

Financial Stability Report

May 2019



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FOREWORD

The Bank of Mauritius is issuing its first edition of the Financial Stability Report for 2019 which covers the period June 2018 up to December 2018. Unless otherwise stated, this edition relies on information and financial data available up to the end of December 2018. The second edition of the Financial Stability Report for 2019, covering the period January 2019 up to June 2019 is expected to be released around November 2019.

In line with its mandate*, the Bank's assessments of risks to financial stability with a view to identifying and mitigating vulnerabilities in the domestic financial system are underlined in this Report. The analysis provides insights into the resilience of the domestic financial system and financial market infrastructure to developments on both the domestic and international fronts.

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Financial Stability Report May 2019 © Bank of Mauritius 2019 ISSN 1694-2353

As prescribed at section 4(2)(b) of the Bank of Mauritius Act 2004, one of the other primary object of the Bank is to ensure the stability and soundness of the financial system of Mauritius. A stable and sound financial system is a prerequisite for proper intermediation and allocation of funds in the economy, thereby being conducive to economic and financial development. The Bank undertakes to align the regulation and supervision of financial institutions falling under its purview with international best practices.



1.Executive Summary

1.1 Global Macroeconomic and Financial Market Development

World economic growth has suffered a number of setbacks, stemming from escalating trade tensions between the United States (US) and other partner countries, including China; Britain's exit from the European Union (EU), and the subsequent trade negotiations with partner countries in the post-Brexit era; and uncovering of Carry-trade strategies as a result of diverging monetary conditions in the world's major economies with potential impact for global financial stability.

The International Monetary Fund (IMF) in its latest flagship World Economic Outlook (WEO) edition, maintained the 2018 global growth rate at 3.7 per cent, same as projected in October 2018. Growth projections for 2019 and 2020 have been revised downwards. Tamed global growth has also benefited from lower commodity prices, especially oil. Global growth was expected to slow down in the short to medium term, with lack of synchronicity in economic performance of advanced nations, disparities and widening in economic momentum between advanced and emerging economies.

The US economy has been thriving on the upward part of its growth cycle, helped in part by tailwinds including favorable industrial conditions and fiscal loosening. During the year 2018, the US Federal Reserve enjoyed enough space to continue with its monetary policy normalization by hiking rates on several occasions. In other major advanced economies, prospects have been less encouraging. Growth in Europe has stalled on the back of geopolitical shocks, knock-on effects following escalating trade tensions elsewhere, higher US bond yields, and tighter global financial conditions. The European Central Bank (ECB) announced that it would be keeping its policy rate unchanged in the foreseeable future, mainly due to fears stemming from potential materialization of these downside risks.

Outside the Eurozone area, the United Kingdom (UK) faces uncertainty about its charted exit route from the EU. Risks of a *'hard Brexit'* have weighed on the British Pound for pretty much of 2018 and have added a new layer of uncertainty on financial market prospects.

Threats of a trade war between the US and China have also contributed towards tilting the global growth outlook to the downside. Any potential retaliation from China may ultimately stymie growth prospects of peripheral economies that have positioned themselves in the global value-chain platforms and that are heavily dependent on China for trade.

Divergent monetary policy being pursued in some of the world's major economies have resulted in sustained yield differentials, against a backdrop of growing uncertainties. Fears emerged that policy normalization in the US could trigger off a reversal of capital flows from emerging markets towards the US with potential financial stability consequences in these economies. Central Banks in emerging market economies were thus faced with a dilemma: either to pursue monetary policy accommodation by lowering policy rates to sustain growth or to pursue monetary tightening by hiking policy rates to stem capital exodus towards the advanced nations. To strike the right balance was no easy task but economies suffering from weak fundamentals and from the twin deficit (unhealthy external balance situation and fiscal deficit) faced



challenges to adapt to this new economic environment.

1.2 Domestic Economic Developments

Real Gross Domestic Product (GDP) growth for year 2018 was estimated at 3.8 per cent, and was spurred by sectors such as construction, financial services and retail trade. It had remained unchanged compared to the previous year.

Private consumption in Mauritius accounted for the largest component of aggregate demand. Public infrastructure-related projects helped support investment. The external balance situation in the second half of 2018 showed a deterioration in the current account situation to 8.3 per cent of GDP in the third quarter, reflecting a worsening of the balance of trade. Mauritius remained relatively heavily import-dependent - a typical feature of smallisland economies. Inflation was contained during year 2018. The decline in international oil prices has contributed favorably towards containing inflationary pressures and may continue to keep the lid on projected inflation, if sustained. Unemployment rate has dropped due to a number of labor market reforms undertaken during recent years. The Bank of Mauritius (BOM) projects the 2019 growth rate at 3.9 per cent, primarily on account of current global economic uncertainty and downward revised growth outlook by some of our major trading partners etc.

1.3 Domestic Financial Market

Open market operations conducted by the BOM through the issue of its own securities have helped keep the level of rupee excess liquidity in the banking system to an appropriate level. Short-term yields – 91-Day yield and overnight interbank rates - have remained within the interest rate corridor of the Operational Framework for Monetary Policy as

from March 2018. During the year 2018, the BOM scaled up open market operations with the result that outstanding BOM securities increased from Rs73 billion as at end January 2018 to Rs95 billion as at 31 December 2018 of which about half consisted of securities maturing within a year. The average rupee excess liquidity for 2018 was Rs10.7 billion, with an uptick towards the end of the year to reflect precautionary balances held for the festive season. In addition, sterilized foreign exchange interventions were conducted to limit the injection of rupees back into the system by way of short term special deposits. A number of initiatives has been taken during the year to impetus to secondary market aive development and to enhance price discovery among market participants.

1.4 Household and Corporate Indebtedness

Bank credit to the private sector increased in the second half of 2018, albeit at a slower pace compared to the first half. This was principally due to the carving out of the portfolio of Non-Performing Loans (NPLs) at a major bank. Household credit accounted for a little below one-third of total credit followed by Tourism, Manufacturing and Traders. Year-on-year (y-oy) growth of credit extended by banks to households increased marginally from 7.9 per cent in June 2018 to 8.0 per cent in December 2018, while growth of credit extended to corporates fell from 9.5 per cent to 7.4 per cent over this period. As households in Mauritius borrow mainly in the domestic currency, risks that could arise from banks' foreign currency exposure to the household sector is considered low. Regarding corporate debt, while a large share of corporate debt reflects debt contracted in local currency (about 92.4 per cent at end-December 2018), debt contracted in foreign currency presents limited risks to the banking system, given that these institutions



have an asset-liability currency matching structure.

Profit after tax of selected companies on the domestic stock market increased during the period under review, reflecting the good performance of operators within the Tourism, Manufacturing, Traders and Finance and Business Services sectors which overshadowed the sub-par performance of sugar-linked and transport sectors. Higher profitability, against a backdrop of a low interest rate environment, helped contain risks for banks that are exposed to cyclical sectors, many of which have become relatively more leveraged over time. However, while better performance has created space for containing risks stemming from leverage, a protracted negative shock stemming from abroad could impact on the earnings of those corporates operating in cyclical sectors and affect their debt-repayment capacity. Of late, the process of financial dis-intermediation has been observed, and some operators in cyclical sectors such as tourism have begun to deleverage from banking credit and have opted for private bond placements in recent years.

1.5 Banking System and Non-Bank Financial System

Banking System

Financial soundness indicators of the banking system appear good. The level of capital maintained by banks in Mauritius as at end-December 2018 remained comfortable and was above the current regulatory minimum imposed by the BOM. The Capital Conservation Buffer (CCB) is gradually being phased in for all banks. The Domestic-Systemically Important Banks (D-SIB) capital surcharge is also gradually being phased in for those banks identified as systemically important. Together, these buffers provide added comfort to banks' capital positions. As at end-December 2018, asset quality improved with the NPL ratio showing an improvement from 5.5 per cent as at end-June 2018 to 4.9 per cent as at end-December 2018. The Coverage Ratio, which is measured as the ratio of specific provisions to gross NPL, improved from 59.7 per cent as at end-June 2018 to 60.8 per cent as at end-December 2018. Profitability of the overall banking sector improved during the year ended December 2018 as reflected by the higher pre-tax return on assets (ROA) and pre-tax return on equity (ROE) realized by the banks. Interest income in the banking sector outpaced interest expenses and banks also benefited from other income such as net fees and commission income and profit from dealings in foreign currencies.

The Liquidity Coverage Ratio (LCR) standard had been adopted by banks effective November 2017 with a view to ensuring they have sufficient high quality unencumbered liquid assets to offset net cash outflows over a 30-day stressed period. Overall, the banking sector in Mauritius has remained liquid over the period June to December 2018 and the LCR of above the banks staved regulatory requirements and stood at 185.1 per cent as at end-December 2018. The BOM continues its efforts to diligently monitor the liquidity situation of banks through enhanced liquidity monitoring tools including liquidity gap analyses, following up on implementation of banks' bottom-up stress testing models and requiring banks to report their liquidity contingency backup plans.

Other risks stemming from banks' operational exposures appear to be well-contained. The overall net foreign exchange exposure ratio stood at 2.4 per cent as at end-December 2018, well within the regulatory limit of 15 per cent of tier 1 capital. Similarly, credit concentration risks – risks from high credit concentration to any individual or group of connected



counterparties - are duly monitored and are well contained.

Banking Stability Indicator

A composite indicator consisting of five key indicators was constructed to provide relative assessment of risk drivers of fragility in the banking system and their relative importance in contributing towards overall fragility. Almost all key risk indicators, with the exception of liquidity, improved in 2018Q4. The liquidity situation of the banking sector remained strong with banks keeping their LCR above the regulatory requirements, in both, Mauritian rupees and major currencies.

Non-Bank Deposit Taking Institutions

The Non-Bank Deposit Taking (NBDT) sector was assessed as sound and adequately capitalized during the period under review. The aggregate capital adequacy ratio (CAR) of Non-Bank Deposit Taking Institutions (NBDTIs) stood at 33.6 per cent as at end- December 2018 compared to 30.9 per cent as at end June 2018. With the current level of capitalization, NBDTIs continue to have robust capital adequacy positions. Pre-tax ROA and Post-tax ROE declined marginally from 3.1 per cent to 3.0 per cent and from 2.6 per cent to 2.4 per cent, respectively. As a matter of fact, annualized profit after tax of NBDTIs fell slightly by 2.3 per cent over the six-month period ended December 2018.

1.6 Stress Testing

Stress testing has become a cornerstone of financial sector analysis conducted by major Central Banks worldwide, especially in the wake of the Global Financial Crisis of 2008. The stress test exercises were conducted by the BOM to capture risks stemming from credit (including sectoral risks and credit concentration risks), market (including interest rate and foreign exchange risks), and liquidity. These tests were conducted under different experimental contexts, namely, sensitivity analysis and scenario analysis. Under sensitivity analysis, a severe but plausible shock was administered to either credit, market or liquidity situation. For scenario–based analysis, several scenarios were built, ranging from mild, to medium, and to severe. The results from, both, sensitivity and scenario analysis, showed that banks in Mauritius were largely resilient to severe but plausible shocks.

Tests were also conducted on the liquidity situation of banks, especially on the Global Business Sector (GBC) deposits. As at end-December 2018, GBC deposits accounted for over 30 per cent of total bank deposits. This percentage is relatively higher for subsidiaries of foreign banks with global network presence. However, most of these foreign banks also have funding lines from their group office or have made placements abroad. These could be drawn upon during episodes of potential stresses. Stress tests of potential run-off rates of GBC deposits have been conducted by the BOM under various scenarios. When the definition of high quality of liquid assets (HQLA) was extended to include short term placements which banks make abroad mostly with parents (since these should be available to banks in the event of deposit withdrawals), banks were found to be resilient to potential withdrawal of GBC deposits even in case of severe but plausible scenarios.

1.7 Payments system resilience

A robust infrastructure system for payments is a critical requisite for maintaining the integrity of financial transactions and for safeguarding financial stability. Both the Mauritius Automated Clearing and Settlement System (MACSS) – a real time gross settlement system - and the Port Louis Automated Clearing House (PLACH) – the clearing engine for

cheques - operated smoothly and were largely resilient in handling large volumes of transactions without any major disruption during the second half of 2018. The heavy reliance of the financial market infrastructures on technology usually exposes them to risks of cybersecurity attacks. The BOM has stepped up Its cybersecurity requirements for licensing of payment systems and payment service providers. Given the systemic importance of payment systems in Mauritius, the BOM regularly conducts verification tests on its contingency arrangements through full-day operations from its Disaster Recovery site.





