FINANCIAL STABILITY REPORT
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The Report was reviewed by the Publications Review Committee of the Bank of Mauritius.
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<td>SEM</td>
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I have great pleasure in presenting this first issue of the Bank’s Financial Stability Report.

As part of its mandate, the Bank of Mauritius has to ensure the stability and soundness of the financial system of Mauritius. It is also a requirement of our legislation that the Bank publishes, at least twice a year, statements on the stability and soundness of the financial system.

In pursuing this objective of promoting financial stability, the Bank will, henceforth, publish the Financial Stability Report bi-annually. This publication aims to identify and analyse potential risks to financial system stability, communicate such assessments and stimulate debate regarding pertinent issues.

Given the growing sophistication of our financial system, the Bank recognizes that it is not the sole custodian of financial system stability, and can only contribute towards a larger effort involving the government, other regulators and financial market participants in upholding the aspiration of Mauritius to become a major financial centre in the region. Responding to the changes in the financial services industry, the Bank of Mauritius and the Financial Services Commission formalised in July 2007 a process of collaboration and co-operation between the two regulatory bodies through the signature of a Protocole d’Accord and the setting up of a Joint BOM/FSC Co-ordination Committee in their common pursuit to maintain a safe, efficient and stable financial system in Mauritius.

Mauritius has a sound and dynamic financial system. The banking industry is highly profitable, underpinned as it is by a sound regulatory framework and a supportive monetary policy geared to macroeconomic stability. The Central Bank has always benchmarked its policies and processes to the international best practices consistent with the domestic needs.

Globally, the resilience of financial markets was severely tested during the past months following the widespread impact of negative developments in the US sub-prime mortgage market.

Achieving financial stability is not a destination but rather a journey. Financial stability therefore remains an on-going concern to the Bank of Mauritius, given its statutory responsibilities to supervise and regulate financial institutions and the continuous developments and challenges in the economic environment. Although there is no visible immediate threat to financial stability at this juncture, there is need for continued vigilance. It is also recognised that more efforts should be directed to producing second generation data to better assess potential vulnerabilities of the economy.

Experience of other central banks suggests that a Financial Stability Report provides a useful communication tool about existing and potential future risks to financial stability and can serve as a means of focusing efforts to mitigate the key risks.

In the conduct of its operations, the Bank promotes open discussions and comments on its monetary and financial stability policies. The first issue of the Financial Stability Report does not claim to be ambitious in its coverage of financial stability issues and dwells mainly on the banking sector. As we go along, the breadth and depth of the coverage and analysis of financial stability issues will be extended in subsequent issues of this publication. I trust that this publication will enhance the understanding of financial stability and encourage informed debate on financial stability issues.

We would also welcome your views and comments on this inaugural edition of the Financial Stability Report.

Rundheersing Bheenick
Governor
30 June 2008
INTRODUCTION

Financial stability is becoming increasingly important for central banks around the world as a crucial prerequisite for efficient growth in the economy. The growing integration of financial systems arising from internationalisation of financial flows has given rise to risks of contagion while the interactions between financial and real economic stability have become more complex and pronounced.

Financial stability can be defined as the absence of instability through the avoidance of conditions that may lead to a financial crisis. It is broadly described as a steady state in which the financial system efficiently performs its key economic functions, such as allocating resources and spreading risks, as well as settling payments even in the event of shocks, stress situations or periods of profound structural changes.

The 1997 Asian Financial Crisis and its powerful shock waves on the world economy have not only brought financial stability unprecedented attention but have also heightened awareness towards the inherent significance and implications of financial stability. Tensions in the US credit markets triggered in mid-2007 have given a new dimension to financial stability by creating considerable uncertainty as to the stability of major financial systems. Besides, hikes in food and commodity prices have generated additional strains on global economies.

The Bank of Mauritius is vested with the statutory responsibility of ensuring the stability and soundness of the financial system of Mauritius. To promote financial stability, the Bank of Mauritius has, over the recent years, increased transparency with regard to its objectives, identified risks, called on market participants to increase their awareness of those risks and to act accordingly, encouraged initiatives to reduce the financial system’s vulnerability to crises and reinforced financial infrastructure especially in the field of payment and settlement systems.

This Financial Stability Report is the first of a series which is issued in compliance with section 33(2)(b) of the Bank of Mauritius Act 2004. It provides an overall assessment of the macroeconomic environment in which the financial system of Mauritius is currently operating, concentrating mainly on the banking sector, which accounts for a significant share of the financial system. It is intended that subsequent issues of the Report, which will be published on a half-yearly basis, will focus on other related sectors of the economy in more depth.
OVERVIEW

The path of the global economy has, over the past few months, been influenced by opposing circumstances namely the burgeoning financial crisis that has shaken the advanced economies and the rising tide of rapid globalisation of emerging economies.

Global expansion is experiencing a deceleration due to slowdown of advanced economies particularly in the United States where the housing market correction continues to intensify financial stress. The unprecedented strain arising from the sub-prime residential mortgage market has sharply increased risks to financial stability since the third quarter of 2007 and there is growing uncertainty as to the true intensity and duration of this market turbulence.

Emerging economies faced robust growth which was driven by strong productivity gains as they integrated the global economy progressively. Those countries have been broadly resilient to the US financial turmoil due to improved policies, stronger balance sheets, as well as stronger macroeconomic conditions. However, the Global Financial Stability Report of the IMF issued in September 2007 has identified the emergence of signs of strains in those markets, particularly in countries with a combination of high current account deficits and rapid credit growth that is financed largely from international markets and bank borrowings. Although China and India recorded growth rates of 11.4 percent and 9.2 percent respectively in 2007, it is expected that their economic activities will slowdown by the end of 2008.

Inflation has been on the rising trend around the world, heightened by continuous buoyancy of food and energy prices. Continued strong demand from emerging economies has led to rapid increases in commodity prices against a sluggish supply while in recent months core inflation has edged up in advanced economies despite decelerated growth.

The domestic financial system coped well in 2007 with the banking sector remaining highly profitable and well capitalised with improved performance over the previous year. Continuous efforts deployed by the Bank of Mauritius in improving the asset quality in the banking sector through the issue of guidelines coupled by post on-site examination recommendations received close collaboration of banks. Preliminary information on the insurance sector which is the second largest component of financial system reveals a likely expansion of more than 13 percent in overall activities in 2007.

In Mauritius, there is no mortgage market segment which is comparable to the US sub-prime sector and banking institutions have virtually no direct exposure to the sub-prime market in the US nor do they have any other type of investment tied to this business segment which, indirectly, might affect them. The structure of the banking system as well as the balance of trade structure with only 7 percent of total exports directed to the US minimised risks of instability to the domestic economy. However, being a net importer in the international sphere and due to contagion effects on trading countries, some adverse indirect impacts were felt.
1 Global Economy

1.1 Performance of Developed and Emerging Economies

The global economy was hit by difficult financial market conditions in 2007 which originated from the US sub-prime residential mortgage market. The turmoil was recognized as the largest financial shock since the Great Depression. The associated losses cumulating on banks balance sheets resulted in increased financial risks putting the global financial system under considerable strain.

The financial turmoil was initiated by rapidly rising defaults on sub-prime mortgages in the context of a major US housing correction. One of the most dramatic aspects of this crisis has been an unprecedented loss of liquidity which shot up the three-month interbank rates far in excess of policy targets for overnight rates. Financial markets difficulties intensified in mid-March 2008 when Bear Sterns, a US securities house, faced severe liquidity hardships as it was unable to secure funding in unsecured markets as well as funding against high-quality collateral. The company was compelled to seek financial assistance from JP Morgan Chase and Co and the FED Reserve Bank of New York.

Although strong growth of the global economy was registered in the third quarter of 2007, a sustained rise in uncertainty and brittle confidence about the economic outlook and the strength of financial institutions, particularly in the United States, have led to a slowdown of global economic growth. According to Reuters, projections for 2008 show that global growth will drop to 3.9 percent in 2008 and 2009 while financial market conditions will continue to remain difficult until the magnitude of the actual losses can be estimated.

Emerging markets and developing economies, namely China and India, were driven by strong momentum of domestic demand and disciplined macroeconomic policy frameworks. They continued to expand strongly in 2007 and beginning of 2008. However, the ongoing turmoil in financial markets is likely to further dampen domestic demand in the major economies creating significant spillovers into emerging markets and developing economies. It is widely commented that growth in these economies is expected to moderate from 7.8 percent in 2007 to 6.9 percent in 2008.

1.2 Monetary Developments

The Federal Reserve Bank (FED) Funds Rate remained unchanged in the first half of 2007 until the financial market crisis became more apparent in August 2007, causing heavy damage on markets and institutions. The FED cut fund rates by a cumulative and hefty 3 percentage points since August 2007 to 2.25 percent. Providing access to short-term funding through existing facilities and broadening both the range of collateral accepted and range of borrowers with access to the central bank funds could not alleviate deterioration of the liquidity crunch. In early 2008, FED took further actions by extending the discount window for prime dealers and continued to inject liquidity to ease persistent liquidity strains that were leading to a global credit freeze. With growth faltering, equity markets tumbling, consumer and producer sentiment reaching multi-year low, the United States faces real recession risks. For the first time in March 2008, the FED Chairman, Ben Bernanke admitted a contraction of the US economy, immediately interpreted as a recession, although he indicated that some recovery later in the year might be expected.

