFFER

4.1. Introduction

In 2010, the Basel Committee on Banking Supervision (BCBS) issued a consultative document which included a proposal for a countercyclical capital buffer (CCCB) for banks. The proposed buffer is part of a package of Basel III reforms intended to strengthen the resilience of the banking sector to systemic shocks. The CCCB arose from the empirical observation that for a range of economies studied by the BCBS, periods of excessive aggregate credit growth have been associated with the system-wide build-up of risks, which eventually lead to increased financial distress among banks, a contraction of the credit supply and, economic crises. The primary objective of the CCCB is to protect the entire banking system from the adverse consequences that follow periods of excessive credit expansion14. Using historical data on economic performance, this note analyses the relevance and effectiveness of the CCCB as a macroprudential policy instrument for curbing systemic risks arising from excessive credit growth in Uganda.

4.2. What is the Countercyclical Capital Buffer?

The CCCB is a macroprudential tool developed as part of BCBS's efforts to dampen procyclicality of credit in the financial system, in particular the procyclical movement of credit aggregates which amplifies the economic cycle. The measure aims to ensure that banks build up capital buffers over and above their minimum capital requirements during the upswing of the credit and business cycle, which buffers can then be used to absorb losses during periods of financial stress. Banks can, therefore, avoid having to deleverage their balance sheets, and thus contract the supply of credit to the economy, in order to comply with minimum capital adequacy requirements. The overall objective of the CCCB is not simply to ensure that individual banks remain solvent[15], rather, it is to ensure that the banking sector in aggregate has sufficient capital to maintain the flow of credit to the economy without its solvency being questioned, when the broader financial system experiences stress after a period of excess credit growth. Thus, the countercyclical buffer is designed to ensure that banking sector capital requirements are consistent with the objective of maintaining macro-financial stability. A macro-prudential measure is an essential component of Basel III reforms because the Basel I and II capital accords, which are essentially micro-prudential in nature, were criticized for imparting a degree of pro-cyclicality to bank lending and risk taking which potentially exacerbates macroeconomic fluctuations.

The proposal for the CCCB was motivated in part by the global financial crisis and the consequent recession in the advanced economies, which was partly caused by deleveraging after a prolonged period of excessive credit growth and expansion of the financial system, as well as by banking and financial crises in emerging markets over the last three decades. In emerging markets, about three-quarters of credit booms are associated with a banking crisis while almost seven eighths are associated with a currency crisis. Real GDP usually falls about 5 percent below trend after a credit boom.[16]

[14] "*Basel III: A global regulatory framework for more resilient banks and banking systems*", December 2010 (rev. June 2011), Basel Committee on Banking Supervision

[15] The objective of ensuring the solvency of individual banks is addressed by other proposed measures in the Basel III.

[16] World Economic Outlook, April 2004, Chapter IV: Are Credit Booms in Emerging Markets a Concern? International Monetary Fund

The CCCB is a measure which is intended to be imposed on a discretionary and temporary basis by national bank regulators during periods when, in their judgement, credit growth is excessive. National regulators must first make an assessment to determine whether credit growth is excessive and if so, whether it may lead to a system-wide build-up of risk which could materialise in a credit contraction. This assessment must be based on both quantitative indicators of credit expansion and judgment exercised by supervisory authorities who will take guidance from underlying principles as recommended by BCBS. The BCBS recommends that the level of credit to GDP should be used as an indicator of excessive credit growth and that the CCCB should be set in a range of 0-2.5 percent of risk-weighted assets.

4.3. Is the CCCB relevant for Uganda?

Salient issues

To assess the applicability of the CCCB to Uganda requires answering two questions: (i) Is there any evidence that economic slowdowns in Uganda have been caused by the consequences of excessive credit growth? Addressing this question will help BOU establish whether the BCBS's methodology is suitable for evaluating Uganda's credit cycles. This requires reliable historical data and ideally, of quarterly frequency such that we can first identify such periods of excessive growth. Therefore, the next question to be addressed is (ii) does the data that are available enable us to do the following using methodology recommended by BCBS:

- To identify periods of excessive credit growth in Uganda
- To evaluate whether the credit-to-GDP gap is a reliable forward-looking guide for making decisions regarding the level of CCCB in Uganda

Should we find that data limitations and/or limitations to the BCBS's methodology prevent us from performing these analyses; it would be opportune to continue to build longer time series of data while exploring alternative methods and benchmarks for excessive credit growth.

The BCBS approach and alternative approaches

In relation to question *(i)*, the BCBS proposes using the **Hodrick-Prescott filter (HP filter)** to capture the long term trend in the credit-to-GDP ratio. Once the trend component is determined, a 'credit-to-GDP gap' is calculated by estimating the deviations of the observed ratio from its HP trend. The estimated value of the gap is used as a trigger for the CCCB. Another method is the **economic fundamentals driven method**[17] which uses the levels of fundamental economic variables such as consumption, GDP or other macroeconomic variables to estimate an acceptable level of credit for the economy; implicitly the ratio of credit to GDP is assumed to be a function of some of the structural characteristics of the economy. A different approach that has been implemented by the South African Reserve Bank as well as by Bank of Canada in a slightly different form is the **'Dashboard'[18],** which involves complementing the use of the BCBS's credit-to-GDP gap measure with other indicators such as non performing loans and real estate prices to determine excessive credit growth.

