

FINANCIAL STABILITY UPDATE
JULY 2014

CENTRAL BANK OF BARBADOS

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Abbreviations

Abbreviation	*Meaning*
CAR	Capital Adequacy Ratio
CARICOM	Caribbean Community
CBB	Central Bank of Barbados
CIBC	Canadian Imperial Bank of Commerce
DTI	Deposit Taking Institution
FIA	Financial Institutions Act
FSAP	Financial Sector Assessment Programme
FSC	Financial Services Commission
FSI	Financial Stability Indicator
GDP	Gross Domestic Product
NPL	Non-performing Loan
ROA	Return on Assets
USA/US	United States of America

Preface

This is the third update of the Central Bank of Barbados' Financial Stability Report, produced in collaboration with the Financial Services Commission (FSC). The Central Bank and the FSC are jointly responsible for the continuous oversight of the financial system, the assessment of vulnerabilities and the initiation of policies to increase the resilience of the system in the face of possible adverse events. The Central Bank's Financial Stability Unit collaborates with the FSC's staff to ensure that the assessment of risk exposures covers the activities of banks, insurance companies, non-bank financial institutions, credit unions, the activities of the Barbados Stock Exchange and issues and redemptions of government securities. This report analyses a range of financial stability indicators for banks and other financial institutions, as well as balance sheet and income and expenditure trends. For the banking system, financial forecasts are used to project expectations for capital adequacy and the quality of credit. Progressive stress tests are also used to test for possible contagion among banks, and from banks' exposures to financial institutions abroad.

Like most of the Central Bank's publications, the FSR is published exclusively online. In July of each year, Central Bank publishes an update on the annual FSR.

Overview

Since the release of the last Financial Stability Report (FSR) in January 2014, the financial sector has showed signs of improvement. Despite credit risk remaining high, the level of non-performing loans(NPLs) has declined since September 2013. Furthermore, even though the overall loan portfolio of domestic lending institutions contracted slightly, the mortgage market remained an area of growth across the financial system. At the same time, available funding continued to shift from the private to the public sector. In addition, growth in deposits was moderate and resulted in increased liquidity in the financial system, while capital buffers remained well in excess of the requirements and institutions continued to generate profits.

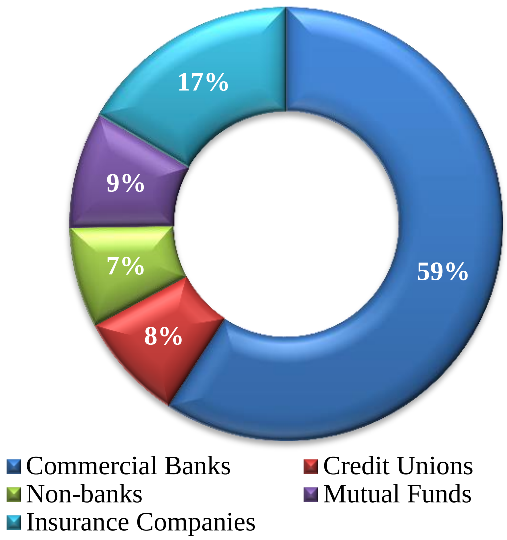
Due to the persistent weakness of the macroeconomic environment, an extensive menu of stress tests was imposed on deposit-taking institutions to estimate their resilience given their exposures, income flows and general balances as at March 2014. As has been the case in prior financial stability reports, inferences from the exercise provided robust support for the perspective that the financial system remains stable. That is, the capital reserves that are set aside by institutions to protect themselves against unexpected losses, are sufficient to defend against adverse occurrences of sizeable proportions. Furthermore, the stability of the financial system is buttressed by the existing deposit insurance scheme and the strength and reputation of the parent institutions.

In Barbados, progress in the Basel II implementation included the issuance of guidelines and reporting forms to the banking industry on the market risk amendment, as well as engagement with the industry on interest rate risk and the internal capital adequacy assessment program. Improvements to the regulatory framework and the issuance of enhanced guidelines on the operations for insurance companies and credit unions are also ongoing. However, cross-border links among institutions are one of the realities of the regional financial landscape and require a coordinated approach to ensure systemic stability. Therefore, efforts toward strengthening the regulatory cooperation within the region are ongoing, with progress towards the Regional Financial Stability Assessment Report and the Regional Crisis Management and Resolution Plan continuing as individual countries endeavour to enhance their regulatory framework.

The Financial System

Assets in the financial system as at March 2014, were estimated to be in the region of $21 billion or 250 percent of gross domestic product (GDP). Although there was some portfolio switching, the underlying movement in total assets remained flat over the last twelve months. Commercial banks continue to be the dominant group in the financial space, accounting for 60 percent of total assets, 80 percent of total deposits and 72 percent of all lending.

Figure 1 - Financial System Asset Distribution
(March, 2014)



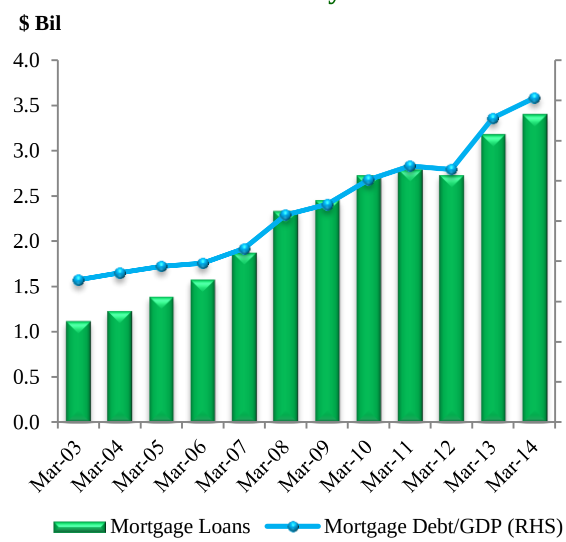
Source: Central Bank of Barbados and Financial Services Commission

Total loans accounted for 52 percent of deposit taking institutions' (DTIs)[1] assets, falling from 54 percent a year earlier. Except for the credit unions, all other sub-groups registered contractions in their overall loan portfolio. On aggregate, loans fell by $114 million (1.4 percent) as credit to businesses contracted, while credit to private individuals continued its upward trend despite the challenging environment. In particular, credit to individuals expanded by $76 million in the banking sector and $44 million in credit unions. These increases were primarily driven by residential mortgages, which now stand at about 40 percent of GDP. Residential mortgages increased by $200 million (9.2 percent) in the banking sector and by $21 million (3.8 percent) for credit unions during the last twelve months, but declined marginally in non-banks.

[1] Deposit taking institutions comprise commercial banks, credit unions, trust and finance companies.

Deposits among DTIs recorded growth of 4 percent over the comparable period in 2013. While there was a general build-up in deposits across the subgroups, the combined contributions from private individuals ($180 million) and business firms ($129 million) at commercial banks led thisgrowth.

Figure 2 - Residential Mortgages of the Financial System

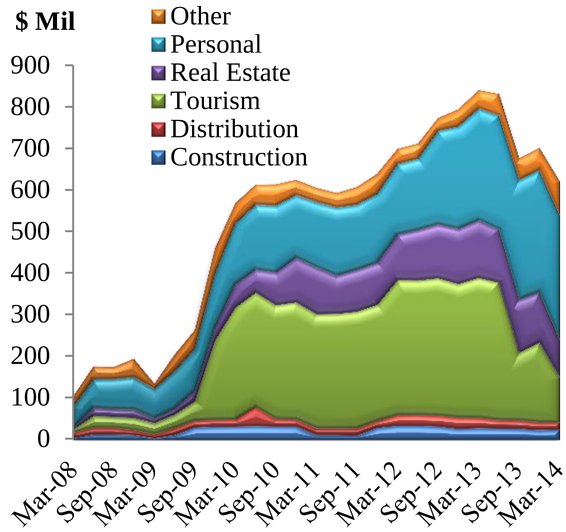


Source: Central Bank of Barbados and Financial Services Commission

1.1 Commercial Banks

The final portion of the two large hotel loans that caused the non-performing loans (NPL) ratio to spike at the end of 2009 was resolved. This settlement resulted in a decline in the overall NPL ratio from 11.7 percent in December 2013 to 10.5 percent at March 2014. As a result, NPLs concentrated in the tourism sector were 17.4 percent compared to 40 percent at March 2013, while the personal sector continued to account for the majority of the NPLs (48 percent, see Figure 3).