The European Central Bank (ECB) kept rates unchanged at 4 percent for more than one year while record high inflation has engulfed the euro zone. Reuters commented that the financial market turmoil impinged downside risks to the real economy forced the ECB to forgo any rate increases, hence dampening growth to a lesser extent in that part of the world compared to the United States. In 2007 the euro zone registered a growth rate of 2.6 percent while the first quarter in 2008 witnessed a growth rate of 0.7 percent in that area. The appealing interest rate differential
has also benefited the Euro significantly. It was initially expected that the weakening growth, a very strong currency and the extended credit crunch would dampen inflation and ultimately lead to the European Central Bank cutting rates later in the year. However, Reuters reported early in June 2008 that the President of the European Central Bank stated that a hike could be possible in July 2008 in line with expectations of a number of policy makers who were anticipating a higher interest rate.

In the United Kingdom, faced with pandemic downside risks to growth on the backdrop of the housing crisis, the Bank of England has truncated its prime rate by a 75 basis points since December 2007 to 5.00 percent in April 2008 to help bolster growth despite inflation actually overshooting the central bank’s target. In April 2008, a Special Liquidity Scheme was launched by the Bank of England to allow banks to boost liquidity by swapping high quality mortgage-backed and other securities for UK Treasury Bills.

The Reserve Bank of Australia hiked interest on several occasions to prevent overheating of the economy and to contain inflationary pressures while the Reserve Bank of New Zealand (RBNZ) kept its official cash rate unchanged since July 2007. However, the RBNZ has now left the door open to a rate cut as the slowdown of the economy is faster than expected.

1.3 Commodity Prices

Oil prices have been influenced by a series of factors since 2003, namely, decline in petroleum reserves, middle-east tension, oil price speculations and worries over peak oil. The latter refers to the point in time when the maximum rate of global petroleum production is reached, after which the petroleum production enters its terminal decline. By virtue of the burgeoning demand from China and India, increasing geo-political tensions and rising demand elsewhere, crude oil prices faced unprecedented hikes reaching a record high on 13 March at US$ 107.5 per barrel and further up to US$ 133.7 per barrel on 30 June 2008. In Mauritius, the oil price surged by 57.45 percent for the period January 2007 to March 2008 while the US Dollar depreciated by 12.98 percent over that same period.

1.4 Equity Markets in Major Economies

Global financial markets experienced significant volatility since August 2007 with broad-based stock prices stabilising in October 2007 after a sharp sell-off in mid-August.
Concerns remained focused on the direct and indirect adverse repercussions the financial market turmoil and the underlying tensions in the US sub-prime mortgage market could exert on corporate earnings. The NASDAQ composite index fell by 3.24 percent in the last quarter of 2007 while the CAC-40 and the FTSE 100 declined by 4.07 percent and 0.75 percent respectively over the same period. In the first quarter of 2008, the NASDAQ, CAC-40 and the FTSE 100 tumbled by 14.07 percent, 15.01 percent and 11.69 percent respectively. The fraud related to Société Générale dealt a further blow to the already ailing financial markets but it was however viewed as a one-off event by investors and not related to subprime concerns.

The path of the main indices of the Stock Exchange of Mauritius (SEM) appeared to have followed a similar pattern as those of the South East Asian economies. The SEMDEX which is the key index of the SEM remained on the rising trend throughout 2007 influenced by the booming economy and its remoteness to the financial turmoil. This was perceived as positive for many investors in quest of lucrative investments. While banks continue to trail behind rising profits, hotels had part of their earnings adversely affected by the appreciating rupee.

1.5 Equity Markets in Emerging Economies

In strong contrast to earlier periods of financial disruption, emerging stock markets have shown significant resilience to the latest financial turbulence in the United States. At the outbreak of the subprime crisis in August 2007, a boost in most emerging market equities was observed. In fact, risk aversion increased and investors fled equities in favour of safer assets in emerging markets, stockpiling their money in cash which could be brought to use quickly if market and economic conditions turned around. But as the financial turmoil deepened by late 2007, stock markets became more volatile.

The local market remained buoyant throughout 2007 despite uncertainty surrounding financial markets internationally. The SEMDEX posted a return of about 53.78 percent in 2007 while in the first quarter of 2008, the index achieved a return of 1.55 percent, synonymous to a
significant correction. The main drivers for the upbeat market emanated from the blue chips, basically the banks and hotels sector, which continued to reap higher profits. The SEM-7, which comprises the seven largest eligible shares in terms of market capitalisation, liquidity and investibility gained 80.55 percent in 2007 while in the first quarter of 2008, it posted a negative return of 1.46 percent. The SEMDEX hit a fresh closing high of 2,101.37 points on 18 February 2008, boosted by the announcement of one bank’s pretax profit growth while another listed bank posted an increase in group results. Moreover, the imminent listing of a company on the SEM is also likely to be supporting sentiment.

1.6 Foreign Investments on the Stock Exchange of Mauritius

During the first two months of 2008, the SEMDEX posted an increase revolving around 8.40 percent. This trend has been maintained since the second semester of 2007 with occasional dips arising from temporary investor speculations. The remarkable performance of the SEMDEX is undeniably attributed to the consistent faith expressed by both local and foreign investors on the Stock Exchange of Mauritius.

Increased confidence of foreign investors during the last five years in the domestic equity market has generated positive investment inflows for many listed companies. During 2007, net transactions by foreign investors on the SEM amounted to Rs 1,464.6 million representing a 44.6 percent increase over the previous year for stock listed on the SEM. While foreign investments were hesitant for the second and third quarter of 2007, brisk improvements in the value of transactions were discernable as from October and November 2007 when, coincidentally, the US financial turbulence was fully unveiled. Foreign investments peaked in February 2008 at Rs 65.7 million but subsequently declined to Rs 50.8 million at the end of the first quarter in 2008. The Bank of Mauritius Monthly Bulletin issued in May 2008 indicated that net foreign investments on the SEM over the period January 2008 to May 2008 amounted to almost Rs 1.0 billion.
2 Domestic economy

2.1 Overall Performance

Although economic activity remained subdued in 2005 resulting from the persistent low investment level and weakened external sector against the backdrop of continued difficulties in the Export Processing Zone (EPZ), the economy picked up in 2006 and 2007 with improved growth rates of 5.0 percent and 5.4 percent respectively. Dynamism increased in the tertiary sector namely in “hotels and restaurants”, “transport, storage and communications”, “real estate, renting and business activities” and “financial intermediation” while the Construction sector recorded brisk growth of 15.2 percent in 2007 over 5.2 percent a year earlier. This could be associated mainly with construction and renovation of hotels, expansion of textile and wearing apparel industries and the new Integrated Resort Scheme (IRS)\(^1\) projects.

Due to growing optimism, the Construction sector expanded by 15.2 percent in 2007, up from a modest 5.2 percent in 2006, mostly due to construction of commercial buildings, hotels and Integrated Resort Scheme projects. The Construction Price Index has recorded almost a 25 percent increase from 121.3 in the first quarter of 2005 to 151.8 in the fourth quarter of 2007 mostly on account of increasing labour cost and higher prices of materials like iron bars, cement and construction blocks amongst others. Although exports in 2007 grew faster than imports, Mauritius remains a net importer with exports of goods and services rising by 8.7 percent in nominal terms in 2007 while imports of goods and services increased by 7.6 percent in the same year.

\(^1\) Please refer to Box 1 on page 18.

2.2 Sectoral Performance

The hotels and restaurants sector grew by 14 percent on account of 906,971 tourist arrivals in 2007, compared to a lower growth of 3.5 percent in 2006 due to negative bearing of the “Chikungunya” outbreak. Financial intermediation registered growth of 7.5 percent as a result of 5.1 percent, 7.9 percent and 11.2 percent expansion in insurance, banks and other financial intermediation activities respectively. Activities of export oriented enterprises grew by 8.0 percent in 2007 compared to 4.6 percent in 2006 while the seafood sub-sector registered a double-digit growth in 2007 partly associated with the increased capacity resulting from significant investments.
2.3 Financial Services

The process of financial intermediation, that is, the channelling of savings into investments is critical to economic growth and to the development of financial systems.

Financial intermediation registered real growth of 7.6 percent in 2007 compared to 5.4 percent in 2005 driven by the ‘banking’ sub-sector which expanded by 7.9 percent in 2007 against 4.8 percent in 2005. The sector ‘other’ which comprises mainly stockbroking and mutuals funds companies also grew from 9.5 percent in 2005 to 11.2 percent in 2007. The economic recovery process, enhanced business sentiment following budgetary measures and increased diversification in banking activities, both horizontal and vertical, contributed to improve the performance of that sector.

The contribution of financial services to the economy has remained around 10 percent over the last three years with the banking sector and the insurance sector accounting for 6.4 percent and 2.8 percent respectively in 2007.