[17] Gersl, A, Seidler, J "*Excessive credit growth as an indicator of financial (In)stability and its use in macro prudential policy*" Financial Stability Report 2010/2011, Czech National Bank

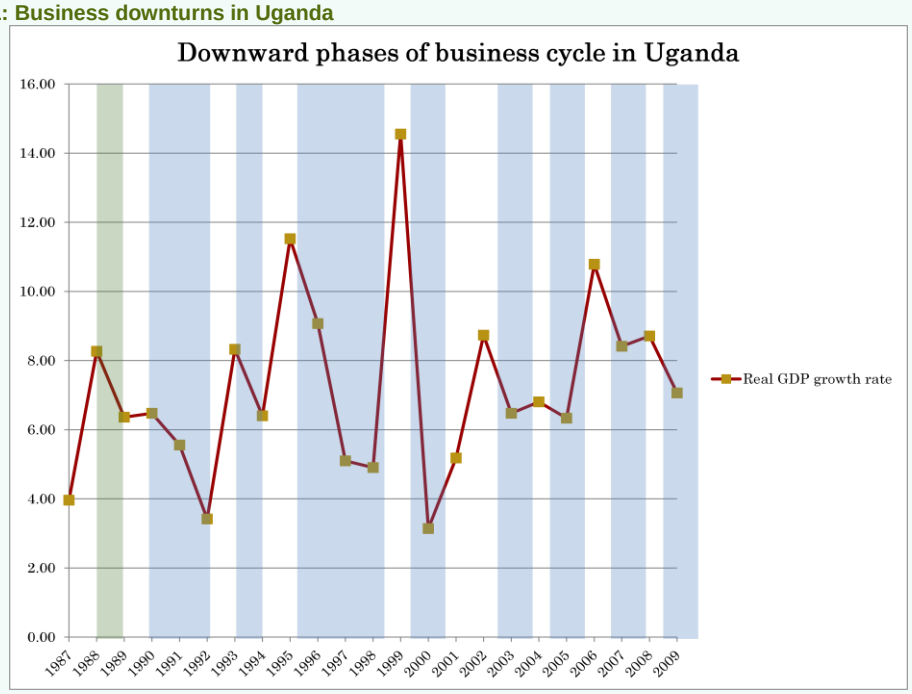
[18] Financial Stability Review, September 2011, South African Reserve Board

4.4. Identifying excessive credit growth and applications of the CCCB in Uganda

a) Identifying Uganda's business cycle

In order to assess the CCCB, it would be prudent to map the business cycle to determine whether economic fluctuations are associated with credit cycles. If stressful conditions develop in the banking industry following a credit boom as predicted by BCBS' studies, this should spill over to effect the growth of real GDP. However, it is difficult to clearly identify the business cycle in the Ugandan economy, partly due to limited and unreliable quarterly macroeconomic data. Therefore, as a proxy, Figure 1 below depicts the rate of change in annual real GDP from 1987 to 2010, although annual data may not be of sufficiently high frequency to capture properly the turning points in the business cycle. The shaded areas on the graph represent business downturns in the economy.

Figure 1: Business downturns in Uganda



Source: Uganda Bureau of Statistics

Figure 1 shows, as expected a decline in real GDP growth rate in 1990-1992 and the late nineties when the country witnessed a banking crisis. Four Ugandan banks were shut down, including Greenland Bank, which was the second largest bank in Uganda at that time. Overall, this led to the closure of banks holding a large share of the industry's total deposits and this adversely affected confidence in the rest of the commercial banks. In the following section, credit is tracked against the shaded periods to assess its relationship with economic crises as postulated by the BCBS studies.

b) Is credit to GDP a robust indicator of excessive credit growth in Uganda

As with most macroprudential instruments, the CCCB requires an indicator to determine when a positive countercyclical capital buffer requirement should be triggered. A good indicator is one which forewarns of a systemic build-up of risk. BCBS has identified and evaluated three groups of potential indicators; macroeconomic variables, measures of banking sector performance and proxies for the cost of funding (credit spreads). In the economies which the committee analysed credit-related

macroeconomic variables were the most consistent leading indicators for systemic risk. The BCBS study concludes that the *credit-to-GDP gap* is the most suitable of the range of variables considered. Since it is based on credit, it relates directly to the objective of the countercyclical capital buffer, which is to protect the banking sector from periods of excess credit growth.

Results using the Hodrick Prescott filter

The BCBS methodology above was applied to Ugandan data to derive the credit to GDP gap, which is the difference between the credit to GDP ratio and its long term trend. The data are annual and cover the period from 1987 to 2010. Table 6 below summarises the estimate of the Credit-to-GDP gap[19] using the Hodrick Prescott Filter.