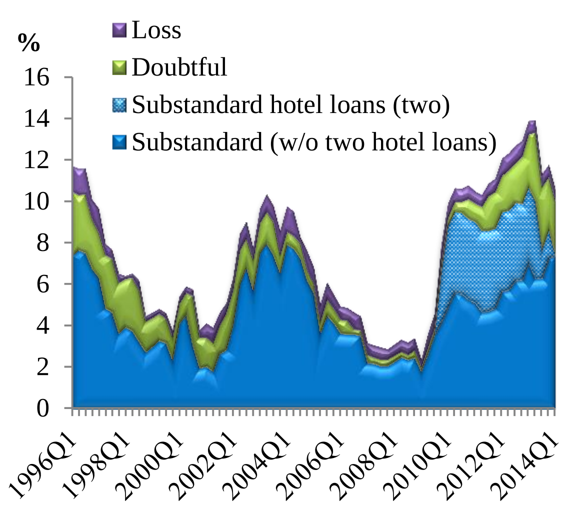
Figure 3 - Sector Distribution of NPLs



Source: Central Bank of Barbados

However, the underlying movement in the level of NPLs continued to be upward as loans classified as substandard represented about 70 percent of total NPLs at the end of the review period, compared to 50 percent in March 2013 (excluding the large hotel loans). The doubtful and loss categories accounted for 25 percent and 5 percent, and required 50 percent and 100 percent provisioning, respectively.

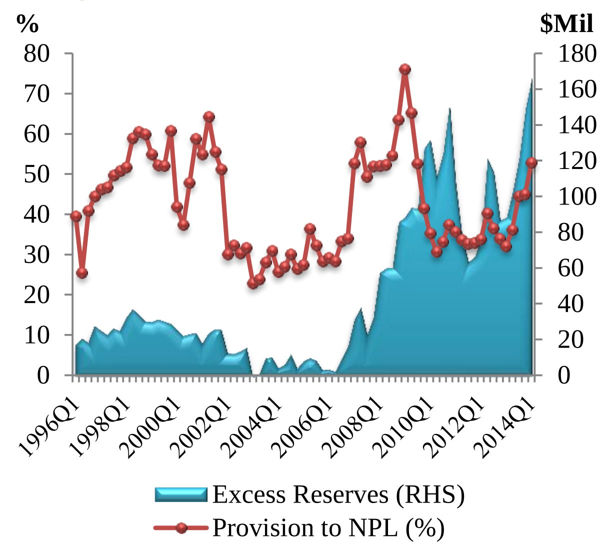
Figure 4 - Commercial Banks' Classified Debt



Source: Central Bank of Barbados

The overall reduction in the NPL ratio has resulted in the provisions-to-NPL ratio increasing to 53 percent at March 2014, from 32 percent one year earlier. Banks continued to assign provisions well above the statutory requirement, with excess reserves now at $167 million. Net write-offs to total loans remained extremely modest, and averaged less than 1 percent per year. Despite a reduction of 2.1 percent[2] at March 2014, the capital adequacy ratio (CAR) remained high at 19.8 percent, well above the prudential requirement of 8 percent.

Figure 5 - Provision for Classified Debt

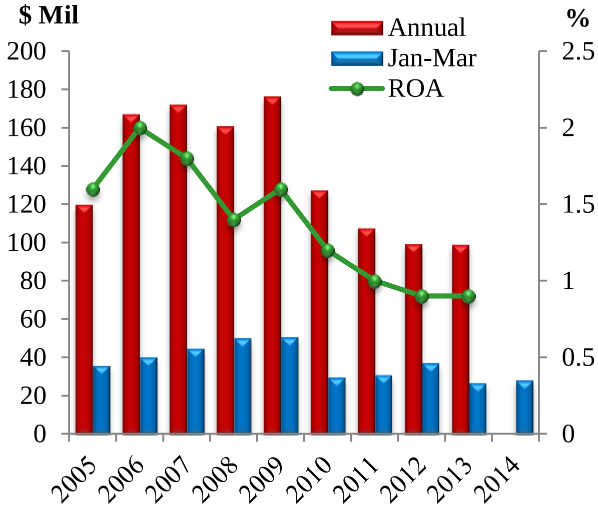


Source: Central Bank of Barbados

All banks continued to be profitable, with profits for the first quarter of 2014, slightly greater than those recorded for 2013 (Figure 6).

[2] This reduction was as a result of one institution transferring funds to a general contingency reserve.

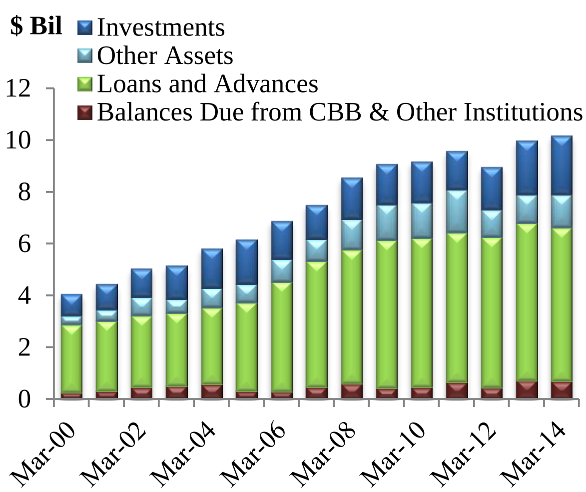
Figure 6 - Commercial Banks' Net Income



Source: Central Bank of Barbados

Domestic assets of commercial banks grew 2 percent for the year ending March 2014, due primarily to increased investment in Government securities to the tune of $191 million. This was in part offset by a $149 million reduction in total loans and advances. Banks' holdings of Treasury bills increased by $299 million, while holdings of other government paper declined $108 million, reflecting an on-going switch from longer-term to shorter-term securities.

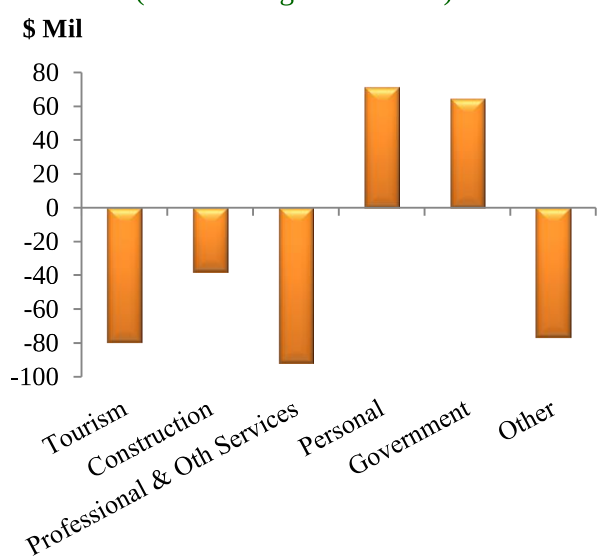
Figure 7 - Commercial Banks' Domestic Assets



Source: Central Bank of Barbados

The fall-off in commercial bank credit can be attributed to broad-based declines across all sectors, with the exception of the personal and government categories. In particular, declines were registered for professional and other services ($92 million), tourism ($79 million) and construction ($37 million). Personal loans grew $71 million, driven particularly by an increase in mortgages to private dwellings of approximately $200 million, while loans to Government increased mainly due to a local bank supplying part of the funds for a a medium-term facility in March 2014.

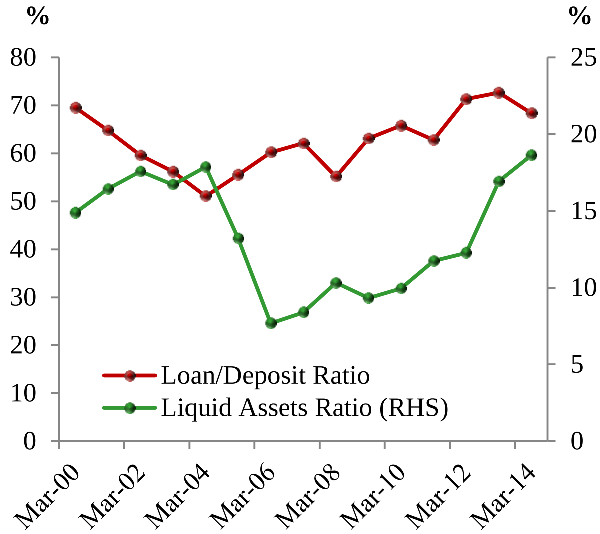
Figure 8 - Loan Growth by Sector
(Year Ending March 2014)



Source: Central Bank of Barbados

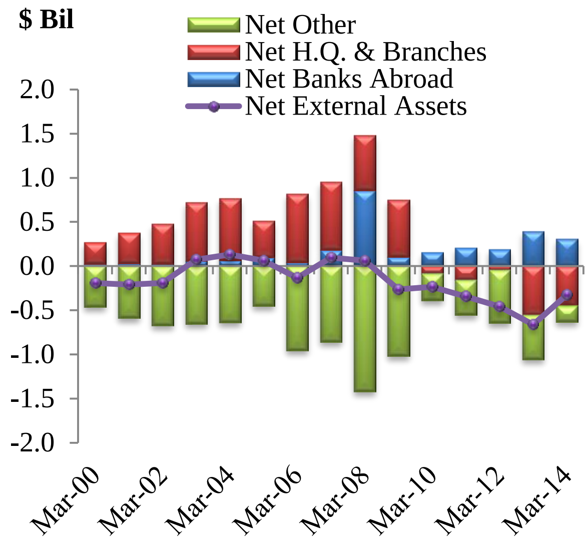
With domestic deposits growing 5.3 percent for the year to March 2014, liquidity in the system remained high. The loan-to-deposit ratio declined to 68 percent in March 2014 from 73 percent in 2013, while the liquid asset ratio continued to climb, as it reflected banks' increased holdings of Government Treasury bills.

