



# Financial Stability Report

February 2011 | Issue No.6

# BANK OF MAURITIUS



FINANCIAL STABILITY REPORT February 2011 | Issue No. 6 This Financial Stability Report has been prepared by the Financial Stability Unit of the Bank. Contributions were received from various Divisions within the Bank and data support was received from Off-Site Division, Supervision.

#### **Main Contributors**

Mr D Thakoor	Head-MCIB and Payment System Division
Mrs V Soyjaudah	Chief-Financial Stability Unit
Mrs H Nundoochan	Chief-Financial Markets Operations Division
Mrs P Lo Tiap Kwong	Chief-Statistics Division
Mr D Audit	Chief-Economic Analysis Division
Mr C Ellapah	Chief-Financial Markets Analysis Division
Mr K Pitteea	Analyst-Financial Stability Unit
Mr B Kwok	Analyst, Off-Site Division, Supervision
Mr N Daworaz	Analyst-Financial Markets Analysis Division

The Draft Report was reviewed and edited by Mr H O Jankee, Chief Economist.

#### **Views and Suggestions**

Mr U S Paliwal, Director Supervision Mr J N Bissessur, Head-Financial Markets Analysis Division Mr V M Punchoo, Head-Statistics Division

The Report was reviewed by the Bank's Publication Review Committee

The collaboration of the Financial Services Commission and the Central Statistics Office is hereby acknowledged

The Bank welcomes any comments and suggestions on this publication, which can be sent to fsu@bom.intnet.mu

All rights reserved. No part of this publication may be reproduced, stored in any retrieval system or transmitted by any mechanical, electronic or digital means or otherwise without the prior permission of the publisher, the Bank of Mauritius.

The contents of this publication are intended for general information only and are not intended to serve as financial or other advice. While every precaution has been taken to ensure the accuracy of information, the Bank of Mauritius shall not be liable to any person for inaccurate information or opinions contained in this publication.

This Report refers to information as at end-September 2010, unless otherwise stated.

Financial Stability Report February 2011 Issue No. 6 Copyright Bank of Mauritius

Design, Layout and Printing by Lovells Printing and Artwork Ltd

ISBN: 978-99903-981-8-2

Page

# Contents

List of	Charts		4
List of	Tables		5
List of	Boxes		5
List of	Acronyr	ns	5
Overv	iew		7
1	. Mac	roeconomic Environment	9
1.	1 Interna	ational Environment	9
	1.1.1	Global Risks and Financial Imbalances	9
	1.1.2	Key Developments in the International Financial Environment	11
	1.1.3	International Initiatives	13
1.:	2 The D	omestic Environment	16
	1.2.1	Growth, Outlook and Risks	16
	1.2.2	Inflation Risks and Monetary Policy	16
	1.2.3	Risks from the External Sector	17
	1.2.4	Risks from the Fiscal Sector	17
	1.2.5	Household Sector	18
	1.2.6	Corporate Sector	19
	1.2.7	Developments in the Domestic Financial Markets	20
2	. The	Financial Sector	23
2.	1 Bankir	ng Sector	23
	2.1.1	Balance Sheet Structure and Risk Profile	23
	2.1.2	Credit Growth and Credit Risks	26
	2.1.3	Funding and Liquidity Risks	31
	2.1.5	Financial Conditions of Banks	34
2.	3 Insura	nce Sector	41
2.	4 Non-B	Bank Deposit Taking Sector	42
3	. Fina	ncial System Infrastructure	44
3.	1 Introdu	uction	44
3.	2 Liquid	ity Flow in MACSS	44
		Clearing System	45
4	. Risk	s and Outlook	46

# **List of Charts**

Chart 1.1:	Real GDP Growth – Mauritius and the World
Chart 1.2:	Current Account Balances for Selected Countries
Chart 1.3:	Inflation in Advanced Economies
Chart 1.4:	Chicago Board Options Exchange Volatility Index
Chart 1.5:	MSCI World and Emerging Markets
Chart 1.6:	Equity Indices in Selected Economies
Chart 1.7:	Evolution of Major Currencies
Chart 1.8:	Contribution to GDP Growth by Main Expenditure Components
Chart 1.9:	Financing of the Current Account Deficit
Chart 1.10:	Net International Reserves and Import Coverage
Chart 1.11:	Decomposition of Banking Sector Credit to Households
Chart 1.12:	Evolution of Credit to Households with Banks
Chart 1.13:	Evolution of Household Debt with Banks and GDP
Chart 1.14:	Year-on-Year Annual Return of Top Ten Companies Listed on the SEM
Chart 1.15:	Evolution of Banks' Exposure to Corporates
Chart 1.16:	Banks' Excess Reserves, Key Repo Rate and WAI Rate
Chart 1.17:	Evolution of Weighted Average Yields on Treasury Bills and Key Repo Rate
Chart 1.18:	Sectoral Composition of the SEM
Chart 1.19:	SEMDEX and the Performance of Banks, Hotels and Insurance
Chart 1.20:	Daily Foreign Exchange Volatilities
Chart 1.21:	Movements of $\mathrm{MERI}_1$ and $\mathrm{MERI}_2$
Chart 2.1:	Evolution of Total Assets of Banks
Chart 2.2:	Total Assets by Bank Size and Group
Chart 2.3:	Composition of Total Assets of Banks
Chart 2.4:	Risk Diversification Matrix
Chart 2.5:	Components of Total Liabilities of Banks
Chart 2.6:	Year-on-Year Growth of Advances
Chart 2.7:	Year-on-Year Growth of Rupee and Foreign Currency Credit

Chart 2.8:	Sectorwise Distribution of Credit
Chart 2.9:	Evolution of the Main Components of Private Sector Credit
Chart 2.10:	Growth of Credit to the Private Sector
Chart 2.11:	Evolution of Sectoral Credit
Chart 2.12:	Growth of Credit to the Manufacturing Sector
Chart 2.13:	Sectoral NPL in Key Sectors as a Ratio to Total NPL
Chart 2.14:	Sectoral NPL in Key Sectors as a Ratio to Loans to Respective Sectors
Chart 2.15:	Non-Performing Loans and Coverage
Chart 2.16:	Year-on-Year Growth of Deposits
Chart 2.17:	Deposits by Bank Size and Group
Chart 2.18:	Maturity Preferences of Deposits
Chart 2.19:	Distribution of Core Tier 1 Capital Ratio
Chart 2.20:	Distribution of Leverage Ratio
Chart 2.21:	Evolution of Leverage
Chart 2.22:	Components of Revenue and Expenses
Chart 2.23:	Distribution of Return on Equity
Chart 2.24:	Dispersion of Return on Equity by Total Assets
Chart 2.25:	Distribution of Return on Assets
Chart 2.26:	Cost-to-Income Ratio
Chart 2.27:	Sectorwise Distribution of Credit by Core Tier 1 Capital at end-June 2010
Chart 2.28:	Distribution of Credit on Residential Mortgage by Core Tier 1 Capital at end- June 2010
Chart 2.29:	Distribution of Value of Large Exposures to Total Regulatory Capital Ratio by Core Tier 1 Capital at end-June 2010
Chart 2.30:	Distribution of Pre- and Post-Shock Core Tier 1 Capital Ratio at end-June 2010
Chart 2.31:	Evolution of Assets, Deposits, Loans and Leases in the NBDT Sector
Chart 3.1:	MACSS – Distribution of Number of Payments
Chart 3.2:	MACSS – Distribution of Value of Payments

# **List of Tables**

Table 2.1:	Herfindahl-Hirschmann Index for the Banking Sector
Table 2.2:	Non-Performing Loans in the Banking Sector
Table 2.3:	Concentration of Credit Risk Ratio

Table 2.4:	Cross-Border Exposures
------------	------------------------

Table 2.5:Herfindahl-Hirschmann Index for the<br/>Insurance Sector

Table 2.6:Risks and Capital Requirement for the<br/>General Insurance Business

# List of Boxes

Box I:	Basel III
Box II:	Selected Financial Stability Indicators
Box III:	Stress Testing Credit Risk

# List of Acronyms

BCS BIS	Bulk Clearing System Bank for International Settlements	MACSS	Mauritius Automated Clearing and Settlement System
CBOE	Chicago Board Options Exchange	MERI	Mauritius Exchange Rate Index
CDS	Credit Default Swap	MPC	Monetary Policy Committee
CMPHS	Continuous Multi-Purpose Household	MSCI	Morgan Stanley Capital International
	Survey	NBDT	Non-Bank Deposit Taking
CRR	Cash Reserve Ratio	NBDTIs	Non-Bank Deposit Taking Institutions
CSO	Central Statistics Office	NPLs	Non-Performing Loans
DEM	Development & Entreprise Market	отс	Over the Counter
EDEs	Emerging and Developing Economies	PIIGS	Portugal, Italy, Ireland, Greece and
FSC	Financial Services Commission		Spain
FSIs	Financial Soundness Indicators	ROA	Return on Equity
GBLH	Global Business Licence Holders	ROE	Return on Assets
GDFCF	Gross Domestic Fixed Capital	SEM	Stock Exchange of Mauritius
	Formation	SSA	Sub-Saharan Africa
HHI	Herfindahl-Hirschmann Index	VIX	Volatility Index
IMF	International Monetary Fund	WAI	Weighted Average Interbank

# **OVERVIEW**

The global recovery is ongoing but has begun to lose steam despite better-than-expected growth in early 2010. Though it appears that a double-dip recession has been avoided, the global financial system remains in a period of uncertainty and the progress towards global financial stability suffered a set-back as from April 2010. In Advanced Economies, high unemployment, weak household balance sheets and sluggish credit growth are holding back private demand. Many Emerging and Developing Economies, with China and India in the lead, experienced a robust recovery driven by strong internal demand, intra-regional trade and a rebound in global trade. According to the January 2011 World Economic Outlook Update of the International Monetary Fund (IMF), global GDP growth has been estimated at around 5.0 per cent in 2010 but is expected to moderate to 4.4 per cent in 2011.

Notwithstanding the challenging economic environment, both internationally and domestically, activities in the domestic economy continued to improve. Despite staying below trend level, the growth rate is estimated to have improved to 4.2 per cent in 2010 compared to 3.1 per cent registered in 2009. The "Construction", "Hotels and Restaurants", "Transport, Storage and Communications" and "Financial Intermediation" sectors were the main drivers of growth. In contrast to many advanced countries, unemployment rate increased only marginally from 7.3 per cent in 2009 to 7.5 per cent in 2010. Looking ahead, the economy is expected to grow by 4.2 per cent in 2011 but this would depend on the pace of recovery in our major trading partners in Europe.

The deficit in the current account in 2010 was financed from the significant capital inflows without undue pressure on exchange rates. Measured as a percentage of GDP, the deficit in the current account is estimated at 9.8 per cent in 2010 and is expected to widen further to 10.0 per cent in 2011 as a result of the worsening of the merchandise trade deficit as import growth is projected to outweigh export growth. The level of net international reserves provides a comfortable cushion against external shocks as it represented the equivalent of more than 10 months of imports at end-December 2010.

Total external debt as a percentage of GDP hovered around 12.0 per cent as at end-December 2010 and is projected to reach nearly 14.0 per cent as at end-December 2011. The debt-service ratio is not currently a concern as it is forecast to hover in the range of 2.8 per cent to 3.3 per cent between 2010 and 2013.

Household indebtedness with banks maintained its uptrend in a declining and low interest rate environment notwithstanding uncertain economic conditions. However, a widening of the gap between growth of household indebtedness with banks and nominal GDP growth was observed and highlighted in the previous FSR. This gap has continued to widen and was driven by the relatively higher growth in banks' credit to households compared to the growth in nominal GDP. Nevertheless, household indebtedness has been principally geared towards the construction and purchase of housing units and the fact that default rate on housing loans tends to be low provides a source of comfort. Thus, the current widening of the gap may not necessarily point to increasing household vulnerabilities.

The Monetary Policy Committee (MPC) of the Bank of Mauritius reduced the key Repo Rate, for the first time in 18 months, by 100 basis points in September 2010 to 4.75 per cent. Considering that the balance of risks did not warrant any change in the policy stance, the MPC left the key Repo Rate unchanged at its last meeting held in December 2010.

Excess liquidity continued to prevail in the banking system and in the second half of 2010, it was mainly due to net redemption of Government securities coupled with relatively lower credit off-take. To address this situation, the Bank increased the Cash Reserve Ratio (CRR) on two occasions in 2010 and further

revisited its approach to liquidity management by introducing new instruments of longer maturities. These measures helped to effectively bring the excess liquidity to a more appropriate level by the end of 2010.

The domestic foreign exchange market was characterised by higher volatility in the second half of 2010, largely reflecting the movement of major currencies on international markets and domestic supply conditions. To maintain orderly conditions in the foreign exchange market, the Bank intervened on several occasions in the second half of 2010. Further, foreign currency swaps facilities introduced during 2010 for operators in certain specific sectors of the economy also helped to smooth out excess volatilities.