Table 14: Credit-to-GDP gap

Year	Private sector credit (Shs. Billion)	Nominal GDP (Shs. Billion)	Credit to GDP ratio (%)[20]	Trend[21]	Credit-to-GDP gap (%)
1987	8.25	124.00	6.63	5.26	1.37
1988	16.57	391.00	4.24	5.37	-1.12
1989	56.45	895.00	6.31	5.47	0.84
1990	91.05	1376.00	6.62	6.25	0.36
1991	112.96	1830.00	6.17	5.66	0.51
1992	136.12	2745.00	4.96	5.66	-0.70
1993	265.08	3870.00	6.85	6.18	0.67
1994	303.38	4400.00	6.89	6.52	0.38
1995	371.74	5367.00	6.93	6.75	0.17
1996	465.92	6122.00	7.61	7.15	0.46
1997	333.35	6633.00	5.03	6.58	-1.56
1998	492.56	7570.00	6.51	6.61	-0.10
1999	533.44	8171.00	6.53	6.63	-0.10
2000	621.79	10030.00	6.20	6.56	-0.36
2001	630.61	11132.00	5.66	6.35	-0.69
2002	772.12	11990.00	6.44	6.38	0.06
2003	955.88	13843.00	6.91	6.52	0.38
2004	1081.29	15271.00	7.24	6.71	0.52
2005	1262.51	17878.00	7.18	6.86	0.32
2006	1697.63	20166.00	8.51	7.29	1.23
2007	2139.49	23351.00	9.25	7.82	1.43
2008	3377.19	28176.00	12.06	8.90	3.16
2009	3977.83	33596.00	11.89	9.78	2.11
2010	5456.27	38584.00	14.14	11.03	3.11

[19] Calculated by subtracting the HP Filter trend value from the credit-to-GDP ratio

[20] Calculated as percentage ratio of private sector credit to nominal GDP

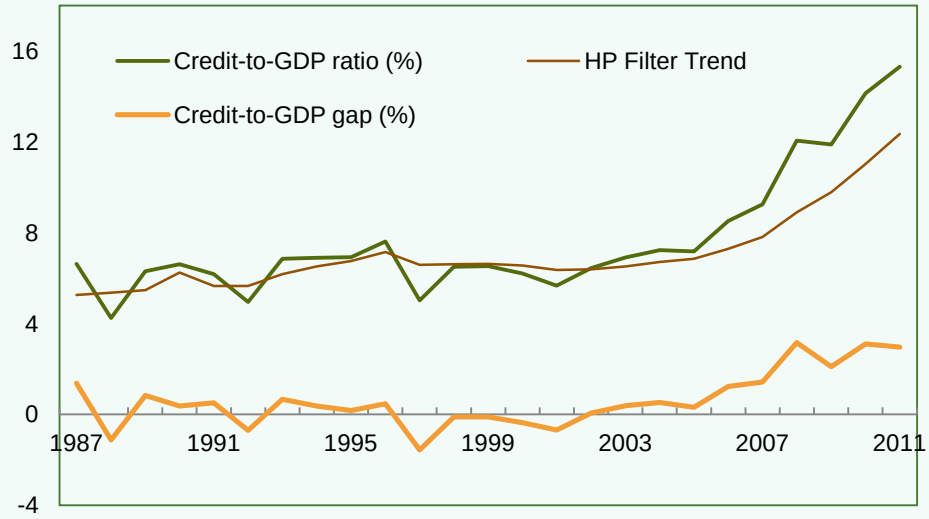
[21] The trend is calculated using the Hodrick Prescott Filter with a smoothing factor of 100 as recommended by BCBS and is calculated using data which were available to policy makers to make their CCCB decisions at each point in time. The series y_t is made up of a trend component, denoted by $\mathcal{T}$ (which the HP Filter solves for) and a cyclical component, denoted by $\mathcal{C}$ Given an adequately chosen, positive value of the smoothing factor λ, the HP Filter trend component is the value of $\mathcal{T}$ that will solve $min(\sum_{t=1}^{T}(y_t-\tau_t)^2+\lambda\sum_{t=2}^{T-1}[(\tau_{t+1}-\tau_t)-(\tau_t-\tau_{t-1})]^2)$.

2011	6981.65	45607.00	15.31	12.34	2.96

Source: Uganda Bureau of Statistics and Bank of Uganda

Credit growth is deemed to be excessive when the credit level in Uganda significantly exceeds its long run trend, that is, there is a large positive credit gap. The data on the credit-to-GDP gap in Table 14 above and Figure 2 below suggest that from 2006 to 2011, credit growth in Uganda exceeded its trend.

Figure 2: Credit-to-GDP ratio, its HP Filter trend and Credit-to-GDP gap for Uganda



Source: Bank of Uganda

c) Determining the level of the CCCB for periods of excessive credit growth in Uganda

The BCBS has set the threshold credit-to-GDP gap at which the CCCB becomes active to be 2 percent, and at which the CCCB reaches its maximum to be 10 percent. Thus, the CCCB can rise from 0 percent to a maximum of 2.5 percent of risk weighted assets, as the credit-to-GDP gap rises from 2 percent to 10 percent. Using the credit-to-GDP gap calculated in Table 14, Table 15 below shows the level of the CCCB that would have been imposed on Ugandan banks using the BCBS's methodology, had the Basel III regime been in place at that time (assuming also that no other factors besides the credit to GDP gap were used to evaluate excessive credit growth). The calculation of the buffer level between these minimum and maximum values would vary linearly and is calculated as 0.3125*estimated C-to-GDP gap - 0.625 [22].