Figure 9 - Liquidity Indicators



Source: Central Bank of Barbados

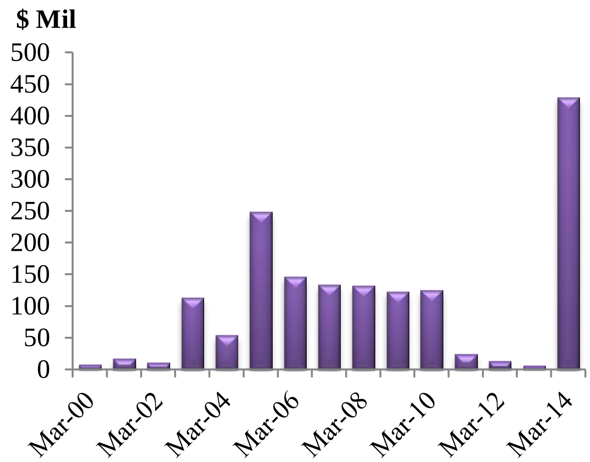
Figure 10 - Net External Assets



Source: Central Bank of Barbados

The net external balance of commercial banks improved by $337 million over the year ending March 2014, primarily due to a build-up in foreign investments (see Figure 10).[3] In particular, holdings of foreign securities grew by $423 million over the period, up from $5 million at March 2013 (see Figure 11). These securities are primarily concentrated in Caribbean sovereign and American corporate bonds. In addition, balances due from banks abroad rose $45 million, but these were more than offset by balances held with headquarters and branches, which declined by $63 million.

Figure 11 - Foreign Investments
(Other than T-bills)

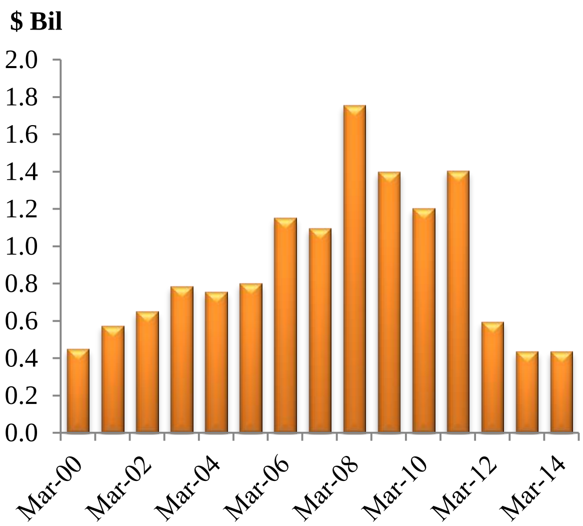


Source: Central Bank of Barbados

[3] Due to the reclassification of a loan facility, balances due from commercial banks' headquarters and branches were adjusted downwards from 2011 onwards.

The trend in recent years of declining deposits of non-residents, which has been attributed to the transfer of funds from one domestic bank to its licensed affiliates in the international financial sector, abated somewhat this year. Deposits at March 2014 remained virtually unchanged from those recorded one year earlier.

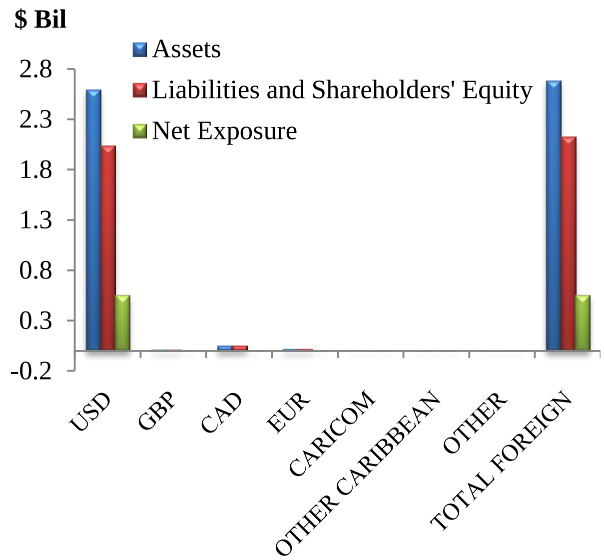
Figure 12 - Deposits of Non-Residents



Source: Central Bank of Barbados

As a result of increased exposure to external foreign currency denominated investments, commercial banks' net foreign currency position for all assets rose to $557.4 million at March 2014 (See Figure 13). These assets and liabilities were almost exclusively denominated in US dollars, with a balance of $553 million, up from $343 million at September 2013.

Figure 13 - Assets and Liabilities Denominated by Foreign Currency
(March 2014)

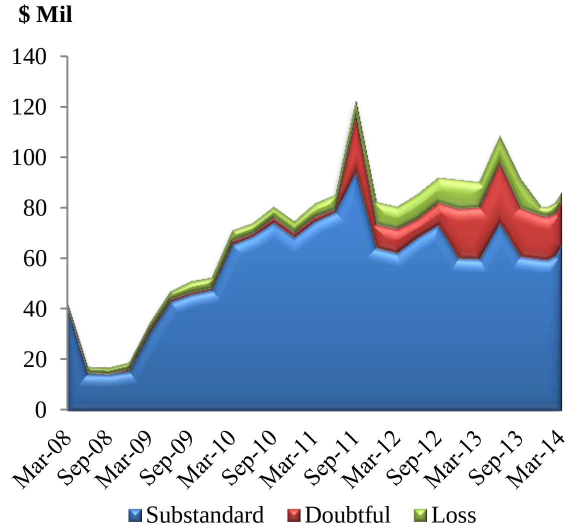


Source: Central Bank of Barbados

1.2 Deposit-Taking Finance and Trust Companies

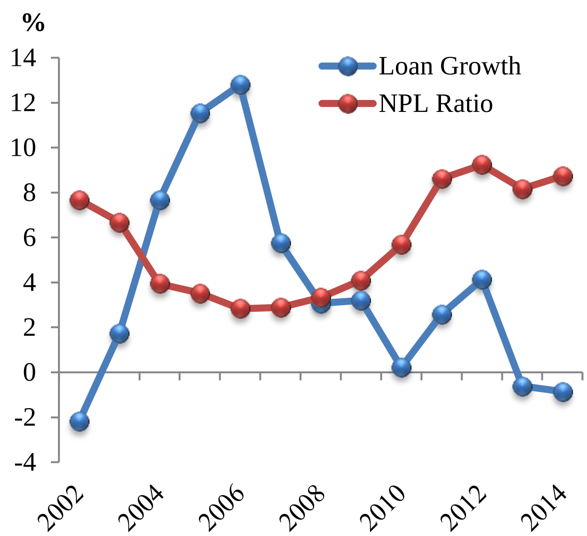
Finance and trust companies continued to be well-capitalised with a stable deposit base and adequate liquidity. However, the NPL ratio for these companies experienced a pick-up during the first quarter of 2014 to reach 8.7 percent, reversing the downward trend in the latter part of 2013 (Figure 14). The deterioration in loan quality was primarily in the substandard category of classified loans, while the doubtful and loss categories remained virtually unchanged over the period.

Figure 14 - Finance and Trusts' NPLs by Classification



Source: Central Bank of Barbados

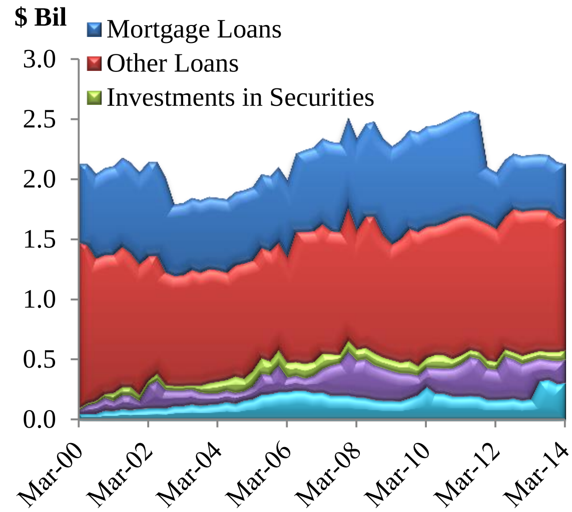
Figure 15 - Finance and Trusts' Loan Growth and NPLs Trends



Source: Central Bank of Barbados

In a reflection of the general stagnation in economic growth, lending by finance and trust institutions contracted by approximately 6.2 percent for the year to March 2014. Unlike commercial banks, mortgage loans for private dwellings fell 1.9 percent over the period. Overall, total assets of these institutions decreased 3.5 percent over the last year, after plateauing at $2.1 billion in June 2013 (Figure 15).