The banking sector, which is the major component of the financial sector and comprises seven domestic banks and 12 foreign banks, remained resilient and profitable in 2010 despite the prevailing external and internal economic conditions. A new entrant, a former Non-Bank Deposit Taking Institution (NBDTI) joined the industry in the second half of 2010. Banking activity continued to be a profitable line of business and banking risks were well contained. In fact, the capital adequacy ratios stood well above the minimum regulatory level of 10 per cent and credit concentration risk, as measured by the percentage of aggregate exposures to capital base remained well below the prudential ceiling of 800 per cent. Further, the level of Non-Performing Loans (NPLs), in and outside Mauritius remained at a comfortable level and the ability of banks to absorb losses arising from non-recoverability of NPLs is considered adequate. Stress test results revealed that, in the event of a general weakening in economic activities over two consecutive quarters, most banks would generally be able to withhold shocks of a 15 per cent increase in the non-performing loans to key sectors. Further, simulations also revealed that banks would generally withhold shocks of a 20 per cent increase in non-performing loans arising from advances secured by residential property.

The insurance sector continued to be highly heterogeneous with three large companies accounting for around 75 per cent of total assets of the industry and the remaining insurers individually accounting for less than 7 per cent share. As a consequence, the Herfindahl-Hirschmann Index (HHI) remains in the 'high concentration' band albeit over time, some improvement in the HHI was noted. The insurance sector is considered to be in a sound condition with the industry solvency average amounting to 162 per cent and it is expected to maintain a stable growth rate in 2011 due to the sound position of large and medium sized companies.

The payment systems infrastructure in Mauritius remains reasonably robust. In 2010, the operations on the Mauritius Automated Clearing and Settlement System (MACSS) were smooth and no downtime, which would affect operations, was recorded. All transactions were settled in real time and no payment was rejected, delayed or queued on account of system imperfections. The Bank intends to implement the Bulk Clearing System (BCS), which is a software to fully automate the Port Louis Clearing House, by mid-2011. This system will reduce the need to send high volume, non-time sensitive payments on the MACSS. The BCS will bring a paradigm shift in the way payments are carried out in the country and it has a functional architecture which is compliant with World Bank and Bank for International Settlements recommendations for deferred net settlement systems.

# Macroeconomic Environment

### 1.1 INTERNATIONAL ENVIRONMENT

### 1.1.1 GLOBAL RISKS AND FINANCIAL IMBALANCES

#### **Global Recovery**

The global recovery is ongoing but has begun to lose steam despite better-than-expected growth in early 2010. Though it appears that a double-dip recession has been avoided, the global financial system remains in a period of significant uncertainty and the progress towards global financial stability suffered a set-back as from April 2010. In Advanced Economies, high unemployment, weak household balance sheets and sluggish credit growth are holding back private demand. The outlook is somewhat different in many Emerging and Developing Economies, where strong internal demand, intraregional trade and a rebound in global trade have driven a robust recovery - especially in the Asian powerhouse, with China and India in the lead. Although activity remains buoyant in emerging economies, inflationary pressures are buildingup, and there are now some signs of overheating, driven partly by strong capital inflows. In its January 2011 World Economic Outlook Update, the IMF estimated that in Advanced Economies, growth would stand at 3.0 per cent and 2.5 per cent in 2010 and 2011, respectively, while Emerging and Developing Economies would expand by 7.1 per cent and 6.5 per cent in 2010 and 2011, respectively. Global growth is thus estimated to be around 5.0 per cent in 2010 but would moderate to 4.4 per cent in 2011.

Nonetheless, the global recovery remains subject to significant downside risks. Uneven growth and persistent global imbalances are fueling the temptation to diverge from global solutions into uncoordinated actions. The G-20 meeting held in Seoul in November 2010 provided a glimpse of all these frustrations. On the one side, the US was of the view that China kept its exchange rate low to gain trade advantage and on the other side, China claimed that the US Federal Reserve's plans of quantitative easing were causing inflationary pressures in Emerging Economies. Although leaders did realise that it was precisely because efforts were synchronized globally that the world was able to come out of the global financial crisis and that uncoordinated policy actions would only lead to worse outcomes, the uneven growth path has increased the risks of diverging policy actions.





Another major risk to global recovery is the renewed turbulence in the euro area sovereign debt markets that could spill over to the real economy and across regions. Investor sentiment in Europe is particularly precarious. Associated to this is the possible risk of new shortfalls in bank capital, which could add further pressure on public finances and could trigger a renewed loss of market confidence. Post the global financial crisis, the level of risk aversion among investors has heightened and become increasingly volatile with the consequence that exchange rate risks have increased. Looking ahead, the main challenge of policy makers is to bring down the current level of uncertainty to boost business activities and create the appropriate environment to encourage private investment.

#### **Global Imbalances**

In 2010, the global imbalances widened again along with the global recovery. The external deficit of the US increased slightly to above 3 per cent of GDP, while the current account surpluses of oil-exporting countries and those of Germany and Japan widened somewhat. China's external surplus, while increasing in absolute terms, continued to decline relative to its GDP. A further widening of global imbalances may create concerns about risks to global growth and stability. In the near-term, pressure on the imbalances to widen does not seem excessive and the forces that could lead to a narrowing of the imbalances are also equally weak. Households in the deficit countries, mainly the US, are not expected to resume the debt-financed expansion of consumption quickly, and further widening of the government deficit relative to GDP is likely to be constrained. Household savings in the US have increased as a result of more cautious consumption behaviour and ongoing deleveraging of household balance sheets.



Source: IMF

Note: OCADC includes Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Poland, Portugal, Slovakia Republic, Slovenia, Spain, Turkey and United Kingdom \* Estimates

With a mild growth in demand from the deficit countries, room for an increase of the external surpluses in the surplus countries will also be small. The prospects of narrowing the imbalances in the long run will depend on how successful economies will be in making structural adjustments. For instance, China has taken various measures to boost private consumption. However, it does take a long time before a more significant structural change is achieved and makes a global impact. Foreign exchange rates remain central to correcting global imbalances.

#### **Global Inflation Outlook**

Inflationary pressures were, prior to 2010, muted as a result of weak aggregate demand, sharp decline in oil prices since mid-2008, major corrections in prices of agricultural commodities and metals, lower shipping costs, significant slack in industrial activities due to build-up of inventories and decline in capacity utilisation. However, with rising energy prices, inflation in advanced economies has moved into positive territory as shown in Chart 1.3. In the developing world, increased capital flows and rising commodity and energy prices have caused further build-up of inflationary pressures. Latest estimates from the IMF point to a slight increase in inflation in Advanced Economies from near zero in 2009 to 1.5 per cent in 2010 and further to 1.6 per cent in 2011, while in Emerging and Developing countries, inflation is projected to accelerate to 6.3 per cent in 2010 from 5.2 per cent in 2009 and will hover around 6.0 per cent in 2011.

Increasingly, the divergence in growth and inflation trends is reflected in the monetary policies pursued by central banks in Advanced Economies and Emerging and Developing Economies. The tendency in Advanced Economies is more geared towards accommodative policies while central banks in Emerging and Developing Economies have already stepped up monetary tightening.



Source: Reuters

The surge in food and energy prices in 2010 have fuelled inflationary pressures, especially in emerging economies where aggregate demand remains buoyant. However, global growth implications might still outweigh global inflation concerns as recovery remains fragile and unemployment hovers at historical highs in Advanced Economies.

#### Sovereign Debt

In the midst of the initial sovereign debt crisis in Greece, a number of actions were taken to contain financial markets concerns. Euro area member countries implemented a series of austerity measures to bring public finances into order. The European Financial Stability Facility was set up large and flexible enough to provide the guarantee to financial markets that the European Union would act decisively to ensure financial stability in the euro area. Stress tests were successfully carried out on 91 European banks to exonerate any reminiscent suspicion about any risk of massive default in the region and some confidence was restored in the market.

However, the Irish crisis dented the growing but still fragile market confidence and investors became skeptical about the ECB's stress test results on banks since even the worst Irish banks passed the stress test. Further, the Irish government's decision to guarantee virtually all banks' debts that turned the banking crisis into a budgetary and sovereign debt crisis widened the wedge between domestic and regional agenda. Finally, financial markets turned even more skeptical about the ability of PIIGS (Portugal, Italy, Ireland, Greece and Spain) to generate enough GDP growth to get into fiscal sustainability paths. Indeed, a synchronised slowdown in output in those countries has further aggravated the fiscal consolidation process. Consequently, the risk premium will be substantially greater for the PIIGS countries and this will further exacerbate budgetary crises in these countries and dampen their economic growth.

A growing view among policymakers is that the inability to individually adjust their exchange rate does not facilitate the task of euro area member countries to respond to the recessionary economic conditions. Although Germany's high-tech exports are affected to a lesser extent, a strong euro may impact exports of Greece, Ireland, Spain, and Portugal more pronouncedly and may worsen the already severe economic crises that they are facing. Looking ahead, sovereign debt problems in the euro area may continue to linger for some time and financial conditions remain unstable in Europe.

### 1.1.2 KEY DEVELOPMENTS IN THE INTERNATIONAL FINANCIAL ENVIRONMENT

# Confidence in the Global Financial System

Confidence in the global financial system improved during the second half of 2010, as reflected by lower volatility in major stock markets as well as in a general downtrend in the Chicago Board Options Exchange (CBOE) Volatility Index (VIX), a key measure of US stock market volatility (see Chart 1.4). Expectations that the Fed would be extending its quantitative easing programme, easing debt woes, smooth bond auctions in the euro area, the results of stress test on European banks and generally positive economic data released in some major economies all helped to improve investor confidence.



Source: Reuters

However, increases in spreads of sovereign Credit Default Swaps (CDS) for some euro area countries portrayed investors' lingering fears about the debt problems. These concerns were, nonetheless, somewhat alleviated by the ECB's extension of its liquidity safety net to vulnerable banks while it continued to buy bonds of fiscally weaker euro area economies as well as the newly agreed Basel rules, which were less onerous than expected. A number of euro area peripheral countries continued to be under pressure from rating agencies on possible and also effective downgrade.

# Evolution of Major Stock Markets and Volatility

In the second half of 2010, most major global equity markets in both developed and emerging economies posted commendable performances. Stock markets attained fresh highs in July 2010 in the wake of heightened risk appetite, following positive economic data releases in major economies. Equity markets dipped temporarily in August amid renewed worries about the euro area's debt problems but regained some footing on improved economic numbers, including strong Chinese data that countered concerns about the global outlook. Gains were, however, reversed in November as investors' concern about euro area debt woes resurfaced, on profit-taking as well as the threat of rising interest rates in China. Stock markets rebounded in December 2010, underpinned by solid earnings and a flurry of merger activity. Movements of the MSCI World and Emerging Markets indices and of equity indices in selected economies are depicted in Charts 1.5 and 1.6, respectively.



Source: Reuters



Source: Reuters

#### **Evolution of Major Currencies**

The US dollar remained under pressure in the wake of the release of poor US economic data and market expectations that the Fed would eventually enter another round of quantitative easing. Despite the sovereign debt problems in the euro area, the euro remained supported on the back of smooth bond auctions and better economic data.

Having hit a high of 1.4132 against the US dollar on 4 November 2010 after the Fed decided to buy USD 600 billion more in Treasuries, the euro thereafter depreciated against the US currency as budget problems in Ireland and euro area debt issues prompted investors to seek safety in the greenback. Fears that an Irish debt crisis could spread to other euro area countries as well as possible and effective debt rating downgrades also weighed on the single currency. The US dollar gained ground towards the end of 2010 on the back of upbeat US economic data and debt worries in Europe which further exacerbated the downward movement of the single currency despite the agreement by European Union leaders to lengthen the maturities of new sovereign bonds.

The Pound sterling rallied against the US dollar as the UK economy continued to emerge from recession, boosting hopes for a sustained recovery. Moreover, investors were optimistic that the UK budget deficit would be reduced while the high inflation added fuel to the argument for



Source: Reuters

higher interest rates. However, the Pound came under pressure on concerns about the UK's exposure to euro area debt and the November 2010 Bank of England Inflation Report indicating a loose monetary policy for a longer term. The Pound sterling moved higher by end-2010 on better-than-expected economic numbers, which indicated that the UK economic recovery was gaining momentum.

### **1.1.3 INTERNATIONAL INITIATIVES**

Against the backdrop of the financial crisis, the Board of Governors and Heads of Supervision of the member states of the Basel Committee on Banking Supervision adopted the Basel III framework in November 2010. This new framework is a comprehensive range of proposals to tighten the regulatory framework of banks with a view to strengthening and sustaining the stability of the banking sector. The measures reach far beyond a mere revision of the existing capital requirements. They comprise proposals to raise the quality and quantity of equity capital, improve liquidity management and implement a regime that reduces pro-cyclicality. Other measures aim at limiting the specific risks associated with systemically important institutions and at raising their ability to absorb losses. At the European level, the new standards are yet to be adopted by the Council of the European Union and the European Parliament. The European Commission is expected to present its new proposals on capital requirements by mid-2011. Box I provides the main features of Basel III.

### Box I: Basel III

Basel III represents a fundamental shift in the manner in which banking regulation and supervision will be conducted in the future. It fixes many of the shortcomings of micro-level supervision and also incorporates the broader system-wide lessons. It further introduces a macro-prudential overlay to the regulatory framework. With Basel III, it is expected that the global financial system would become more stable over the long run, thus raising economic growth over the cycle.