2. Understanding Macro-Financial Linkages

A stable and solid financial sector provides the basis for sustaining economic growth. However, developments in the domestic and global macroeconomic environment may also impact on the safety and soundness of the financial system and, ultimately, undermine its resilience. This section provides an overview of global and economic developments that may affect the safety and soundness of the Mauritian financial system.

2.1 Global Economic and Financial Developments

Despite remaining robust, global growth is expected to slow down in the short-medium term, with lack of synchronicity in economic performance of advanced nations, and widening disparities in economic momentum between advanced and emerging economies. The IMF has revised its growth projections for 2019 and 2020 down in its latest flagship world economic outlook edition, with different growth pathway outlooks for advanced nations and emerging markets.

The US economy has thrived on the upward part of its growth cycle, helped in part by tailwinds including fiscal loosening - in the form of tax cut - which has helped support consumer spending, a robust business environment which is favorable to investment prospects and good labor market prospects. Unemployment rate has fallen and the firmer readings on inflation have created space for the Federal Reserve Bank hike rates on several occasions during year 2018.

Other advanced economies have embarked on a different growth pathway. Growth in Europe stalled on the back of higher oil prices, political shocks, escalating trade tensions, higher US bond yields, tighter global financial conditions

and geopolitical tensions. Ongoing weaknesses in the Eurozone were confirmed in the wake of GDP figures, which showed a quarter-onquarter (q-o-q) growth of only 0.2 per cent in the fourth quarter of 2018, similar to the previous guarter. France and Germany, the two main economies in the Euro area, bore an important share of this slowdown. In mid-2018, the ECB announced that it was contemplating the possibility of aborting its asset purchase program by the end of year 2018, while strengthening its forward guidance on policy rates to signal restraints on rate hikes until the summer of 2019. More recently, the ECB announced that it would be keeping its policy rate unchanged at zero per cent, against a backdrop of heightened downside risks stemming from outside Europe.

Outside the Eurozone, the path to be adopted by the UK to exit the EU and the post-Brexit landscape has retained the attention of institutions concerned about global growth prospects. Going forward, confusion still prevails about the terms of the UK's exit. Should the latter prove to be disorderly, the European financial landscape may be left fragmented in the short term. To illustrate, the UK is the major epicenter of investment banking in Europe. In the absence of clarity and visibility about deals that will be secured post-Brexit, much uncertainty prevails about whether EU clients will be able to retain the services of UK-based investment banks, and about whether the latter will be able to continue to service cross-border contracts.

Emerging market economies have seen their growth prospects weighed down by uncertainty regarding trade tensions between the US and its neighbors and trading partners. Since early 2018, the US administration has threatened to impose tariffs on a wide range of



imports, including steel and aluminium, as well as high technology products from China and automobiles from the EU. The announcement of protectionist measures on China's exports had sparked off a sell-off of Chinese equities, resulting in underperformance of its equities market. While the country continued to pursue its efforts to make new inroads into high valueadded manufacturing and services, its trade conflict with the US posed a challenge to its authorities who now have to establish the right pedestal between sustaining growth and pursuing diversification-oriented structural reforms. With a tightly integrated global supply chain, the imposition of import tariffs on China's exports could well affect economic prospects of peripheral economies that are heavily dependent on China for trade.

Emerging economies faced headwinds which presented important challenges to their policymakers. The superior performance of the US economy relative to that of other advanced nations has resulted in a divergence in global monetary policy across various parts of the globe. This divergence in monetary policy helped create differential yields and interest rates across the world and helped support the US dollar. This phenomenon presented downside risks for financial stability of emerging market economies in the form of reversal of capital inflows that marked the quantitative easing era. Since capital inflows into emerging markets in those days of easy money consisted of leveraged carry-trade strategies pursued by global investors who are poised about borrowing in low-yield currencies (then, the US dollar) to invest in high-yield currencies (then, emerging market currencies), an unwinding of carry trade strategies that accompanied the reversal of capital inflows presented risks to financial stability of those emerging market economies whose banking systems were funded by short-term inflows. Central Banks of many emerging market economies thus faced a non-trivial dilemma: to sustain growth through accommodating monetary policies or stem capital outflows by hiking policy rates which could ultimately affect their currencies. To establish the right balance is no easy task but economies that enjoyed stronger fundamentals, healthier external positions and larger fiscal legroom fared better.

An analysis of global developments that are pertinent to financial stability would not be complete without mentioning the rapid inroads of new technologies into the financial landscape. Indeed, with every new opportunity, there is an associated risk. As many of the advanced and emerging market nations are rapidly stepping into the bandwagon and contemplating new ways to frontload technology, they are also pursuing efforts in parallel to contain risks associated with disruptive technologies, including cyber risk vulnerabilities posed by the adoption of rapid digitalization, investments in crypto-assets, and digital tokens. Because adoption of technology may permeate national barriers and have cross-border spillover effects, desianina appropriate firewalls to shield domestic financial systems from the pernicious effects of destabilizing technologies has topped the agenda of policymakers in several advanced and emerging market economies.

2.2 Domestic Economic Developments

According to Statistics Mauritius, real GDP growth for year 2018 was estimated at 3.8 per cent, thanks to favorable growth performance in sectors such as construction, financial services and retail trade. This figure remained unchanged compared to growth figure for year 2017.

On the demand side, consumption accounted for the lion's share and contributed favorably towards growth. Private investment accounted for a larger share of overall investments than public investment, although the latter



experienced a higher growth rate during the period under review, thanks to ongoing infrastructure works.

The external balance situation in the second half of 2018 (2018H2) showed a deterioration in the current account situation to 8.3 per cent of GDP in the third quarter, reflecting a worsening of the balance of trade situation – the goods export level is facing headwinds stemming from outside, while goods imports have increased due to infrastructure projects with high import-element. The deteriorating trade balance situation was somewhat mitigated by surpluses in the services balance.

Inflation appeared to be well contained during the period under review, in part, due to the decline in international oil prices. Unemployment rate has dropped thanks to a number of labor market reforms undertaken during recent years. The BOM projects the 2019 growth rate at 3.9 per cent, a slight downgrade from 4.0 per cent due to the current global economic uncertainty and the fact that some of our major trading partners have revised down their growth outlook.

Developments in the global and domestic macroeconomic environment have important implications for the domestic banking system whose assets accounted for about 80 per cent of total financial system assets as at December 2018 and about 277.8 per cent of GDP.

As per chart 2.1, Mauritian banks are exposed to developments taking place overseas as funds are received from abroad, routed from the banking system, and find their way to other destinations abroad. Furthermore, banks lend to sectors that have a relatively heavy outward orientation, e.g., tourism, manufacturing, trade, financial services.

Chart 2.2 indicates that the Private Sector credit to GDP Gap moved to the positive territory and

followed a continuous upward trend as from 2018Q1 onwards.

Charts 2.3 and 2.4 show the relative proportion of banks' loan portfolios accounted for by various sectors, for both Segment A/Resident and Non-resident. Thus, weaker-than-expected performances of our trading partners may affect the quality of lending portfolio of our banks.

Chart 2.5 underscores the relative importance accounted for by the NPL ratio and lending by sector. Developments overseas may also affect the global interest rate cycle, as well as the pattern of exchange rates of some of the major currencies. These developments will impact on performance of our banking system since a sizeable chunk of their activities, especially those in non-resident segment, is priced in dollars and carry yields in foreign currencies. The GBC sector remains an important source of funding for banks in Mauritius.

As Chart 2.6 shows, GBC deposits (inclusive of non-resident deposits) accounted for around 38.55 per cent of banking sector assets as at December 2018 (71.2 per cent of GDP).

Table 2.1 summarises the nature and source of risk that are relevant for banks in Mauritius.





USA **United Kingdom** 9 43 Sources Rs Billions Sources Rs Billions 2018Q3 • 2018Q4 8 42 2018Q2 🔎 7 • 2018Q1 2018Q1 2018Q4 41 6 5 2018Q3 40 4 39 3 38 2 2018Q2 37 1 36 20 60 80 100 120 140 40 10 20 30 40 50 60 70 80 90 100 -**Uses Rs Billions Uses Rs Billions** Europe South Africa 92 60 Sources Rs Billions Sources Rs Billions 90 2018Q4 50 2018Q3 88 2018Q1 2018Q1 86 40 2018Q4 84 2018Q2 30 82 2018Q3 80 20 78 10 76 2018Q2 74 100 110 120 130 140 150 160 170 180 190 10 20 30 40 50 60 **Uses Rs Billions Uses Rs Billions** India China 18 60 Sources Rs Billions Sources Rs Billions 16 2018Q4 2018Q1 50 14 2018Q2 • 2018Q3 2018Q4 12 40 2018O3 10 30 8 6 20 • 2018Q1 4 10 2018Q2 2 120 125 130 140 145 5 10 15 20 25 30 35 40 115 135 **Uses Rs Billions Uses Rs Billions**

Chart 2.1: Cross-country credit facilities exposure (December 2018)

Source: Bank of Mauritius



Chart 2.2: Private Sector credit to GDP Gap (excluding GBCs)



credit distribution

Source: Bank of Mauritius

Chart 2.3: Sector-wise



Source: Bank of Mauritius

Chart 2.4: Sector-wise credit distribution (Non-



Source: Bank of Mauritius

Chart 2.5: Sector-wise lending and NPL



- Wholesale and retail trade; and repair of motor vehicles and motorcycles
- Accommodation and food service activities
- Other Financial Corporations
- Housing

Source: Bank of Mauritius

Chart 2.6: Asset allocation of banks



Capital Other Deposits Interbank Borrowings Others Claims on Central Government Foreign Assets

Claims on Holders of GB Licences

Source: Bank of Mauritius

Reserves & Surplus

GBC Deposits

Borrowings

- Cash
- Interbank Loans
- Claims on Private Sector
- Others



Table 2.1 Macro-Financial Risk Assessment Matrix for Mauritius

Natur	e and Source of Risk	Relevance to Financial Stability in Mauritius					
nancial Risks	Potential Trade tensions between China and USA	Growing protectionist sentiment following trade tensions between these two economies could affect global trade and impact on global growth. Economies with relatively heavy dependence on target markets or value chains are vulnerable to this phenomenon. This risk is perceived to be low at present for Mauritius, but could assume more center stage role should tensions flare up on a more protracted scale.					
External Macro Financial Risks	Disorderly BREXIT	Although <i>Brexit</i> can create, both, opportunities and threats for small economies such as Mauritius, uncertain economic prospects in UK economy, following materialization of prolonged uncertainties, may affect industries that export to the UK.					
Exte	Protracted slowdown in Europe (excluding Britain)	Export oriented industries may experience difficulties in repaying their debt vis-à-vis banks in case their earnings take a hit. This risk is low and manageable.					
al Risks	Slower Domestic Growth	The current and projected short-term growth rate for Mauritius should not be a source of worry for financial stability. However, if headwinds appear and downside risks materialize, financial conditions of economic sectors that are dependent on domestic prospects and which have borrowed locally (e.g., Small and Medium Enterprises) may take a hit and impact on banks.					
Domestic Macro-Financial Risks	Shocks in Financial Services Sector post Indo-Mauritius DTAA	Banks in Mauritius derive an important source of their funding from the Global Business sector. They are subject to sound system of regulation and supervision (e.g., Basel III LCR requirements). They have so far remained largely resilient to changes in the DTAA regime. Various liquidity stress tests that have been conducted confirm their resilience to plausible liquidity runoffs. This risk is viewed as manageable.					
Do	Idiosyncratic sectoral difficulties (e.g. Manufacturing, Textile, Sugar, Tourism)	Linked to domestic economic growth prospects and to developments taking place in the main markets for exports, as well as to productivity challenges and cost escalation. Based on the relative importance of these sectors in banks' loan portfolio, this risk appears to be contained but should nonetheless be duly monitored.					



3.Debt Indicators of Households and Corporates¹

Banks' total credit exposures to households and corporates, including facilities extended to the GBC sector, constituted about 30 per cent of their total assets and about 81 per cent of GDP as at end-December 2018. During 2018H2, credit facilities granted to households and corporates have continued to increase in 2018H1. Credit followina expansion expansion was backed by business optimism and consumer confidence and sustained expansion in economic activity. In addition, the Loan-to-Value (LTV) ratio, which was relaxed from 90 per cent to 100 per cent for first time homebuyers in July 2017, was repealed in July 2018. Banks may henceforth establish their own internal LTV limits for residential and commercial property loans based on their risk appetite as an integral part of their credit risk management policy.