![Chart 7: Evolution of Financial Intermediation](chart)

Source: Central Statistics Office

2.4 Household Indebtedness

Household indebtedness does not, in itself, necessarily pose a serious threat to financial systems stability. A more serious risk would arise in increased household indebtedness from its potential to magnify shocks to the macroeconomy which originate from other sources that affect household incomes and wealth, namely through unemployment and house prices respectively.

The domestic banking sector is exposed to households through credit granted as loans secured by mortgages on residential property, loans for personal consumption and credit card facilities.

In December 2007, households were indebted to the extent of Rs 31.8 billion to the banking sector against Rs 27.4 billion a year earlier with housing loans holding more than 50 percent share in household indebtedness. The growing prices of construction materials led to lower demand for housing loans which resulted in a slowed growth of 2.6 percent in household indebtedness in the fourth quarter of 2007 against a quarterly growth of 5.9 percent in June 2007. Further, there is no evidence that house prices are declining.

Unemployment rate on the other hand has been following an undefined path from 2005 to early 2007. Continued restructuring in several key sectors boosted up employment as from the second quarter of 2007. Latest information from the Central Statistics Office\(^1\) (CSO) shows that unemployment rate has improved to 7.2 percent at end 2007 down from 8.2 percent at the previous quarter. Unemployment rate for the year 2007 is estimated to be at 8.5 percent compared to 9.1 percent in 2006.

![Chart 8: Quarterly Unemployment Rate](chart)

Source: Central Statistics Office.

\(^1\)The official organisation responsible for the collection, compilation, analysis and dissemination of the official statistical data relating to the economic and social activities of Mauritius.
As household indebtedness and unemployment rate are declining, there are no indications that risks of financial instability could originate from the household sector.

2.5 Inflation

Long-run price stability contributes to financial stability by eliminating the potential drag on the efficient allocation of resources and hence on economic growth.

The sub-index of food prices and energy has been one of the main contributors to rising inflationary pressures on the domestic economy since 2007. Headline inflation rose at an uninterrupted pace to reach 10.7 percent as at June 2007 compared to 5.1 percent a year earlier boosted essentially in mid-2007 by increase in excise duties, removal of price subsidies, adverse weather conditions and the knock-on effects of high commodity prices on international markets. CORE 1 which excludes ‘Food, Beverages and Tobacco’ from Headline inflation rose to 7.6 percent in June 2007 compared to 4.1 percent one year earlier and reached 5 percent in December 2007. CORE 2 inflation which excludes ‘Food, Beverages and Tobacco’ as well as energy prices and administrative prices from Headline inflation rose to 7.9 percent in June 2007 against 4.5 percent in June 2006 reached 5.7 percent in December 2007. Rising commodity prices on the international market and the recent wage compensations are expected to further fuel domestic inflation.

2.6 Outlook 2008

In June 2008, estimates of the CSO indicate that the growth rate for 2007 was 5.4 percent inclusive of sugar and 6.1 percent exclusive of sugar. Key industries are likely to experience growth in the range of 4 to 7 percent. During 2008 non-residential construction is projected to accelerate on account of several IRS projects underway, construction and renovation of hotels, new shopping malls, tourism village and several other public infrastructure projects. However, the increasing prices of construction materials as well as the expected rise in labour costs may slowdown non-IRS related residential construction. The tourism industry is expected to record improved performance with 975,000 tourists likely to visit the island in 2008 while employment seems promising for the next few months in these sectors.

The growth rate is estimated by the CSO to be 5.7 percent in 2008, which is lower than the forecast made in March 2008. This downward revision is attributed to a lower than expected sugar production mainly on account of insufficient rainfall during the months of November and December 2007 and April-May 2008.
3 The Financial System

3.1 Overview

The financial system is dominated by the banking sector and the insurance sector. Banking and insurance, being two different businesses, pose different concerns to financial stability.

Banks play a critical role in the financial system namely, in the transmission of monetary policy, in the payment system and in the allocation of savings to investments. Hence banking sector problems have the potential to create systemic risk.

The insurance sector, on the other hand, acts as a conduit for households and firms to transfer risks to entities that are more suited to handle them. Although banks and insurance companies have a key difference in their balance sheets and that the latter are less vulnerable to customer runs, the growing interaction between the insurance sector, financial markets and banks has increased the importance of insurance sector in financial stability.

In 2007, banks held a share of 73.12 percent in total assets against 70.98 percent in 2006 followed by the insurance sector which accounted for about 12.6 percent in 2007, based on preliminary data from the Financial Services Commission (FSC). In the same year, Non-Bank Deposit Taking Institutions (NBTDI) represented 8.4 percent of the financial sector while the remaining share was held by leasing companies, credit finance companies, investment fund companies and other financial institutions.

3.2 Overall Performance

From a systemic risk perspective, banks being the most important financial intermediaries have achieved a strong financial position with sustained improvement in profitability, reduced bad debts and satisfactory capital levels. This is mainly the result of efforts to improve credit risk management processes encouraged by the Bank of Mauritius, following high levels of non-performing loans recorded by some banks in the early 2000s coupled by a reengineering of the business of major banking institutions.

In 2007, total assets in the banking sector grew by 28 percent against 18 percent in the previous year. The acceleration in banking business was driven by activities generating foreign-source income, i.e. Segment B activities which recorded a 43 percent expansion while activities other than Segment B namely Segment A activities improved by 11.4 percent in 2007 against 10 percent in 2006.

Banks experienced some volatilities in profit before tax from 2000 to 2003 but subsequently registered sustained growth as from 2005. Banks engaged mainly in domestic activities achieved 6.1 percent growth in pre-tax profits against 4.3 percent in the previous year. Banks operating mostly in the international markets also recorded improved performance with growth in pre-tax profits of 62 percent in 2007 compared to 59 percent in 2006.

Banks’ income remain heavily dependent on interest-bearing assets but it was observed that
investment income and other income gained increasing importance over the period 2000 to 2007. Business sentiment remained positive in 2007 with lending to the private sector growing by 28.13 percent in 2007 against 18.5 percent in 2006.

Banks operated with sound prudential capital and cash ratios throughout 2007 while non-performing loans to total loans ratio registered sustained decline in all the sectors with the lowest defaults recorded in the transport and tourism sectors.

The insurance sector has been faring well over the past 4 years registering growth rate of more than 50 percent over that period. The assets were mostly held in shares and debentures, mortgage loans and government securities. The insurance industry shows a high concentration of total assets with three companies holding more that 50 percent of the market share. Following the non-tax exempt feature of the fiscal regime introduced in 2006/2007, many insurance companies had to reengineer their products to sustain their business while also harnessing additional market share. During the period 2006/2007, there were 15 companies operating in the general insurance sector and preliminary data from the FSC indicates that the insurance sector has grown by more than 13 percent in 2007.

NBDTIS also contribute to the economy by operating in parallel with banks. They offer differentiated credit products to customers, in the form of financial and operating leases. The credit risk associated with leasing products is conceptually not similar to bank loans in as much as, in case of default, the lessor does not face legal or procedural constraints as banks.

Over the last 8 years, the number of NBDTI grew from 10 in 2000 to 13 in 2007. The Banking Act 2004 encouraged NBTDIs to merge into banks by imposing a higher minimum paid-up capital. Total assets grew by 19 percent in 2005 but registered a lower growth rate of 10.7 percent in 2007. NBDTI performed well in 2007 recording a 7.3 percent increase in profitability despite cost to income ratio rising from 37.3 to 41.7 in 2007 on account of faster growth in the cost components.

Cash dealers, which are active participants in the foreign exchange market, expanded in 2005 and 2006 recording growth of 41.2 percent and 54.3 percent in total assets respectively. Turnover of cash dealers grew at a lower rate of 11.7 percent in 2006 against 15.3 percent in 2005 while in 2007, cash dealers faced a reduction in turnover from Rs11.7 billion in 2006 to Rs8.5 billion in 2007. Administrative expenses which constituted a major cost component impacted heavily on total income. As a result, profit before tax declined by 7.4 percent in 2007 against an increase of 50.6 percent in 2006.
The Stock Exchange of Mauritius remained buoyant with market capitalisation increasing by 47.97 percent during 2007 to attain Rs173.09 billion by December 2007 driven mainly by price increases of some major listed companies. However, the continued appreciation of the rupee in late 2007 and early 2008 pinched revenue denominated in foreign currencies, mainly from the tourism industry. This adversely affected market capitalisation which fell by 3.18 percent in the first quarter of 2008.

In terms of sectoral performance on the SEM, banks and insurance companies increased their share of market capitalisation by 6 percent in March 2008 while that of tourism rose by 2 percent in the same month. The share of market capitalisation of the sugar industry fell by about 3 percent over the one-year period.
4 Banking Sector

4.1 Overview

The stability of the financial system is almost entirely dependent on the stability of the banking sector. A sound regulatory framework, good corporate governance, sustained profitability with improved asset quality levels, well established risk management policies and procedures, competition among banks and a robust payment systems infrastructure are among the essential prerequisites for banking sector stability.