The recent crisis has revealed that risks in the banking sector built up primarily as a result of excess leverage, too little capital of insufficient quality and inadequate liquidity buffers. The crisis was exacerbated by a pro-cyclical deleveraging process and inter-connectedness of systemically important, too big to fail financial institutions. Finally, there were major shortcomings around risk management, corporate governance, market transparency and the quality of supervision. When it came to both risk management and supervision, there was too much of a firm-specific focus and an insufficient understanding of how broader system-wide risks could play out under stress. The Basel Committee reforms, through Basel III, aim at addressing these weaknesses through both micro-prudential and macro-prudential measures as micro- and macro-prudential reforms are closely related given that greater resilience at the individual bank level reduces the risk of system-wide shocks.

With Basel III, the quality of capital has been substantially raised with greater focus on common equity to absorb losses as credit and market value losses come directly out of retained earnings and therefore common equity. The coverage of the risks has also been substantially improved, especially those related to capital markets activities. Trading book exposures will be subject to a stressed value at risk requirement and banks would be required to hold appropriate capital for less liquid, credit sensitive assets with much longer holding periods. Securitisation exposures will be subject to capital charges more consistent with those for the banking book. The capital requirements for counterparty credit risk are also being strengthened and banks must further hold capital for mark-to-market losses associated with the deterioration of a counterparty's credit quality. The higher capital requirements for OTC activities will increase incentives to use central counterparties and exchanges. The level of capital has also been enhanced to absorb the types of losses associated with the recent crises. This includes an increase in the minimum common equity requirement from 2 per cent to 4.5 per cent and a capital conservation buffer of 2.5 per cent, bringing the total common equity requirement to 7 per cent. As capital is a necessary but not sufficient condition for bank resilience, a global liquidity standard has been introduced to supplement capital regulation. Stronger supervision, risk management and disclosure standards have also been introduced. The Committee has strengthened the Pillar 2 supervisory review process of the Basel capital framework, including in the areas of corporate governance, risk appetite, risk aggregation, and stress testing. Pillar 3 transparency requirements have also been increased for more complex capital markets activities.

On the macro-prudential front, firstly, the leverage ratio has been introduced and it has the role of helping to contain the compression of the risk based requirement. This limit will prevent the buildup of excess leverage in good times and thus reduce the deleveraging dynamic in periods of stress. The leverage ratio also protects the system against unintended consequences of the risk weighting regime. Many asset classes may appear to be low risk when seen from a firm specific perspective. But the system-wide build up of seemingly low risk exposures can pose substantial threats to broader financial stability. The leverage ratio will also help to cater for broader system wide risks that need to be underpinned by capital. Measures were introduced to raise capital levels in good times so that they can be drawn down in periods of stress to reduce pro-cyclicality. This will ensure that capital is conserved in a downturn and rebuilt during the upswing. In addition, a countercyclical capital buffer to protect the system against excess credit growth has also been introduced as the most severe crises were found to be preceded by credit bubbles. When these bubbles burst, the banking sector is the first casualty. While bubbles may not always be prevented, steps can nevertheless be taken to make banks more resilient to the inevitable fallout.

Globally systemic banks will be required to have additional loss absorbing capacity beyond the Basel III as it is considered that if the impact of problems at a global bank cannot be fully eliminated, more should be done to reduce the probability. The Basel Committee, in cooperation with the Financial Stability Board, is developing a methodology comprising both quantitative and qualitative indicators to assess the systemic importance of global financial institutions. The magnitude of loss absorbing that global systemic banks should have will also be assessed. The additional loss absorbing capacity is expected to be met through some combination of common equity, contingent capital and bail-in debt. The Basel III reforms also substantially raise capital and liquidity requirements for trading, derivatives and funding activities most associated with systemic risk and inter-connectedness.

Materials in this Box were adapted from communiqués from the BIS website and a speech delivered by Stefan Walter, Secretary General, Basel Committee on Banking Supervision, at the 5<sup>th</sup> Biennial Conference on Risk Management and Supervision, Financial Stability Institute, Bank for International Settlements, Basel, 3-4 November 2010.

## 1.2 THE DOMESTIC ENVIRONMENT

### 1.2.1 GROWTH, OUTLOOK AND RISKS

CSO estimates indicated that all economic sectors recorded positive growth rates in 2010 in contrast to 2009 during which activities in some key sectors<sup>1</sup> registered negative growth rates. However, yearon-year growth in the second quarter of 2010 has been revised downwards to 3.4 per cent in December 2010, from 3.8 per cent estimated in September 2010. Real GDP in the third guarter of 2010 rose by 5.2 per cent over the corresponding period of the previous year. "Construction" and "Real estate, renting and business activities" were the main contributors to the 5.2 per cent growth in GDP. Final consumption expenditure held up well in the third quarter, underpinned by households' consumption which grew by 3.1 per cent while that of General Government grew by 2.8 per cent. Gross Domestic Fixed Capital Formation (GDFCF) registered a growth rate of 8 per cent in the July-September 2010 quarter after rising by 6.7 per cent in the previous quarter. Net exports of goods and services, which were negative throughout 2009, increased by 27.3 per cent and 72.5 per cent in the second and third quarters of 2010, respectively, compared to the corresponding quarters of 2009. The economy is estimated to have grown by 4.2 per cent in 2010, driven largely by consumption and net exports in the first three guarters of 2010 while the growth rate was 3.1 per cent in 2009. The main expenditure components of GDP growth are depicted in Chart 1.8.

#### Percentage points 13 Net Exports 11 Investment Total Consumption 9 GDP Growth 7 5 3 1 -1 -3 -5 -7 -9 -11 Year 2008 Year 2009 Q1 2009 Q2 2009 Q3 2009 Q4 2009 Q1 2010 Q2 2010 Q3 2010

Note: Figures have been revised in light of the 2007 Census of Economic Activities

Being an open economy, with important economic linkages with Europe, risks to growth may intensify as a result of adverse economic developments in that region. With Europe accounting for around 65 per cent of tourists and exports of goods, further turmoil in the euro area would impact the export sector through reduced exports revenues resulting from lower demand and adverse exchange rate effects. It must be highlighted that efforts are underway to diversify our exports markets with a view to tapping niche markets in emerging economies.

The dynamics of the initial phase of the recovery that were observed in the fourth quarter of 2009 and first quarter of 2010 have been fading to some extent amid increasing uncertainty during most of 2010. Business optimism domestically is taking time to pick up and largely reflects global conditions that have remained vague, including the debt problems in the euro area. As a result, private investment and spending are not picking up enough to sustain growth and thus perpetuating uncertainty. In addition, with private investment being low, output and employment may be held back, dampening future growth prospects. Budgetary measures to massively invest in infrastructure are expected to impact positively on output, employment and income. However, the size and speed of implementation of those measures remain critical.

Another risk to growth is the increasing threat of cost-push inflation. With the rise in commodity prices and rising inflation in Asia, imported and cost-push inflation may either squeeze profits of firms further or feed into higher prices. As a result, the competitiveness of Mauritius may be affected to some extent.

#### 1.2.2 INFLATION RISKS AND MONETARY POLICY

The Bank reduced the key Repo Rate by 100 basis points to 4.75 per cent in September 2010 for the first time in 18 months amid increased downside risks to domestic growth prospects and the low inflation environment. At the last meeting held in December 2010, the MPC considered that the balance of risks did not warrant any change in the policy rate. However, the expected surge in food and energy prices may worsen the shortto-medium term inflation outlook leading to a possible end of the monetary easing stance.

Chart 1.8: Contribution to GDP Growth by Main Expenditure Components

Source: CSO, Government of Mauritius

<sup>&</sup>lt;sup>1</sup> The main sectors include: 'Manufacturing', 'Real estate, renting and business activities', 'Wholesale & retail trade; repair of motor vehicles, motorcycles, personal and household goods', 'Financial intermediation' and 'Transport, storage and communications'.

# 1.2.3 RISKS FROM THE EXTERNAL SECTOR

The current account deficit for the third quarter of 2010 worsened to Rs 7,576 million, due to a more pronounced deficit in the merchandise trade account coupled with lower surpluses on both the services and current transfers accounts. The merchandise trade deficit worsened significantly to Rs 13,811 million, 24.5 per cent higher relative to the shortfall recorded in the corresponding period of last year. The worsening deficit came on account of a higher increase of 15.6 per cent in imports relative to a rise of 9.4 per cent in exports. As a percentage of GDP at market prices, the current account deficit for the third quarter stood at 10.2 per cent, up from 8.1 per cent in the corresponding quarter of last year.

The surplus on the services account reached Rs 3,015 million, representing a year-on-year decrease of 32.2 per cent from Rs 4,446 million recorded in the third quarter of 2009. The shift in "other services", on a net basis, from a surplus to a deficit contributed to the decline in overall surplus.



The income account moved to a surplus of Rs 2,739 million in the third quarter of 2010 from a deficit of Rs 143 million recorded in the third quarter of 2009. This turnaround came largely on account of significantly lower direct income paid outwards. The surplus on the current transfers account decreased to Rs 481 million in the third quarter of 2010, from Rs 1,100 million in the corresponding quarter of 2009, driven by lower net inflows of private transfers.

The capital and financial account ended the third quarter of 2010 with a surplus of Rs 11,328 million,

a significant increase of Rs 7,345 million on a year-on-year basis owing mostly to the positive contribution of other investment flows.

The net inflow of direct investment moderated to Rs 1,073 million in the third quarter of 2010, recording a decline of Rs 346 million compared to the same quarter of 2009 due to higher residents' investment abroad. Portfolio investment recorded net outflows of Rs 1,027 million during the third quarter of 2010.

The overall balance of payments for the third quarter of 2010 recorded a surplus of Rs 602 million compared to a higher surplus of Rs 3,875 million in the corresponding period last year.

The current account deficit, measured as a percentage of GDP, is estimated to widen to 10.0 per cent in 2011 from 9.8 per cent in 2010 on the back of worsening merchandise trade deficit as import growth is expected to outweigh export growth. The capital and financial account, inclusive of reserve assets, is projected to record higher net inflows in 2011.

# Adequacy of Reserves to Resist External Shocks

The level of net international reserves of the country at the end of December 2010 stood at Rs 107,984 million which represented the equivalent of more than 10 months of imports thereby providing a comfortable cushion to absorb any external shock.



### 1.2.4 RISKS FROM THE FISCAL SECTOR

According to the Programme-Based Budget Estimates, the overall budget deficit for the budgetary central government sector is estimated at 4.5 per cent of GDP for calendar year 2010 and it is expected to come down to 4.3 per cent in 2011 and further down to 4.1 per cent in 2012. Reflecting fiscal consolidation efforts by Government, the primary deficit is projected to decline steadily from 1.1 per cent of GDP in 2010 to 0.5 per cent of GDP by 2012.

Public sector debt, comprising debt of Government and public enterprises, as a percentage of GDP, is estimated to have increased from 60.0 per cent as at end-December 2009 to 60.7 per cent as at end-December 2010. However, it is projected to come down to 59.0 per cent at the end of December 2013.

The share of short term domestic debt in total central government debt declined from 27.6 per cent as at end-December 2009 to 22.8 per cent as at end-December 2010, reflecting the policy of government to lengthen the maturity structure of its debt.

Total external debt as a percentage of GDP went up from 10.6 per cent as at end-December 2009 to around 12.0 per cent as at end-December 2010 and is projected to reach nearly 14.0 per cent as at end-December 2011, reflecting increased recourse by Government to foreign funding of its budget deficit. The debt-service ratio is not currently a concern as it is forecast to hover in the range of 2.8 per cent to 3.3 per cent between 2010 and 2013. In the short-to-medium term, the sustainability of government finances may be impacted should there be a prolonged and sharper than expected deterioration in economic conditions.

#### 1.2.5 HOUSEHOLD SECTOR

Rising household indebtedness may have financial stability implications especially if repayment instalments increase with rising interest rates and debt servicing abilities deteriorate as a result of reduced disposable income arising from job losses and inflation. In Mauritius, household indebtedness arises from borrowings from depository corporations (including a stateowned housing company), insurance companies, hire purchase companies and credit finance companies.

The analysis that follows on the household sector is based exclusively on aggregate data from the banking sector. However, these data do not provide information on the distribution and matching of debt and interest expenditures and income. More detailed data would have been useful to identify pockets of vulnerabilities, if any, in the household sector.

Distribution of credit to the household sector can be decomposed into three categories; housing loans, personal and professional loans and credit card advances. In Mauritius, there is an instilled culture of asset-building by households and as such, over the years, indebtedness of households has increased mainly for the purpose of purchasing or construction of residential properties. Personal and professional loans are generally used for the funding of education and purchase of vehicles. Part of these loans is also used for consumption purposes. Credit card advances to the personal and professional sectors are unsecured in nature and are generally availed to customers with a stable source of income. Given their relatively low significance in household indebtedness, credit risk arising from credit card advances is not a cause for concern for the time being. At end-September 2010, housing loans, personal and professional loans and credit card advances accounted for 57.3 per cent, 39.4 per cent and 3.3 per cent, respectively, of total household credit extended by banks (see Chart 1.11).



Since the outbreak of the global financial crisis in September 2008, growth of credit to the household sector remained in the range of 9.0 per cent to 17.7 per cent, with the lowest growth rate recorded in December 2009. Credit to households trended upwards in a declining and low interest environment notwithstanding uncertain economic conditions. It should be noted that growth of household credit was driven mainly by housing loans which expanded at a much faster rate than the two other components. This confirms the tendency of households towards asset-building, generally viewed as a safe investment. Household sector funding appears to remain an attractive line of business for banks due to the high quality of collaterals provided, that is mortgage on residential property and the associated low likelihood of default. In the first 9 months of 2010, the average growth of credit to households improved to 13.4 per cent compared to 12.5 per cent in the corresponding period of 2009.