Bank credit to the private sector (excluding GBCs) grew by 7.5 per cent y-o-y in December 2018, down from 9.0 per cent in June 2018 and 8.0 per cent in December 2017, as illustrated in Chart 3.1. Bank credit to the private sector increased, albeit at a slower pace, compared to 2018H1, and largely due to the carving out of the portfolio of non-performing advances at a bank that were negatively impacting on that bank's outstanding stock of credit. Growth of credit extended by banks to households increased marginally from 7.9 per cent in June 2018 to 8.0 per cent in December 2018, while credit extended to corporates fell from 9.5 per cent to 7.4 per cent over this period.



Source: Bank of Mauritius

Note: Credit extended to corporates include Public Nonfinancial Corporations.

Chart 3.2: Y-o-y Growth of Credit to Households



Source: Bank of Mauritius

Reflecting the increase in credit facilities availed, total private sector credit² as a ratio to GDP went up from 67.2 per cent as at end-June 2018 to 68.8 per cent as at end-December 2018. Household credit-to-GDP ratio rose to 20.9 per cent as at end-December 2018, from 20.6 per cent in June 2018, while corporate

¹ Analysis in this chapter is based on data as reported by banks, unless stated otherwise.

² Exclusive of facilities extended to the GBC sector.



credit-to-GDP ratio went up from 46.6 per cent to 47.9 per cent over the same period. Household credit accounted for 30.4 per cent of total private sector credit as at end-December 2018, compared to 30.7 per cent in June 2018. The share of corporate credit in total credit extended by banks to the private sector rose marginally to 69.6 per cent as at end-December 2018, from 69.3 per cent as at end-June 2018.

3.1 Households

Growth of bank credit to households ticked up by 8.0 per cent as at end-December 2018 compared to 7.9 per cent as at end-June 2018, supported by increases in both housing credit and credit granted to households for other purposes³, as illustrated in Chart 3.2. Household indebtedness continued to be positively influenced by the low interest rate environment during the period under review. Whilst the share of housing credit in total household credit declined from 67.4 per cent in June 2018 to 65.3 per cent in December 2018, the share of credit availed of by households for other purposes went up from 32.6 per cent to 34.7 per cent over this period. Credit extended by banks for housing purposes grew by 4.9 per cent y-o-y as at end-December 2018, compared to 9.0 per cent as at end-June 2018. Y-o-y growth in credit to households for purposes other than housing, went up from 5.7 per cent as at end-June 2018 to 14.3 per cent as at end-December 2018.

Households in Mauritius borrow mainly in the domestic currency. Foreign exchange risk that may arise from banks' foreign currency exposure to households is therefore limited. The share of rupee credit in total



Source: Bank of Mauritius



Source: Bank of Mauritius

household credit increased slightly, from 96.1 per cent in June 2018 to 97.6 per cent in December 2018, as illustrated in Chart 3.3.

The household sector does not rely much on short-term financing, as overdraft facilities granted to households account for about less than 5 per cent of total household credit. As at end-December 2018, overdraft facilities represented 3.7 per cent of total household debt compared to 4.7 per cent as at end-June 2018.

Chart 3.4 illustrates that indebtedness of households, as measured by the ratio of bank credit to households to GDP, edged up to 20.9 per cent as at end-December 2018, from

purposes (working capital and longer-term funds for proprietorships, purchase of equity, purchase of other financial assets) and other unspecified purposes.

³ Credit extended to households for other purposes include purchase of other consumer durable goods, purchase of land, purchase of motor vehicles, education purposes, medical purposes, investment



20.6 per cent as at end-June 2018, but did not warrant any cause for concern. This increase was led by a higher expansion in household credit relative to GDP, and was congruent with higher consumer confidence while domestic economic conditions remained benign. When household debt from banks, NBDTIs, insurance and leasing companies are aggregated, the measure of household indebtedness increased to 34.3 per cent as at end-December 2018, from 33.9 per cent as at end-June 2018.

Chart 3.5 illustrates that the debt service ratio measured as the ratio of household debt service cost to GDP – ticked up during the period under review, reflecting higher debt service cost as households accumulated higher debt. The increase in nominal GDP was dwarfed by the higher debt service cost which resulted in a slightly higher household debt service-to-GDP ratio, estimated at 6.5 per cent as at end-December 2018 compared to 6.4 per cent as at end-June 2018. While average interest rates on credit for other purposes was a tad higher, those on housing credit remained on a general downward trend.

3.1.1 Household Credit-to-GDP Gap

The higher household credit-to-GDP ratio resulted from higher credit facilities availed of relative to the increase in GDP. This was reflected in the household credit-to-GDP gap⁴ which moved into positive territory as from 2018Q2, as illustrated in Chart 3.6. Positive credit-to-GDP gaps in housing credit and household credit other than housing (other purposes), jointly resulted in a positive household credit-to-GDP gap estimated at 0.1 as at end-June 2018. The credit-to-GDP gap increased further to 0.4 per cent as at end-December 2018 as a result of further expansion in household credit.



Source: Bank of Mauritius



Chart 3.6: Household Credit-to-GDP Gap





and an estimate of its trend using the Hodrick-Prescott filter.

⁴ The credit-to-GDP gap is estimated as the percentage deviation between the credit-to-GDP ratio

3.2 Corporates

The performance of corporates in Mauritius has an important bearing on financial stability and on the domestic economy. Exposure of banks to domestic corporates accounts for around 70 per cent of total private sector credit and 17 per cent of their total assets. Gross Operating Surplus (GOS), which may be used as a proxy for the value added provided by incorporated enterprises' operating activities after deducting for labour input costs, appear to corroborate with nominal GDP growth. Chart 3.7 illustrates that, in 2018, growth of GOS is estimated to have increased by 6.1 per cent following growth of 4.0 per cent in 2017. The improvement in the growth of GOS reflects higher economic activity going forward, in addition to higher internal sources of investment.

Profit after tax of selected companies on the domestic stock market increased by 6.7 per cent, to Rs24,882 million for the year ended September 2018, from 23,225 million across the same period of 2017, as illustrated in Chart 3.8. The rise in profits was mainly attributed to the positive performances of companies listed on both the Official Market and the Development and Enterprise Market (DEM). On a sector-wise basis, improved performance of operators within the 'Tourism', 'Manufacturing', 'Traders' and 'Finance and Business Services' sectors contributed to the increase in profits which dwarfed the mitigated performance of operators in the 'Sugar-linked' and 'Transport' sectors. The tourism sector exhibited much dynamism in 2018, as most hotels registered increases in profits.

Total corporate debt was higher by 6.5 per cent compared to end-June 2018, driven by increases in both domestic and external debt of corporates, which went up by 5.3 per cent and 24.5 per cent, respectively. The increase in external debt was largely on account of higher





Sources: Stock Exchange of Mauritius and Bank of Mauritius staff estimates.





e: estimate.

Sources: Statistics Mauritius and Bank of Mauritius. Note: Data on the sector-wise distribution of credit as from October 2018 is based on a new reporting template as per the United Nations International Standard Industrial Classification (ISIC) of all economic activities and thus may not be strictly comparable.



long-term external borrowings. The corporate debt-to-GDP ratio was higher at 53.0 per cent as at end-December 2018 compared to 49.8 per cent as at end-June 2018.

Domestic debt of corporates accounted for

around 92.4 per cent of total corporate debt as at end-December 2018. As a ratio to GDP, it stood at 49.0 per cent as at end-December 2018 compared to 46.6 per cent as at end-June 2018. External debt of corporates, which accounted for around 7.6 per cent of total

Table 3.1: Domestic and External Corporate Debt

	2014	2015	2016	2017	2018			
					Q1	Q2	Q3	Q4*
				Rs M	illion			
Total Corporate Debt	225,729	233,191	214,086	229,738	230,517	234,515	245,320	249,804
Corporate External Debt	31,638	31,598	15,864	14,742	14,842	15,228	18,999	18,965
Short Term ^a	4,269	4,733	5,568	5,596	5,604	5,611	5,776	5,783
Long Term ^b Corporate	27,369	26,865	10,297	9,146	9,239	9,617	13,223	13,182
Domestic Debt [‡]	194,091	201,593	198,222	214,995	215,675	219,287	226,321	230,839
			Per o	ent of total	l corporate	debt		
Total Corporate Debt	100	100	100	100	100	100	100	100
Corporate External Debt	14.0	13.6	7.4	6.4	6.4	6.5	7.7	7.6
Short Term ^a	1.9	2.0	2.6	2.4	2.4	2.4	2.4	2.3
Long Term ^b Corporate	12.1	11.5	4.8	4.0	4.0	4.1	5.4	5.3
Domestic Debt [‡]	86.0	86.4	92.6	93.6	93.6	93.5	92.3	92.4
	-			Per cent	t of GDP			-
Total Corporate Debt	57.6	56.9	49.2	50.2	49.7	49.8	52.1	53.0
Corporate External Debt	8.1	7.7	3.6	3.2	3.2	3.2	4.0	4.0
Short Term ^a	1.1	1.2	1.3	1.2	1.2	1.2	1.2	1.2
Long Term ^b Corporate	7.0	6.6	2.4	2.0	2.0	2.0	2.8	2.8
Domestic Debt [‡]	49.5	49.2	45.6	47.0	46.5	46.6	48.1	49.0

* Provisional.

^{*†*} Culled from banks' sector-wise distribution of credit.

^{*a*}. Refers mainly to trade credit as recorded in balance of payments statistics.

^b. Excluding loans of Global Business Companies.

Sources: Mauritius SDDS country page and Bank of Mauritius.



Domestic debt of corporates grew by 7.4 per cent as at end-December 2018 and was driven by credit to operators in almost all key sectors of the economy including construction, tourism, distributive trade, manufacturing as well as financial and business services. With buoyant construction activity, the share of the construction sector in GDP has increased but its share in credit has remained rather unchanged. Chart 3.9 illustrates that, in 2018, the construction sector was estimated to have accounted for 4.6 per cent of GDP, while operators in the sector availed of credit facilities which represented 6.8 per cent of total private sector credit. As regard the tourism sector, though it still accounted for the highest share in total private sector credit as at end-December 2018, its share in credit has dwindled over the past years, reflecting deleveraging from bank credit by operators in the sector. Nevertheless, sustained growth of tourism activities has resulted in a higher share of the sector in GDP which stood at 8.6 per cent in 2018. This contrasts with the share of GDP represented by operators in the manufacturing sector which has declined over the years but this decline was not fully reflected in their share in total private sector credit.

With the improvement in credit extended by banks to operators of the private sector in Mauritius, the credit-to-GDP gap has improved and moved into positive territory in 2018Q2. Private sector credit-to-GDP gap has continued to increase in 2018H2 and was estimated at 2.60 per cent in December 2018. The higher creditto-GDP gap points to higher leveraged corporates and may point to the building up of vulnerabilities, the more so, as some large corporates have had recourse to the capital market to raise funds.

On a sector-wise basis, Chart 3.10 illustrates that the credit-to-GDP gap was estimated to be positive in the construction and tourism sectors but were in negative territory in key sectors like manufacturing, agriculture and fishing sectors and distributive trade sectors. In the construction sector, the credit-to-GDP fell to 0.2 per cent as at end-December 2018, from 0.3 per cent as at end-June 2018. In the tourism sector, the credit-to-GDP gap was estimated to have improved to 0.2 per cent, from 0.1 per cent. However, in the distributive trade sector, the credit-to-gap dipped to -1.3 per cent as at end-December 2018, from positive 0.1 per cent as at end-June 2018. As regard the manufacturing sector, the credit-to-GDP gap fell to around -0.2 per cent, from -0.3 per cent in 2018Q1. The agriculture and fishing sector also recorded negative credit-to-GDP gap, estimated at 0.7 per cent as at end-December 2018 compared to -0.1 per cent as at end-June 2018.



Chart 3.10: Credit-to-GDP gap





Tourism









Source: Bank of Mauritius

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Note: Data on the sector-wise distribution of credit as from October 2018 is based on a new reporting template as per the United Nations International Standard Industrial Classification (ISIC) of all economic activities and thus may not be strictly comparable.

Per cent



4. Financial Market Development

4.1 Excess Liquidity and Yield Curve

The banking sector remained liquid with an average cash ratio of 11.9 per cent for the period July to December 2018, up from 11.2 per cent registered in the first semester of 2018, which was above the regulatory cash reserve requirement of 9 per cent and LCR requirement.