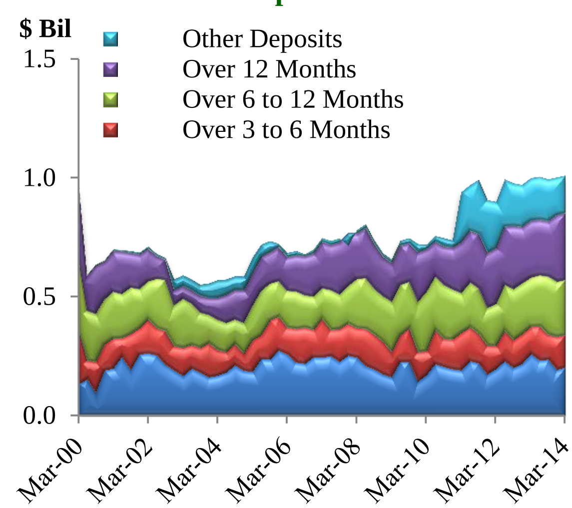
Figure 16 - Assets of Finance and Trusts



Source: Central Bank of Barbados

Total deposits increased by 1.5 percent over the past six months, with little variation within the various time bands of deposits. Finance and trust companies maintained satisfactory levels of liquidity to comfortably support their activities.

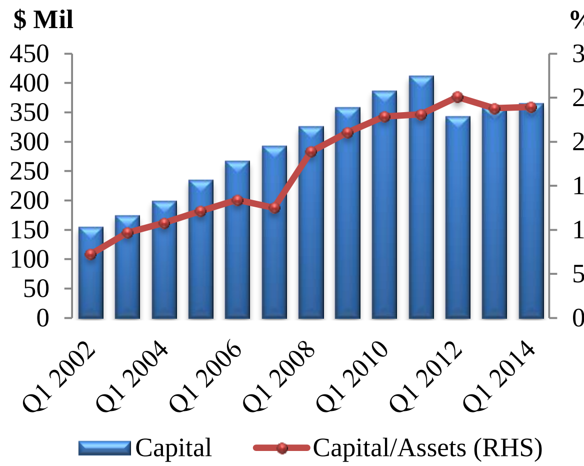
Figure 17 - Distribution of Time & Other Deposits



Source: Central Bank of Barbados

The total capital of finance and trust institutions covered about 24 percent of their total assets at March 2014, virtually on par with the level one year earlier.

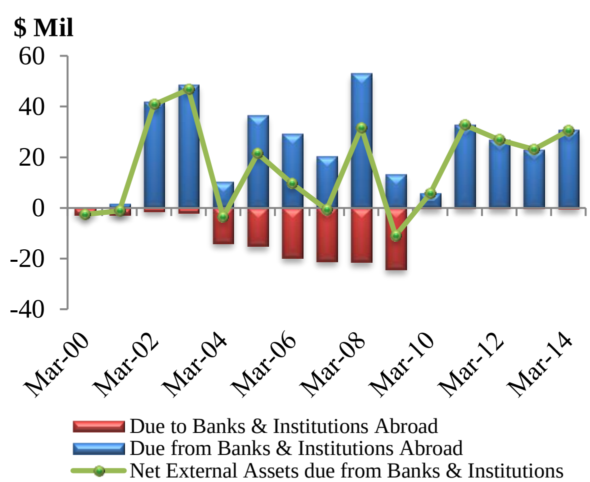
Figure 18 – Finance and Trusts' Capitalisation



Source: Central Bank of Barbados

While their level of foreign securities remained relatively flat, finance and trust companies increased their exposure to foreign financial institutions by $7.7 million over the last 12 months, to record a $31 million exposure as at March 2014. As a result, non-banks continued to be net creditors to overseas financial institutions.

Figure 19 - External Assets & Liabilities due from/to Financial Institutions Abroad

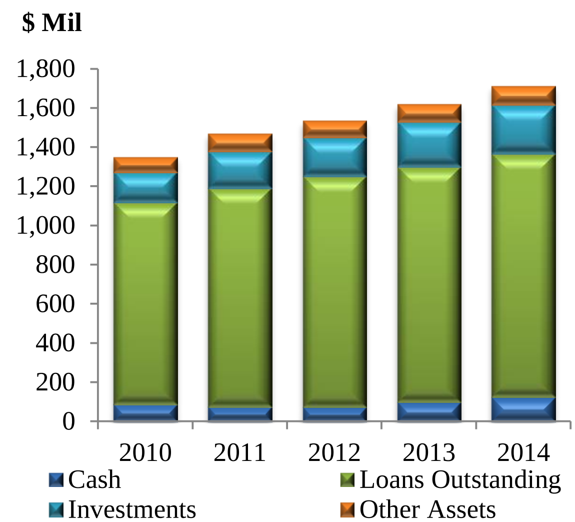


Source: Central Bank of Barbados

1.3 Credit Unions[4]

At the end of March 2014, there were 35 registered credit unions operating in Barbados with reported membership of approximately 156,500. This was an increase in membership of 4.0 percent over the comparable period in the prior year. Total assets of the sector were $1.7 billion.

Figure 20 - Credit Unions Total Assets by Category
(As at March 31)



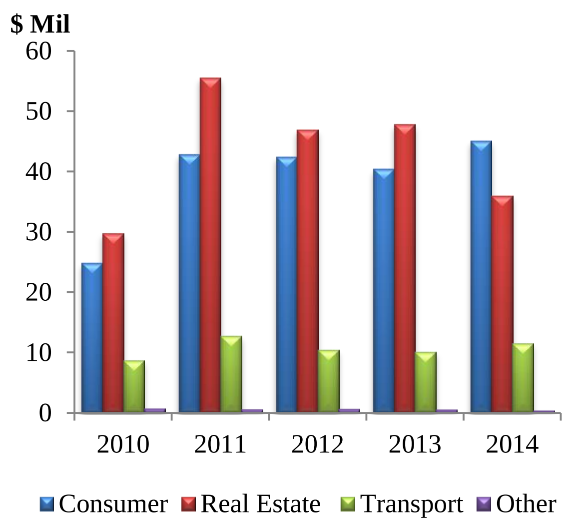
Source: Financial Services Commission

Assets grew by 5.7 percent between March 2013 and March 2014 to reach approximately $1,711 million (see Figure 20). The largest contributor to the expansion in assets was an increase in loans to members, which rose by $44.0 million (3.6 percent). In addition, cash holdings increased by $25.9 million (26.2 percent) and investments by $20.7 million (9.0 percent).

[4] The analysis of the credit unions, insurance and mutual funds was provided by the Financial Services Commission.

As at March 2014, gross loans to members represented the largest asset on the combined balance sheet for the credit union movement. These loans accounted for approximately 75.0 percent of total assets, slightly down from 76.6 percent of total assets for the same period of the prior year. This illustrates the continued slowdown in the rate of credit expansion, and the weak loan demand in the wider economy.

Figure 21 – Credit Unions' New Credit Issued and Total Credit Growth
(As at March 31)

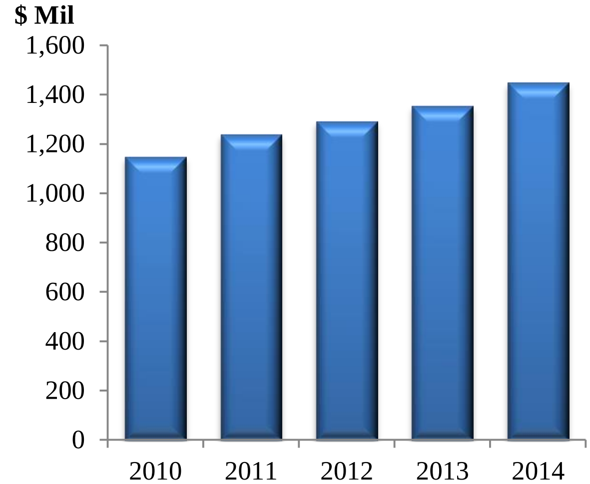


Source: Financial Services Commission

Between March 2013 and March 2014, gross loans to members increased by 3.6 percent to reach $1,283.3 million. During the period under review, consumer credit remained the largest category of loans, increasing by a further 11.5 percent. In contrast, real estate loans, which account for 38.7 percent of the loan portfolio, fell by 24.8 percent.