The evolution of the ratio of household indebtedness to GDP is a key indicator of household vulnerabilities. In the previous Financial Stability Report (FSR), the evolution of this indicator was brought out and a widening of the gap between growth of household indebtedness with banks and nominal GDP was highlighted. This gap has continued to widen from March through September 2010 (see Chart 1.13) and was driven by a relatively higher growth in household credit by banks compared to the growth in nominal GDP.



However, the widening of the gap should be interpreted with caution as though household indebtedness has grown faster than nominal GDP, the bulk of the debts contracted by the household sector has been principally channelled towards the construction and purchase of housing units. The fact that default on housing loans tends to be low provides a source of comfort and thus the gap does not, for the time being, point to increasing household vulnerabilities.

Information on indebtedness was collected by the Central Statistics Office at the 2010 round of the Continuous Multi-Purpose Household Survey (CMPHS). Preliminary results revealed that, for the first three quarters of 2010, about half of the Mauritian households surveyed were indebted. Out of these households, about half were indebted with banks and the other half with non-bank institutions. Analysis of household indebtedness by income group showed that 78 per cent of households with monthly income above Rs 30,000 were indebted compared to 40 per cent of households deriving income of Rs 30,000 or less.

Household vulnerabilities may also be assessed by analysing the share of debt repayment as a share of total household expenditure and total household income. These two ratios were estimated at around 21 per cent and 17 per cent, respectively, for the first three guarters of 2010.

The estimates will be revised with the availability of whole year data for 2010. However, the above information should be used with caution as they are subject to sampling error since they are based on information collected from a sample of households instead of all households.

#### 1.2.6 CORPORATE SECTOR

Banks and corporates in Mauritius are mutually dependent as a large part of banking sector credit is extended to corporates and the latter rely heavily on banks to meet their funding requirements. In fact, unlike other emerging economies, fund raising by corporates on the domestic stock market is not widely practiced in Mauritius.

Given the important share of credit to corporates in banks' balance sheets, the financial health of such borrowers has an important bearing on the income, profitability and soundness of the banking sector. Latest information available indicates that the Top 10 companies on the SEM have achieved year-on-year total return in the range of 1.0 per cent to 157.8 per cent over the period January to December 2010. The dispersion can be observed in Chart 1.14.



Source: Stock Exchange of Mauritius

The analysis that follows on corporate indebtedness is based only on banking sector data due to data limitations.

As at end-September 2010, credit to corporates accounted for 76.7 per cent of total credit to the private sector, representing a 1.1 percentage points decline compared to a year earlier. Credit extended to corporates, averaged for the first nine months of 2010, grew by 4.6 per cent compared to a growth of 19.0 per cent registered in the corresponding period of 2009. However, on a year-on-year basis, improvement in the growth of credit to corporates is visible as from early 2010 and was sustained through September 2010 (see Chart 1.15). It must be noted that the growth rate is still well-below the pre-crisis level as uncertainties remain following the European sovereign debt woes.



#### 1.2.7 DEVELOPMENTS IN THE DOMESTIC FINANCIAL MARKETS

#### **Domestic Money Market**

The banking system remained highly liquid between July to December 2010, with excess liquidity peaking Rs 8.0 billion in August 2010. Banks' excess reserves averaged Rs 4.3 billion during that period compared to Rs 1.7 billion in the corresponding period in 2009. The excess liquidity was mainly due to net redemption of Government securities and a relatively lower credit off-take.

The Bank continued to monitor the liquidity conditions vigilantly and, based on its daily liquidity forecasting framework, stepped in the market as and when necessary to contain the growing level of excess liquidity. In July 2010, the Bank carried out reverse repo transactions with banks for an amount of Rs 2.9 billion for a period of 14 days at the rate of 4.50 per cent per annum. Furthermore, the Bank revisited its approach to liquidity management and introduced new instruments of longer maturities, that is, Bank of Mauritius Bills of 91-Day, 182-Day and 364-Day as well as Bank of Mauritius Notes of 2-Year, 3-Year and 4-Year maturities, in order to mop up the excess liquidity for a longer duration. During the second half of 2010, the Bank issued Bank of Mauritius Bills and Notes for Rs 4.2 billion and Rs 3.5 billion, respectively, which helped effectively to bring the excess liquidity to a more appropriate level. Moreover, the Bank raised the CRR, from 5.0 per cent to 6.0 per cent, with effect from the fortnight beginning 8 October 2010, which resulted in lowering the excess liquidity in the system by some Rs 2.8 billion.



#### Chart 1.16: Banks' Excess Reserves, Key Repo Rate and WAI Rate

As a result of the excess liquidity conditions prevailing in the system and the cut in the key Repo Rate from 5.75 per cent to 4.75 per cent in September 2010, interbank money market rates remained on the low side in the second semester of 2010 compared to the corresponding period of 2009. Interbank transactions during the period July to December 2010 totalled Rs 53,719 million with a daily average of Rs 291.9 million compared to a daily average of Rs 516.9 million during the period July to December 2009. The overnight interbank interest rates ranged from 1.95 per cent to 3.75 per cent in the second half of 2010 against a range of 3.90 per cent and 4.50 per cent in the corresponding period of 2009. Interest rates at short notice (up to 7 days) and term maturity (more than 7 days) on the interbank market hovered in the range of 2.10-3.75 per cent during the period July to December 2010 compared to 3.95-7.25 per cent for the period July to December 2009. The weighted average interbank rate ranged between 2.07 per cent and 3.45 per cent in the second half of 2010 compared to a range of 4.02 per cent to 4.26 per cent in the corresponding period of 2009.



Reflecting the excess liquidity conditions, yields on Treasury Bills fell across all maturities following aggressive bidding by market participants and almost all primary auctions were oversubscribed.

#### **Domestic Stock Market**

The Stock Exchange of Mauritius (SEM) operates the Official Market and the Development & Enterprise Market (DEM). Currently, there are 37 companies listed on the Official Market representing a market capitalisation of USD 5,857 million as at 31 December 2010. The SEM is presently going through a strategic reorientation of its activities and gradually moving away from an equity-based domestic Exchange to a multiproduct internationally oriented Exchange. The sectoral composition of companies listed on the SEM is illustrated in Chart 1.18.



Source: Stock Exchange of Mauritius

The SEMDEX, which is the official index of the SEM, mirrored the general upward trend of major stock markets, and rose by 18.9 per cent between end-June and end-December 2010 to hit its highest level since March 2008. During that same period, the SEM-7, comprising bluechip companies, gained 11.8 per cent compared to 12.3 per cent in the corresponding period of 2009. It is worth noting that the SEM fell by 7.5 per cent in the first half of 2010. As the crisis impacted on the performance of companies that remained heavily reliant on external demand, the financial performance of companies making up the SEM-7 was relatively more adversely affected than companies whose performances are, to a greater extent, driven by local demand.

The SEM plays an important role in the field of foreign portfolio investment, and many listed companies have, especially over the last six years, benefited from foreign investment inflows. Despite the global crisis, commendable level of positive net inflows was recorded in 2008 and 2009. In 2010, efforts have been stepped up via international conferences and road shows, to place the SEM on the radar screen of institutional investors who are keen on frontier emerging markets that are well regulated and which adhere to international best practice. For the second half of 2010, net purchases by foreign investors on the domestic stock market were to the tune of Rs 816.7 million, which accounted for around 31 per cent of total market turnover, with a preference for banking stocks, which made up for 92.5 per cent of their net purchases.



Source: Stock Exchange of Mauritius

#### Foreign Exchange Market

The domestic foreign exchange market in the second half of 2010 was characterized by significant volatility, as depicted in Chart 1.20, largely reflecting the movements of major currencies on the international markets but also domestic supply conditions.



For the period 1 July to 31 December 2010, the rupee appreciated against the US dollar and Pound sterling by 4.35 per cent and 2.83 per cent, respectively, but depreciated vis-à-vis the euro by 2.67 per cent on a point-to-point weighted average dealt selling rate basis.

In nominal effective terms, the MERI1 and MERI2 appreciated over the period June to August 2010 but remained more or less stable until December 2010, as shown in Chart 1.21. MERI1, which has currency distribution of trade as weights, appreciated by 0.42 per cent while MERI2, which accounts for tourism receipts as well, appreciated by 0.26 per cent over the period July to December 2010.



The daily average overbought foreign exchange position of banks over the period July to December 2010 was USD 58.3 million, indicating a comfortable level of foreign exchange in the market. The Bank intervened to purchase a total amount of USD 219.5 million and EUR 18.8 million from banks and foreign exchange dealers over the same period, which was higher than the sales of foreign exchange to the State Trading Corporation, thereby limiting the appreciation of the domestic currency. The Bank also purchased USD 145 million and EUR 70.2 million from Government. Activity on the interbank foreign exchange market increased to a total of USD 252.8 million during the second half of 2010 compared to a total of USD 188.9 million in the corresponding period of 2009. Moreover, the Bank carried out foreign exchange swaps for EUR 4.55 million in July 2010.

# **2** The Financial Sector

The financial sector remained resilient and profitable in 2010 although uncertain economic conditions persisted locally and internationally. One important structural change in the sector occurred in the second semester of 2010 with the entry of a new banking entity, formerly operating as a Non-Bank Deposit Taking Institution, bringing the number of banks to 19 as at end-December 2010. The number of operators in the insurance industry, which is the next important segment of the financial sector, was 16 as at end-December 2009.

Stability in the banking sector is one of the important pre-conditions for the stability of the financial sector. The Bank monitors the Financial Stability Indicators (FSIs) of banks periodically and these indicators are considered to be at comfortable levels. Box II provides details of the FSIs over several quarters.

On an overall basis, although the domestic banking system is influenced by domestic and international factors given the presence of 7 domestically-owned banks and 12 foreign-owned banks, the level of activities in the banking sector in 2010 was reasonable and did not suffer any major setbacks. Domestically-owned banks which accounted for 32.4 per cent of total banking sector assets at end-September 2010 are mainly engaged in Segment A activities while foreignowned banks, which accounted for the remaining share of total assets, conduct primarily Segment B activities<sup>2</sup>. As at that date, the share of Segment A and Segment B assets held by domestic banks in total banking sector assets accounted for 67.4 per cent and 12.2 per cent, respectively, while the share of foreign banks in these two lines of activities was 32.6 per cent and 87.8 per cent, respectively.

With the single licensing regime that became effective as from November 2004, it is observed that domestically-owned banks have slowly moved into Segment B line of activities and foreign-owned banks have also been increasingly involved in Segment A activities. In this way, a gradual process towards greater homogeneity of activities is taking place in the sector. With the new entrant, it is expected that competition in the industry would be further enhanced and would improve the HHI, which is presented later in the Report.

# 2.1 BANKING SECTOR

### 2.1.1 BALANCE SHEET STRUCTURE AND RISK PROFILE

#### **Evolution of Banking Sector Assets**

The evolution of total assets in the banking sector is illustrated in Chart 2.1. At end-September 2010, total assets comprised 37.2 per cent of Segment A assets and 62.8 per cent of Segment B assets. On a year-on-year basis, total assets grew by 13.4 per cent in September 2010 and were driven by a 17.3 per cent and 7.5 per cent growth in Segment B and Segment A activities, respectively. Given the linkages that banks have with Europe, developments in this region are likely to impact the banking system to some extent.

A closer analysis made on a quarter-on-quarter basis shows that banking sector assets registered a contraction of 0.7 per cent in the third quarter of 2010, thus reversing the rather optimistic trend observed in the first and second quarters, when growth of 3.4 per cent and 8.6 per cent, respectively, were registered. This contraction reflected the evolution of Segment B activities while Segment A assets continued to expand in this period, albeit at a slower rate.

As the sovereign debt problems in the euro area are foreseen as likely to persist for some time and financial conditions may remain unstable in that region, it is possible that Segment B assets may continue to be impacted. On the other hand, Segment A assets are likely to maintain positive growth rates in the short-to-medium term.

<sup>2</sup>Segment B activity relates to provision of international financial services that give rise to foreign source income. Segment A activity refers to all banking activities other than Segment B activity.



#### Total Assets by Bank Size and Group

Size and ownership of banks in the sector can create systemic risk and lead to financial stability concerns. At end-September 2010, there were 7 domestic banks and 12 foreign banks categorised as 4 large, 8 medium and 7 small banks. These figures remained unchanged from the preceding quarter. The distribution of banking sector assets by size and ownership is given in Chart 2.2. It can be observed that the share of large banks has declined slightly at the expense of medium-sized banks over the first three quarters of 2010 while the share of small banks continued to remain below 5 per cent and rangebound.



Analysis of assets by bank-ownership shows that subsidiaries are gaining increasing importance in the banking sector as depicted in Chart 2.2. The share of assets of subsidiaries in total assets of the sector systematically increased over the last six quarters while that of foreign banks continued to decline to stand at 16.6 per cent at end-September 2010. The share held by domestic banks changed only slightly in the first nine months of 2010 and hovered above 30 per cent.

Although domestic banks held only 32.4 per cent of total banking sector assets against branches and subsidiaries of foreign banks which accounted for the remaining share, the significance of domestically-owned banks in the economy cannot be downplayed as around 75 per cent of their activities are conducted in the Segment A line.