[22] Since buffer level varies linearly between credit-to-GDP gaps (x) of 2% and 10%, the buffer level (y) can be calculated using the linear equation

$$y_2 - y_1 = m * (x_2 - x_1)$$

where m is the gradient according to which the buffer level varies and c is the intercept. Since the minimum buffer level is 0, the intercept c = 0. Taking two points (y_2, x_2) and (y_1, x_1) to correspond to the maximum and the minimum buffer levels, we have (y_2, x_2) → (2.5, 10) and (y_1, x_1) → (0, 2). Solving the linear equations, we get $m = 0.3125$, **and c= -2m = -0.625.** As such, the buffer level for any observed credit-to-GDP gap would be **m*estimated C-to-GDP gap - 0.625 = 0.3125*estimated C-to-GDP gap - 0.625**

Table 15: Summary of BOU's counter cyclical capital buffer levels based on BCBS' methodology

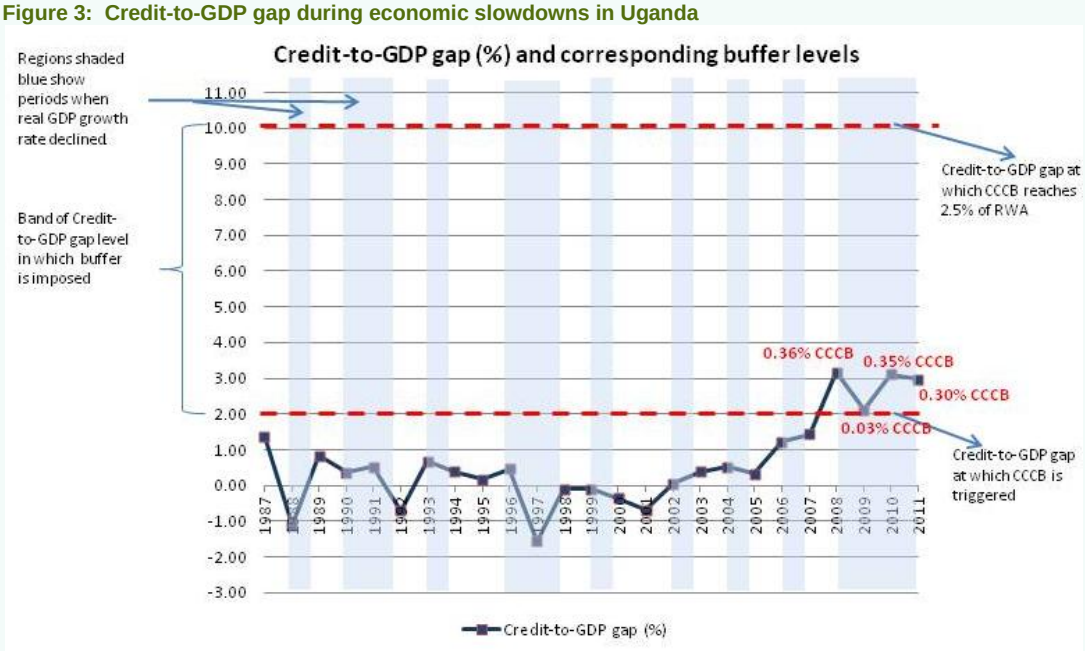
Year	Credit-to-GDP gap (%)	Buffer level (%)
1987	1.37	0.00
1988	-1.12	0.00
1989	0.84	0.00
1990	0.36	0.00
1991	0.51	0.00
1992	-0.70	0.00
1993	0.67	0.00
1994	0.38	0.00
1995	0.17	0.00
1996	0.46	0.00
1997	-1.56	0.00
1998	-0.10	0.00
1999	-0.10	0.00
2000	-0.36	0.00
2001	-0.69	0.00
2002	0.06	0.00
2003	0.38	0.00
2004	0.52	0.00
2005	0.32	0.00
2006	1.23	0.00
2007	1.43	0.00
2008	3.16	0.36
2009	2.11	0.03
2010	3.11	0.35
2011	2.96	1.24

Source: Bank of Uganda

It is evident from Table 15 above, that in retrospect, credit expansion in Uganda's financial markets 2008 onwards appears excessive and may have warranted the imposition of a countercyclical capital buffer requirement on banks.

To address questions (i) and (ii), one may compare the periods of excessive credit growth identified in the previous sections to periods of real GDP growth and subsequent decline. Figure 3 below illustrates periods of declining real GDP growth rates shaded in blue, the behaviour of the corresponding credit-to-GDP gap as well as the buffer levels. From 2008 onwards when the credit-to-GDP gap indicates excessive credit growth, varying levels of the CCCB would have been imposed. Although, the high credit growth from 2006 to 2010 was followed by a period of slower real GDP growth, it is difficult to establish a causal relationship between the two or indeed whether the imposition of the CCB would have prevented the rapid credit growth.