The BOM stepped up its efforts to keep the excess reserves in the banking system to a level consistent with the Key Repo Rate (KRR) and pursued Open Market Operations (OMOs) throughout 2018. The BOM issued its own securities both at the shorter end of the yield curve to absorb excess liquidity stemming mainly from maturing securities and issued medium term securities to remove the structural excess rupee in the banking system. In addition, the BOM conducted sterilized foreign exchange interventions to limit the injection of rupee into the system by way of special deposits placed for a period of one year. As at close of business on 31 December 2018, total outstanding amount of instruments issued for liquidity management purposes attained Rs95 billion, of which Rs48.6 billion were securities maturing within one year.

The maturity of BoM outstanding instruments continue to shorten, with instruments of less than one year representing more than 51 per cent of the total outstanding debt.

In line with its Operational Framework, the BOM's OMOs positively impacted on short term yields which resulted in the 91-Day yield and the overnight interbank rate moving within the interest rate corridor as from March 2018, as illustrated in Chart 4.1.

The increase in yields boosted demand for













Source: Bank of Mauritius



fixed income securities. Secondary market trading in Government/ BoM securities totaled Rs42.6 billion for period July to December 2018. The implementation of an electronic trading platform, the E-Bond enhanced price discovery for market participants and provided the bank with an efficient market surveillance tool with close to real time data.

4.2 Exchange Rate Developments

The rupee remained influenced by movements of major currencies on the international markets and by the forces of domestic demand and supply. There was an appreciation of the domestic nominal effective exchange rate on the back of continuous foreign currency (FX) inflows. Globally, the currencies of major trading partners, including the euro, the Indian rupee and the yuan, registered setbacks. On a point-to-point weighted average dealt rate basis, the rupee appreciated against the euro and the Pound sterling between July 2018 and December 2018.

There was also a slight appreciation against the US dollar. Similarly, the currency-weighted nominal exchange rate (MERI1) showed some signs of strengthening in recent months as illustrated in Chart 4.2. The BOM will continue to monitor risks emanating from global economic and financial developments and strive to ensure that the rupee correctly reflects macroeconomic fundamentals.

4.3 Domestic Stock Market Developments

The early gains in the year 2018, when the SEMDEX reached an all-time high of 2,308 did not last, as illustrated in Chart 4.3. Following the global pattern, the index lost some ground albeit not as significantly as other indices. While emerging stock markets particularly suffered in light of flight to quality, the SEMDEX



Chart 4.4: Investment by Non-residents on the SEM and DEM

Source: Bank of Mauritius



Chart 4.5: Monthly Foreign Exchange Turnover

Source: Bank of Mauritius

proved fairly resilient. Contrary to most world indices, the domestic index accrued a positive yearly return and finished the year at 2,234. The SEM-10, comprising the 10 most capitalised stocks on the Official Market, closely tracked the movements of the SEMDEX.

Net sales by non-residents amounted to Rs1,398 million for period ended December 2018, as illustrated in Chart 4.4. Earlier during the year, there were net purchases from foreigners.



Purchases and sales of foreign currencies against the rupee by banks with their customers were higher in 2018 than in 2017. The market appears to be thriving as there was no evidence of a slowdown in foreign currency flows from customers. In fact, for the months from June to December 2018, there was an increase of 11 per cent in total turnover as compared to 2017. On a monthly basis, the highest turnover was recorded in December 2018, representing an increase of almost 20 per cent from the same period in the previous year, as illustrated in Chart 4.5.

Chart 4.6 illustrates that, in 2018, the turnover in the Wholesale, Manufacturing and Accommodation sectors increased by 9, 10 and 2 per cent, respectively, relative to the same period in the previous year. Turnover in the Financial and Personal sectors decreased by 3 and 5 per cent respectively.

Chart 4.6: Percentage turnover by sector



Source: Bank of Mauritius



5.Deposit-Taking Financial Institutions

The financial sector in Mauritius comprises mainly banks which hold around 80 per cent of total financial sector assets. As at end-December 2018, 20 banks were licensed to carry out banking business in Mauritius, of which 9 were local banks, 8 were foreignowned subsidiaries and 3 were branches of foreign banks. The banking sector plays a significant role in the economy and as at end-December 2018, its total assets represented around 277.8 per cent of GDP down from 324.8 per cent of GDP as at end December 2017. The banking landscape is, however, relatively concentrated with the two largest banks accounting for over 40 per cent of market shares for total deposits, advances and assets.

As at end-December 2018, NBDTIs, comprising leasing companies and finance companies, held assets equivalent to 16.3 per cent of GDP.

5.1. Banking Sector Overview

Total assets of the banking sector grew by 0.5 per cent from Rs1,340.4 million as at end-June 2018 to Rs1,347.8 million as at end-December 2018 as illustrated in Chart 5.1. The growth in banks' assets reflected mostly an increase of 4.2 per cent and 23.0 per cent in total assets of domestic-owned banks and branches of foreign owned banks, respectively, while the total assets of subsidiaries of foreignowned banks contracted by 6.7 per cent over the same period. It is to be highlighted that Deutsche Bank (Mauritius) Limited surrendered its banking licence in December 2018.

Over the half year ended December 2018, domestic-owned banks and branches of foreign owned banks contributed 2.4 per cent and 0.8 per cent, respectively, to the growth in assets that was partly offset by the contraction of 2.6 per cent in assets held by subsidiaries



of foreign-owned banks. An analysis of the distribution of total bank assets, as at end-December 2018, showed that local banks held the largest share of assets, which stood at 59.6 per cent up from 57.5 per cent as at end-June 2018, followed by subsidiaries of foreign-owned banks which held 36.3 per cent down as at end-December 2018 from 39.2 per cent as at end-June 2018. Branches of foreign-owned banks held the remaining 4.1 per cent of total banking assets, as at end-December 2018, up from 3.3 per cent as at end-June 2018.

Domestic assets, over the period end-June 2018 to end-December 2018, contracted by 0.4 per cent, with a decline of 2.7 per cent recorded for subsidiaries of foreign owned banks against growths of 0.1 per cent and 1.8 per cent registered in domestic assets held by local banks and branches of foreign owned banks respectively. Overall foreign assets rose by 1.5 per cent with growth of 13.1 per cent and 73.4 per cent recorded in foreign assets held by local banks and branches and branches of foreign assets held by local banks and branches of foreign assets held by local banks and branches of foreign assets held by local banks and branches of foreign assets held by local banks and branches of foreign owned banks respectively. This expansion was partly outweighed by a contraction of



8.1 per cent in foreign assets held by subsidiaries of foreign-owned banks.

The uptrend in foreign assets held by domestic banks is mainly explained by an expansion in cross-border exposures while the growth in domestic assets is partly due to increases in advances granted to the private sector as per Table 5.1. The significant increase in foreign assets held by branches of foreign banks is mainly due to an increase in placements made abroad by one bank

5.1.1 Market Concentration

Measures of market concentration namely the Herfindahl-Hirschman Index (HHI) for total banking assets indicated an increase from 1,358 as at end-June 2018 to 1,387 as at end-December 2018 and a corresponding rise from 1,440 to 1,471 for total deposits over the same period, reflecting a modest concentrated market structure.

	Growth rates of assets (per cent)							Assets (contribution to asset growth) (per cent)				
				I.	Foreig	n a	assets					
	Dec- 15	Dec- 16	Dec- 17	Jun- 18	Dec- 18			Dec- 15	Dec- 16	Dec- 17	Jun- 18	Dec- 18
Domestic							Domestic					
banks	32.1	15.2	20.6	2.3	13.1		banks	3.6	2.2	3.3	0.4	2.4
Subsidiary	-8	-3.8	-12.5	2.0	(8.1)		Subsidiary	-3.5	-1.5	-4.5	0.6	(2.4)
Branch	-13.2	-30.4	-21.6	18.8	73.4		Branch	-0.3	-0.5	-0.2	0.1	0.7
Total	-0.2	0.4	-2.7	2.4	1.5		Total	-0.1	0.2	-1.4	1.2	0.7
				II.	Domes	tic	tic assets					
	Dec- 15	Dec- 16	Dec- 17	Jun- 18	Dec- 18			Dec- 15	Dec- 16	Dec- 17	Jun- 18	Dec- 18
Domestic							Domestic					
banks	9.1	9.9	13.1	7.4	0.1		banks	2.9	3.3	4.6	2.8	0.0
Subsidiary	5.2	6.6	10.7	(2.4)	(2.7)		Subsidiary	0.5	0.6	1	(0.2)	(0.3)
Branch	6.4	-0.4	8.7	(8.5)	1.8		Branch	0.2	0	0.2	(0.2)	0.0
Total	8.1	8.6	12.3	4.6	(0.4)		Total	3.5	3.9	5.8	2.3	(0.2)
				I	II. Tota	l as	ssets					
	Dec-	Dec-	Dec-	Jun-	Dec-			Dec-	Dec-	Dec-	Jun-	Dec-
	15	16	17	18	18			15	16	17	18	18
Domestic							Domestic					
banks	15.2	11.5	15.4	5.7	4.2		banks	6.5	5.5	7.9	3.2	2.4
Subsidiary	-5.7	-1.7	-7.6	0.9	(6.7)		Subsidiary	-3	-0.9	-3.5	0.4	(2.6)
Branch	-2.2	-12.1	-0.6	(1.8)	23.0		Branch	-0.1	-0.5	0	(0.1)	0.8
Total	3.4	4.1	4.4	3.5	0.5		Total	3.4	4.1	4.4	3.5	0.5

Table 5.1: Banks' Assets, 2015-2018

Source: Bank of Mauritius.

Note: Totals may not add up due to rounding off.



Indeed, the share of total assets held by the four largest banks rose from 55 per cent as at end-December 2013 to 61 per cent as at end-December 2018, due in part to the exit of one subsidiary of foreign-owned bank. Furthermore, the assets of two D-SIBs nearly doubled since 2013 whilst the assets of another D-SIB has more than tripled.

5.1.2 Capital Adequacy

Banks are phasing in the Basel III capital framework incorporating CCB ranging from 0.625 per cent to 2.5 per cent over a four-year period beginning January 2017 and D-SIB charges which are being phased in from 2016 to 2019. Accordingly, banks have been required to keep a minimum CCB of 1.25 per cent as at end- December 2018 over and above the minimum 6.5 per cent Common Equity Tier 1 (CET1) capital ratio in order to ensure the buildup of capital buffers outside periods of stress. The five D-SIBs were required to hold, as at end-December 2018, over and above the CCB, an additional capital surcharge ranging from 0.75 per cent to 1.875 per cent of their risk-weighted assets depending on their systemic importance. The level of capital maintained by banks in Mauritius as at end-December 2018 remained comfortably above the current regulatory minimum of 11.25 per cent, inclusive of CCB, and above the imposed capital surcharge in case of the five D-SIBs.

The CAR for the banking sector in Mauritius increased from 17.2 per cent as at end-June 2018 to 18.2 per cent as at end-December 2018. The capital base of the banking sector has followed an upward trend and increased by 5.0 per cent over the six-month period as at end-December 2018 to reach Rs140.2 billion. CET1 Ratio which is indicative of the strength of banks' capital was at 16.1 per cent as end-December 2018, up from 15.2 per cent recorded as at-June 2018. As at end-December

Chart 5.2 CET1 Ratio



Source: Bank of Mauritius

2018, branches of foreign-owned banks posted the highest CET1 ratio at 20.4 per cent which was higher than the ratio of 18.9 registered by the subsidiaries, while the CET1 capital ratio for domestic-owned banks stood at a lower level of 14.4 per cent.

5.1.3 Asset Quality

As at end- December 2018, gross NPL in the banking sector stood at Rs35.1 billion down from Rs37.7 billion as at end-June 2018. Prior to carving out of distressed assets out of NPL for one bank, the gross NPL ratio which is measured as gross non-performing loans to total outstanding credit facilities stood at 6.5 per cent as at end-June 2018 and post the carving out exercise, the gross NPL improved from 5.5 per cent as at end-June 2018 to 4.9 per cent as at end-December 2018.

An improvement was observed in the NPL ratio for credit extended within Mauritius from 5.6 per cent as at end-June 2018 to 4.6 per cent as at end-December 2018, as well as in the NPL ratio for credit extended outside Mauritius from 5.4 per cent as at end-June 2018 to 5.2 per cent as at end-December 2018.