In Mauritius, the regulatory and supervisory framework has been designed to reduce financial instability and is based on international standards and best practices. Moreover, the legislative framework has been revised in November 2004 to put Mauritius at the forefront as a major regional financial centre. Prior to that date, banks held two types of licences: Category 1 or Category 2. Banks which held Category 1 licence focused mainly in Segment A activities and could conduct activities in any currency while banks holding the Category 2 licence carried out activities only in currencies other than the domestic currency. Category 2 banking business accompanied by tax incentives was introduced in the late 1980’s to give a boost to the offshore sector.

In an effort to bring harmonisation and create a level playing field, the single licence regime was introduced in the Banking Act 2004. Banking activities in any currency was extended to former Category 2 banks as from November 2004. To monitor the extent of penetration into the domestic and international markets by the former Category 1 and 2 banks, the Bank of Mauritius has introduced a new reporting requirement to distinguish between Segment A\(^1\) activities which directly relates to the domestic economic sectors and Segment B\(^2\) activities.

The latter type of activities are conducted mostly with international customers in currencies other than the domestic currency and generate foreign source income.

Over the last three years, banking institutions witnessed some changes in ownership while a new entrant joined the sector and two banks conducting mainly Segment B activities surrendered their licences. With the 20 banks currently in operation, more than 50 percent of them are still significantly involved mostly in domestic activities while the remaining banks continue to conduct business essentially in currencies other than the domestic currency. A network of 179 bank branches mainly involved in Segment A activities operate around the island significantly improving accessibility to banking services.

Despite the new licensing regime, the former Category 2 banks continue to focus their activities on international markets and their integration in domestic activities is still very slow while former Category 1 banks appear to be moving into Segment B activities faster to benefit from the tax unification regime and to exploit business opportunities in international markets. Overseas operation of the two major banks also expanded over the last few years. The slow integration of former Category 2 banks into Segment A activities may be explained by the socio-cultural features of the country and the smallness of the domestic market where customer loyalty plays a crucial role and banks’ market shares tend to be rigid. Former Category 2 banks prefer to focus on a wider market in which they have already established strong business networks and where their marketing strategies and range of products have been shaped to attract a specific and larger business. As the banking sector is not homogenous on the basis of the markets in which banks operate, separate analysis of the two categories of banks was found necessary and relevant in some cases.

\(^1\)Relates to activities other than Segment B activities.

\(^2\)Relates to activities which generate foreign source income.
4.2 Performance

Although banks derive income from interest and non interest-bearing assets, the former continues to be the major source of income. Net interest income accounted for 65 percent of total income in 2007 against 70 per cent in 2006 as a result of the increasing importance gained by fee-based income in banks’ earnings. It is worth noting that former Category 2 banks are placing increased reliance on foreign exchange income arising from inter-currency dealings which has doubled in absolute terms in 2007 and represented 13 percent of total income in that year over 9 percent the previous year.

4.3 Spread

Banks adjust their lending and deposit rates in line with the key Repo Rate which is the signalling rate. The spread indicates the costs of intermediation and is influenced by movements of interests paid on/earned from deposits and loans respectively.

Banks which focus almost entirely on Segment A activities experienced an increase from 3.86 percent in 2000 to 4.64 percent in 2007 in their spread although some fluctuations were observed between those two periods. The default patterns observed in particular sectors or types of borrowers dictate the risk premium on the various types of exposures. Average yield on advances rose abruptly from Rs7.97 in 2006 to Rs11.08 in 2007 and mirrors to some extent the growth in the lending rates due to the upward revision of the signalling rate and decline in non-performing loans in the banking sector.

Interests paid on deposits by banks focusing on domestic activities declined consistently from Rs8.04 in 2000 to Rs3.89 in 2006 and picked up to Rs6.44 in 2007.

4.4 Total Assets

Growth in total assets of the banking sector is driven by the activities of four major banks. These banks have direct links with the performance of the domestic economy as they are exposed to the key sectors. The four banks hold more than 75 percent of the market share in Segment A activities, out of which, two are considered to be systemically important.

Total Segment A assets grew by 12.8 percent in 2007 against 6.36 per cent in 2006 while Segment B assets experienced a growth of 14.6 percent in 2007 against a brisk rise of 62.9 percent in 2006. This unusual growth in Segment B activities in 2006 may be attributed to the consolidation effect of banks which operated under separate Category 1 and Category 2 licences prior to the coming into effect of the Banking Act 2004. The normalised growth of 14.6 percent in Segment B activities in 2007 is however a better reflection of the actual dynamism in that particular line of activity.

4.5 Herfindahl-Hirschman Index

The concentration of the market was measured using the Herfindahl-Hirschman (HH) Index. After 2004, Segment A activities were opened up to former Category 2 banks. Yet, the market for Segment A loans remained highly concentrated with only a slight dilution indicating that former Category 1 banks were able to make further inroads into that Segment. Segment B loans were moderately concentrated throughout 2005 to 2007.

The market for Segment A deposits also registered a high index reflecting the prevailing
oligopolistic deposit market with the 4 main banks formerly operating under the Category 1 licence accounting for the major share. These banks continue to compete for a larger deposit customer base through regular advertising campaigns offering new products.

Significant improvement was observed in the HH index related to Segment B deposits which declined during 2005 to 2007 indicating a shift from high concentration to moderate concentration. Although former Category 1 banks were permitted to engage in Segment B activities prior to the Banking Act 2004, the new licence regime and the common tax regime applicable to both types of banks has induced growing interests among former Category 1 banks to further exploit the Segment B arm which has resulted in a redistribution of Segment B deposits among banks.

4.6 Competition

The relationship between competition and financial stability is ambiguous but there are indications that a more competitive banking system is less likely to suffer from systemic banking distress¹.

The four domestic banks leading the market endeavour to acquire a larger market share by launching innovative credit and deposit products. In 2007, around 20 deposit and 21 loan products were advertised by banks involved in both Segment A and Segment B activities. Banks adopt similar strategies to increase proximity to customers via the setting up of information bureaus all around the island. In 2007, the four banks experienced a redistribution of their individual market shares with some volatility observed in particular months of the year highlighting the period following which the products were advertised. Subsequently, the market was normalised and the four banks ended the year with a slight change in their market shares. It was observed that one particular bank experienced an improvement in its market share at the expense of another bank.

4.7 Profitability

The banking sector experienced improvement in both profitability and capital in 2007 providing a stronger resource base for risk management. The implementation of the Basel II new capital adequacy framework will yield enhanced integrated risk management of banks which will contribute to foster financial stability.

Profitability continues to be driven by fund-based activities, which is a sustainable source of earnings, both for Segment A and B business. However, a noticeable improvement in the foreign exchange income generated from Segment A activities was observed during 2007. The variety of banking products and services offered by former Category 1 banks give rise to fee-based income which has also grown in 2007. As a result, net interest income represented 65.3 percent of total income in 2007 against a higher percentage of 69.5 percent in 2006. Foreign exchange income improved to 8.9 percent of total income in 2007 while in 2006, it amounted to 5.4 percent of total income. Although total income increased in the banking sector, fee-based income which accounted for 16.2 percent of total income in 2006 remained

almost unchanged as the increase in fee-based income of banks engaged mainly in Segment A activities was nullified by a proportionate decrease in the fee-based income of banks dealing mainly with international customers.

Credit risk is defined as the potential that a bank’s borrower or counterparty will fail to meet its obligations in accordance with agreed terms. Credit risk is inherent in the principal activity of banks that is, lending, and is the single largest factor affecting the soundness of financial institutions and the financial system as a whole. As credit risk has a significant bearing on banks’ earnings and solvency, credit risk management is crucial in a bank’s risk management framework. It is therefore imperative that adequate credit risk management policies, procedures and controls for identifying, measuring and managing credit risk as well as a mechanism to regularly review the effectiveness of these policies are in place.

Banking business revolves around risk-taking and banks are constantly confronted with the risk-return trade off. They determine their risk appetites on the basis of macro economic conditions, sectoral opportunities and historical loss experience among others. Banks also determine their risk appetites in relation to the level of credit risk that can be buffered by their capital base. The capital adequacy ratio maintained by banks would give an indication of the degree of risk averseness of the banking sector and it is expected that risk-taking would be normally distributed. Indicators of potential credit risk contained in banks’ balance sheets lie in the rate of credit expansion, non-performing loans ratio and concentration of risks.

Credit risk can be significantly mitigated by the use of collaterals while a proper credit risk management framework allows for an accurate assessment of credit risk before the exposure is taken on board. While credit growth supported by best credit risk management practices is beneficial to the banking sector, credit growth in excess of GDP growth may increase the likelihood of vulnerabilities to the financial system. Risks may be underestimated during periods of boom and over estimated in recessions hitting heavily on banks’ provisioning and capital.

Loans and advances in the banking sector have improved constantly with growth in Segment A assets increasing from Rs207 billion at the end of first quarter of 2006 to Rs262 billion at the end of December 2007 while total banking sector credit expanded from Rs 310 billion to Rs519.4 billion over the last 8 quarters, mainly driven by Segment B activities.