Figure 3: Credit-to-GDP gap during economic slowdowns in Uganda



Source: Bank of Uganda

In addition, in the absence of a longer quarterly time series of data on Ugandan economy, it is not possible at this stage to conclusively evaluate whether the BCBS's recommended credit-to-GDP gap calculated using the HP Filter is able to reliably provide an early warning of excessive credit growth in Uganda. For example, a period of rapid credit expansion was also encountered in 2003, which is not captured by this indicator.

d) General challenges to the BCBS's CCCB framework for Uganda

Data limitations

Overall, the methodology recommended by the BCBS in its guidance on the CCCB as well as their analysis is based mainly on data for credit cycles in developed and emerging countries. The financial sector in developing countries such as Uganda exhibits different characteristics. Therefore, further study and significant use of judgment is required to identify appropriate indicators of excess credit and suitable methodologies which can optimally utilise the data available. For countries which are still in an early stage of financial development, a larger degree of judgment is required and the more difficult it is to make clearly cut CCCB decisions.

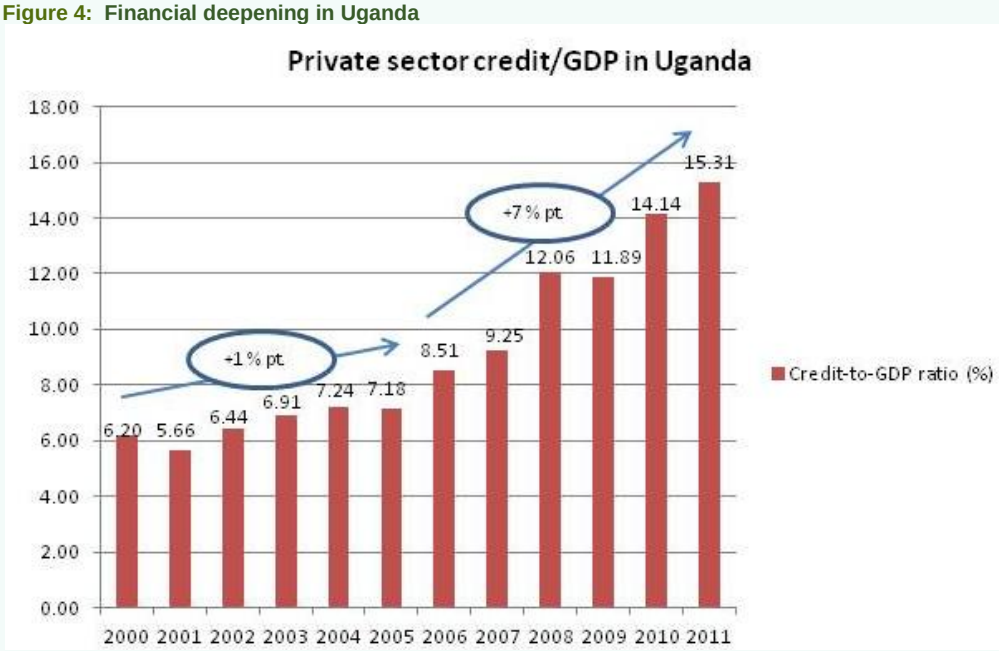
CCCB's sensitivity to context

Will the CCCB as a macroprudential tool drive bank behaviour as intended in Uganda? In Uganda, most banks already voluntarily hold large capital buffers in excess of the statutory capital adequacy ratio (Tier 1 requirement is 8 percent and Tier 1+ Tier 2 requirement is 12 percent). Banks treat this additional capital as a risk premium set aside for operating in the developing Ugandan market. As such, the CCCB, even if set at the maximum 2.5 percent of risk-weighted assets, may not become a binding constraint on credit expansion. One way of addressing this may be to set a higher range for the level of the CCCB in Uganda such as 0-5 percent to enhance its effectiveness. However, even if set at the current level, the implementation of the CCCB will serve as an important signalling mechanism to the public and to the banking industry of the policy direction by the Bank of Uganda to dampen rapid credit expansion.

Credit stock convergence

Compared to the other economies the BCBS studied, Uganda's economy is at a relatively early stage of financial development. To put this in perspective, the credit-to-GDP ratio in Canada in 2010 was 160 percent. Comparatively, Uganda's credit-to-GDP ratio has never exceeded 20 percent over the last three decades. The credit-to-GDP gap is a backward-looking measure calculated based on historically recorded levels of credit expansion. Periods of rapid credit expansion in developing economies could merely indicate financial deepening or a convergence to the credit-to-GDP ratios already exhibited by more advanced economies.