The NPL ratio in the construction sector slightly picked up from 11.1 per cent as at end-June 2018 to 11.4 per cent as at end-December 2018. Improvement was observed in the accommodation and food services activities sector with the NPL ratio moving from 5.4 per cent as at end-June 2018 to 0.9 per cent as at end-December 2018. The GBC Sector witnessed a recovery in its NPL ratio from 3.4 per cent as at end-June 2018 to 2.7 per cent as at end-December 2018.

5.1.4 Coverage Ratio

Prior to carving out of bad assets for one bank, the coverage ratio, which is measured as the ratio of specific provisions to gross NPL, stood at 56.4 per cent as at end-June 2018 and post the carving out exercise, it improved to 59.7 per cent as at end-June 2018 and subsequently increased to 60.8 per cent as at end-December 2018. The coverage ratio for credit granted in Mauritius rose from 46.1 per cent as at end-June 2018 to 50.9 per cent as at end-December 2018 whilst that for cross-border credit declined from 74.1 per cent to 70.7 per cent over the same period. This level of coverage ratio indicated that the banking sector had a buffer against future expected losses.

5.1.5 Profitability

Profitability of the overall banking sector improved during the year ended December 2018 as reflected by the higher pre-tax ROA realised by the banks. From June 2018 to December 2018, the pre-tax ROA increased marginally from 1.5 per cent to 1.6 per cent. In contrast, there was a drop in the post-tax ROE over the period from 13.2 per cent to 11.7 per cent on account of a significant increase in the level of equity of banks. In the same vein, the cost to income ratio of the banking sector improved from 42.8 per cent to 40.2 per cent.

5.1.6 Banks' Liquidity and Foreign Exchange Open Positions

Overall, the banking sector in Mauritius has remained liquid over the period June to December 2018. The LCR for the banking sector as at end-December 2018 stood at 185.1 per cent. In general, the LCR of banks for both Mauritian rupees and other major currencies stayed above the regulatory requirements.

Banks are required to maintain a daily overall foreign exchange exposure limit of 15 per cent of their tier 1 Capital. The overall net foreign exchange exposure limit stood at 2.4 per cent as at end-December 2018, representing a decrease of 1.0 percentage point compared to end-June 2018 and is mainly explained by a decrease in the aggregate net foreign exchange position coupled with an increase in Tier 1 capital of the banking sector.

Based on the balance sheets of banks, the banking sector remained well funded and liquid with fairly low currency mismatches and banks appear to be resilient against both liquidity risk and foreign exchange stresses.

5.1.7 Concentration of Credit

Table 5.2 illustrates that the ratio of large exposures (over 10 per cent) to Tier 1 capital stood at 281.7 per cent and 310.7 per cent as at end-June 2018 and end-December 2018, respectively.

The ratio showed an increasing trend up to end-September 2018 when it peaked at 313.2 per cent on account of an increase in large credit exposures posted for one of the D-SIBs and subsequently decreased to 310.7 per cent as at end-December 2018. The ratio of aggregate exposures to total credit followed a similar path, increasing from 42.5 per cent as at end-June 2018 to 47.2 per cent as at end-



September 2018 and decreasing to 46.2 per cent as at end-December 2018.

The credit concentration ratio, however, remained below the regulatory limit.

5.2. Non-Bank Deposit Taking Sector

There were eight NBDTIs in operation as at end-December 2018. The main activity of NBDTIs relates to the mobilisation of deposits from the public and the granting of leasing and loan facilities to individuals and corporates.

5.2.1 Capital Adequacy

The NBDT sector was assessed as sound and adequately capitalized during the period under review. The aggregate CAR of NBDTIs stood at 33.6 per cent as at end- December 2018 compared to 30.9 per cent as at end June 2018. With the current level of capitalization, NBDTIs continue to have robust capital adequacy position.

5.2.2 Assets and liabilities

The ratio of total assets of NBDTIs to total assets of the banking sector increased by 0.1 percentage point from end-June 2018 to reach 5.9 per cent as at end-December 2018. There was a steady contraction in the year on year growth rate of total assets of NBDTIs which decreased further from 1.6 per cent as at end-December 2018 to zero per cent as at end-December 2018.

Compared to a growth rate of 0.6 per cent as at end- June 2018, deposits mobilised by NBDTIs as at end-December 2018 contracted, on a y-o-y basis, by 0.2 per cent as at end-December 2018 as illustrated in Chart 5.3. Loan and leasing facilities as a percentage of total assets of NBDTIs increased from 79.2 per cent as at end-June 2018 to 79.5 per cent as at end-December 2018. Correspondingly, total deposits as a ratio of total assets increased from 60.0 per cent as at end- June 2018 to 60.3 per cent as at end-December 2018.

	Percentage of aggregate large exposures to capital base/ tier 1 capital	Percentage of aggregate large exposures to total credit facilities
Dec-16	175.2	29.6
Mar-17	164.3	27.9
Jun-17	150.0	26.4
Sep-17	173.5	29.5
Dec-17 ⁱ	274.0	41.7
Mar-18 ⁱ	279.3	42.0
Jun-18 ⁱ	281.7	42.5
Sep-18 ⁱ	313.2	47.2
Dec-18 ⁱ	310.7	46.2

Table 5.2: Credit Concentration Risk

ⁱ In December 2017, the definition of large exposures was revised from "sum of all exposures to a customer or a group of closely- related customer which are over 15 per cent of the financial institution's capital base" to "sum of all exposures to a customer or a group of connected counterparties which is over 10 per cent of the financial institution's Tier 1 capital"

Source: Bank of Mauritius

5.2.3 Profitability

The consolidated profitability figures for NBDTIs are based on the audited results for the financial years ended March, June, September and December. NDBTIs' aggregate annualized profit after tax fell slightly by 2.3 per cent from Rs400 million for the year ended June 2018 to Rs391 million for the year ended December 2018. The pre-tax return on average assets declined marginally from 3.1 per cent for the year ended June 2018 to 3.0 per cent for the year ended December 2018. Similarly, the posttax return on equity declined from 2.6 per cent for the year ended June 2018 to 2.4 per cent for the year ended December 2018.

5.2.4 Liquidity

During the second semester ended December 2018, NBDTIs experienced a contraction in liquid assets as well as total assets and an increase in short term liabilities. This resulted in the deteriorating liquidity positions of NBDTIs. However, they maintained liquidity ratios above the statutory minimum of 10 per cent during the period under review. The ratio of liquid assets to total deposits stood at 22.6 per cent as at end-December 2018 compared to 24.9 per cent as at end-June 2018.

5.3 Banking Sector Stability Indicator

As the five risk indicators move farther from the center (approach a score of 1), the composite measure of riskiness increases. Box 1 provides the derivation process of the Indicator. Charts 5.4 and 5.5 indicate that almost all key risk indicators showed an improvement in 2018Q4.







Source: Bank of Mauritius

Note: Liquidity ratios utilized in the Banking Sector Stability Indicator derivation may not match to other sections in the report.

5.4 Financial Soundness Indicator⁵

The deposit-taking institutions⁶ remained buttressed by strong capital positions with an increase in CAR from 18.0 per cent as at end-June 2018 to 19.0 per cent as at end-December 2018. Accordingly, this improvement reflected an increase of 4.6 per cent in Tier 1 capital, against a 1.4 per cent decline in Total Risk-Weighted Assets held in the banking sector's portfolio.

Asset quality had significantly improved during the 2018H2, with the gross NPL ratio hovering around 5.1 per cent as at end-December 2018, compared to 6.8 per cent which prevailed at end- June 2018. The NPL ratio improved following a significant write-off of impaired loans made by a domestic bank.

Profitability ratios of the banking sector showed a healthy improvement during the year. The pre-tax ROA and pre-tax ROE recorded an improvement of 0.2 percentage point and 1.4 percentage point respectively over 2018H2, and stood at 1.7 per cent and 16.1 per cent respectively as at end-December 2018. This was mainly as a consequence of an increase in Interest Margin from 71.5 per cent (end-June 2018) to 72.7 per cent (end-December 2018), which was sliahtly dampened by a rise of 1.4 percentage point in the Noninterest expenses ratio, which stood at 41.9 per cent as at end-December 2018, compared to end-June 2018.

As for the Liquidity in the system, a slight contraction was noted in currency and deposits held over 2018H2. Based on IMF's FSI compilation guide definition, Liquid assets as a





Source: Bank of Mauritius Note: LCR has been adopted since November 2017.

ratio of Total asset fell by 2.85 percentage points whilst Liquid assets as a ratio of Short-Term Liabilities fell by 3.27 percentage points over 2018H2, and stood at 22.5 and 25.5 as at end-December 2018, respectively.

Chart 5.6 illustrates the position of the key Financial Soundness Indicators over the quarters from 2017Q4 to 2018Q4. The indicators have been grouped in 5 distinct categories and each color coded line indicate the position of these indicators over the quarters under review.

⁵ FSIs are calculated on a domestic consolidation basis using the Financial Soundness Indicators Compilation Guide (2006) of the International Monetary Fund. Figures in this section may not match those provided in other sections.

⁶ These comprise 20 banks and 8 non-bank deposit taking institutions, and are all regulated by the Bank of Mauritius.



								Per cent
Core Set of Financial Soundness Indicators	Dec- 14	Dec- 15	Dec- 16	Dec- 17	Mar- 18	Jun- 18	Sep- 18	Dec-18
Capital-based								
Regulatory capital to risk-								
weighted assets	17.1	18.4	18.2	18.6	18.6	18.0	18.3	19.0
Regulatory Tier 1 capital to risk-	1 - 1	17.0	107	17.0	17.0	107	10.0	177
weighted assets Non-performing loans net of	15.1	17.0	16.7	17.3	17.2	16.7	16.9	17.7
provisions to capital	16.4	19.1	18.7	16.6	15.6	14.3	13.2	10.4
	10.4	13.1	10.7	10.0	15.0	14.5	13.2	10.4
Asset Quality								
Non-performing loans to total								
gross loans ³	4.9	7.2	7.7	7.0	7.2	6.8	6.3	5.5
Sectoral distribution of loans to								
total loans ³								
Interbank loans	0.3	0.1	0.4	1.6	1.8	2.4	3.9	2.9
Central bank	-	-	-	-	-	-	-	-
General Government	-	-	-	-	-	-	-	-
Other financial corporations	1.5	1.4	2.3	3.8	3.9	3.9	4.3	10.9
Non-financial corporations	33.6	36.7	35.6	33.1	33.0	33.3	36.5	26.7
Other domestic sectors	19.2	20.9	22.0	21.8	21.9	21.8	24.0	22.0
Non-residents	45.4	40.6	39.5	39.7	39.3	38.6	42.3	37.3
Earnings and Profitability								
Return on assets	1.4	1.2	1.4	1.6	1.5	1.5	1.6	1.7
Return on equity	15.2	12.0	13.9	16.0	14.9	14.6	15.6	16.0
Interest margin to gross income	48.9	68.5	71.5	69.6	66.9	71.5	71.3	72.7
Non-interest expenses to gross								
income	36.8	44.2	45.8	42.9	41.1	40.5	41.5	41.9
Liquidity								
Liquidity	7/1	27.1	27.0	77 1	1 2 1		21 <i>C</i>	י בי ב
Liquid assets to total assets Liquid assets to short-term	24.1	21.1	27.8	22.1	23.2	25.4	21.6	22.5
liabilities	30.1	34.4	33.8	28.9	30.0	28.8	24.5	25.5
	50.1				20.0	20.0		
Sensitivity to Market Risk								
Net open position in foreign								
exchange to capital	2.3	3.0	0.1	3.3	4.8	3.00	2.5	2.1



Encouraged Set of Financial Soundness Indicators	Dec- 14	Dec- 15	Dec- 16	Dec- 17	Mar- 18	Jun- 18	Sep- 18	Dec-18
Capital to assets	9.3	10.5	10.6	10.1	10.0	11.6	11.8	11.6
Value of large exposures to capital Customer deposits to total (non-	201.9	184.3	159.7	224.4*	228.3*	235.3*	230.2*	247.2*
interbank) loans Residential real estate loans to	133.2	146.8	149.8	153.4	159.3	155.2	148.3	150.1
total loans ^c Commercial real estate loans to	6.2	9.1	9.4	10.2	10.3	10.3	10.3	10.4
total loans ^c	5.0	5.8	4.6	3.9	4.1	4.4	3.9	4.6
Trading income to total income Personnel expenses to non-	35.4	10.0	9.5	10.2	12.5	8.2	11.5	10.5
interest expenses	40.8	50.5	47.3	49.5	49.3	49.4	46.2	49.9

^a FSIs are calculated on a domestic consolidation basis using the Financial Soundness Indicators Compilation Guide (2006) of the International Monetary Fund.