Private Sector Credit

Domestic private sector credit is mainly granted to Construction, Tourism, Traders, Manufacturing, and Financial and Business Services which represent 16.30 percent, 13.61 percent, 13.35 percent, 10.37 percent and 9.95 percent of total credit respectively. Construction appears to be the most promising sector with increased demand for IRS projects where credit facilities are granted to promoters. Significant increase in exposures to the sub-categories including Residential and Property development, Housing, Building Supplies and Materials and Stone Crushing and Concrete Products were noticed.
Exposures to the Traders sector dropped as a result of a fall in distribution of credit to the ‘Retailer’ subcategory. Although asset quality has been improving in that class of exposures, it is likely that retailers demand less funds from the sector due to improved cash management, better supply chain management or better credit terms from suppliers. Banks tend to focus on sectors that are more promising such as Tourism, Construction and Financial and Business Services sectors. If this path is sustained, exposures to Traders are likely to dip further in the coming quarters.

Growth in credit to the “Construction” sector averaged 10 percent per annum over 2006/2007 and is expected to continue, spurred on by construction projects under the IRS, offices at the Cybercity and Residential and Commercial Property Development. Despite the rise in the Construction Price Index, credit granted to the Construction sector has continued to expand, indicating that demand for loans relating to that sector tends to be inelastic. Further, on the supply side, signalling their confidence, banks have continued to lend massively to that sector, which indicates further potential growth in that sector.

Exposures to the Construction sector exceeded Rs26 billion in February 2008 mainly on account of IRS and remained the highest exposed sector accounting for 16.7 per cent of total private sector credit.

Although the IRS sector is contributing to economic growth, banks should be wary of risks of unexpected losses arising from sudden defaults on those exposures which could impact heavily on banking sector stability. For instance, the country is not protected against risks of ‘Tsunamis’ or adverse climatic conditions which could affect the IRS sector. Further, taking into consideration the absence of a wide domestic market for IRS residential properties and the magnitude of the potential losses that could originate from the IRS sector, banks could consider additional provisioning on those exposures.

### Chart 15: Sectoral Non-Performing Exposures

Exposures to the Traders sector dropped as a result of a fall in distribution of credit to the ‘Retailer’ subcategory. Although asset quality has been improving in that class of exposures, it is likely that retailers demand less funds from the sector due to improved cash management, better supply chain management or better credit terms from suppliers. Banks tend to focus on sectors that are more promising such as Tourism, Construction and Financial and Business Services sectors. If this path is sustained, exposures to Traders are likely to dip further in the coming quarters.

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### Chart 16: Evolution of the Construction Sector and Construction Price Index

4.10 Sectoral Non-Performing Loans

The ratio of non-performing loans to total loans is an indicator of asset quality. The main exposed sectors of the domestic economy experienced significant reductions in that ratio over the past 7 years. The Tourism sector achieved the lowest default rate of 1.29 percent while exposures to the Personal sector registered a 10.81 percent default rate.
Box 1: Integrated Resort Scheme

The erosion of trade preferences in the Sugar Sector has led to increased focus on the Tourism Sector as a potential revenue source. The Integrated Resort Scheme (IRS) opened up ownership of freehold residential properties to non-citizens while at the same time contributed to the development of non-sugar sectors through inflows of Foreign Direct Investment (FDI). Budgetary measures have been taken over the years to foster development in that particular sector and the 2007/2008 budget extended the reach of the IRS to small landowners.

In October 2007, FDI in IRS mainly almost reached 800 million rupees. With several projects in the pipeline, IRS is expected to contribute further to inflows of FDI and sustain the boom in the construction sector.

The IRS regulations were reviewed to ensure that benefits from that sector accrue to society as a whole in the form of a social contribution of $6,000 per residential unit, which are channelled to social programmes. With further development in the IRS sector, tourism development is expected to reach new areas and locations and will attempt to integrate the local community in the mainstream. However, it is not clear how significant the impact of IRS will be in terms of job creation and other linkages and spill-over effects and sustainable development. Issues related to the reform of air access, development of infrastructure and security of tourists remain to be addressed. However, assessing the other side of the coin, the growth in IRS is susceptible to occasion Dutch Disease along with excessive volatility in the exchange rates - a new phenomenon that has hindered the exporting arm of Mauritius. Theoretically speaking, economists unanimously cling towards a sequencing process in capital liberalisation to mitigate the negative aspects of robust capital inflows and outflows. In that respect, Mauritius can be said to be in a satisfactory position following its fast expanding financial sector, internationally recognised stock exchange along with the forthcoming establishment of a derivative market.
Overall, domestic fund-based activities experience constant declines in non-performing loans ratio from 9.85 percent in 2001 to 4.99 percent in 2007. This is mainly attributable to improved risk management practices, prudential measures taken by the Bank of Mauritius, write offs and recoveries.

4.11 Capital Adequacy Ratio
A minimum Capital Adequacy Ratio (CAR) of 10 percent is imposed by the Bank of Mauritius as a tool to ensure that banks maintain adequate capital in relation to their risks thus protecting depositors’ interests and promoting the stability and efficiency of the financial system.

Domestic banks operated above the 10 percent regulatory limit throughout 2007 with a tendency for capital adequacy ratio distribution to be concentrated in the 10-20 percent range. Four banks conducting mainly Segment A activities operated close to the 10 percent limit. Although these banks have high risk appetites, their solid capital base provides adequate buffer against credit risks. Over the past seven years, most banks have made continuous improvements in their credit risk management frameworks.

4.12 Credit Risk in the Banking Sector
The banking sector generally reacts to changes in the local and international market environment by revisiting their risk diversification matrix. The domestic banking sector showed a preference towards high risk-taking for high reward throughout 2006 and 2007. During that period, the highest percentage of total assets were booked in the 100 percent risk weight buckets while a very insignificant portion was locked in the 10 percent risk weight bucket. Over the last 8 quarters ended December 2007, banks showed a slightly increasing preference for mildly risky assets carrying 20 percent risk weight while investment in assets bearing the 100 percent risk-weight declined in the last quarter of 2007. Former Category 1 banks appeared to have maintained the same risk distribution pattern of their assets over the last 8 quarters. While banks lock a high percentage of their assets in the high risk instruments, their loan portfolio was well diversified in the remaining risk buckets and most banks operated safely with regulatory ratios lying between 10 percent and 20 percent over the period 2006 to 2007. However, two banks continue to be highly risk averse and recorded a high capital adequacy ratio.

4.13 Concentration of Risk
Concentration of risk is inherent in asset portfolios of banks in the form of excessive exposures to sectors or to groups of individual borrowers. This type of risk can be one of the major causes of bank distress both for
individual institutions and banking systems at large. While concentration of risk accentuates the existing credit risks contained in certain loan exposures, banks are required to comply with regulatory requirements to limit the level of concentration of risks in their books. The level of credit concentration risk is monitored periodically by the Bank of Mauritius to ensure that the cap on aggregate large credit exposure at 600 percent of capital base is fully complied with by banks. However, the Bank of Mauritius has discretionary powers under the banking laws to exempt that part of a bank’s banking business or investment banking business that is conducted in currencies other than Mauritius currency. Over the last 6 quarters, banks have operated with an aggregate exposure ranging from 413 percent in September 2006 to 462 percent in December 2007.

4.14 Related Party Transactions

The risks associated with related party transactions have a direct impact on banks’ profitability and solvency and ultimately on the stability of the banking sector. The credit risks associated with related party transactions is magnified when parties related to the lending institution are subject to relaxed credit risk assessment procedures coupled with terms and conditions which are more favourable than those applied to borrowers with similar credit risk profile. Additional measures that would limit excessive related party exposures are being currently studied at the Bank of Mauritius.

The Bank of Mauritius has introduced regulatory limits to ensure that financial institutions do not grant excessive related party credits. Financial institutions may thus be exposed to related parties up to 2 per cent of

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**Box 2: Credit Concentration and Financial Stability**

Out of the various risks inherent in credit risk, concentration of credit risk constitutes a vital feature of effective credit risk management. Historically the concentration of credit risk has partly explained the occurrence of bank distress. Concentration of credit risk manifests due to substantial exposures to a single credit, or asset class, and also from linkages between asset classes. In addition, it may also surface in case of distinct exposures to a single large collateral. As far as the tools used to mitigate such a risk are concerned, different methods have been utilised. They incorporate both qualitative and quantitative elements. Under the qualitative side, recourse is made towards setting limits to exposures. Pertaining to quantitative measures, banks resort to internal economic capital models. Moreover, banks also cling towards pricing tools with a view to containing such a risk. Other technical tools have also been developed with the most commonly used one being stress testing where the aim is geared towards gauging the effects of extreme changes in the input data on the total portfolio risk. As part of a successful risk management framework, it is widely recognised that stress testing should be implemented regularly and not on a once-for-all basis since risk is dynamic and versatile. Furthermore, researchers have criticised that economic capital does not necessarily factor in such a risk. Sectoral credit concentration risk represents yet another important area when due diligence should be exercised. It has been underscored that the degree of sophistication of the financial system also accounts for the level of credit concentration risk. A glaring example includes credit risk transfer instruments that induce complex credit concentration risks. Finally, the Internal Ratings Based Approach under the New Capital Adequacy framework (Basle II) will facilitate effective containment of such a risk, attributable to the nature of its metrics used such as probability of default or loss given default.
Tier 1 Capital on an individual basis and up to 25 percent of their Tier 1 Capital on a consolidated basis. On-site examination complements the off-site monitoring of related party transactions and ensures that related party transactions have been conducted according to market terms and conditions. Enhanced reporting requirements in that regard show that compliance with the regulatory requirements on related party transactions is satisfactory.