Figure 4: Financial deepening in Uganda



Source: Bank of Uganda

Limitations of the HP filter in capturing financial deepening

The use of the HP filter to identify the long term trend in credit data has some limitations. Firstly, the choice of the smoothing parameter is usually based on the frequency of the data analysed. The BCBS recommends using a very high smoothing parameter of 400,000 which may not produce the best fit for the economy. This higher smoothing factor leads to an overestimation of excessive credit growth. As such, for our analysis, we have adopted 1000[23] as the smoothing factor because it fits our dataset most appropriately. While the HP Filter captures the long term trend in the data, it is unable to capture structural beaks which shift the trend up or down or turning points in historical data such as the year 2006 in Figure 4 above. With an economy still in the early stages of financial development, rapid credit expansion may indicate a structural shift in the economy towards financial services or an accelerating pace of financial deepening. This is supported by financial deepening data as shown in Figure 4. In 2006, a moratorium for opening new banks was lifted, new banks were licensed and existing banks expanded their retail operations. Using a long term trend as a benchmark would not capture such turning points. Thus, measures of trends which account for too long a term such as the HP Filter are not able to capture structural shifts and may be less meaningful for rapidly evolving economies.

[23] Academic literature about business cycle theory recommends a value of 100 for annual data.

4.5. Conclusion and way forward

This article set out to address two issues, first, is there any evidence that economic slowdowns in Uganda have been related to periods of excessive credit growth? And second, if so, do the data coupled with the BCBS's methodology enable us to identify periods of excessive credit growth and to use the credit-to-GDP gap as a guide for CCCB decisions. Attempting to address the first question is hampered by data limitations such as availability of relatively short time series data for Uganda and even then of only annual frequency. Although these data gaps make it difficult to estimate a better business cycle, it can be concluded that there is inadequate evidence to link episodes of rapid credit growth in Uganda to subsequent economic slowdowns.

In relation to the second question, applying the methodology proposed by the BCBS, we find that we are able to identify the periods of rapid credit expansion in Uganda. However, while the credit-to-GDP gap as estimated here using the BCBS methodology does provide a basis for imposing the CCCB, it presents several challenges to be a reliable indicator. For example, it does not account for some periods of credit growth which affected the real economy. This is likely related to the selection and technical limitations of the HP Filter. Therefore, the credit-to-GDP gap may not on its own be used as an indicator for making CCCB decisions in Uganda. Moreover, with banks in Uganda already holding capital buffers in excess of the minimum ratio, the CCCB, at the prescribed level of 0-2.5 percent may not influence bank behaviour.

Nevertheless, the CCCB is a crucial macroprudential policy instrument for addressing procyclicality and there is a need to identify ways of strengthening its applicability to Uganda. Therefore, it becomes necessary to identify alternative benchmarks for excessive credit growth using other methodologies. As the first step, a combination of indicators relevant to economy will be developed to complement the predictive properties of the credit-to-GDP gap for the imposition and release of the CCCB requirement. This includes continuing the ongoing efforts to build up longer time series of data on potential indicators, including banking variables and real estate price indices that will help in the identification of consistently performing indicators of systemic risk.

Secondly, an assessment of the equilibrium level of credit driven by economic fundamentals may provide an alternative benchmark against which to measure excessive credit growth. Efforts will be dedicated to using out-of-sample estimation techniques to determine an equilibrium level of credit as a benchmark to assess whether credit growth is indeed excessive. International developments in the area of systemic risk measurement will continue to be monitored for any guidance on other appropriate indicators.

APPENDICES

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

		Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12
Regulatory Capital to Risk-Weighted Assets	Uganda	21.7	21.2	20.2	21.2	19.3	18.3	20.3	21.8	20.7
	Kenya	17.6	20.4	20.8	21.1	19.0	18.1	19.4	20.3	20.3
	Tanzania	-	-	18.9	19.2	18.2	17.4	17.6	18.5	18.1
	Rwanda	17.6	20.4	21.6	21.9	-	25.7	25.0	26.6	25.4
	Burundi	18.7	18.0	19.7	21.7	20.7	20.0	19.8	19.8	-
NPLS to Total Gross Loans	Uganda	3.3	2.8	2.1	2.5	1.6	1.8	2.2	3.4	3.9
	Kenya	7.4	7.0	6.3	6.0	5.4	4.9	4.4	4.4	4.5
	Tanzania	-	-	9.3	9.6	9.1	8.1	6.8	6.5	8.1
	Rwanda	12.2	12.4	11.3	12.8	-	9.3	8.0	6.3	5.8
	Burundi	12.1	10.6	10.0	8.8	7.6	7.3	7.7	8.1	-
Return on Assets (ROA)	Uganda	3.0	2.4	2.7	2.9	3.1	3.6	4.0	4.4	4.4
	Kenya	3.5	3.4	3.7	3.7	3.3	3.1	3.3	3.8	4.0
	Tanzania	-	-	2.3	3.0	3.0	3.0	2.5	3.0	2.5
	Rwanda	1.3	1.6	1.9	2.5	-	2.4	2.2	2.5	2.3
	Burundi	1.0	1.6	1.3	1.0	1.9	2.9	3.2	3.2	-
Return on Equity (ROE)	Uganda	16.1	16.2	18.0	19.6	22.4	25.4	27.4	28.1	29.5
	Kenya	31.4	28.6	30.7	29.4	30.8	30.2	32.2	33.0	33.3
	Tanzania	-	-	12.1	17.8	17.9	17.3	14.5	17.5	13.6
	Rwanda	10.3	12.2	13.7	17.2	-	11.9	10.6	11.6	10.9
	Burundi	8.4	13.3	21.8	6.7	13.2	20.3	23.0	23.0	-
Foreign Currency Denominated Assets to Total Assets	Uganda	25.3	24.6	24.7	25.7	26.6	29.6	27.9	30.9	33.2
	Kenya	10.2	9.7	10.6	10.7	12.4	13.5	11.8	12.1	12.9
	Tanzania	-	-	30.0	30.6	31.8	33.1	33.8	31.2	30.2
	Rwanda	0.1	0.1	21.1	18.5	-	15.2	16.5	14.8	8.4
	Burundi	20.6	17.3	19.9	29.1	-	16.1	13.0	19.0	-