#### Asset Composition

Advances, and cash and balances with banks continued to be the two major components of banks' assets and accounted for 59.1 per cent and 29.1 per cent, respectively, of total banking sector assets as at end-September 2010 compared to a share of 57.7 per cent and 29.2 per cent at end-September 2009. The share of other components in total assets also did not experience a significant change. Chart 2.3 shows the composition of total assets at end-September 2009 and 2010.



#### **Risk Diversification**

The risk diversification matrix of domestic banks, branches of foreign banks and subsidiaries of foreign banks is depicted in Chart 2.4. The risk profiles of these three categories of banks reflect not only their risk-taking behaviours but also the nature of their activities and the respective Head Office/Parent Bank strategies especially in the case of foreign banks.

On a consolidated basis, at end-September 2010, banking sector assets remained concentrated in the zero, 20 per cent and 100 per cent risk-weight buckets, which in aggregate accounted for 84.1 per cent of total assets. A disaggregation of credit risk patterns of banks shows some similarities between domestic banks and branches of foreign banks, which tend to focus more on risk-free and 100 per cent risk-weight assets. In line with policies of their parent banks, subsidiaries of foreign banks tend to place more emphasis on 100 per cent risk weight assets and on placements which carry 20 per cent risk weight.







#### **Components of Total Liabilities**

Deposits continued to be the main component of banks' liabilities and its share in total liabilities increased from 72.6 per cent as at end-September 2009 to 73.0 per cent as at end-September 2010. Borrowings, the second largest component of banks' total liabilities, accounted for 14.6 per cent of total liabilities while the increase in the share of Capital, Reserves and Surplus was rather marginal over that same period. The composition of total liabilities for September 2009 and 2010 is shown in Chart 2.5.





#### Market Concentration

The Herfindahl-Hirschmann Index (HHI) is a measure of the degree of market concentration and has been assessed on a consolidated level as well as from a segmental angle for the period December 2005 to September 2010 (Table 2.1). An index lying in the range of 0-1000 indicates low concentration while an index above 1800 shows high concentration.

The concentration of banks' assets improved further as the HHI for assets moved closer to the 'low concentration' band in September 2010. The HHI for deposits also maintained a similar trend while the concentration of loans in the banking sector remained unchanged since June 2010. Higher risk aversion by banks may have been one of the factors that led to the stagnation of the HHI in the third quarter of 2010. It is likely that with the new entrant in the industry, the HHI for assets, deposits and loans may improve in the coming quarters and the HHI for assets may even transit to the 'low concentration' band.

Table 2.1: Herfindahl-Hirschmann Indexfor the Banking Sector								
	Dec- 05	Dec- 06	Dec- 07	Dec- 08	Dec- 09	Mar- 10	Jun- 10	Sep- 10
Loans	1521	1372	1268	1263	1259	1317	1347	1347
Deposits	1717	1199	1327	1297	1207	1218	1220	1190
Assets	1443	1143	1159	1172	1067	1112	1097	1068

#### 2.1.2 CREDIT GROWTH AND CREDIT RISKS

The significant presence of foreign banks in the banking sector results in a larger share of Segment B advances in total advances compared to Segment A. Thus, credit growth in the banking sector is largely dependent on the evolution of Segment B advances.

As at end-September 2010, the share of advances to Segment A and Segment B activities stood at 39.1 per cent and 60.9 per cent, respectively, compared to 40.8 per cent and 59.2 per cent, respectively, a year earlier.

Growth of total banking sector advances, which returned to positive territory in March 2010, continued its uptrend till June 2010 and reached 19.5 per cent, a level last achieved in March 2009. However, the knock-on effects of developments in the euro area appeared to have impacted on the growth of total advances, which decelerated as from June 2010 but stayed around 16 per cent as at end-September 2010. This was driven by a deceleration in the growth of Segment B advances, which are influenced by international economic conditions, while growth of Segment A advances continued its uptrend as shown in Chart 2.6.

On a year-on-year basis, at end-September 2010, Segment A and Segment B advances grew by 11.2 per cent and 19.6 per cent, respectively, compared to 8.9 per cent and 9.8 per cent, respectively, in the corresponding period of 2009.

Growth of advances to Segment A and Segment B averaged 9.5 per cent and 20.0 per cent, respectively, in the third quarter of 2010 compared to average growth rates of 6.6 per cent and 21.6 per cent, respectively, recorded in the previous quarter. In the first quarter of 2010, Segment A advances expanded by 3.7 per cent, while Segment B advances registered a contraction of 1.1 per cent.



### Foreign Currency Credit

The currency composition of credit is important as excessive lending in foreign currency may have financial stability implications due to foreign exchange volatility which may impact on the repayment capacity of borrowers. Under adverse circumstances, asset quality can deteriorate and impact on banking sector performance.

Foreign currency credit is principally extended by subsidiaries and branches of foreign banks which conduct business mainly with non-residents and is directed to various parts of the world with around 90 per cent to Asia, Europe, Africa and Middle East. Foreign currency credit thus continued to account for the larger share in total banking sector credit and at end-September 2010, they represented 66.3 per cent of total credit, up from 65.2 per cent in the corresponding period of 2009. A more detailed analysis on cross-border exposures is provided later in the Report.

Growth of foreign currency credit improved and moved into positive territory in early 2010 and as from March 2010, it gained momentum and reached a peak of 25.3 per cent in May 2010. However, the sovereign debt woes that unnfolded in parts of Europe and which caused uncertainty to resurface, appears to have impacted the growth of such credit which decelerated as from June 2010 and stayed rangebound through the end of the third quarter of 2010 (see Chart 2.7). Growth rates of foreign currency credit averaged 18.7 and 17.7 per cent in the second and third quarter of 2010, respectively. On a year-on-year basis, foreign currency credit grew by 18.1 per cent as at end-September 2010 compared to a growth rate of 9.6 per cent, a year earlier.

### **Foreign Currency Credit** Per cent 30 25 Rupee 20 Foreign Currency 15 10

Domestic banks also grant foreign currency credit but to a much lesser extent than foreign banks. A large part of foreign currency credit are channeled to the tourism, manufacturing, agriculture and fishing, and construction sectors and to GBL Holders.

At end-September 2010, foreign currency lending by domestic banks stood around 10 per cent of total banking sector credit and around 15 per cent of total foreign currency credit extended by the sector. Risks that could have financial stability implications may arise from the mistmatch between the currency in which the credit is granted and that in which borrowers derive their income, which would be used as a source of repayment. Available data indicate that such cases are not significant as banks ensure that the currency mismatch does not arise when granting foreign currency credit to residents. Further studies on the maturity pattern of foreign currency assets and liabilities are required to determine whether there are financial stability concerns arising therefrom.

### **Distribution of Credit by Sector**

Domestic banks play a key role in the funding of the private sector in Mauritius. Credit is well diversified in a plethora of sectors with the highest share going towards the household sector, in the form of housing and consumption loans. At end-September 2010, more than 70 per cent credit to the private sector was channelled to the household, tourism, traders, financial and business services, and construction sectors. The sectoral distribution of credit as at that date is illustrated in Chart 2.8.



Credit to the private sector i.e. to resident borrowers, comprised mainly rupee loans and overdrafts and foreign currency loans, which



accounted for 79.1 per cent and 14.7 per cent, respectively, of total credit as at end-September 2010. Foreign exchange risks may give rise to financial stability concerns especially when there is high dependence on foreign currency financing and the exchange rate is excessively volatile. However, such risks do not pose any financial stability concerns for the time being. The growth paths of the main rupee and foreign currency components of private sector credit are depicted in Chart 2.9



The intra-sectoral composition of credit showed that as at end-September 2010, 27.7 per cent and 23.0 per cent of credit extended to the tourism and manufacturing sectors, respectively, were in foreign currency. The construction sector had only 5.7 per cent of credit in terms of foreign currency. Although the tourism and manufacturing sectors have a relatively higher share of credit in foreign currency, risks faced by banks from these exposures are mitigated to some extent as operators in those sectors also receive foreign source income. Nevertheless, close monitoring of banks exposures in foreign currency is warranted, especially in a context of exchange rate volatility.



Growth of credit to the private sector seemed to have bottomed-out by December 2009 when it reached a trough 3.2 per cent, down from 21.6 per cent in February 2009. Improved economic conditions led to a resurgence in credit growth in the opening months of 2010 and were sustained through September 2010. This improvement in credit growth was driven by sustained expansion of credit to the construction, tourism, agriculture and fishing, and the household sectors. However, the growth rate is still well below pre-crisis level as banks continue to remain risk-averse due to lingering uncertainties driven largely by the debt crisis in parts of Europe. Credit to the private sector, averaged for the first nine months of 2010, grew by 6.5 per cent compared to 17.5 per cent recorded in the corresponding period of 2009. The growth path of credit to various sectors is given in Chart 2.11



The manufacturing sector which is one of the key sectors of the economy and accounted for around 11 per cent of total private sector credit appears to have been more vulnerable to the knockon effects of the debt woes in Europe. Growth of credit extended to that sector continued to remain in negative teritory and in the first nine months of 2010, credit to the manufacturing sector contracted by 4.1 per cent as against an expansion of 4.6 per cent in the corresponding period of 2009. A closer analysis revealed that, the contraction of credit to the manufacturing sector resulted from a sharp decline in credit to the export entreprise certificate holders which accounted for 37.6 per cent of credit extended to the manufacturing sector at end-September 2010. Chart 2.12 illustrates the evolution of credit to the manufacturing sector.



#### Non-Performing Loans

Asset quality is a key element that contributes towards the stability of the banking sector. Deterioration in credit quality may impact on the adequacy of capital, profitability and, ultimately, on the soundness of the banking system.

The low level of NPLs recorded in the banking sector over the past few years results from the sound regulatory and supervisory framework based on international norms put in place by the Bank. As such, asset quality in the banking system is not likely to raise stability concerns in the banking sector for the time being.

At end-September 2010, the NPL ratio hovered around 2.1 per cent and reflected the net effect of the improvement of NPL arising from credit extended outside Mauritius and the slight deterioration in the NPLs pertaining to credit extended in Mauritius.

The level of NPLs in credit granted to key economic sectors<sup>3</sup> accounted for 81.9 per cent of total NPLs in Mauritius at end-September 2010. The construction sector, inclusive of housing loans, recorded a relatively large share of delinquent loans in total NPLs but the construction sector remains the sector in the economy which is most funded by banks. This may be explained by the fact that housing loans, which account for around 60 per cent of credit to the construction sector, are generally secured by mortgage on property, which mitigates the associated credit risk to a large extent.

The probability of default across various sectors generally fell as from the second half of 2009. The decline in the default rate in the manufacturing sector was relatively more pronounced while that of the tourism sector remained the lowest, notwithstanding successive increases that were observed over several previous quarters.

Following renewed uncertainty on the international front and a slowdown in the pace of global recovery and considering the potential repercussions on the domestic economy, internal simulations have been carried out to measure the impact of possible deterioration in delinquent loans on bank's capital ratios. Results are provided in Box III on Stress Test.

Table 2.2: Non-Performing Loans in the Banking Sector						
	Non-performing loans as a percentage to credit extended in Mauritius	Non-performing loans as a percentage to credit extended outside Mauritius	Total non-performing loans as a percentage to total loans by the banking sector			
Dec-07	4.4	0.2	2.2			
Mar-08	4.7	0.1	2.2			
Jun-08	4.4	0.6	2.4			
Sep-08	4.0	0.5	2.1			
Dec-08	3.8	0.6	2.1			
Mar-09	4.0	0.9	2.4			
Jun-09	4.0	0.9	2.4			
Sep-09	4.5	0.7	2.5			
Dec-09	4.5	1.4	2.9			
Mar-10	4.3	0.6	2.3			
Jun-10	4.0	0.5	2.1			
Sep-10	4.2	0.4	2.1			

<sup>3</sup> Key economic sectors include the construction, manufacturing, personal, traders and tourism.





#### Non-Performing Loans and Provisions

Non-performing loans should be viewed with the level of specific provisioning in order to assess the repercussions on the banking sector. A rise in NPLs, per se, may not be a cause for concern if it is accompanied by a comfortable coverage ratio. In absolute terms, NPLs decreased as from December 2009 through June 2010. However, a slight deterioration was observed in September in 2010, which was, to a large extent, driven by NPLs arising from credit extended to the manufacturing, tourism and construction sectors.

At end-September 2010, the ability of banks to absorb losses arising from non-recoverability of NPLs is considered as sound as the coverage ratio stood comfortably at around 48 per cent. Chart 2.15 below shows the evolution of nonperforming loans and coverage ratio in the banking sector for the period December 2007 through September 2010.



#### **Concentration of Credit Risk**

Inter-connectedness among borrowers operating in the various economic sectors tends to lead to high credit concentration risk in the books of banks due to the relative small size of Mauritius. The Bank of Mauritius adopts best international practices to monitor credit concentration risk, which can have serious financial stability implications. The evolution of the ratio of aggregate large exposures to capital base and the ratio of large exposures to total credit facilities are shown in Table 2.3. As at end-September 2010, the credit concentration risk ratio stood at 197.0 per cent, down from 212.0 per cent a year earlier.

Concentration of credit risk is not considered a concern in the banking sector when viewed from the prudential point as the percentage of aggregate exposures to capital base remained well below the 800 per cent limit. Nevertheless, establishing the inter-connectedness among the large borrowers would give a clearer indication of financial stability concerns, if any, that may arise from concentrated exposures and crossownership.