4.15 Financial Soundness Indicators

One of the ways to analyse financial stability is to monitor financial soundness indicators. The overall financial soundness indicators are generally satisfactory and some are given in the table below. The ratios relating to capital adequacy factors in operational risk as from 2005. Another positive feature of the structure of capital is the predominance of Tier 1 Capital which accounted for 86 percent of total regulatory capital.

### Financial Soundness Indicators for the Banking Sector

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<tr>
<th></th>
<th>Dec-02</th>
<th>Dec-03</th>
<th>Dec-04</th>
<th>Dec-05</th>
<th>Dec-06</th>
<th>Dec-07</th>
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<tr>
<td><strong>Capital Adequacy</strong></td>
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<tr>
<td>Regulatory capital to risk-weighted assets ratio</td>
<td>12.3</td>
<td>14.2</td>
<td>15.0</td>
<td>15.4</td>
<td>15.8</td>
<td>13.3</td>
</tr>
<tr>
<td>Regulatory Tier I capital to risk-weighted assets ratio</td>
<td>13.0</td>
<td>13.7</td>
<td>13.7</td>
<td>13.5</td>
<td>13.7</td>
<td>11.5</td>
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<tr>
<td><strong>Asset Quality</strong></td>
<td></td>
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<tr>
<td>NPLs to gross loans</td>
<td>8.3</td>
<td>9.6</td>
<td>8.1</td>
<td>4.0</td>
<td>3.0</td>
<td>2.5</td>
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<tr>
<td>NPLs net of provisions to capital</td>
<td>34.0</td>
<td>28.1</td>
<td>22.4</td>
<td>11.4</td>
<td>7.0</td>
<td>9.1</td>
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<tr>
<td>Large exposures to capital</td>
<td>263.7</td>
<td>220.9</td>
<td>200.0</td>
<td>250.3</td>
<td>380.0</td>
<td>493.2</td>
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<td><strong>Earnings and Profitability</strong></td>
<td></td>
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<tr>
<td>Return on assets</td>
<td>2.0</td>
<td>2.1</td>
<td>2.1</td>
<td>1.9</td>
<td>1.69</td>
<td>1.9</td>
</tr>
<tr>
<td>Return on equity</td>
<td>18.1</td>
<td>19.2</td>
<td>19.2</td>
<td>21.1</td>
<td>22.37</td>
<td>26.4</td>
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<tr>
<td>Interest margin to gross income</td>
<td>32.6</td>
<td>32.1</td>
<td>34.7</td>
<td>36.3</td>
<td>31.19</td>
<td>27.6</td>
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<tr>
<td>Noninterest expenses to gross income</td>
<td>23.1</td>
<td>23.9</td>
<td>27.7</td>
<td>20.1</td>
<td>16.41</td>
<td>15.0</td>
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<tr>
<td><strong>Liquidity</strong></td>
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<tr>
<td>Liquid assets to total assets ratio</td>
<td>32.7</td>
<td>36.6</td>
<td>37.9</td>
<td>44.1</td>
<td>52.8</td>
<td>47.7</td>
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<tr>
<td>Liquid assets to total short-term liabilities ratio</td>
<td>65.3</td>
<td>71.0</td>
<td>71.7</td>
<td>88.6</td>
<td>118.8</td>
<td>104.2</td>
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<tr>
<td><strong>Sensitivity to Market Risk</strong></td>
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<tr>
<td>Net open positions in FX to capital</td>
<td>7.5</td>
<td>20.8</td>
<td>1.9</td>
<td>4.2</td>
<td>6.4</td>
<td>3.2</td>
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However, following the 75 basis point rise in the signalling rate in July 2007, a slightly different pattern was observed. Term deposits with maturity exceeding 3 years declined noticeably from the second quarter to the fourth quarter of 2007 while deposits of the remaining maturities continued to increase.

The possible impact of the shifts in maturity pattern of deposits occurring due to changes in interest rate on financial stability could be an area for further study.

It was observed that BOM/Treasury Bills and Term deposits are the preferred instrument of investors and there has been some growing interest in the long term instruments. As from July 2007, agents could buy Treasury Bills/Notes directly from the Bank and could also trade these instruments on the Stock Exchange of Mauritius and/or with Primary Dealers, which could be redeemed prior to maturity. Subsequently, an increase of 7 percent was noted in Bills held between the second and third quarters of 2007. However, following the hike in the key Repo Rate in July 2007, there has been a slight decline in investment in Bills and Bonds while investment in Term Deposits has picked up by 11 percent over the last three quarters of 2007.

4.17 Mauritius Credit Information Bureau

The Mauritius Credit Information Bureau (MCIB) was set up in December 2005 under section 52 of the Bank of Mauritius Act 2004. Its main objective is to assist credit providers to make more informed decisions. The MCIB which is a fully computerised on-line system is owned by the Bank of Mauritius and is physically located inside the Bank of Mauritius Tower. The primary objective of the MCIB is to collect and collate credit information on borrowers of lending institutions and to make this information available to those institutions. The MCIB presently comprises 13 participants which are banks operating mainly on the domestic market. Other participants will be connected to the MCIB by end July 2008. The initial reporting threshold of Rs100,000 for individuals and Rs500,000 for other borrowers and guarantors were revised downward to Rs25,000 as from October 2007 and completely abolished as from 1 March 2008. Banks are now required to report all credit facilities to the MCIB. Although various factors were responsible for asset quality improvement, declines in the non-performing loans especially as from early 2006 may be attributed to the MCIB.
5 Foreign Exchange Market and Developments

5.1 Overview

The foreign exchange activities of banks is an area where large and sudden losses could be incurred. The risks associated with foreign exchange business, namely the running of open foreign exchange positions have worsened by the increased volatility of exchange rates. Regulatory limits are important measures that are applied and seek to ensure that the risks assumed by banks in their foreign exchange transactions are not too large to threaten the solvency and liquidity of individual banks or the health and stability of the banking system.

The Bank of Mauritius imposes a maximum prudential limit of 30 percent of Tier 1 Capital to banks’ foreign exchange exposures. This limit has been determined by weighing the prudential considerations against the need for banks to ensure that the foreign exchange market functions smoothly and efficiently. Domestic banks have to play the important role of market makers in foreign exchange market. They do so by quoting their buying and selling rates to their customers and by ensuring that the foreign exchange market is balanced at any point in time such that there are no erratic and excessive fluctuations of the exchange rate. Tie-up arrangements which are common between financial institutions and their customers involved in external trade are not presently promoting a competitive exchange rate market in Mauritius.

During the year 2007 domestic banks have operated foreign exchange exposures well below the regulatory limit of 30 percent.

5.2 Foreign Exchange Developments

Financial turbulence arising from the sub-prime crisis weighed heavily on major currencies, particularly the US dollar. The falling US currency coupled with significant financial flows passing through the domestic economy led to a sharp appreciation of the Mauritian rupee exchange rate and to a highly liquid inter-bank foreign exchange market.

After depreciating substantially during the second half of 2006, the rupee gained ground vis-à-vis major currencies throughout 2007 and early 2008. During the first quarter of 2008, the rupee reached a 4-year high of Rs26.78 against the US dollar. Among the main factors explaining the sustained strength of the rupee has been the continued depreciation of the US dollar on international markets during the period. In addition, attractive yields on domestic money market instruments during the first half of 2007, have increased foreign demand for rupee-denominated assets. Non-resident investments in rupee-denominated assets reached an outstanding amount of Rs5,579.7 million in July 2007 before starting to decline gradually as yields started to fall. Moreover, investor confidence in emerging markets’ stocks resulted in the Mauritius Stock Exchange attracting substantial inflows. Net non-resident portfolio inflows on the stock market attained a high of Rs1,530 million in 2007 compared to Rs1,108 million registered in 2006. Finally, foreign direct investment inflows increased markedly in 2007, reaching a record level of Rs11,514 million on account of significant investment taking place in the banking and tourism sectors, mainly under the Integrated Resort Schemes. The pick-up in the EPZ sector as well as the outstanding performance of the Mauritian tourism industry last year also contributed in bringing in foreign exchange flows.

Against the backdrop of high liquidity on the inter-bank foreign exchange market, and to smooth out excessive volatility in the rupee exchange rate, the Bank of Mauritius intervened at regular intervals by way of purchases of foreign currencies for the equivalent amount of US$553.1 million over the period February 2007 to April 2008. Concerns that short term capital flows might pose risks to the country’s financial system stability and that the appreciating trend of the rupee might reduce the export competitiveness of the Mauritian economy and create downside risks to economic activity led the Bank of Mauritius to proceed, as from February 2008, with the gradual cutting down of the Key Repo Rate on three occasions, two of which at interim policy meetings.