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

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

	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12
Capital Adequacy									
Regulatory capital to risk-weighted assets	21.7	21.2	20.2	21.2	19.3	18.3	20.3	21.8	20.7
Regulatory tier 1 capital to risk-weighted assets	19.2	18.8	17.5	18.9	17.3	16.2	17.9	19.0	18.3
Leverage ratio	9.9	10.1	9.8	10.6	10.2	9.4	10.4	11.2	10.6
Asset quality									
NPLs to total gross loans	3.3	2.8	2.1	2.5	1.6	1.8	2.2	3.4	3.9
NPLs to total deposits	2.1	1.8	1.4	1.7	1.1	1.4	1.7	2.6	2.9
Sectoral distribution of loans									
Agriculture	6.5	6.4	7.1	5.9	6.5	6.7	6.9	6.9	6.4
Mining and quarrying	0.8	0.9	0.3	0.2	0.3	0.2	0.3	0.3	0.4
Manufacturing	13.6	13.3	13.4	12.4	14.1	13.0	12.7	12.4	13.9
Trade	19.2	23.7	22.8	22.4	21.5	22.0	20.8	22.0	21.7
Transport and comm..	7.8	7.8	8.2	7.7	7.8	7.1	6.8	7.3	6.6
Utilities	0.6	0.6	0.5	0.5	0.5				
Building and construction	18.6	19.5	19.5	15.5	20.5	20.4	21.0	21.7	23.3
Personal loans	21.2	16.5	15.3	12.8	15.8	16.6	16.7	15.4	15.4
Others	12.3	11.9	13.4	23.1	13.5	14.1	14.8	14.1	12.3
Large exposures to total capital	112.8	116.1	124.4	129.8	156.2	145.4	120.8	109.4	111.5
Earnings & profitability									
Return on assets	2.3	2.4	2.7	2.9	3.1	3.6	4.0	4.4	4.4
Return on equity	16.1	16.2	18.0	19.6	22.4	25.4	27.4	28.1	29.5
Net interest margin	9.9	10.0	10.0	10.1	10.5	11.0	11.7	12.5	12.8
Cost of deposits	3.3	3.2	2.9	2.7	2.5	2.8	3.2	3.4	3.6
Cost to income	79.2	78.7	75.7	73.5	71.2	68.8	68.2	67.5	68.1
Overhead to income	53.7	54.0	53.1	52.5	50.4	47.5	43.9	40.9	39.6
Liquidity									
Liquid assets to total deposits	41.6	40.5	39.8	40.5	35.6	36.2	37.6	37.5	38.9
Total loans to total deposits	61.8	63.8	68.0	69.1	71.5	76.4	78.4	77.9	74.2
Market Sensitivity									
Foreign currency exposure to regulatory tier 1 capital	-3.5	-11.8	-1.6	-2.1	-0.9	-3.4	-3.6	-4.1	-5.2
Foreign currency loans to foreign currency deposits	52.1	54.4	65.2	63.4	68.6	66.8	67.9	74.7	67.1
Foreign currency assets to foreign currency liabilities	98.4	96.3	98.0	98.1	100.1	98.1	100.2	103.2	103.4