^bOther Depository Corporations refer to Banks and Non-Bank Deposit-Taking Institutions.

^cTotal gross loans include commercial loans, installment loans, hire-purchase credit, loans to finance trade credit and advances, finance leases, repurchase agreements not classified as a deposit, and overdrafts.

* As from December 2017, the measurement of credit concentration ratio has been revised to aggregate large credit exposure (above 10 per cent of Tier 1 capital) as a percentage of aggregate Tier 1 capital. Based on previous Guideline, the corresponding ratio for large exposures would have been 171.8 per cent, 178.3 per cent and 186.1 per cent for the quarters ended December 2017, March 2018 and June 2018, respectively.

Note: Figures may not add up due to rounding.

Source: Bank of Mauritius

The principle of the chart is that the farther away the indicators are from the center, the better positioned are the depository corporations; except for those indicators, marked with *, which flow in the opposite direction.

Almost all indicators remained quasi-stable over the 2018H2, with the exception to sectoral deposits to "Other Financial corporations" and loans to "Developing Asia, including China".





Core FSIs

Sectoral distribution of loans





Geographical distribution of loans



- 2018Q1

2018Q4

CY loans to total

= 2018Q2

loans

Residential rea

estate loans to

total gross loans

2017Q4

- 2018Q3

Source: Bank of Mauritius



Box 1: Banking Stability Indicator

It has become customary for leading Central Banks worldwide to come up with a composite indicator that subsumes the various segments of banking sector performance that impact on fragility. The composite indicator provides a relative assessment of what the risk drivers are and their relative importance in contributing towards overall fragility. In the case of Mauritius, five key risk indicators have been used to construct the composite indicator, as indicated in Table 5.4. It is customary for a lower value attached to the overall banking stability indicator to be associated with higher stability, and the width of each risk indicator signifies its relative contribution towards the overall measure of risk encapsulated in the composite indicator.

Composite Index		Ratios	
Soundness	CRAR*	Tier I capital to Tier II	Capital to assets*
		capital*	
Asset Quality	Gross NPA to total	Net NPA to total	Net NPA to capital
	advances	advances	
Profitability	Return on Assets*	Net Interest Margin*	Growth in Profit*
Liquidity (case 1)	Liquid Assets to Total	Liquid Assets to Short-	Customer Deposit to
	Assets*	Term Liabilities*	Total Assets*
Liquidity (case 2)		Basel III LCR	Customer Deposit to
			Total Assets*
Efficiency	Cost-To-Income	Staff Expenses to Total	Return on Equity*
		Expense	

Table 5.4: Ratios used for constructing the banking stability map and indicator

Each ratio is normalized using the following formula:

(Ratio at a given quarter – Minimum value in the sample period) (Maximum value in the sample period – Minimum value in the sample period)

It should be noted that all the ratios with a * are negatively related with risk.


6.Stress Testing the Mauritian Banking System

The BOM has recently beefed up its diagnostic toolkit and has come up with a suite of appropriate stress testing models. These involve the design and implementation of wellcalibrated models using various quantitative techniques for assessing the soundness and resilience of a system to severe but plausible events. The micro model enables sensitivity analysis to be performed, i.e., assessment of how banks fare with shocks administered to their credit portfolios, interest rate, exchange rate and liquidity. The banking sector resilience can also be assessed through design of appropriate plausible scenarios that reflect the realities of the Mauritian economy. The micro approach has been applied to all banks in the Mauritian jurisdiction. The macro model takes a more top-down and looks at macroeconomic factors that are germane to banks' credit portfolios. Under the macro model, 14 banks (representing over 85 per cent of banking sector assets) and nine economic sectors are covered, and the framework which is based on a panel data econometric toolkit assesses how banks' credit exposures to these sectors will evolve following shocks being administered to macroeconomic variables.

In the following sub-sections, scenario analysis results of, both, micro and macro models will be presented first, followed by sensitivity analysis capturing specific risks that are germane to the banking system will follow.

6.1 Scenario Analysis

6.1.1 Solvency Risk

Banks in Mauritius have continued to strengthen their capital position during the period under review. The CAR at system level has followed a positive upward trend during year 2018, standing at 18.2 per cent as at end-December 2018. To assess the resilience of banks to macroeconomic shocks, three scenarios have been built: a historical and two (medium and severe) adverse macroeconomic risk scenarios. The scenarios involved:

- A deterioration in the quality of banks' loan portfolio,
- A drop in interest rates; and;
- A depreciation of the Mauritian rupee.

The historical shock scenario was based on the truncated downward) standard deviations derived from the historical values of each of the aforementioned macroeconomic variables, spanning a period from 2009Q1 to 2018Q4. The medium and severe scenarios were both based on hypothetical shocks. To better reflect the constraints and realities of the Mauritian macroeconomic situation, a Vector Auto-Regression (VAR) model in its various formats, reduced-form, recursive- form and structural form, was executed to provide basis for the statistical relationships between variables. macroeconomic Based on

Stress scenarios	Historical (p.p.)	Medium Shock (p.p.)	Severe Shock (p.p.)
Interest rate	-0.75	-0.9	-1.2
Exchange Rate	-4.17	-5.00	-10.0
NPL Shocks	2	8	11

Table 6.1: Credit risk – Scenarios

these findings, the directions of macroeconomic shocks as applicable to the stress testing exercises under medium and severe scenarios were worked out. The magnitudes of the shocks are all hypothetical.

Table 6.1 provides an overview of the magnitude and direction of shocks that were applied to the framework.

Chart 6.1 provides a synopsis of the outcome on banks' capital adequacy ratio, following the materialization of combined shocks for a given scenario.

As is apparent, notwithstanding the magnitude of the impact, the Mauritian banking sector remained resilient, and a reflection of the improved CAR in recent years. Under the severe stress scenario, the system level CAR would decline from 18.2 per cent to 15.5 per cent, but still comply with regulatory minimum of 11.25 per cent (10 per cent minimum plus phased-in 1.25 per cent capital conservation buffer) for 2018. The impact on individual banks were, however, different.

Chart 6.2 illustrates the impact of the combined macroeconomic shocks on the CET1 ratio under each of the three shock scenarios that were applicable to the CAR. The outcome demonstrated that banks displayed resilience even in the harshest scenario, with a contraction of 2.8 percentage points compared to its actual value. The impact on individual banks though varied.

6.1.2 Macro-based Stress-Testing

The Macro-based Stress-Testing model uses a standard top-down approach which is on par with the ones utilized in some of the major jurisdictions around the world. Coverage is extended to 14 banks over a period running from 2009Q1 till 2018Q4 (projection period: 2019Q1-2020Q4).







Chart 6.2: CET1 ratio (System wide)

Table 6.2: Sectors

	Sectors covered in macro-stress testing exercise	
1	Manufacturing	
2	Construction	
3	Tourism	
4	ICT	
5	Trade	
6	Personal	
7	Agriculture	
8	Financial Services	
9	Transport	

Source: Bank of Mauritius

The model focused on credit extended to Segment A only and to nine domestic sectors as listed in Table 6.2. A run of the model using dynamic panel data-based Generalized Methods of Moments (GMM) approach⁷ showed that the banking system in Mauritius would be resilient, following shocks being administered to interest rates, exchange rate and GDP growth.

Under the stress scenario, the results in Chart 6.3 showed that the system level CAR may decline from 18.2 per cent to 15.1 per cent and 14.5 per cent by December 2019 and 2020 respectively, staying above the regulatory minimum of 11.875 per cent (regulatory limit of 10 per cent and 1.875 per cent phased-in capital conservation buffer) for 2019 and 12.5 per cent (regulatory limit of 10 per cent and 2.5 per cent phased-in capital conservation buffer) for 2020. Under the same shock assumptions, Chart 6.4 illustrates that Tier 1 capital ratio is projected to fall to 14.0 per cent and 13.4 per cent in 2019 and 2020 respectively.

6.2 Sensitivity Analysis

This section discontinues with the analysis of combined macroeconomic scenarios and focuses on each individual shock as a separate item. The micro model has been used. Thus, shocks have been administered to banks' credit portfolios, interest rate, and exchange rate on a standalone basis, and the sensitivity of banks' overall solvency (and liquidity situation, where applicable) to each of these stand-alone shocks, has been duly assessed. Stress tests to banks' credit portfolios include shocks to performing advances (i.e., a certain percentage of performing loans is assumed to migrate to non-performing status), sectoral advances (i.e., shocks are administered to credit quality of specific economic sectors, all of which have highlighted in Table been 6.2), and



Chart 6.3: System level CAR projections

Actual Baseline Medium stress Severe stress

Source: Bank of Mauritius

20



large borrowers (i.e., it is assumed that a given percentage of large borrowers have defaulted on their loans). As for liquidity stress tests, the impact of hypothetical deposit run-offs on banks' overall liquidity situation has been assessed, as well as the LCR of banks under stressed scenarios other than the one prescribed by Basel III LCR requirements.

6.2.1 Credit risk

Sensitivity stress tests have been conducted on the system-wide CAR, CET1 capital ratios as well as on gross NPLs (December 2018 figures).

following the failure of standard panel data Econometric model to account for the so-called 'Nickel Bias'.

⁷ The GMM approach is an advanced Econometric technique which uses panel data and which accounts for, both, endogeneity of regressors and non-stationarity. It developed in popularity worldwide,

Two sets of shocks were studied, namely (a) historical and (b) hypothetical. The hypothetical shocks are provided in Table 6.3.

Under the historical shock scenario, that is assuming 2 per cent of existing performing loans suddenly become impaired, as illustrated in Chart 6.5, shows that the system-level CAR and CET1 remained quite stable compared to their actual values. Under the severe (hypothetical) shock, both the CAR and CET1 contracted by around 2.5 percentage points and stood at 15.8 per cent and 13.6 per cent respectively. NPL moved up from 4.9 per cent to 16.2 per cent.

6.2.2 Sectoral-Credit risk

The sensitivity analysis was further extended to the credit distribution to main sectors of the Mauritian economy to ascertain the sectoral credit risks to the banks in Mauritius. The same set of sensitivity shocks as previously applied to the bank-wide credit was adopted for this exercise.

Chart 6.6 illustrates that Other Construction (net of mortgage) sector registered the highest sector wise NPL ratio at 24.9 per cent under the severe stress scenario, building on its already high NPL ratio of 14.6 per cent. Nevertheless, the results of the exercise demonstrated that the highest proportion rise in the NPL ratio was for credit given to the Non-Bank financial institutions, which rose by 11.8 percentage points. The Mortgage and Tourism sectors followed closely, with 11.7 percentage points deterioration in the NPL ratio of each sector.

6.2.3 Credit concentration risk

Credit concentration risk was examined by considering the falling out of the top individual borrowers according to their non-exempt advances (after set off) over their respective 20 operational banks in the system.

Hypothetical shocks	Description
Mild	4 per cent of performing
	loans becoming NPLs
Medium	8 per cent of performing
	loans becoming NPLs
Severe	12 per cent of performing
	loans becoming NPLs

Table 6.3: Credit risk – sensitivity shocks

Source: Bank of Mauritius

Chart 6.5: Credit risk – shocks and impacts (System level)



Source: Bank of Mauritius

Table 6.4: Credit risk – sectoral shocks

Hypothetical shocks	Mild	Medium	Severe
Shock on sector wise performing	4	8	12
loans (per cent)			
Source: Bank of Mau	ritiuc		

Source: Bank of Mauritius

Table 6.5: Liquidity risk – GBC Deposit withdrawals

Hypothetical shocks	Shock 1	Shock 2	Shock 3
Percentage	10	20	30
withdrawal of			
GBC Deposits			

Source Bank of Mauritius



The stress test exercise showed that both the bank-wide CAR and CET1 ratios, as illustrated in Chart 6.7, remained resilient well above their regulatory minimum, even under the severe assumed scenario of default by the top three borrowers in each of the 20 banks. Individual banks were impacted differently but were meeting their respective regulatory minimums (minimum CAR requirement inclusive of capital conservation buffer and DSIB charges).

6.2.4 Liquidity risk: Impact of deposit run-offs on liquid shocks

Many banks, especially the foreign banks, have higher proportion of GBC deposits in their balance sheet. Liquidity stress tests have been performed to assess whether banks were in a position to withstand increasing GBC deposit withdrawals with their adjusted high quality liquid assets (HQLA, as per LCR definition, plus interbank placements held). In these tests, a bank was considered 'failed' if its adjusted HOLA turned negative under stressed conditions.