Members' savings, which comprise both members' deposits and members' shares, increased by 6.9 percent to $1,448.4 million at the end of March 2014. The increase in members' savings was primarily as a result of an increase in members' term deposits which increased by 19.3 percent or $77.7 million during the period under review. This increase in members' term deposits can be attributed in part to higher interest rates offered and increased visibility of these products.

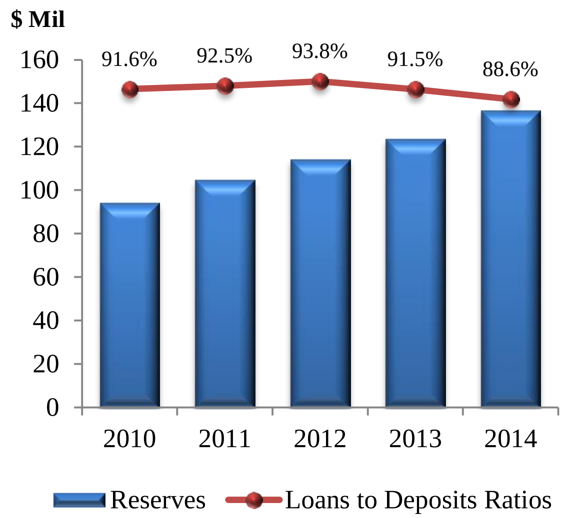
Figure 22 – Credit Unions' Members Savings
(As at March 31)



Source: Financial Services Commission

The loans to deposits and shares ratio declined marginally to 88.6 percent during the twelve month period ended March 2014. This was as a result of the faster rate of growth on deposits and shares (members' savings), coupled with a reduction in the growth rate in credit.

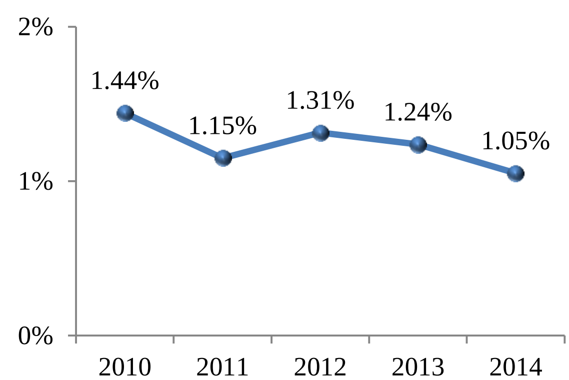
Figure 23 – Credit Unions' Reserves and Loans to Deposits and Shares
(As at March 31)



Source: Financial Services Commission

The slowdown in credit growth was also reflected in decreased profitability in the sector, with the annualised return on combined assets (ROA) declining by approximately one-fifth of a percentage point to 1.1 percent during the review period.

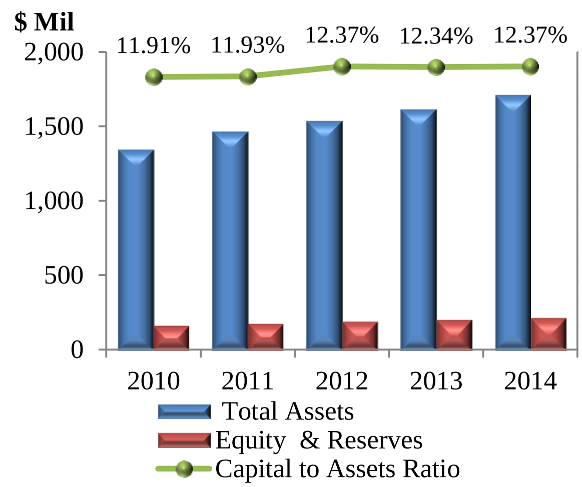
Figure 24 - Credit Unions' Return on Assets (March 31)



Source: Financial Services Commission

As at March 2014, the capital to assets ratio[5] for the credit union movement was 12.4 percent; marginally higher than the 12.3 percent reported at the end of March 2013.

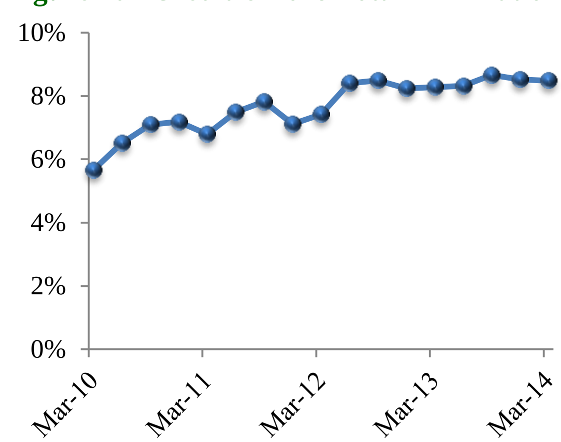
Figure 25 - Credit Unions' Capital
(As at March 31)



Source: Financial Services Commission

The sector's capitalisation has trended upward slightly since 2010 due to modest growth in equity and reserves (see Figure 25).

Figure 26 - Credit Unions Total NPL Ratio



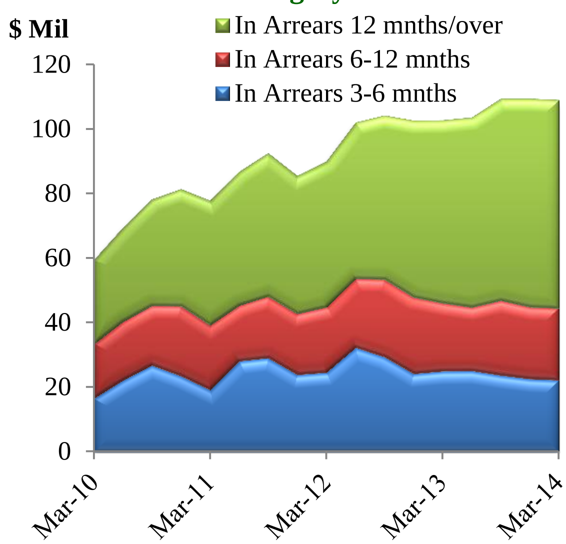
Source: Financial Services Commission

[5] The capital used in the capital-to-assets ratio includes statutory reserves, liquidity reserves and undivided surplus.

The quality of the loan portfolio for the credit union movement declined slightly, as the gross classified debt ratio increased from 8.3 percent at the end of March 2013, to 8.5 percent at the end of March 2014. There was also significant variation with respect to the quality of the loan portfolio across the sector, with NPLs among the smaller credit unions being substantially higher than those among the larger entities.

Figure 27 shows a more detailed breakdown of the NPLs by sub-categories. The majority of NPLs in the credit union sector has been in arrears in excess of twelve months (approximately 59.1 percent). During the year ended March 2014, NPLs in the three-to-six months category declined, while the NPLs in the six-to-twelve months and over-twelve months categories increased. This highlights a graduation in the NPLs to the more severe categories, which is consistent with expectations given the current economic situation.

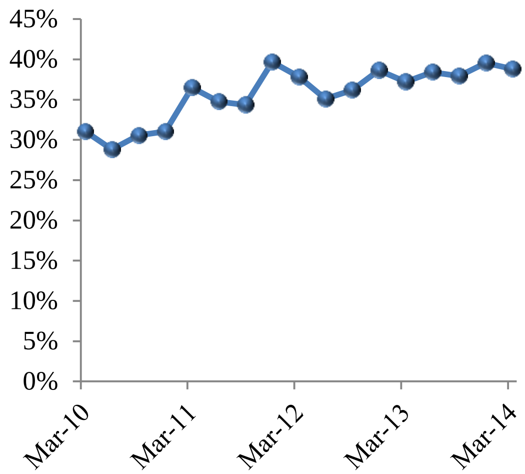
Figure 27 - Credit Unions' Total NPLs by Category



Source: Financial Services Commission

The ratio of the loan-loss provisions to gross classified loans increased from 37.2 percent in March 2013 to 38.8 percent in March 2014. This change, as a result of increasing NPLs, had a negative impact on the profitability of credit unions as it represented an increased cost of loan loss provisioning.