Table 2.3: Concentration of Credit Risk Ratio				
	Percentage of aggregate large exposures to capital base (per cent)	Percentage of aggregate large exposures to total credit facilities (per cent)		
Mar-09	211	26		
Jun-09	209	31		
Sep-09	212	28		
Dec-09	197	24		
Mar-10	209	26		
Jun-10	197	23		
Sep-10	197	25		

#### Cross-Border Exposures

Risks associated with cross-border exposures may be assessed through the amount of credit granted to customers outside Mauritius, the region where the activities of those customers are located and the degree of impairment of those exposures. These factors, amongst others, will determine the significance of the contagion risk that may arise from cross-border exposures and which can subsequently impact the stability of the sector. Although there is a high concentration of exposures of around 70 per cent to the Asian region, the low share of NPLs arising from those exposures provides a source of comfort to some extent. For the year ended September 2010, this share, on average, remained below 0.1 per cent. Exposures to the African region, which by far recorded the highest default rate, accounted for only 6.2 per cent of total cross-border exposures at end-September 2010.

Banks are also exposed to customers in Europe and credit extended to these customers has been on the downtrend over the 12 months period to September 2010. This may be due to a combination of demand and supply factors as a result of economic uncertainties in that region and some risk aversion by banks. At end-September 2010, around 10 per cent of total loans was channelled to that region, down from around 14 per cent, a year earlier. The ratio of impaired loans to total loans extended to borrowers in Europe worsened to 2.2 per cent over the year ended September 2010 but continued to remain at relatively low levels in spite of prevailing economic conditions in that region. A linear sensitivity analysis showed that in the event that all credit exposures to Europe became non-performing, the NPL ratio for the banking sector would rise to around 6.0 per cent and the capital adequacy ratio for the banking sector would still be above the regulatory minimum of 10 per cent. However, the likelihood that all exposures to Europe become impaired is quite remote.

### 2.1.3 FUNDING AND LIQUIDITY RISKS

#### **Deposits**

Depositors' confidence plays a key role and is one the key elements that contributes to the stability in the domestic banking sector as deposits are the main source of funding of banks' activities. The trend in the level of deposits raised by banks revealed that, unlike other countries, depositors' confidence remained relatively unscathed.

Banking sector deposits are predominantly driven by foreign currency deposits which are raised mainly by foreign banks and these deposits account for more than 60 per cent of total deposits. Notwithstanding negative yearon-year growth rates of deposits in some months of 2009, the banking sector did not face any pressure to raise funds to finance their activities. As at December 2009, the year-on-year growth of deposits returned to positive territory and this was sustained through September 2010, despite some volatility in the foreign currency component (see Chart 2.16).

Table 2.4 Cross-Border Exposures								
	Septen	nber-09	March-10		June-10		September-10	
Region	Percentage of total cross- border loans	Percentage of impaired loans*						
Africa	5.60	10.00	6.60	6.15	5.63	6.44	6.21	3.76
Asia	68.40	0.10	66.00	0.10	69.72	0.08	70.17	0.07
Australia	0.30	0.20	0.30	0.13	0.27	0.27	0.26	0.16
Europe	14.40	1.10	12.50	1.65	10.27	2.32	9.61	2.20
Middle East	2.30	-	3.90	-	3.41	0.00	3.29	0.00
USA and Canada	0.60	-	0.70	1.73	1.23	0.46	1.36	0.39
Others	8.50	0.10	10.10	0.12	9.46	0.10	9.09	0.10



Banking sector deposits grew by 11.0 per cent in the third quarter of 2010 as against a contraction of 0.4 per cent in the corresponding period of 2009. The growth of deposits in the third quarter of 2010 was driven by growth in both rupee and foreign currency deposits while the contraction in the corresponding quarter of 2009 was a consequence of a contraction of foreign currency deposits which was more significant than the growth in rupee deposits.

#### **Concentration of Deposits**

Branches and subsidiaries of foreign banks, which have a strong presence in Mauritius, mobilised around 64 per cent of total deposits as at end-September 2010. Within the category of foreign banks, subsidiaries recorded an increase in the level of deposits at the expense of branches. However this should not be associated with a fall in depositors' confidence in branches of foreign banks.

The share of deposits held by domesticallyowned banks remained rather unchanged over the past quarters and accounted for more than 35 per cent of total banking sector deposits as at end-September 2010 (see Chart 2.17).



Deposits of the Global Business License Holders remained the major source of funds for foreign banks as Mauritius is a financial centre of sound repute. These deposits accounted for more than 50 per cent of total deposits of which around 47 per cent are time deposits. Domestic banks place heavy reliance on deposits raised from the personal sector. This source of funding may be considered as a source of comfort as it is less prone to volatilities.

#### Maturity Preferences

Since the issue of the last FSR, the maturity preference of deposits has remained rather unchanged. Further, as anticipated in the last Report, no abrupt reduction was observed in the share of time deposits which accounted around 46 per cent in total deposits. Chart 2.18 depicts the share of demand, savings and time deposits from January 2008 to September 2010. It is observed that time deposits, which are important for long-term funding, have had a declining share in total deposits as from early 2008 and this could be due to a myriad of factors, including declining interest rates.



Box II: Selected Financial Stability Indicators							
Core Set of Financial Soundness Indicators	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10
Capital-based							
Regulatory capital to risk-weighted	17.2%	16.0%	15.3%	15.4%	16.7%	16.5%	15.9%
Regulatory Tier 1 capital to risk-weighted assets	15.1%	13.8%	13.2%	13.3%	14.6%	14.2%	13.6%
Nonperforming loans net of provisions to capital	10.1%	10.6%	11.1%	13.4%	8.1%	7.6%	8.6%
Asset quality							
Nonperforming loans to total gross loans	2.5%	2.6%	2.6%	3.3%	2.7%	2.4%	2.5%
Sectoral distribution of loans to total loans							
Interbank loans	0.3%	0.4%	0.3%	0.3%	0.2%	0.3%	0.3%
Central bank	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sectoral distribution of loans to total loans	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other financial corporations	1.4%	1.4%	1.3%	1.2%	1.4%	1.3%	1.2%
Nonfinancial corporations	33.4%	34.7%	32.8%	34.7%	35.2%	33.5%	33.9%
Other domestic sectors Nonresidents	13.5%	14.4%	14.4%	15.6%	16.1%	15.0%	15.9%
Nomesidents	51.4%	49.1%	51.2%	48.2%	47.0%	49.9%	48.8%
Earnings and Profitability							
Return on assets	1.6%	1.7%	1.7%	1.6%	1.7%	1.5%	1.2%
Return on equity	22.0%	22.7%	22.1%	21.0%	21.4%	19.5%	16.7%
Interest margin to gross income	68.9%	68.6%	69.0%	68.9%	67.6%	69.3%	70.5%
Noninterest expenses to gross income	38.2%	38.8%	37.6%	39.2%	39.9%	40.9%	43.0%
Liquidity							
Liquid assets to total assets	32.0%	28.8%	26.5%	27.9%	27.6%	24.9%	23.6%
Liquid assets to short-term liabilities	36.7%	34.4%	31.8%	34.4%	35.4%	32.4%	31.2%
Sensitivity to Market Risk							
Net open position in foreign exchange to capital	6.0%	6.5%	5.2%	5.3%	3.8%	1.8%	4.3%
Encouraged Set of Financial Soundness Indicators	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10
Capital to assets	8.0%	8.0%	7.8%	7.6%	7.3%	7.1%	7.0%
Value of large exposures to capital	196.3%	213.2%	217.7%	216.9%	208.9%	193.9%	217.0%
Customer deposits to total (noninterbank) loans	142.9%	146.0%	138.7%	153.1%	160.3%	153.1%	148.8%
Residential real estate loans to total loans	5.7%	6.0%	6.3% 2.1%	6.8% 2.1%	7.1% 2.1%	6.8%	6.9%
Commercial real estate loans to total loans Trading income to total income	1.9% 12.4%	2.1% 12.6%	18.5%	11.1%	14.4%	3.2% 10.9%	3.2% 11.4%
Personnel expenses to noninterest expenses	51.0%	51.0%	51.0%	49.8%	49.4%	51.2%	50.9%
Macroeconomic Indicators Headline Inflation	Mar-09 8.0%	Jun-09 8.0%	Sep-09 7.8%	<b>Dec-09</b> 7.6%	Mar-10 7.3%	<b>Jun-10</b> 7.1%	Sep-10 7.0%
Year-on-Year Inflation	4.8%	3.3%	0.9%	1.5%	2.3%	2.4%	2.5%
Key Repo Rate (end of period)	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	4.75%
Total Public Sector Debt/GDP (end of period)	53.9%	57.1%	56.8%	59.3%	57.5%	57.4%	58.0%
Total External Public Sector Debt/GDP (end of period)	7.8%	9.2%	9.1%	9.6%	9.6%	9.2%	10.0%
Import Coverage of Net International Reserves (No. of months)	9.3	10.2	9.7	11.0	10.1	9.9	9.4
Deposit/Broad Money Liabilities*	84.3%	83.9%	83.6%	83.7%	84.8%	85.2%	84.5%
Household Debt/GDP (end of period)**	15.6%	15.7%	16.1%	16.5%	16.7%	17.4%	17.9%
Corporate Debt/GDP (end of period)**	57.7%	57.7%	56.5%	56.6%	57.2%	59.4%	59.2%
	1st Quarter 09	2nd Quarter 09	3rd Quarter 09	4th Quarter 09	1st Quarter 10	2nd Quarter 10	3rd Quarter 10
Real GDP Growth***	0.7%	4.0%	3.4%	5.0%	3.7%	3.4%	5.2%
Unemployment Rate	8.0%	8.3%	7.4%	6.3%	8.4%	7.6%	7.6%
Current Account Deficit/GDP	1.8%	12.5%	8.1%	6.9%	6.0%	10.6%	10.2%

\* Banks Deposits excluding GBL deposits, deposits from non-residents, Banks outside Mauritius, government deposits and Deposit from Banks inside Mauritius.
\*\* Debts contracted with banks only
\*\*\* Percentage change over corresponding period of previous year
Notes: 1. FSIs are calculated on a domestic consolidation basis using the Financial Soundness Indicators Compilation Guide of the International Monetary Fund. Figures may be slightly different from other parts of this report.
2. Total loans include advances to nonresident sectors.
3. GDP figures have been revised in light of the 2007 Census of Economic Activities

### 2.1.4 FINANCIAL CONDITIONS OF BANKS

The banking sector remained sound, profitable, well capitalised and resilient against the background of the financial crises that have engulfed many banking systems worldwide. Several factors including high capital, sound regulation, and improvements in risk management and governance have contributed over time to consolidate the banking system in Mauritius.

The capital adequacy ratios of individual banks stood comfortably above the 10 per cent regulatory floor prescribed by the Bank. At end-September 2010, the banking sector's total regulatory capital ratio increased to 16.0 per cent, slightly higher than 15.2 per cent recorded a year earlier. Banks did not require capital injections from the public sector, nor did they have to deleverage by shedding assets but instead relied mostly on their profits to generate capital internally to sustain balance sheet growth during this period. Only one bank had an injection of new capital from its Head Office in the second quarter of 2010 to pursue growth.

#### **Core Tier 1 Capital**

The capital adequacy of banks is most often assessed on the basis of core tier 1 capital as a ratio of risk-weighted assets. The core tier 1 capital ratio across most banks remained of high quality, being composed mainly of common equity, which is the component of capital having the highest loss-absorbing capacity. The sector's core tier 1 capital ratio (excluding branches of foreign-owned banks) edged up from 12.6 per cent at end-September 2009 to 12.8 per cent at end-September 2010. In level terms, the core tier 1 capital increased by 20.5 per cent over this period, of which 80.6 per cent originated from retained earnings.

At end-September 2010, the median core tier 1 capital ratio (excluding branches of foreignowned banks) stood at 10.6 per cent, lower than the 12.2 per cent recorded a year earlier while the interquartile measure contracted by only 10 basis points to 4.3 per cent at end-September 2010. The decline in the median rate was driven by the higher increase in the level of business activities of individual banks in proportion to their core tier 1 capital.



Internal simulation exercises showed that, on a consolidated basis as at end-September 2010, banks could further sustain a growth of around 36.6 per cent in total risk-weighted assets without the core tier 1 ratio going below 10 per cent. Alternatively, core tier 1 capital could absorb losses to a maximum of 26.8 per cent at the existing level of activities.

#### Leverage

Excessive leverage in the balance sheets of banks has contributed to the global financial crisis. The pervasive incentive for banks to structure products in order to qualify for lower capital requirements encouraged them to build disproportionately elevated leverage in their balance sheets. This high concentration of structured exposures, subject to low regulatory capital requirements, created excessive risk in the system that was not gauged in the present risk-based measure. Therefore, in the run-up to the crisis, many banks that were severely affected still reported high core tier 1 capital ratios.

To rectify this deficiency, the G-20 and the Financial Stability Board have proposed the adoption of the leverage ratio, a non-risk based capital measure to complement the existing minimum capital adequacy requirements. This measure introduced in Basel III is defined as the ratio of core tier 1 capital to total on- and off-balance sheets assets including, derivatives. In the analysis for the banking sector in Mauritius, the leverage measure has been recalibrated to capture both on- and off- balance sheet exposures including derivatives. To compute the leverage ratio, a uniform credit conversion factor of 100 per cent has been applied to all non-market related off-balance sheet items while financial derivatives have been measured at their notional principal amounts.