Source: Bank of Uganda

TABLE 3: Commercial banks' quarterly balance sheet

	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12
ASSETS (Ushs. Billion)									
Cash & cash assets	453.3	439.5	480.0	451.6	476.7	519.9	583.0	411.4	384.9
Balances with BOU	917.1	747.7	793.1	726.5	817.6	792.5	835.8	917.0	874.7
Due from financial institutions	1414.4	1373.2	1289.0	1494.1	1338.9	1711.2	1681.1	1842.1	2384.9
Government securities	2196.2	2422.0	2526.5	2575.0	2498.2	2158.6	2073.5	2327.0	2579.3
Total gross loans & advances	4539.0	4825.0	5456.7	5834.5	6516.2	7061.7	6981.0	7098.8	7217.0
LESS: Provisions	-102.5	-109.2	-88.0	-98.7	-77.2	-85.7	-89.5	-124.4	-156.8
Net loans & advances	4436.5	4715.7	5368.8	5735.8	6439.0	6975.9	6891.5	6974.4	7060.2
Net fixed assets	342.8	375.9	401.7	397.7	400.9	402.1	429.5	437.6	462.1
Other assets	394.8	376.4	437.3	471.7	545.3	517.1	488.0	553.3	665.6
TOTAL ASSETS	**10155.1**	**10450.5**	**11296.4**	**11852.4**	**12516.5**	**13077.2**	**12982.4**	**13462.9**	**14411.7**
LIABILITIES (Ushs. Billion)									
Deposits	7344.7	7563.3	8023.5	8444.7	9118.7	9244.4	8903.7	9115.1	9732.5
Due to financial institutions	381.7	384.9	475.0	379.9	308.2	350.1	377.7	623.1	661.8
Administered funds	230.6	293.0	310.6	279.6	303.9	344.3	339.9	327.5	364.7
Other liabilities	722.3	722.3	722.3	722.3	722.3	1278.6	1359.5	1210.6	1412.3
TOTAL LIABILITIES	**8732.2**	**8972.8**	**9730.6**	**10117.8**	**10777.0**	**11217.4**	**10980.8**	**11276.3**	**12171.3**
CAPITAL (Ushs. Billion)									
Paid-up capital	523.8	578.2	591.9	709.3	743.4	749.2	789.6	796.0	812.3
Share premium	78.9	80.3	80.3	77.0	77.0	77.0	81.5	81.5	81.5
Retained reserves	596.5	535.4	534.1	746.2	621.6	610.4	581.2	1054.8	939.0
Other reserves/subordinated debt	102.1	96.8	89.7	107.6	84.9	81.6	61.0	104.3	103.8
Profit – Loss (current year)	121.5	187.0	269.8	94.5	212.6	341.6	488.3	150.0	303.7
TOTAL SHAREHOLDERS' FUNDS	**1422.9**	**1477.7**	**1565.7**	**1734.6**	**1739.5**	**1859.8**	**2001.6**	**2186.6**	**2240.4**
OFF BALANCE SHEET ITEMS (Ushs. Billion)									
Letters of Credit	293.3	299.7	335.8	368.4	419.6	442.8	392.4	351.0	307.4
Guarantees & performance bonds	678.8	668.3	606.6	640.8	706.5	712.3	786.6	1010.1	1022.8
Unused loans/overdrafts commitment	519.8	499.5	676.7	571.0	601.5	852.9	802.2	825.7	925.5
Other off balance sheet items	636.7	261.3	120.3	679.2	457.3	984.0	1000.2	913.6	1050.3
TOTAL OFF BALANCE SHEET ITEMS	**2128.5**	**1728.8**	**1739.4**	**2259.3**	**2184.9**	**2992.0**	**2981.4**	**3100.4**	**3306.0**

Source: Bank of Uganda

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

	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12
INCOME (Ushs. Billion)									
Interest income									
Advances	747.5	760.4	794.2	840.9	903.8	1017.9	1178.1	1325.0	1443.8
Government securities	179.4	183	183.7	185.6	194.6	205.1	210.7	229.3	245.1
Deposits abroad	11.3	10.7	10.8	11.6	12.8	16.3	22.2	29.6	39.6
Other	48.7	40	44.2	49.4	52.3	60.3	72.2	84.9	97.2
Charges, fees & commissions	221.7	214.9	215.5	218.9	236.5	247.3	250.4	258.8	273.3
Foreign exchange income	127.8	133.7	133.7	140.6	138.1	156.6	186.5	218.1	236.7
Other income	64.8	78.3	95.8	103.8	103.7	103.5	94.3	96.1	95.1
TOTAL INCOME	**1401.3**	**1420.9**	**1477.9**	**1550.7**	**1641.9**	**1807.0**	**2014.2**	**2241.8**	**2430.9**
EXPENSES (Ushs. Billion)									
Interest expense on deposits	210.2	205.5	199	199.1	205.4	232.6	266.9	298.3	343.7
Other interest expenses	64	56.3	57.3	64.1	69.1	92.8	145.3	196.7	220.0
Provisions for bad debts	81.7	88	77.9	61.6	67.6	59.9	77.2	99.7	128.2
Salaries, wages, staff costs	311.2	317.4	332.2	345.1	354.1	369.1	383.1	397.7	417.2
Premises, depreciation, transport	155.3	160.1	154.3	158.7	162	163.0	178.9	182.9	185.4
Other expenses	284.5	290.2	298.2	311	312	326.0	320.6	337.6	359.0
TOTAL EXPENSES	**1025.2**	**1029.6**	**1040.9**	**1078.1**	**1102.6**	**1243.3**	**1371.9**	**1512.8**	**1653.5**
ADD: Extraordinary credits/charges	-0.4	-0.4	-0.4	0.2	0.6	-0.9	0.9	0.8	0.9
Net profit before tax	294	303	358.7	411.3	472.2	564.7	641.4	728.1	776.4
LESS: Corporation tax	70	70.4	93.5	103	117.5	141.5	152.5	176.7	189.5
NET PROFIT AFTER TAX	**224**	**232.6**	**265.2**	**308.2**	**354.7**	**423.2**	**488.9**	**551.4**	**587.0**

Source: Bank of Uganda