Figure 28 - Credit Union's Provisions for Loan Losses/ Gross Classified Loans

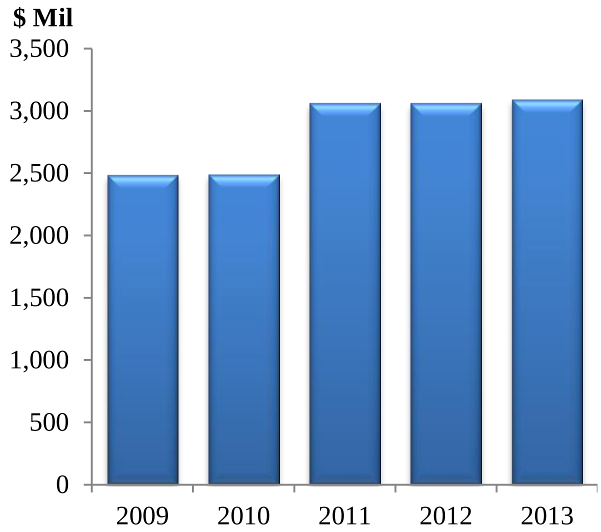


Source: Financial Services Commission

1.4 Insurance Companies

The domestic insurance sector continued to face challenges from the economic slowdown. However, as at December 2013, total assets of the sector were approximately $3.1 billion. This represented an increase of about 1.0 percent, when compared to the same period one year earlier (see Figure 29).

Figure 29 - Total Assets of the Insurance Sector
(Year ended December 31)



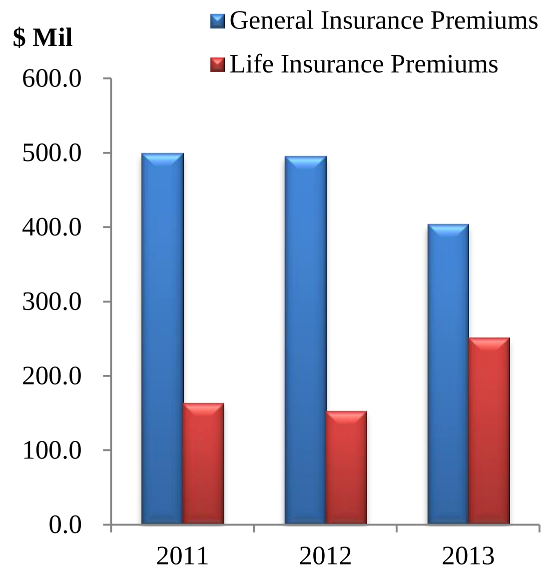
Source: Financial Services Commission

The demand for insurance products increased marginally with risk levels in the investment portfolios of insurance companies also on the rise. This is primarily due to the weak operating environment of regional economies, high sovereign debt levels of Caribbean governments and low interest rates on financial products.

As at December 31, 2013 the combined gross premium written for the industry (life and general insurance) was $655.3 million. The gross premium written in 2013 was approximately $7.6 million higher than the 2012 figure of $647.7 million. At the end of 2013, general insurance premiums were at approximately $404.0 million, accounted for the bulk of domestic market premiums, with the remaining ($251.3 million) in premiums attributed to the life insurance sector.

Motor and property insurance policies were the key components of the general insurance market, accounting for 88 percent of the gross premiums written. In the life insurance market, the key products sold were whole life, term life and universal life.

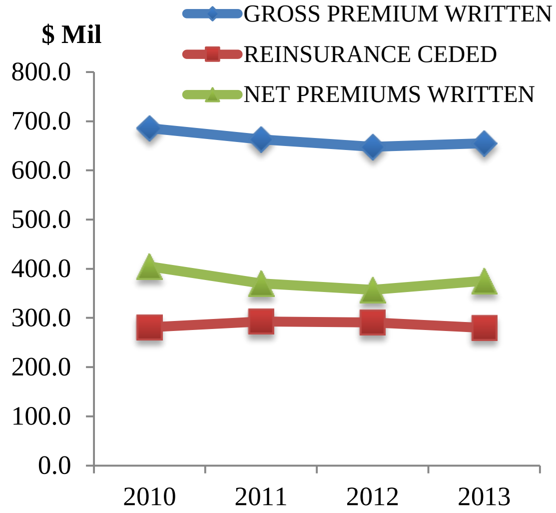
Figure 30 - Gross Premiums Written
(Year ended December 31)



Source: Financial Services Commission

The amount of reinsurance ceded by insurance companies in 2013 was $279.6 million, with net premiums written in the industry standing at $375.7 million. The comparative amount ceded in 2012 was $290.6 million with net premiums written for the prior year of $357.1 million. In 2013, the amount ceded represented 42.7 percent of gross premium written, slightly lower than that recorded in 2012 which was 44.9 percent. At the end of December, approximately $1,340.5 million was held in statutory funds in support of policy holder liabilities. The industry's total assets stood at approximately $3.1 billion, while combined net income was reported at $97.1 million. Overall profits for the industry were up from the prior year.

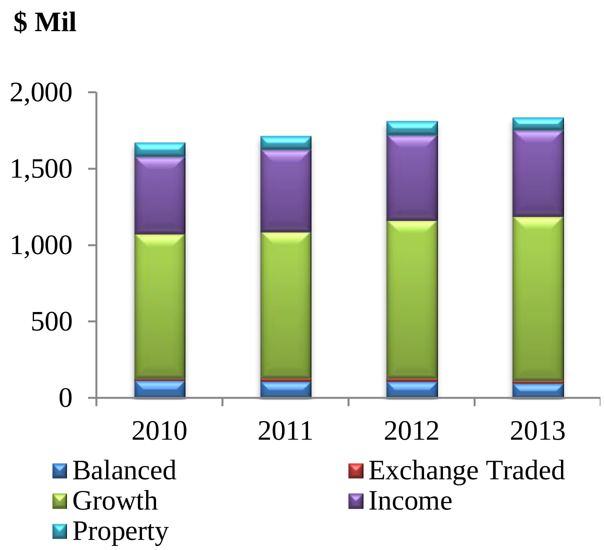
Figure 31 - Gross & Net Premiums & Reinsurance Ceded
(Year ended December 31)



Source: Financial Services Commission

1.5 Mutual Funds

Figure 32 - Mutual Funds' Assets Under Management by Type of Fund
(Including New Funds)



Source: Financial Services Commission

Two new licenses were issued in December 2013 and the industry witnessed total assests under management (AUM) of domestic mutual funds rising to $1,836.0 million, up 1.4 percent from the December 2012 figure (see Figure 32)

Table 1 - Types of Mutual Funds

Type of Mutual Fund	No.	Assets Under Management ($ Millions)		
		2011	**2012**	**2013**
Balanced Fund	3	110.1	110.2	98.6
Exchange Traded Fund	4	18.8	19.4	15.3
Growth Fund	6	961.4	1,037.2	1076.9
Income Fund	4	538.7	559.7	565.9
Property Fund	2	86.0	84.7	79.3
Total	**20**	**1715.0**	**1,811.2**	**1836.0**

Source: Financial Services Commission

As of December 31, 2013 there were twenty registered domestic mutual funds. Table 1 provides a classification of registered mutual funds and their accompanying growth in AUM. Both the growth fund and income fund categories exhibited growth over the December 2012 and the December 3013 period. This was primarily due to the inclusion of the two new funds. Income funds grew by 1.1 percent to $565.9 million while growth funds rose by 3.8 percent and ended the year at $1,076.9 million. Growth funds accounted for 58.7 percent of total AUM.

All other mutual fund categories experienced declines at the end of December 2013 when compared to the prior year. The biggest declines however occurred in exchange traded funds and balanced funds which were down (-21.1 percent) and (-10.6 percent). Property funds also experienced significant declines, experiencing a fall in AUM of (-6.3 percent).

Stress Test Analysis

The simulations in this section assess the resilience of the financial system[6] to a series of imposed shocks. In each scenario, the impact of the shock is directly transmitted to the institutions' capital and the analysis examines whether existing buffers are sufficient to absorb potential losses. The stress tests focus particularly on credit, large exposures, interest rates, liquidity and contagion risks. At March 2014, the capital adequacy ratios (CARs) for the major lending sectors in the financial system ranged between 16 and 34 percent.[7] Overall, the results of the stress tests suggest that while most domestic banks are able to withstand a range of shocks, specific vulnerabilities could emerge under severe stress.

1.6 Credit Risk

The existing standard for provisions for institutions licensed under the Financial Institutions Act (FIA) in Barbados, is 10 percent for 'substandard loans', 50 percent for 'doubtful loans' and 100 percent for the lowest category, 'loss loans'. Pass and special mention loans have no provision requirements.