The banking system in Mauritius has the benefits of being both well capitalised and less leveraged. At end-September 2010, the leverage ratio in the sector (excluding branches of foreign-banks) stood at 4.8 per compared to 5.3 per cent at end-September 2009.



The median leverage across banks (excluding branches of foreign-banks), as depicted in Chart 2.20, stood at 5.1 per cent of core tier 1 capital at end-September 2010 compared to 5.9 per cent a year earlier. The decrease in the sector leverage ratio and median leverage ratio during this period was due to the fact that the expansion in total onand off- balance sheet assets of banks (excluding branches of foreign-banks) outweighed the growth in core tier 1 capital. Despite this decrease, the leverage ratio across the sector stood above the 3.0 per cent minimum envisaged by Basel III. At micro level, during this period, most banks could still sustain balance sheet growth at the existing level of core tier 1 capital while maintaining adequate leverage. On the whole, there is no immediate pressure on the remaining banks which do not meet the 3 per cent minimum to deleverage or raise additional common equity since their balance sheets remain robust.

For the year ended 30 September 2010, banks (excluding branches of foreign-banks) maintained a comparatively equitable balance between the leverage and core tier 1 capital ratios commensurate with the growth in total on- and off-balance sheet assets and their equivalent in terms of total risk-weighted assets. Chart 2.21 depicts the evolution of leverage.



#### Profitability

The level of profitability of banks is important because it provides them with capital buffers to shield them from potential macro-prudential risk that may unfold in the event of a marked deterioration in economic activity in a financial crisis.

Since the publication of the last FSR, the banking sector has continued to earn reasonable profits albeit a mild reduction in the underlying level. Quarterly reports indicated that the annualised pre-tax profits of banks, which constitute of the sum of pre-tax profits for the four last quarters, stood, in aggregate, at Rs 11.2 billion at end-September 2010 and were lower compared to Rs 12.9 billion and Rs 13.7 billion recorded at end-June 2010 and end-March 2010, respectively. However, it is important to highlight at the outset that the subdued economic environment did not weigh evenly on the performance of the sector as most domestically-owned banks achieved higher growth in their level of pre-tax profits during the same period.

The decline in pre-tax profits is primarily attributed to a marked reduction in the trading income earned principally by some foreign-owned banks on their global operations. Other than that, the remaining components of revenue in the banking sector experienced a moderate decline while non-interest expenses were relatively unchanged. The size of write-downs was also not significantly material, reflecting the conservative lending practices among most banks and their low exposure in highly impaired asset-backed products.

#### **Components of Revenue and Expenses**

Net interest income earned by banks slowed down moderately in 2010 and expressed as a ratio to total assets, it fell by 30 basis points since end-March 2010 to 1.9 per cent at end-September 2010. The decline in net interest income was essentially associated with the decrease in interest income earned by the foreign-owned banks on their placements with their Head-Office abroad, as a consequence of prolonged period of low interest rates in many markets worldwide. Notwithstanding the high liquidity that had built up in banking system, the net interest income earned by domestically-owned banks experienced only a marginal reduction of 10 basis points since end-March 2010 to 3.0 per cent of total assets at end-September 2010.

Net trading income as a percentage of total assets registered a net decline in the third quarter of 2010, from 0.6 per cent at end-September 2009 to 0.3 per cent at end-September 2010 as widely anticipated since the exceptional trading gains registered by some foreign-owned banks in 2009 had not been rolled over in the profit figure of the third quarter of 2010.

Net fees and commission income stood at 0.4 per of total assets at end-September 2010, unchanged from the level achieved in the last two quarters while the other components of income varied only negligibly.

On an overall basis, the sector experienced a contraction in total operating income, which expressed as a percentage of total assets, declined from 3.2 per cent at end-March 2010 to 2.8 per cent at end-September 2010.



Non-interest expenses to total assets of banks were mostly unchanged at 1.2 per cent at end-September 2010 compared to 1.3 per cent at end-March 2010. Net loan impairment charges, which contracted to around 0.1 per cent of total assets at end-March 2010, stabilised around the sector's long-standing average rate of 0.2 per cent at end-September 2010.

#### **Return on Equity**

The annualised return on equity (ROE) (using the sum of pre-tax profit of banks over the last four quarters and shareholders' equity) continued to decline throughout 2010 despite higher asset growth registered in the sector during the same period.



The sector ROE gradually dropped to 16.7 per cent at end-September 2010 compared to 21.4 per cent at end-March 2010. The mean ROE dropped to 14.2 per cent at end-September 2010, from 16.6 per cent recorded at end-March 2010. The degree of dispersion in ROE among banks narrowed since the interquartile measure contracted by almost 60 basis points during this
period. This is explained by the fact that the high profits reported over the past quarters by the few outlier institutions consisting mainly of some subsidiaries and branches of foreign-owned banks, had contracted.

Furthermore, expressed as a percentage of total assets employed in the sector, the dispersion in ROE has regressed since the past six months. Compared to their level at end-March 2010, the percentage of total assets at end-September 2010 situated in '0-10' and '10-20' buckets increased by 24.4 per cent and 4.0 per cent, respectively, while those in the '20-30' and 'above 30' buckets contracted by 20.3 per cent and 8.1 per cent, respectively. Notwithstanding this downturn, banks were still earning a satisfactory ROE during this period.



#### **Return on Assets**

The annualised return on assets (ROA) (using the sum of pre-tax profit of banks over the last four quarters and average total assets) followed broadly the same declining trend. The sector and mean ROA decreased from 1.7 per cent at end-March 2010 to almost 1.2 per cent at end-September 2010 driven mostly by the lower ROA earned by some foreign-owned banks.



#### **Cost-to-Income Ratio**

A slight worsening in the cost efficiency ratio was noted in the sector in 2010 with the median cost-to-income ratio moving from 45.6 per cent at end-September 2009 to 53.7 per cent at end-September 2010. This was mainly due to higher staff costs. The dispersion in cost-to-income ratio by the total number of institutions is given in Chart 2.26.



### **Box III: Stress Testing Credit Risk**

This stress test exercise aims at providing policy information on the ability of the banking sector to absorb macroeconomic shocks on the credit portfolio, based on plausible scenarios that may not necessarily occur. The outcome of the stress test exercise should not be seen as a precise forecast of the expected future outcomes. The methodology used should also not be seen as final but subject to continuous improvement as part of a wider exercise. In general, based on financial conditions prevailing at end-June 2010, the results suggest that the stability of the banking system is currently unlikely to be threatened by a range of plausible adverse events.

Stress testing constitutes a fundamental component of assessing vulnerabilities in financial system stability. In the context of financial stability, system-focused stress test evaluates simultaneously the potential losses that could be incurred by financial institutions to 'exceptional but plausible' macroeconomic shocks that could undermine the overall stability of the financial system using common scenarios. Macro stress tests are not intended to replace the stress tests conducted by individual banks which are more geared towards their internal risk management practices. Instead, they are designed to complement stress tests conducted by the individual banks.

The methodologies that can be employed to conduct system-focused stress tests range from simple sensitivity tests to complex stress tests derived from macro econometric models. In practice, most stress test exercises begin with the identification of specific vulnerabilities followed by the formulation of scenarios that are consistent with the underlying macroeconomic shocks. A baseline scenario, which assumes continuing recovery, is usually identified although more adverse economic scenarios may also be elaborated. A typical downturn scenario may assume that real GDP growth contracts by a few basis points, at an annualised rate, two quarters in a row leading to fall in asset prices and credit spreads. The macroeconomic shocks are then mapped onto individual banks' balance sheets where the overall impact on the system can be evaluated, the extent of which depends on the magnitude of the impact of the envisaged shocks, which when set too low or too high, might make the whole exercise meaningless. The final step revolves around disseminating the results.

Macroeconomic shocks can negatively impact the level of credit risk in the economy, bringing into the process severe disruptions to financial stability, as has been the case during the recent subprime crisis. In Mauritius, credit risk remains the most significant risk faced by banks. Over the last decades, the banking system in Mauritius has not witnessed any major macroeconomic shock that caused severe disruptions in the level of credit risk in the financial system. On the contrary, during this period, economic performance has been strong and the banking sector expanded while going through several periods of structural changes. To date, although the system is well capitalised and the ratio of non-performing loans to total loans stayed on the low side, the risk that the level of credit risk in the banking sector may deteriorate due to extremely unfavourable macroeconomic conditions cannot be precluded.

In this context, the resilience of the system has been stress tested using three different scenarios based on qualitative and expert judgment rather than on strict quantitative procedures, with each scenario having its own set of assumptions. This approach is preferred because it is difficult to evaluate accurately the full extent of financial losses that financial disruptions would cause by relying only on the historical characteristics of past data. When elaborating on the impact of the proposed scenarios, reference was also made, where appropriate, to stress test exercises conducted during past IMF's Financial Sector Assessment Programmes. Overall, this exercise was satisfactory, except may be for the fact that it was not possible to stress test all credit risk parameters since all banks are currently operating under the standardised approach for credit risk under Basel II.

Scenario 1: A general weakening in economic activities over two consecutive quarters causing an increase in non-performing loans of 15 per cent directly in key sectors and 5 per cent indirectly in the remaining sectors at end-June 2010.

This scenario aims at capturing the risk that simultaneous deterioration in business activities in major sectors of the economy may impact negatively on the quality of loan portfolio in the system both through direct and indirect transmission channels. The major sectors include the 'manufacturing', 'tourism', 'construction' and 'personal' sectors. The distribution of credit exposures by sectors at end-June 2010 is given in Chart 2.27. As at end-June 2010, total credit to private sector and non-resident sector (including Global Business License Holders) represented 36.8 per cent and 63.2 per cent, respectively, of total advances in the system.



Scenario 2: A 20 per cent increase in non-performing loans on claims secured on residential property following severe declines in house prices due to adverse macroeconomic conditions.

From a financial stability perspective, a sharp deceleration in residential property prices is one of the factors that can provoke a banking crisis. In Mauritius, claims secured by residential mortgage accounted for 49.2 per cent of core Tier 1 capital at end-June 2010, and are classified into four clusters with risk weights varying from 35 per cent to 100 per cent. The distribution of credit on residential mortgage at end-June 2010 is presented in Chart 2.28. The largest proportion was represented by claims secured by residential mortgage under Rs 5 million.



Scenario 3: The 2nd largest exposure of individual banks will default with a loss of at least 50 per cent

Concentration of credit risks may have financial stability implications depending on the degree of connectedness among borrowers under various economic conditions. The distribution of the value of large exposures to total regulatory capital adequacy ratio is given in Chart 2.29. As at-end June 2010, the value of large exposures for the banking sector represented around 193.9 per cent of total regulatory capital.



The stress tests were conducted uniformly across all banks with the exception of branches of foreign banks which were excluded from this analysis since they only maintain capital for the proportion of their domestic operations only. Stress tests were carried out separately for each scenario but the impact of each test was not aggregated as that would have involved double counting. The size of the impact of the shock varied among banks, depending on the composition and size of banks' portfolio and the amount of core tier 1 capital held. Chart 2.30 shows the results of the three scenarios expressed in terms of core tier 1 capital ratio. In general, banks that maintained a post-shock core tier 1 capital ratio of more than 5 per cent are considered stable.



Results indicated that banks would generally be resilient to scenario 1 despite some deterioration in core tier 1 capital ratio from 13.5 per cent to 10.1 per cent and a contraction of 110 basis points in the interquartile range. The result for scenario 2 indicated that most banks would generally be able to withhold a 20 per cent increase in non-performing loan on their residential mortgage portfolios. The impact of a 50 per cent loss on each bank's second largest exposure was simulated and this led to a reduction in core tier 1 capital adequacy ratio from 13.5 per cent to 11.4 per cent.

### 2.2 INSURANCE SECTOR<sup>4</sup>

The insurance sector is characterised by strong heterogeneity with three large companies accounting for around 75 per cent share in the total assets of the industry and the 13 remaining insurers individually holding below 7 per cent share as at end-December 2009. The large companies are part of conglomerates and engage in a wider range of insurance activities and products than the small and medium sized insurers. As a result, large companies capture a bigger share of the market which, consequently, results in a relatively concentrated market. The Herfindahl-Hirshmann index computed over the years 2004 to 2009 indicates a high concentration in the industry with the index lying above 1800 over the past six years. However, a gradual improvement is noted as the HHI moved closer to the lower bound of the 'high concentration' band in 2009.

Table 2.5 Herfindahl-Hirschmann Index for   the Insurance Sector							
Year	2004	2005	2006	2007	2008	2009	
Herfindahl- Hirschmann Index	2263	2239	2179	2132	2113	2030	

Insurance companies are faced with a plethora of risks, some of which are quite similar to those faced by banks and other risks that are specific to insurance activities. Over and above credit risk, liquidity risk, market risk, interest rate risk and foreign exchange risk, insurance companies are faced with insurance risk, financial risk and capital, mortality, morbidity and medical risk.

Risks in the insurance sector are monitored by the FSC through off-site supervision, on-site inspections and through the use of its Risk-Based Supervision framework based on international standards. Further, quantitative models are also used as an internal risk monitoring tool by insurers. These models have traditionally been used for pricing provisioning and principally for the assessment of solvency and determination of capital requirements in compliance with the Rules and Regulations issued by the FSC. The FSC monitors each individual risk faced by an insurance company through the overall assessment of risks in the capital adequacy calculation.