Any meaningful discussion of recent exchange rate developments has to be conducted in terms...
of the nominal ‘effective exchange rate’ rather than simply on the basis of the bilateral exchange rates. Two measures of an ‘effective exchange rate’, namely MERI\(1\), based on the currency distribution of trade as weights, and MERI\(2\), based on the currency distribution of tourism receipts as weights, have been used in this report. The methodology used for computing the respective effective exchange rate indices is explained in Box 3. It may be noted that between January 2007 and May 2008, the rupee appreciated in nominal effective terms by 15.8 per cent according to the MERI\(1\) and by 14.7 per cent according to the MERI\(2\).

### Box 3: Effective Exchange Rate of the Rupee

Mauritius is a small open economy which is affected by movements in the domestic exchange rate against various foreign currencies and the path of the rupee against the trading currencies will determine the consequences on the economy. It is important that an exchange rate index is calculated based on the several bilateral exchange rates that apply to a particular currency in order to gauge the average value of that currency against others. The index excludes mistaken generalisations that can result from changes peculiar to a single currency. A weighted-average measure of the relevant bilateral exchange rates has been computed to build an ‘effective exchange rate’ (EER). The computation of the proposed effective exchange rate index of the Bank of Mauritius, which will be known as the MERI (Mauritius Exchange Rate Index) is described. Since two indices are being suggested, they will be termed MERI\(1\) and MERI\(2\). The Bank may, in future, introduce various other measures of an exchange rate index reflecting specific concerns for various sectors of the economy.

**Constructing the EER:** To build any EER, the following issues need to be addressed: (i) the choice and number of bilateral currencies to include, (ii) a measure of international trade to use to weigh these currencies, (iii) the use of bilateral or multilateral exchange rates, (iv) the use of arithmetic or geometric weight, and lastly (v) the base year for the index.

**Which Currencies:** This choice has been influenced by the importance of the currency distribution of trade flows of Mauritius with the rest of the world. While there are some merits in including services, given that Mauritius is rapidly developing into a services economy, data constraints prohibit the use of all services traded to be included in deriving the currency distribution of services traded. Nonetheless, some of the foreign exchange flows emanating from the services traded are considered. Tourist arrivals are available by country of residence, and a currency distribution of tourist receipts can be proxied using the total receipts based on the strict assumption that tourists would obviously pay for their expenditures using the currency of their respective countries. While this assumption is quite debatable, it nevertheless provides for a rational proxy.

**Choosing the Measure of Trade:** Traditionally, most EERs are weighted by some measures of traded goods and services, the sum of exports plus imports. The total trade of goods, that is, the sum of exports and imports of goods, has been used to derive the weights for the MERI\(1\). The weights for MERI\(2\) have been calculated using the total trade of goods and a proxy derived from tourism receipts. The approach that is mostly followed to derive the EER is the use of multilateral weights, whereby each currency receives a weight equal to its proportion of total trade. This method captures the impact of major currencies on trade flows. The same approach is followed for deriving MERI\(1\) and MERI\(2\). Further, the geometric weights technique has been used to derive the two weighted exchange rates MERI\(1\) and MERI\(2\).

**Base Period:** The choice of the base year typically reflects the most recently available data and has been chosen so that the weights characterise the structure of trade throughout the period of analysis. The base period chosen for computing the EER is January – December 2007 = 100. The approach followed is to use continually updated weights in an attempt to portray current trade patterns. That is, weights will be updated annually to ensure that they reflect the most recent structure of trade flows.

**The MERI:** The MERI is designed to be a summary measure of the rupee’s movements against the currencies of its important trading partners. MERI\(1\) and MERI\(2\) differ from each other in the sense that MERI\(1\) uses the currency distribution of trade as weights, while MERI\(2\) includes the currency distribution of tourism receipts combined with the currency distribution of trade as weights.

Tables 1 and 2 give the weights that have been used to derive MERI\(1\) and MERI\(2\) respectively. Table 3 shows the MERI\(1\) and MERI\(2\) since January 2007, while Chart 1 plots their evolution since the same period. Chart 2 shows the monthly appreciation/depreciation of the rupee vis-à-vis US dollar, pound sterling and Euro together with the change in the MERI\(1\) and MERI\(2\).
5. Foreign Exchange Market and Developments

Table 1: Weights for MERI

<table>
<thead>
<tr>
<th>Currency</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Dollar</td>
<td>57.9</td>
</tr>
<tr>
<td>Euro</td>
<td>27.6</td>
</tr>
<tr>
<td>Great Britain Pound</td>
<td>8.0</td>
</tr>
<tr>
<td>South African Rand</td>
<td>2.6</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>1.8</td>
</tr>
<tr>
<td>Swiss Franc</td>
<td>1.2</td>
</tr>
<tr>
<td>Singapore Dollar</td>
<td>0.5</td>
</tr>
<tr>
<td>Australian Dollar</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 2: Weights for MERI2

<table>
<thead>
<tr>
<th>Currency</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Dollar</td>
<td>49.0</td>
</tr>
<tr>
<td>Euro</td>
<td>34.0</td>
</tr>
<tr>
<td>Great Britain Pound</td>
<td>8.9</td>
</tr>
<tr>
<td>South African Rand</td>
<td>3.9</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>1.6</td>
</tr>
<tr>
<td>Swiss Franc</td>
<td>1.4</td>
</tr>
<tr>
<td>Singapore Dollar</td>
<td>0.4</td>
</tr>
<tr>
<td>Australian Dollar</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 3: Mauritius Exchange Rate Index (MERI)
Base Year: January - December 2007 = 100

<table>
<thead>
<tr>
<th>Period</th>
<th>MERI1</th>
<th>MERI2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-07</td>
<td>104.1</td>
<td>103.8</td>
</tr>
<tr>
<td>Feb-07</td>
<td>103.6</td>
<td>103.2</td>
</tr>
<tr>
<td>Mar-07</td>
<td>102.4</td>
<td>102.1</td>
</tr>
<tr>
<td>Apr-07</td>
<td>101.7</td>
<td>101.6</td>
</tr>
<tr>
<td>May-07</td>
<td>99.2</td>
<td>99.0</td>
</tr>
<tr>
<td>Jun-07</td>
<td>99.3</td>
<td>99.2</td>
</tr>
<tr>
<td>Jul-07</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Aug-07</td>
<td>98.6</td>
<td>98.4</td>
</tr>
<tr>
<td>Sep-07</td>
<td>98.9</td>
<td>99.0</td>
</tr>
<tr>
<td>Oct-07</td>
<td>98.2</td>
<td>98.5</td>
</tr>
<tr>
<td>Nov-07</td>
<td>98.6</td>
<td>99.1</td>
</tr>
<tr>
<td>Dec-07</td>
<td>95.7</td>
<td>96.1</td>
</tr>
<tr>
<td>Jan-08</td>
<td>93.4</td>
<td>93.8</td>
</tr>
<tr>
<td>Feb-08</td>
<td>91.9</td>
<td>92.2</td>
</tr>
<tr>
<td>Mar-08</td>
<td>88.7</td>
<td>89.3</td>
</tr>
<tr>
<td>Apr-08</td>
<td>86.5</td>
<td>87.2</td>
</tr>
<tr>
<td>May-08</td>
<td>89.9</td>
<td>90.5</td>
</tr>
</tbody>
</table>

Note: (1) An increase (decrease) in the index indicates a depreciation (appreciation) of the MERI, calculated as follows:
(Previous period index - Current period index) / Current period index

MERI1: based on the currency distribution of merchandise trade excluding trade in Rupees
MERI2: based on the currency distribution of merchandise trade excluding trade in Rupees and tourism earnings
6 Liquidity

6.1 Overview

There is an intertwined link between stability in financial institutions and financial markets. Liquidity risk is common in banking business and arises due to mismatch between assets which are generally long term in nature and liabilities namely deposits and borrowings which of usually short term. The maturity profile of the asset-liabilities structure of banks gives an indication of the magnitude of liquidity risks in a banking entity. Banks have various options to minimise liquidity risks. Regulatory requirements such as a minimum cash or liquid assets ratio are sometimes imposed while the availability of money market facilities also provides relief to liquidity hardships of banking entities.

The Bank of Mauritius ensures that domestic money market operates efficiently and effectively by providing a host of instruments that enables participants to manage their cash flows in an efficient manner. Banks operating in the domestic money market may in the event of long or short positions have recourse either to Government debt market, interbank money market, Primary Dealers system or the liquidity management windows of the Central Bank.

The interbank money market which is a key component of the money market, facilitates banks’ management of their overnight liquidity imbalances. Banks having a rupee liquidity shortfall can cover their positions by raising short term loans from banks having surplus positions either on an overnight basis, at short notice up to seven days or on term for periods more than seven days.

During the period July 2006 to March 2008, the interbank money market was fairly active with an average monthly turnover of Rs8,605.6 million. The proper functioning of the interbank market is however impaired due to trade limits among banks. In October 2006, in expectation of large outflows, the Government borrowed at a higher rate from banks on overnight basis to cover any shortfall due to reluctance of banks to invest in Government securities bearing a lower return.