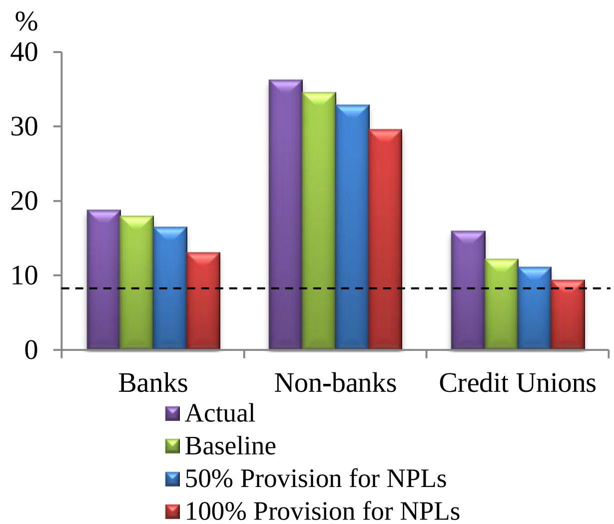
This simulation adjusts the provisioning rates across the loan classifications, to determine the urgency with which an institution may require additional capital to maintain prudential standards and indicate the adequacy of provisions held. Table 2 details the provision rates under the various scenarios.

Table 2 - Provisioning Rates for Scenarios

	Pass	Special Mention	Sub-Standard	Doubtful	Loss
Actual	0	0	10	50	100
Baseline	1	5	20	50	100
Scenario A	1	10	50	50	100
Scenario B	1	10	100	100	100

Figure 33 illustrates the current capital adequacy ratios of the DTIs as well as the outcome of the CARs under the adjusted provisioning requirements. The actual CAR is the position as at March 2014, while the baseline CAR assumes that institutions make allocations for 1 percent of their pass loans, 5 percent of their 'special mention' loans and 20 percent of 'substandard loans', in addition to the 50 percent and 100 percent requirements on 'doubtful' and 'loss' categories, respectively.

Figure 33 - CAR Outcomes from Loan Loss Provision



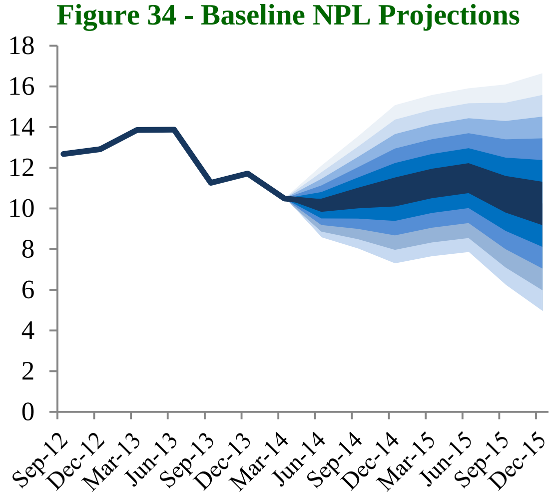
[6] Tests were conducted on the commercial banks, deposit-taking finance and trust entities (Part III institutions) and credit unions.

[7] Regulatory capital was estimated based on the balance sheets of branch institutions since they do not report capital positions. This facilitated the calculation of capital adequacy ratios for the banking system. Capital ratios for credit unions were obtained using the bank methodology.

The results indicate that the system as a whole remained resilient to substantial shocks to the provisioning rates. Under the baseline assumption, the impact on CAR for both banks and non-banks is around 1 percent, while for credit unions it was close to 4 percent. In scenario A (10 percent for the 'special mention' category and 50 percent for the substandard category), the sectors as a whole remained well capitalised, with no institution requiring additional capital. However, for scenario B three non-banks had capital below the 8 percent prudential limit under this more severe assumption.

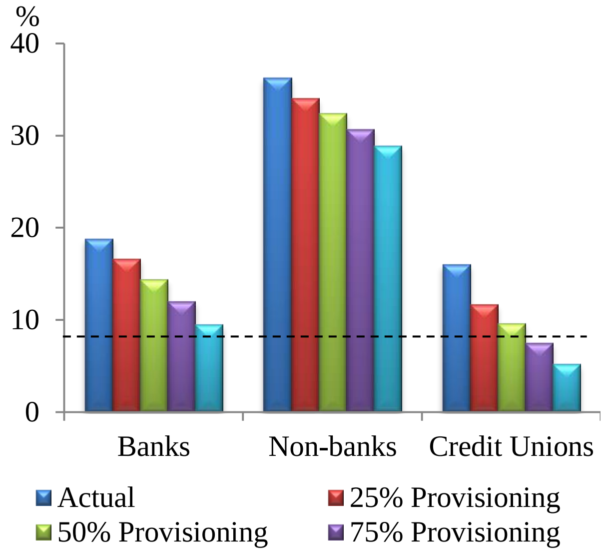
Further threats to systemic stability through prolonged deterioration in NPLs could arise if difficult macroeconomic conditions persist. The medium term path of banks' overall NPLs ratio was projected based on the current economic environment (Figure 34). Simulations from the macro-prudential framework suggest that despite the recent declines in the ratio (due to the resolution the large hotel loans), that NPLs are likely to rise over the next four quarters, a continuing reflection of slow GDP growth over the next 12 – 15 months.

Figure 34 - Baseline NPL Projections



Another component of the credit risk assessment evaluates the impact of a severe shock to non-performing loans on institutions' CAR. The impact of a 100 percent increase in NPLs is combined with sequential increases in the provisioning requirements.

Figure 35 - CAR Outcomes from Increasing NPLs

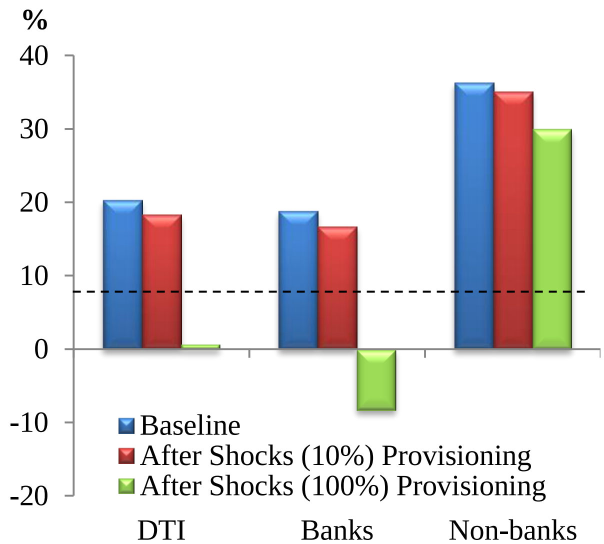


The results (presented in Figure 35) suggest that the institutions on average maintained their CAR above 8 percent when the provisioning requirements were increased sequentially up to 50 percent. When the requirement on additional NPLs is increased to 75 percent, no DTI's have negative capital, but at least one commercial bank and 2 non-banks have capital fall under the 8 percent prudential limit. The credit union sector also falls below the requirement when this provisioning is applied. Under the most severe assumption of 100 percent, one additional non-bank would be in breach of the statutory requirement. On the other hand, the credit union sector fell below the requirement when provisioning of 75 percent is applied.

1.7 Large Exposure Risk

This simulation assumes that adverse shocks affect the five largest borrowers of each institution and examines the impact on institutions' capital. Given that the corresponding loans become non-performing, these shocks were applied sequentially up to five rounds and assessed under the requirement of 10 percent, 50 percent and 100 percent provisioning.

Figure 36 - CAR Outcomes of Large Exposure Shocks

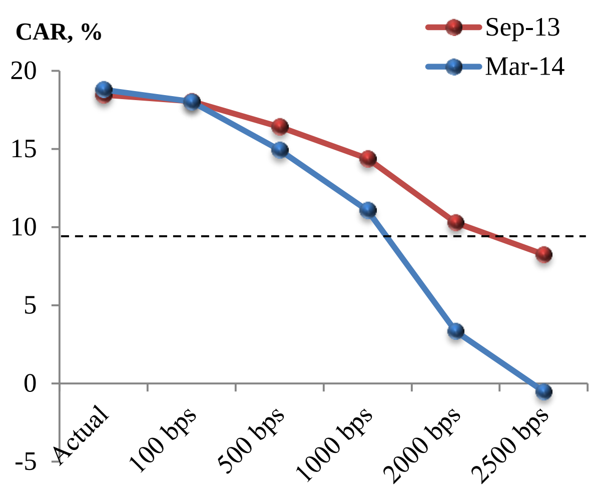


All institutions maintained significantly high CAR levels with 10 percent provisioning. Under the 50 percent provisioning assumption, aggregate bank capital fell below 8 percent only after the five largest borrowers defaulted; however, this break was concentrated in three banks. With 100 percent provisioning, two banks would contribute to the breaking point of the banking system after a shock to the two largest loans, while two non-banks have capital less than 8 percent with the five largest NPLs becoming non-performing.

1.8 Interest Rate Risk

This scenario assesses the banks' ability to absorb losses that might be associated with significant increases in interest rates. The test stresses the impact of rising deposit rates on commercial banks' funding costs and ultimately their profitability.