Chart 6.8 depicts liquidity risk analysis with the adjusted HQLA, incorporating interbank placements, i.e., banks were allowed to draw from their foreign placements to support their existing stock of high quality liquid assets, when faced with a sudden and unexpected deposit withdrawal. Results showed that all banks have successfully been able to withstand liquidity shocks under the three stress scenarios.

Under the Basel III LCR, which a stress test in itself, all banks have remained resilient, with their consolidated LCR above the minimum requirement of 70 per cent. A stressed scenario was assumed, whereby a 46.2 per cent weightage (6.2 percentage points higher Basel III LCR) was considered for than "Nonfinancial corporates, sovereigns, central banks, multilateral development banks, PSEs -



Chart 6.6: Sectoral credit risk

Source: Bank of Mauritius











Not fully covered by deposit insurance", whilst keeping all other assumption same as under the Basel-III LCR. The above assumption of 6.2 per cent was based on the findings from FSC for "Risk Map as a Percentage of Total Deposit".

It was noted, in Table 6.6, that all 20 banks passed the test following the assumption that the High-risk-High-Impact GBC deposit being withdrawn. This implies that the banking system would be able to sustain such a shock whilst remaining liquid.

Table 6.6: Basel III Liquidity stress testing

	Number of	
	banks	% of sample
	Under B	asel III LCR
Passing	20	100
Not passing	0	0
	Under Str	ess Scenario
Passing	20	100
Not passing	0	0

Source: Bank of Mauritius



7.1 Global Business Sector

7.1.1 Changes in Regulatory Framework

Mauritius has a relatively large GBC sector with aggregated assets valued at USD686 billion⁹ representing approximately 49 times the size of its GDP. The large majority of the assets held by the GBCs is in the form of equity investment in non-resident enterprises. Contribution of the GBC sector to the GDP of Mauritius is estimated at 5.7 per cent in 2018 and has produced a year-on-year growth of 3.9 per cent.

In the recent years, the GBC Sector has undergone substantial reforms with a view to adapt to a fast-changing global regulatory environment and comply with international initiatives to combat misalignment of economic activity and taxation. Two major events are worth underlining. First, revisions were made to the DTAA between India and Mauritius to the effect that capital gains arising from the sale of equity that was acquired by GBC1s after 31 March 2017 are now taxable by the Indian revenue authority. Taxation of capital gains on equity purchased before the latter date will be governed by the former provisions¹⁰. А transitional period is provisioned in the changes such that tax on capital gains will be levied only at a half rate until 31 March 2019. A second landmark date occurred in November 2018 with the introduction of a set of changes in the regulatory framework governing GBC activities.





7.1.2 Impact of the Regulatory Changes

• Stock Take on latest Statistics¹¹

Considering the large fraction of GBC1s targeting India for business, a close monitoring has been employed to gauge the impact of the aforementioned changes. It is observed, in Chart 7.1, that the number of live GBC1s has kept an annual growth of 3 per cent to 4 per cent for the past four years after smoothing out the short term fluctuations. As at end of 2018, the sector counted 11,805 GBC1s compared to 11,493 one year before.

⁸ Contributed by Financial Services Commission (FSC).

⁹ Consists of aggregated GBC1s assets valued at USD570 billion as at 30 September 2018 and aggregated GBC2 assets valued at USD116 billion extracted from their financial summaries with financial year ending 2017.

 $^{^{\}rm 10}$ Only Mauritius may claim taxation on these capital gains.

¹¹ GBC2s are not analysed in this section and onwards. GBC2s are not tax resident and hence, will not be directly affected by revisions in the India DTA. In addition, GVA of GBC2s is expected to be significantly lower than that of GBC1s (estimated only around 10% of the latter).



As regards to those GBCs targeting business in India, Chart 7.2 indicates that the number of companies has stagnated at 4,307 in absolute terms and in relative terms, gone down from 40 per cent in December 2015 to 36 per cent of the total GBC1s at the end of 2018. The indication of diversification of the GBC Sector of Mauritius is furthermore testified by a constant growth of 8 per cent in Live GBC1s targeting investment in Africa for the last 3 years. As at the end of 2018, the number of GBC1s investing in these two main markets was almost at par.

Value of Foreign Portfolio Investment (FPI), as illustrated in Chart 7.3, into India stood at USD98.7 billion as at 30 June 18 showing a contraction of around 9 per cent compared to USD108.0 billion as at 31 Dec 2017. It was expected that portfolio investment inflows into India will progressively slow down as we are nearing the end of the transition period in 31 March 2019. In addition, market conditions in India has been less flourishing in 2018 compared to 2017. BSE 500 Index has experienced a drop of around 3 per cent for the six months ending June 2018 in contrast with the exceptional growth of over 30 per cent observed in 2017. Chart 7.3 also indicates that the value of foreign direct investment (FDI) into India experienced a slight decrease of 1 per cent is found for the 6 months ending 30 June 2018.

Value of investment into Africa as at 30 June 2018 continued to follow the trend witnessed in the past few years. The worth of FDI into the latter continent held by GBC1s stood at USD33.2 billion at the end of 2018H1, producing a decent progression of 4 per cent from December 2017. The five main recipients of investments through Mauritius remain South Africa, Nigeria, Democratic Republic of Congo, Mozambique and Kenya.

Portfolio investment into Africa has







experienced a noteworthy growth of 17 per cent from December 2017 to reach USD3.1 billion at the end of June 2018. However, portfolio investment into Africa has been extremely volatile over the last 5 years. It might be too soon to make any solid inference on the observed growth and its drivers.

Despite the sluggish performance observed, India remained by far the largest market accounting for 48 per cent of total FDI and



73 per cent of total FPI through GBC1s as at 30 June 2018. For the same snapshot date, Africa represented 14 per cent of FDI and 2.3 per cent of FPI. Notwithstanding this foregoing, the latest investment figures undeniably provide positive signs that funds domiciled in Mauritius, which predominantly targeted India for investment, are slowly diversifying.

7.2 Long-Term Insurance Sector

As at start of 2018, the local long-term insurance industry comprised seven Life Insurers and three General Insurers servicing their run-off long-term policies. One company has not yet provided its first audited accounts. In that respect, the following analyses are exclusive of the latter entity.

Considering the aforementioned caveat, Chart 7.4 illustrates assets of life insurers rose by 11 per cent in 2017 to reach Rs99.8 billion compared to Rs89.6 billion in 2016. Value of funds under management displayed a similar trend with a progression of 12 per cent to reach Rs90.5 billion in 2017.

This noticeable result has been driven by the good performance of investment in local and overseas equities showing respectively a y-o-y growth of 21 per cent and 37 per cent, respectively.

In turn, the distribution of assets by class has been slightly altered towards a larger fraction in equity investment representing 28 per cent of total assets in 2017 compared to 22 per cent one year earlier.

The highest proportion remained allocated to "Other assets". This component related to the value of assets falling under the pension portfolio of one insurer. Since in recent years



Source: FSC

Chart 7.5: Distribution of Assets 2017 (Rs million)



Source: FSC

these schemes possess their own legal entity¹², going forward this portion of assets will be analyzed under the pension activities. Capital and Reserves stood at Rs7 billion in 2017 representing a one-year increase of 9 per cent. On the revenue side, both gross premiums and total policies experienced a growth of 7 per cent to reach respectively Rs10.4 billion and 320,662 in 2017.

The economic outlook of long-term insurance business has been in general positive in 2017.

¹² Following enactment of Private Pension Schemes Act 2012



The good performances of the local stock market and of foreign investment have nurtured expansion of the assets-base under management of life insurers. However, these data are exclusive of those pertaining to NIC Life which may distort the overall picture on the life insurance industry.

7.3 Interconnectedness with other Institutional Sectors

The Long-Term Insurance sector has interlinkages with other resident institutional sectors of the economy as well as with nonresidents.

Chart 7.6 illustrates that the largest exposure fell under the caption of Central Government with an investment valued as at 30 September 2018 of Rs21 billion representing 30 per cent of the financial assets of Life Insurers. These assets are exclusively in the form of investment in Government debt securities. On the same snapshot date, that Life Insurers had a gross claim of Rs16 billion on nonfinancial corporations and Rs11 billion on banks and depository corporations. other These investments principally relate to the holding of listed equity on the local stock markets. Life insurers, being primarily financed by the premiums collected from policy holders, are thinly exposed to corporates on the liabilities side.

7.4 Credit evolution and Assets Quality

Chart 7.7 illustrates that credit extended by Life Insurers has declined quite sharply in the recent years from Rs8.2 billion to reach Rs7.5 billion in 2017, indicating an annualized contraction of 4 per cent.

Chart 7.8 illustrates that Residential and Commercial Mortgage Loans which accounted for 87 per cent of the total credit fell Chart 7.6: Exposure of Monetary and Financial Assets of Life Insurers by Institutional Sectors, as at 30 September 2018 (Rs million)



Source: FSC

Chart 7.7: Long Term Insurance – Total Credit Extended



Chart 7.8: Breakdown of Credit extended by Life Insurers, as at 2017 (Rs million)



Source: FSC



respectively by 2 per cent and 20 per cent in 2017 compared to 2016. On the other hand, loans extended to related companies rose by 71 per cent in 2017 but only represented 3 per cent of the total loan.

Chart 7.9 illustrates that ratio of nonperforming residential mortgage to total residential mortgage stood at 2.3 per cent as at end of June 2018 showing a slight deterioration of assets quality by 10 basis points for the last two preceding quarters. On a one-year span, non performing residential mortgage has gone done from Rs127 millions to Rs116 millions as at 30 June 2018.

As regards to commercial line, Chart 7.10 illustrates that non-performing loans stood at Rs82 million as at 30 June 2018 which represented 6.6 per cent of the total. In that regard, assets quality has worsened by 0.4 per cent compared to one year before.

7.5 Solvency Position of Life insurers

Life insurers are required to keep a risk-based minimum capital, also referred to as 'solvency margin'. The six companies which submitted their financials for 2017 were all solvent.

As observed in Table 7.1, in previous years, in terms of gross premiums, bigger companies tend to have larger solvency margins.

Chart 7.9: Non Performing Residential Mortgage Loans



Source: FSC





Source: FSC

Solvency Position of Life Insurers	Capital available as at % of minimum capital required falling between			
	100% - 130%	130% - 250%	Above 250%	
Large Companies	0	0	2	
(Gross Premium > Rs1 billion)				
Medium Companies	0	2	0	
(Gross Premium > Rs300 million,				
< Rs1 billion)				
Small Companies	2	0	0	
(Gross Premium < Rs300 million)				

Table 7.1: Capital available as a % of minimum capital



The local Long-Term insurance business has a significantly concentrated structure. The two largest companies accounted for 84 per cent of the total gross premiums in 2017. In that regard, it is possible that the lower solvency margins maintained by smaller companies characterised a higher risk-taking approach to gain additional market share.

7.6 General Insurance Sector

Number of local operators in the General Insurance Business has remained unchanged since end of 2015. At the start of 2018, there were 15 insurers. Analysis on this segment is exclusive of one company whose first set of audited accounts is yet to be filed.

After a drop of 4 per cent in 2016, Chart 7.11 illustrates that total assets of General Insurers rose to reach Rs17.6 billion representing a one-year growth of 10 per cent in 2017.

This result is mainly attributed to investment in local equities and debt securities which grew respectively by 31 per cent and 27 per cent. The assets allocation remained broadly unchanged in 2017, with Loans and Receivables having the largest share at 40 per cent followed by Cash and Deposits at 18 per cent and Debt Securities at 12 per cent, as illustrated in Chart 7.12.

Out of the Rs7.0 billion in Loans and Receivables, 93 per cent pertained to premium receivables from reinsurers, policyholders and other parties; and 7 per cent related to loans provided.

Chart 7.13 illustrates that claims ratio on a gross basis improved in 2017, with Gross Premiums increasing from Rs8 billion to Rs8.7 billion, while Gross Claims stood almost at



Chart 7.11: General Insurance – Value of Assets

Chart 7.12: Distribution of Assets of General Insurers in 2017 (Rs million)



Source: FSC





Source: FSC

par on a one-year span. However, only 26 per cent of the gross claims were reinsured in 2017 compared to 34 per cent in 2016. As such, operating profits have been affected showing a y-o-y contraction of 11 per cent in 2017.

Chart 7.14 illustrates that underwriting profits dropped to Rs229 million in 2017 from Rs240 million in 2016. Investment income, on the other hand, displayed a bell- shaped trend with a growth of 15 per cent in 2016 and a contraction of similar magnitude the following year.