#### Long-Term Insurance Business

Long term insurers are required to maintain at all times a solvency margin that is at least equal to the minimum capital requirement. The minimum capital requirement for an insurer is determined

<sup>4</sup>Based on information culled from the Financial Services Commission

by its actuary, as the higher of (a) a stress test requirement determined in accordance with guidelines issued by the Commission to ensure that the long-term insurer remains solvent; or (b) the higher of (i) an amount of Rs 25 Million; or (ii) an amount representing 13 weeks' operating expenses, with operating expenses as defined and reported in the annual statutory return submitted to the Commission. The Long Term Insurance Business Solvency Rule, known as the Stress Test Guideline, is used to monitor the various types of risks inherent in that line of business, which include, namely, lapse risk, surrender risk, mortality fluctuation risk, morbidity fluctuation risk, medical fluctuation risk, mortality, morbidity and medical assumption risk, expense fluctuation risk, investment risk and foreign exchange risk, among others.

#### The General Insurance Business

According to the General Insurance Business Solvency Rules, the minimum capital requirement for the general insurance business line is the sum of capital required for balance sheet assets, capital required for investment above concentration limit, capital required for policy liabilities, capital required for catastrophes and capital required for reinsurance ceded. Each of these elements for which capital is required to be held caters for individual risks faced by the insurer as shown in Table 2.6:

the General Insurance Business				
Capital Required Element	Risk monitored			
Capital required for balance sheet assets	Asset risk, Credit Risk, Liquidity Risks, Foreign Exchange Risks, Market Risk, Concentration Risk			
Capital required for investment above concentration limit	Investment Risk, Matching Risks – Assets Liability Management Risks, Market Risks, Concentration Risk			
Capital required for policy liabilities	Underwriting Risk, Underwriting Management Risk, Provisioning Risk, Expense Risk			
Capital required for catastrophes (5 per cent of last year's premium)	Operational Risk, Underwriting Risk, Provisioning Risk			
Capital required for reinsurance	Credit Risks, Reinsurance Risk, Asset Risk, Operational Risk			

# Table 2.6: Risks and Capital Requirement forthe General Insurance Business

The law requires that insurers manage capital on a basis of 100 per cent of the minimum regulatory capital position and that the capital requirement ratio shall be at all times at the target level of 150 per cent of the minimum capital required. However, in the event that it is anticipated that the capital requirement ratio will fall below the targeted level of 150 per cent, insurers should submit a contingency plan to meet the target level to the FSC.

#### **Evolution of Risks in the Insurance Business**

Risks in the insurance sector are monitored through annual financial statements and statutory returns that are submitted on a periodic basis to the FSC. Data show that the capital requirement ratio for the General Insurance Business industry is higher than the prudential target level of 150 per cent, imposed under the General Insurance Business Solvency Rules 2007 and stood at 187 per cent and 244 per cent in 2008 and 2009, respectively.

Large and medium-size companies were found to have strong free reserves, appropriate reinsurance arrangements and good profitability. However, several of the smaller companies have weak financial ratios and suffer from long delays in settling claims. It was also observed that large and medium-size companies manage their insurance risk better than the smaller insurance companies and this was reflected in their capital adequacy calculations.

With regard to long term business, actuarial valuation reports submitted for 2009 and 2010 indicate that most long term insurance companies are solvent. The industry solvency average amounts to 162 per cent, which indicates that the insurance sector is sound. Nonetheless, there are some companies whose solvency margins are less than 100 per cent and these are under close supervision and monitoring by the FSC.

# Effect of the Crisis on the Insurance Sector

In general, the insurance industry remained resilient to the financial crisis and no major disruption in its activities was observed save a considerable decrease in value of equity instruments in 2008 affected some insurers. However, the investment risk was contained and it did not affect materially the financial statements of insurers. On a disaggregated basis, the balance sheets of General Insurance companies were not affected by the financial crisis. However, in 2008, following a considerable decrease in the value of equity investments, the value of investments held in equity instruments fell considerably affecting the capital base of some insurance companies. Long Term Insurance companies with linked long term insurance business fund experienced a fall in value of the said funds following a decrease in the value of equity investments in 2008 and this led to a fall in the fund value for linked long term products. However, since investment risk in linked long term insurance funds is borne principally by policyholders, it had little effects on insurance companies

#### **Outlook for the Insurance Sector**

According to the CSO, the insurance industry contributed 2.9 per cent of the country's GDP at current basic prices and posted a sectoral real growth rate of 4.5 per cent in 2010. Due to the sound position of large and medium-size companies in terms of strong free reserves, appropriate reinsurance arrangements, and good profitability and despite the fact that several of the smaller companies have weak financial ratios and suffer from long delays in settling claims, the sector is expected to maintain a stable growth rate in the range of 4 - 5 per cent in 2011. However, the FSC remains concerned with the financial results and risk management of the smaller insurance companies.

## 2.3 NON-BANK DEPOSIT TAKING SECTOR

The relative importance of NBDTIs may be measured in terms of the ratio of their total assets to total banking sector assets. At end-September 2010, total assets of NBDTIs amounted to only 5 per cent of banking sector total assets.

Activities of the NBDT sector, as indicated by the trend in growth of assets, deposits, leases and loans in Chart 2.31, reflect some stagnation in that sector and the exit of two NBDTIs. In fact, one of them is operating as a banking entity and the activities of the other NBDTI were taken over by its parent company which is a bank. In fact, total assets and deposits have been decelerating in the first six months of 2010 and subsequently contracted in the third quarter. Leases have been

contracting systematically since the beginning of 2010 while loans are the only activities that are recording positive but almost constant growth rates in the NBDT sector. The average loans for the period of January to September 2010 grew by 8.5 per cent compared to the corresponding period of 2009.



Credit risks remained well within the prudential limit with a capital adequacy ratio of 22.8 per cent as at the end-September 2010. NPL ratio fell to 7.4 per cent at end-September 2010 compared to 9.0 per cent in the corresponding period of 2009. While NBDTIs are important operators in the economy, any drastic disruption in their level of activities may not impair stability in the sector to a significant extent.

# **3** Financial System Infrastructure

## 3.1 INTRODUCTION

High-value payment systems are critical elements of an economy. The MACSS, which is the sole infrastructure to effect high value payments in real time, carries out more than 350,000 payments each year for a total value exceeding Rs 11 trillion, equivalent to about 40 times the annual nominal GDP. The criticality of the payment systems infrastructure is such that no downtime can be tolerated, even for a few hours.

Robustness of the major payment systems is therefore critical for financial stability since MACSS links together the most important domestic financial intermediaries. Thus, MACSS provides a direct and almost immediate potential contagion mechanism between banks in case of problems.

Over the past year, the operations on MACSS were smooth and no downtime which would affect operations was recorded. All transactions were settled in real time and no payments were rejected, delayed or queued on account of system imperfections.

MACSS is designed to eliminate counterparty credit risk for participants by ensuring that settlement is completed in real-time on a gross basis. Additionally, credit risks are non-existent due to the fact that settlement is effected on a credit-push principle. But this credit risk reduction comes at the cost of a requirement for potentially expensive intraday liquidity.

## 3.2 LIQUIDITY FLOW IN MACSS

Participants in MACSS are required to prefund their settlement accounts prior to making payments. Since a single settlement account is used for payments and maintaining the CRR, participants are allowed to draw from their CRR requirements to make payments during the day. However, at the end of day, participants must fund back any amounts drawn from the CRR. This represents free intraday liquidity through use of central bank money and counterparty credit risk is, in fact, not eliminated but simply transferred to the central bank.

One mechanism to limit such risks is to cap the amount of available intraday credit through price and/or quantity mechanisms (as in the US system, Fedwire) or only provide credit on a collateralised basis, as the Clearing House Automated Payment System in the UK.

In systems where intraday credit is provided at cost, participants tend to delay payments as long as possible mainly because of competition and the cost of liquidity. This leads to a system imperfection which might have serious stability issues, particularly for small players. The distribution of payments on an hourly basis provides valuable clues whether participants are resorting to such type of game.

Chart 3.1 below shows the number of payments throughput on an hourly basis on the MACSS for 2009 and 2010.



The volume of transactions in 2010 was higher by about 12 per cent compared to 2009, but the pattern of the hourly throughput remained the same. If abstraction is made for the increase in volume of transactions of the two clearing cycles which are at 10h00 and 15h00, the payment throughput would remain uniform throughout the day, oscillating between the bands 150 to 300 payments per hour. The fall in the volume beyond 16h30 is normal as the official cut-off time for MACSS is 16h30. Exceptionally extension is granted to participants at the discretion of the Bank. The rise in payments after 17h00 is due to account transfers at close of business.

The distribution of the value of payments (Chart 3.2, below) throughout the day follows almost the same pattern as the volume distribution until close to cut-off time when participants send high value payments. It is also noted that the value of payments in 2010 was higher by about 16 per cent compared to 2009.



In terms of participants' interplay, one bank's payments are a source of intraday liquidity for the recipient bank, which it may then subsequently use to make its own payments. When liquidity is recycled sufficiently quickly, the aggregate requirement for intraday liquidity in the system can be reduced significantly. As the Bank currently does not charge for intraday liquidity, participants on MACSS do not have to depend on incoming payments to provide the necessary intraday liquidity.

From a stability point of view, it is therefore very unlikely that payment gridlocks will occur on MACSS because of the free flow of liquidity on the system.

## 3.3 BULK CLEARING SYSTEM

The Bank intends to implement the Bulk Clearing System (BCS), which is a software to fully automate the Port Louis Clearing House, by the mid-2011. The BCS will accept low value, high volume interbank payments for settlement, on net basis, at prescribed settlement windows on the MACSS. This system will reduce the need to send high volume, non-time sensitive payments on the MACSS. In 2010, low value payments (less than Rs10,000) accounted for 33 per cent of the total volume of payments through MACSS. At the same time, the need for high liquidity in the system will be reduced. On the other hand, the BCS will require treasurers of participating banks to instill a more rigorous regime for liquidity management.

The BCS will bring a paradigm shift in the way payments are carried out in the country. Currently, interbank low value payments are handled in an informal way between banks through the exchange of interbank files. This arrangement causes lots of delays in payment for the end customer and is also very cumbersome for the bankers to operate.

The new BCS has a functional architecture which is compliant with World Bank and BIS recommendations for deferred net settlement systems. The BCS will handle all major types of payment instruments and operations such as salary payments, standing orders and even direct debits.

# 4 Risks and Outlook

The pace of economic recovery in our major trading partners remains a source of concern to Mauritian economic operators, particularly those in the export-oriented sectors. However, efforts to diversify our export markets, underpinned by the 2010 budgetary measures, are expected to impact positively on the prospects of the exportled sector thereby boosting output, income and employment. Latest estimates of the CSO point to improved performance in the financial intermediation, manufacturing, transport, storage and communications sectors. Other key sectors such as hotels and restaurants and construction sectors, which are closely linked with external factors, are forecast to record lower growth rates in 2011. Nevertheless, with an estimated growth rate of 4.2 per cent, the domestic economy is expected to maintain its resilience in 2011, despite persistently uncertain international economic developments.

On the external front, the current account deficit, measured as a percentage of GDP, is expected to widen to 10.0 per cent in 2011 on the back of worsening merchandise trade deficit as import growth is expected to outweigh export growth. Recent upward trends in food and energy prices on international markets remain another source of concern for the country on account of the potential adverse consequences on inflation and the balance of payments. The capital and financial account, inclusive of reserve assets, is projected to record higher net inflows in 2011. Total external debt as a percentage of GDP is estimated to reach nearly 14.0 per cent as at end-December 2011, due to increased recourse by Government to foreign funding for its budget deficit. However, the debt-service ratio is forecast to hover around 3.0 per cent in the forthcoming years and does not currently pose a concern. Nevertheless, in the event of a prolonged and sharp deterioration in economic conditions in the short-to-medium term, the sustainability of government finances may be impacted.

The financial intermediation sector is estimated to record a higher growth rate of 5.2 per cent in 2011. The sound profit level and robust capital of banks remain the key ingredients of the solid banking system in Mauritius. The banking sector is therefore expected to remain strong and resilient this year also, although a slow pickup is anticipated in the various sectors of the economy especially those sectors in which the core borrowers in the banking sector operate. The major risks inherent in banking activities stand at reasonable levels and are being well contained by banks. However, although non-performing loans ratio of the sector stood at a comfortable level, asset quality at individual sector level may become sensitive to the performance of these sectors and the slow recovery of the economy. Depositors' confidence remains strong in Mauritius and banks can continue to rely on a stable deposit base to fund their activities. Unlike other banking systems, liquidity is not a cause for concern from a financial stability perspective as excess liquidity prevailed in the system.

Although concerns remain on future developments in the euro area and the global economy as a whole, the financial sector is expected to remain solid, resilient and profitable and financial stability is likely to prevail in 2011 as well.

# **BANK OF MAURITIUS**

Address Sir William Newton Street Port Louis Mauritius

Website http://bom.intnet.mu Email bomrd@bow.intnet.mu

# **BANK OF MAURITIUS**

- Address Sir William Newton Street Port Louis Mauritius
- Website http://bom.intnet.mu Email bomrd@bow.intnet.mu

ISBN: 978-99903-981-8-2