Figure 37 - Interest Rate Impact on CAR



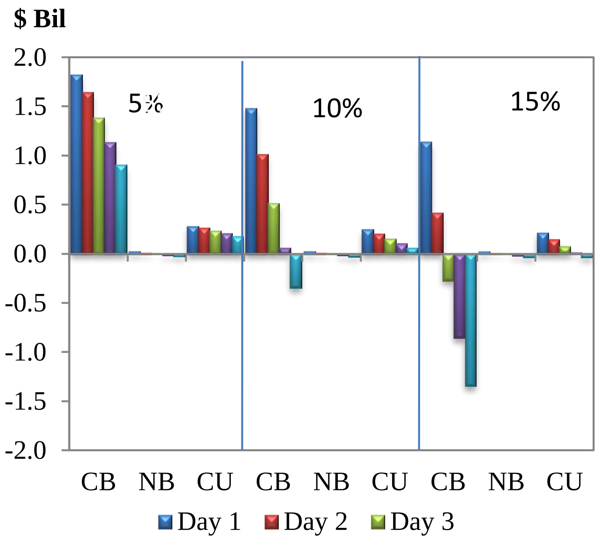
Only under the severe assumption of an increase of 1,000 basis points in the banks' deposit rates, would one bank become insolvent, with another requiring additional capital under an increase of 2,000 basis points. This outturn has worsened since September 2013, primarily because both banks have increased their short-term risk sensitive liabilities, which impacts on banks' interest income and profitability.

1.9 Liquidity Risk

This exercise examined the liquidity positions of the DTIs by assuming simple deposit runs over a five-day period. To set the context, 95 percent of all liquid assets was assumed to be available in a given day, while one percent was assumed for all other assets.

In addition, withdrawals on time deposits were fixed at three percent and one percent per day on domestic and foreign accounts, respectively, and drawdowns on foreign currency demand deposits were also fixed at five percent per day. The simulation therefore investigated the impact of five percent, 10 percent and 15 percent runs per day on domestic demand accounts, given the previous assumptions.

Figure 38 - Results from Deposit Runs on DTI's



The results in Figure 38 suggest that banks are generally able to withstand 5 percent runs on deposits over the five-day period. However, one non-bank was unable to meet all of its obligations after the run on day two, and a total of five non-banks needed more liquidity after day four. Under the 10 percent shock, one commercial bank encountered liquidity problems after day three, and two after day four. By day five a total of nine institutions would require some form of liquidity support: four banks and five non-banks. Credit unions remained somewhat resilient on an aggregate level. With a 15 percent run per day, all banks and all but two non-banks became vulnerable after day 4, with the credit union group becoming illiquid after day 5.

1.10 Contagion Risk

On the domestic inter-bank market, only a few institutions had any level of exposure, indicating little scope for contagion through domestic interbank linkages. However, an investigation of cross border exposures has revealed that related company activities pose a more significant threat.

Assuming that the foreign investments and balances of commercial banks are lost in their entirety, and trigger deposit runs on domestic bank branches and subsidiaries, the impact on capital adequacy was determined. The impact on each domestic bank was examined to determine vulnerabilities that may arise from second and third round effects. Table 3 presents the results based on cross-border exposures and shows the resulting range of the capital adequacy for each region of exposure.

Table 3 - Results of Default of Individual Banking Sectors and Groups

Shocks*	After Shock CAR Range (percent)	Banks with CAR < 8 percent
Baseline*	15.8 – 22.5	0
Europe	15.8 – 22.2	0
Canada	15.2 – 22.2	0
USA	0 – 18.3	1
Local Affiliates	0 – 22.5	1
Caribbean Affiliates	5.5 – 22.5	1
Caribbean Non-Affiliates	15.8 – 22.5	0

Overall the results suggest significant exposures to the US and to local and Caribbean affiliates with one bank (the same bank) failing in each case.

Losses to all other geographic regions were insufficient to erode capital levels below the 8 percent threshold.

Nevertheless, given the current exposures and level of reserves held, the banking system has been proven to be resilient to the simulated shocks from these sources.

Appendices

Appendix I - Selected Financial Indicators – Commercial Banks

	2009	2010	2011	2012	2013Q3	2013Q4	2014Q1
Solvency Indicators							
Capital Adequacy Ratio (CAR)	17.5	17.1	19.3	21.0	21.8	19.7	19.8
Liquidity Indicators#							
Loan to deposit ratio (percent)	65.5	67.2	70.9	73.6	71.1	69.3	68.4
Demand deposits to total deposits (percent)	36.6	35.2	32.1	29.3	30.5	32.0	32.0
Domestic demand deposits to total domestic deposits	27.9	27.1	27.6	26.8	27.9	29.3	28.9
Liquid assets, percent of total assets	10.8	11.5	12.0	14.6	17.6	18.0	18.6
Credit Risk Indicators (percent)							
Total assets (growth rate)	-5.6	-1.5	-4.7	11.5*	3.9	2.8	0.3
Domestic assets (growth rate)	2.3	0.6	-6.1	6.1*	5.1	6.5	0.3
Loans and advances (growth rate)	0.9	0.6	-0.5	-1.1*	-1.5	-2.6	-2.5
Non-performing loans ratio	7.9	10.8	11.1	12.9	11.3	11.7	10.5
Substandard loans/ Total loans	6.7	9.1	8.7	9.9	7.7	8.6	7.3
Doubtful loans/ Total loans	0.4	1.0	1.8	2.3	3.0	2.5	2.6
Loss Loans / Total loans	0.9	0.7	0.6	0.8	0.6	0.6	0.6
Provisions to non-performing loans	41.5	37.4	32.9	33.9	44.4	44.9	52.8
Foreign Exchange Risk Indicators							
Deposits in Foreign Exchange (percent of total deposits)	13.3	12.9	6.6	4.9	4.0	4.4	5.2
Profitability Indicators							
Return on Assets (ROA)	1.6	1.1	1.0	1.1	1.0	0.8	0.8

Source: Central Bank of Barbados

* *Reflects removal of financial consolidation;* # *Includes foreign components unless otherwise stated*

Appendix II - Selected Financial Indicators – Non-bank Financial Institutions

	2009	2010	2011	2012	2013Q3	2013Q4	2014Q1
Solvency indicator							
Capital/ Assets (percent)	22.6	23.5	23.8	23.6	22.6	24.3	23.9
Liquidity indicators							
Loan to deposit ratio (percent)	168.3	167.6	152.3	109.9	90.2	99	97.5
Liquid assets, percent of total assets							
Credit risk indicators (percent)							
Asset Growth	2.5	2.9	6.3	3.9*	3.7*	-1.4	-4.9
Nonperforming loans ratio	5.2	5.7	8.6	9.1	6.8	8.2	8.8
Substandard loans/Total loans	4.8	5.2	7.4	6	5.9	6	6.6
Doubtful loans/Total loans	0.1	0.1	0.7	2	0.2	1.8	1.7
Loss loans/Total loans	0.3	0.3	0.6	1.1	0.6	0.4	0.4
Reserves to nonperforming loans	16.2	14.5	17	36.8	23.6	34.9	34.2
Profitability indicators							
Net Income/Capital (percent)	11.2	10.6	10.8	6.3	8.1	10.4	8.7
Return on Assets (ROA)	2.4	2.5	1.9	1.2	2.1	2.3	1.9

Source: Central Bank of Barbados
[*] Reflects the underlying growth in assets.
DTIs only

Appendix III - Selected Financial Indicators – Credit Unions

	2009	2010	2011	2012	2013Q3	2013Q4	2014Q1
Solvency Indicator (%)							
Reserves to Total Liabilities	10.5	10.4	10.7	11.4	11.8	12.1	12.2
Liquidity Indicators (%)							
Loan-to-deposits and shares ratio#	97.8	101.6	101.4	93.4	93.2	92.3	90.2
Credit risk Indicators (%)							
Total assets, annual growth rate	9.1	9.7	5.1	4.4	3.0	6.6	4.0
Loans, annual growth rate	8.0	8.6	6.5	3.2	1.3	3.4	3.6
Nonperforming loans ratio	6.5	7.2	7.0	8.2	8.8	8.5	8.5
Arrears 3-6 months/ Total Loans	2.1	2.1	1.9	1.9	1.9	1.7	1.7
Arrears 6 – 12 months/Total Loans	1.8	1.9	1.7	1.9	1.9	1.7	1.7
Arrears over 12 months/Total Loans	2.7	3.2	3.4	4.4	5.0	5.0	5.0
Provisions to Total loans	1.9	2.2	2.8	3.2	3.3	3.4	3.3
Profitability Indicator (%)							
Return on Assets (ROA)	1.6	1.2	1.2	1.3	0.5	0.8	1.1

Source: Financial Services Commission
 # Deposits and shares consists of members' regular deposits, members' term deposits, other deposits and members' shares (liabilities)