Chart 7.15 illustrates that the number of policies in force under general insurance activities grew by 4 per cent to reach 576,886 in 2017 compared to 2016. Motor insurance, which at 70 per cent, as per Chart 7.16, accounted for the largest share of these general insurance contracts, observed a one-year growth of 8 per cent.

On the other hand, Chart 7.16 also illustrates that policies under the caption of Transportation fell quite abruptly by 27 per cent in 2017. Overall, non-motor policies observed a decline of 3 per cent in 2017 compared to one year earlier.

7.7 Solvency Position

All the 14 General Insurers which reported their audited financial statements with year ending 2017 had a solvency position above the

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Chart 7.14: General Insurance – Underwriting Profits and Investment Income



2015 2016 2017

Source: FSC



Chart 7.15: General Insurance – Number of Policies

Table 7.2: Capital available as a % of minimum capital required

Solvency Position of General Insurers	Average for 2016	Average for 2017
Large Companies (Gross Premiums > Rs1 billion)	238	238
Medium Companies (Gross Premiums > Rs300 million, < Rs1 billion)	348	395
Small Companies (Gross Premiums < Rs300 million)	291	239



minimum required level. 11 companies had a solvency ratio above 200 per cent and 3 between 100 per cent and 200 per cent. On average, as per Table 7.2, smaller companies in terms of gross premiums had a weaker solvency position from 291 per cent in 2016 to 239 per cent in 2017. On the other hand, medium-sized companies improved by 47 basis points to reach 395 per cent in 2017.

7.8 Outstanding Claims

As part of its offsite monitoring, the FSC noted that claims retaliation was becoming a common practice among insurers which was causing undue hardships on policyholders.

A workshop was organised in collaboration with the Insurers' Association in July 2018 with the objective of promoting the protection of policyholders and ensuring appropriate market conduct.

Subsequently, all insurers are required to submit on a monthly basis an age analysis of their outstanding claims and same is being monitored by the FSC.

7.9 Pension Funds

Mauritius operates in a multi-pillar pension system. The Private Pension Schemes (PPS) fall under the purview of the FSC as per the *The Private Pension Scheme Act 2012* (PPSA).

Assets of PPS were valued at Rs38 billion in 2017 representing an increase of 13 per cent compared to 2016. Total income for the year 2017 stood at Rs6.5 billion representing a significant one-year growth of 61 per cent. Similar to the patterns observed in other categories of funds, investment return in 2017 was particularly flourishing as compared to 2016. Benefits paid by PPS increased by 21 per cent from Rs1.5 billion in 2016 to Rs1.8 billion.

Chart 7.16: General Insurance – Breakdown by Class of Policies in 2017



Table 7.3: Funding Ratio

No. of Pension	Range
Funds	
7	More than 100%
4	Between 90% and 100%
6	Between 60% and 90%
4	Less than 60%
Source: ESC	

Source: FSC



7.10 Funding Ratio

The *Private Pension Schemes (Technical Funding Requirement) Rules 2013 ("TFR Rules")* requires from all private pension schemes to submit an actuarial valuation report to the FSC on a triennial basis.

Particular attention is given to the actuarial projection of Defined Benefit Schemes. Under these schemes, pension benefits are predefined and based on past service and remuneration. On the other hand, benefits under Defined Contribution Schemes are based on accumulated contribution and investment returns.

As at November 2018, 21 private pension schemes with defined benefits arrangements submitted their actuarial valuations reports. Data presented in Table 7.3 summaries their Funding Ratio.

Under the TFR Rules 2013, defined benefit schemes are required to maintain a funding ratio of at least 100 per cent. A funding ratio of 90 per cent is allowed where the rates of contributions to the scheme are such that the scheme will reach 100 per cent funding ratio in the period for which the schedule of contributions is in force and where the scheme meets the relevant requirements under section 19 of the PPSA.

In light of the above, FSC is monitoring the underfunded DB Schemes to ensure that they comply with the regulatory framework in a reasonable timeframe.



8. Payment System Developments

8.1 **Financial Market Infrastructures and Financial Stability**

The BOM operates the country's two most important financial market infrastructures (FMI), namely, the MACSS, a real time gross settlement system, and the Bulk Clearing System (BCS), the clearing engine of the PLACH used for clearing of cheques as well as bulk low value payments which are settled on a net deferred basis on MACSS. Both FMIs operated without any major disruption during 2018H2 in spite of a growing volume of transactions. All transactions were completed with promptness and same day finality.

8.2 **Availability of MACSS**

During 2018H2, MACSS operated smoothly without any significant downtime confirming its robustness and resilience. A total of 572,172 transactions was settled for a total value of Rs1.4 trillion, representing an increase of 14 per cent in volume terms and a fall of 3 per cent in value terms compared to 2017H2, as illustrated in Chart 8.1. In December 2018, a historical peak of 111,315 transactions were settled without encountering significant any interruption.

A latency has been observed in the processing of transactions during month ends. A system upgrade is programmed shortly to resolve this issue. However, all transactions were settled with same day finality. As MACSS is still not being used at its optimum capacity, no further upgrade will be required during the coming six months.

8.3 **Throughput on BCS**

In 2018H2, 2,108,614 cheques were cleared compared to 2,175,416, as indicated in Table







Source: Bank of Mauritius



Chart 8.3: Volume of Cheques and EFTs on

Source: Bank of Mauritius



Chart 8.3 shows that cheque transactions continued to decline in volume terms while migration to electronic payments gathered momentum. During 2018H2, as depicted in Chart 8.2, 2,593,217 Credit Electronic Fund Transfers (EFTs) were cleared for a total amount of Rs66 billion, representing increases of 21 per cent and 6 per cent, respectively, in volume and value terms compared to the same period in 2017.

Concurrently, as Table 8.1, shows Direct Debit transactions picked up significantly during the semester to reach 72,606 transactions and Rs1.73 billion respectively, in terms of volume and value mainly on account of the collection of taxes and social contributions by the Mauritius Revenue Authority (MRA). A comparison of the volume of cheques and EFTs settled on BCS, for the period under review, shows that the volume of EFTs maintained a higher growth than cheques, as illustrated in Chart 8.3. This may be attributed to a switch from cheques to electronic payment. The movement away from cheques reduces uncertainties in the payment systems and contributes in maintaining the stability of the financial sector.

Overall, the BCS performed well in spite of the growing volume of transactions.

8.4 Cybersecurity vulnerabilities

The heavy reliance of the FMIs on technology renders them vulnerable to cybersecurity risks. Payment instructions to MACSS are sent through SWIFT messages. With a view to mitigating cybersecurity risks of MACSS, the BOM enhanced the security of SWIFT. The BOM has implemented all mandatory control as well as some advisory controls and completed its self-attestation against the requirements of the

	Cheque	Clearance	ET	Fs	Direct	Debit
	Number of Cheques	Amount (Rs 000)	Number of EFTs	Amount (Rs 000)	Number of Direct Debit	Amount (Rs 000)
2018						
July	361,884	23,746,073	362,336	10,857,976	6,286	95,021
August	346,683	21,776,630	432,129	9,835,424	7,091	59,539
September	308,293	20,543,860	383,111	8,852,299	17,438	440,190
October	395,225	25,001,750	463,584	11,044,328	25,403	864,165
November	332,433	21,648,556	411,798	10,614,675	7,223	70,016
December	364,096	25,455,656	540,259	14,893,047	9,165	199,918
July- December	2,108,614	132,816,168	2,593,217	66,097,749	72,606	1,728,849
July- December 2017	2,175,416	128,812,978	2,144,735	62,588,871		

Table 8.1: Volume and Value of Transactions on BCS

Source: Bank of Mauritius



SWIFT Customer Security Programme (SWIFT CSP) as at 31 December 2018 as advocated by the SWIFT. The BOM is also closely following the progress of other MACSS Participants.

The retail payment system landscape is undergoing a drastic change driven by rapid technological innovation. If on the one hand, Financial Technologies (FinTechs) and other technology innovative providing are opportunities for cheaper and ubiquitous payment facilities, on the other hand, the payment systems is more exposed to cybersecurity vulnerabilities amid rapid adoption of digital banking products and services. The retail payment system does not have inherent systemic risk. However, an incident even limited to one operator could trigger a broader loss of confidence and affect the stability of the financial system. To mitigate such risks, the BOM has stepped up cybersecurity requirements for licensing of payment systems and payment service providers.

8.5 Oversight of the payment systems

The last survey of MACSS-related activities at participants' side revealed that there was no major downtime and no fraud incident.

In the wake of the enactment of the National Payment System Act, the BOM progressed with the setting up an oversight framework for the national payment system. The framework will be published shortly.

8.6 Business Continuity Procedures

Given the systemic importance of payment systems in Mauritius, the BOM has been regularly conducting verification tests on its contingency arrangements through full-day operations from its Disaster Recovery site. A new office location and a new network infrastructure have been set-up in order to cater for more efficient service.



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Box 1:

Banking Stability Indicator



Acronyms

BAI	BAI Co (Mtius) Ltd
BCS	Bulk Clearing System
BOM	Bank of Mauritius
CAR	Capital Adequacy Ratio
CCB	Capital Conservation Buffer
CET1	Common Equity Tier 1
DEM	Development and Enterprise Market
D-SIB	Domestic-Systemically Important Banks
DTAA	Double Taxation Avoidance Agreement
ECB	European Central Bank
EFTs	Credit Electronic Fund Transfers
EU	European Union
FDI	Foreign Direct Investment
FinTechs	Financial Technologies
FPI	Foreign Portfolio Investment
FSC	Financial Services Commission
FX	foreign currency
GBC	Global Business Sector
GDP	Gross Domestic Product
GMM	Generalized Methods of Moments
GOS	Gross Operating Surplus
HHI	Herfindahl-Hirschman Index
HQLA	High Quality of Liquid Assets
IMF	International Monetary Fund
KRR	Key Repo Rate
LCR	Liquidity Coverage Ratio
LTV	Loan-to-Value
MACSS	Mauritius Automated Clearing and Settlement System
MERI1	Currency-Weighted Nominal Exchange Rate
MRA	Mauritius Revenue Authority
NBDT	Non-Bank Deposit Taking
NBDTIs	Non-Bank Deposit Taking Institutions
NIC Life	National Insurance Company
NPLs	Non-Performing Loans
OMOs	Open Market Operations
OTC	Over the Counter
PLACH	Port Louis Automated Clearing House
PPS	Private Pension Schemes
PPSA	The Private Pension Scheme Act 2012
q-o-q	Quarter-on-Quarter

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ROA	Return on Assets
ROE	Return on Equity
SWIFT CSP	SWIFT Customer Security Programme
TFR Rules	Private Pension Schemes (Technical Funding Requirement) Rules 2013
UK	United Kingdom
US	United States
VAR	Vector Auto-Regression
WEO	World Economic Outlook
у-о-у	Year-on-Year



Glossary

Credit-to-GDP gap is the percentage deviation between the credit to GDP ratio and an estimate of its trend.

GBC1s are resident corporations which conduct business outside Mauritius. The law has recently been amended to allow them to transact with residents provided that their activities in Mauritius are ancillary to their core business with non-residents.

Herfindahl-Hirschman Index is a measure of the average size of firms in relation to the industry and an indicator of the amount of competition among them. It is a commonly accepted measure of market concentration.

Key Repo Rate is the key policy rate used by the Bank of Mauritius to signal changes in its monetary policy stance.

MERI1 is the Mauritius Exchange Rate Index, a nominal effective exchange rate introduced in July 2008, based on the currency distribution of merchandise trade.

ROA is the annualised pre-tax return on assets and is measured by the ratio of pre-tax profit to average assets.

ROE is the annualised pre-tax return on equity and is measured by the ratio of pre-tax profit to average equity.

Percentage point is the arithmetic difference of two percentages.

SEM-10 is an index launched by the Stock Exchange of Mauritius on 02 October 2014. It is designed to meet international standards and provide a larger and more attractive investible benchmark for both domestic and foreign market participants and comprises the ten largest eligible shares of the Official Market, measured in terms of average market capitalization, liquidity and investibility criteria.

SEMDEX is an index of prices of all listed shares on the Stock Exchange of Mauritius wherein each stock is weighted according to its share in the total market capitalisation.

Tier 1 capital is a term used to qualify eligible capital of a bank and is constituted of the components having the highest loss absorbing capacity.

Y-o-y change compares the value of a variable at one period in time compared with the same period the previous year.