Banks were comfortable to lend to government on an overnight basis at rates higher than yields on Treasury bills. In November 2006, the Government announced that it has ceased to borrow from banks on an overnight basis. During period August 2006 to January 2007, when banks were not investing in treasury bills, the weekly auctions were undersubscribed and this exerted an upward pressure on the yields. The weighted yields on treasury bills moved from 7.34 percent in August 2006 to 13.13 percent in February 2007.

The overnight interbank interest rate which peaked at 11.81 percent on 17 October 2006 fell to 6.90 percent at end of March 2008. Similar trends have been observed in the short notice rates which dropped from a high of 12.20 percent reached on 19 October 2006 to 6.75 percent at the end of March 2008. Sharp decline in rates has been witnessed during the first quarter of 2008 in both the overnight and the short notice interbank market when a turnaround was noted in the liquidity conditions in the system. Overnight weighted interbank rate which was generally traded within the corridor of the key repo rate went below the lower bound as from November 2007. Despite the widening of the corridor from +/- 50 bps to +/-125 bps, effective 1 April 2008, as part of the new liquidity management regime, the overnight weighted interbank rate is still hovering below the corridor.

6.2 Repurchase Transactions

As part of the Monetary Policy framework implemented in December 1999, the Bank introduced repurchase transactions for liquidity management within the weekly auctions of bills. Repurchase (repos) and reverse repurchase (reverse repos) transactions are conducted by
the Bank as and when warranted by liquidity conditions prevailing in the money market. Repos are carried out when the system is short while reverse repos are used to inject liquidity in the system. Under the new liquidity management regime implemented as from April 2008, repos are conducted at 125 basis points above the Key Repo rate while reverse repos are conducted at 125 basis points below the Key Repo rate. Repurchase transactions were minimal during the past few months as the excess liquidity in the system was more of a structural nature. The Bank has instead opted to issue Bank of Mauritius papers.

6.3 Short Term Liquidity Management

To manage the excess liquidity conditions prevailing at the shorter end of the spectrum, the Bank of Mauritius introduced in November 2007, a Special Deposit Facility for 14 days at 125 basis points below the Key Repo Rate. Under the new liquidity management regime, the maximum period has been extended to 21 days and the rate has now been set at 100 basis points below the Key Repo Rate. Since inception to end March 2008, a total amount of Rs9,225.0 million has been transacted at rates ranging between 7.25 and 8.00 percent.

Following the decision of the Government to cease overnight borrowings coupled with the growing interest of foreign investors in government papers due to the high interest differential, the money market became very liquid. Increased competition by banks for government papers led to oversubscription of weekly auctions with a bid-cover ratio ranging from 1.5 to 5. Yields on government securities started to decline and from a peak of 13.38 percent reached on 9 February 2007, the overall weighted average yields of Government of Mauritius Treasury Bills fell to 7.21 percent at end of March 2008.

Similarly, the overall weighted average yield on 2-Year, 3-Year and 4-Year Treasury Notes has dropped from a peak of 13.70 percent in January 2007 to 9.01 percent in March 2008, while the yield on 5 Year Government of Mauritius Bonds decreased from a peak of 13.21 percent in December 2006 to 9.99 percent in February 2008. The weighted average yields on Long Term Bonds of 7-Year, 13-Year and 20 Year maturities fell by 154, 144 and 135 basis points, respectively, during the same period.
7 Payment and Settlement Systems

7.1 Overview

The payment and settlement system is one of the most important components of a financial system as it fulfils the critical function of facilitating the transfer of funds. One of the prerequisite for a stable financial system is a robust, sound and secure payment system infrastructure. A payment and settlement system is considered systemically important as it has the potential to become a channel through which financial risks can be transmitted across financial institutions as well as financial markets. A safe and efficient payment and settlement system is crucial to minimise the potential for such contagion risks, and therefore, represents a key requirement in maintaining financial stability.

7.2 Payment Systems in Mauritius

The Payment System in Mauritius consists of five interconnecting blocks that enable all payment activities in Mauritius. The Mauritius Automated and Clearing and Settlement System (MACSS) which is operated by the Bank of Mauritius is a Real Time Gross Settlement (RTGS) system with guaranteed finality of payment, based on the credit push principle. The Port Louis Automated Clearing House (PLACH) also operated by the Bank of Mauritius and fully integrated with the MACSS, performs netting on cheque data that are sent to the clearing house by electronic means and performs settlement at each clearing cycle on the MACSS. The Contribution Network Project (CNP) is operated by the Mauritius Network Services and connects all large employers, and the majority of small ones, to the Revenue Authority via a single point of contact. The final settlements are done through the MACSS at the Central Bank which maintains the accounts of the Revenue Authority. The Central Depository & Settlement Co. Ltd (CDS) performs the clearing and settlement of transactions effected on the Stock Exchange of Mauritius. Securities are settled in book entry form by CDS on a gross basis (trade for trade basis) while funds are settled on a net basis through the Bank of Mauritius. Lastly, Card Settlement Systems is a private initiative on behalf of commercial banks to settle inter-bank rupee transactions made through credit cards.

7.3 Application Architecture and Robustness

The MACSS complies with the Core Principles of Systemically Important Payment Systems (CPSIS) based on a well founded legal framework. Further, the rules and obligations of participants as well as the procedures for liquidity and risk management are clearly spelt out. The system is based on the credit push principle and finality of payment is guaranteed and irrevocable after settlement.

The MACSS application architecture was designed with a high degree of tolerance towards faults, resilience and availability. The system operates with a hot backup site where application data are replicated in real time for each transaction. In case of failure of the main system, the MACSS application enables resumption of operations from the point of failure.

The direct participants of MACSS are banks which are linked to the Bank of Mauritius through a secured network in a Closed User Group. The Government is a participant to MACSS through the Bank of Mauritius. No other party can access the network unless authorised by the Bank of Mauritius. The payment messages are carried through the SWIFT network whose security and resilience to fault is guaranteed by the provider.

7.4 Disaster Recovery and Business Continuity Plans

Operational procedures have been selected to further enhance security and availability of the system. Daily backups of the application are taken and tapes are stored in fireproof safes at
the primary and backup sites. The end of day procedures of the application ensures that the files are consistent at the primary and backup sites. To ensure that backup procedures and business continuity plans are effective, a fallback connectivity test is carried out on the second Tuesday of every quarter. During this exercise, operations from the main site are stopped, and all participants operate from the fallback site for a complete day. The fallback site of the Bank is situated in a government security zone where access is under strictly control. Electricity and telecommunications services are also guaranteed. The Bank of Mauritius has a contractual obligation to guarantee 99 percent availability of the MACSS application. The design of the application together with the rigor of the processes have so far met the availability target.

7.5 Cross Border Initiatives

The International Bank Account Number (IBAN) has been implemented by the Bank of Mauritius in March 2006 to facilitate payments resulting from the increase in cross border transactions. The Bank of Mauritius is also participating in the COMESA Regional Payment and Settlement System (REPSS) System which will permit cross border payments between COMESA countries. Exporters will invoice their clients in their local currency and importers will also pay in their local currency leading to considerable reductions in the costs of transactions and the time taken for settlement. The system will allow a T+0 settlement with possibility of real time payment at higher fees. Local banks will access the payment system through their central banks. The Bank of Mauritius will act as the settlement Bank in the system.

7.6 Future Prospects

The Bank is currently working on M-Payments (payments of funds transfer through mobile phones). Currently bank customers can use this service to top up mobile phones credits by sending SMSes. Presently one major bank allows its subscribers to check account balances and one mobile operator permits airtime transfers between mobiles. Due to risks that M-payments funds would cause flow of funds from banks to telecom operators which are not licenced by the central bank, this mode of payment is being studied to protect customers and to ensure a sound payment system. The Cheque Truncation system project, where clearing and settlement of a cheque will be done through images of cheques instead of physical cheques is also on the way.

The Bank is also reviewing the Disaster Recovery and Business Continuity Plans of the Payment systems to factor in the Tsunami effect.

Box 4: Cheque Truncation System

The Bank of Mauritius will introduce a Cheque Truncation System (CTS) with a view to aligning the cheque settlement mechanism in Mauritius with international norms. Cheque Truncation represents a paradigm shift in the processing and clearing of cheques by banks while the public continues to operate as usual. Technically, under CTS, both the recto and verso images of cheques will be captured, recorded and forwarded via electronic means to the paying bank for clearing. Distinct benefits can be derived from the establishment of the CTS. At the outset, via cheque imaging, the clearing process is speeded up, scaling down the time element involved under the conventional clearing system when a bounced cheque moved from the issuing bank to the Bank of Mauritius and back to the issuer. Viewed in that dimension, banks can accordingly slash their holding periods for “in transit” cheques. Furthermore, cheque imaging signifies recourse towards digitised techniques which facilitates the ascertaining of authenticity of signatures, a real step waged to curb forgery and cheque alteration. In a similar manner, any distortions caused to physical documents are systematically eliminated as everything is transferred electronically. Moreover, quick and easy retrieval of any cheque is ensured, as and when required, due to the setting up of a central archiving system which is also a component of the CTS. Participating banks will incur reduced cost in cheque clearing.