مصرف البحرين المركزي

Central Bank of Bahrain

Financial Stability Directorate

Financial Stability Report

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Preface

Financial stability can be defined as a situation where the financial system is able to function prudently, efficiently and uninterrupted, even in the face of adverse shocks.

As the single regulator for the Bahraini financial system, the Central Bank of Bahrain (CBB) attaches utmost importance to fostering the soundness and stability of the financial system. This emphasis stems from CBB's recognition that financial stability is critical to maintaining Bahrain's position as a regional financial center and ensuring that the sector continues to contribute significantly to growth, employment and development in Bahrain.

In pursuit of its objective of promoting financial stability, the CBB conducts regular financial sector surveillance, keeping a close watch on developments in individual institutions as well as in the system as a whole.

The *Financial Stability Report* (FSR) is one of the key components of CBB's financial sector surveillance framework. Produced semi-annually by the Financial Stability Directorate (FSD), its principal purpose is macro-prudential surveillance, assessing the safety and soundness of the financial system as a whole (intermediaries, markets and payments/settlement systems). The ultimate objective of such macro-prudential analysis is to identify potential risks to financial stability and mitigate them before they crystallize into systemic financial turbulence.

This edition of the FSR is organized into six chapters as follows: Chapter 1 reviews recent international and domestic macro-financial developments, assessing possible implications for financial stability in Bahrain. Chapter 2 examines the financial position of households and business enterprises as well as trends in the construction and real estate sector. Chapter 3 evaluates the

[1] This definition has been slightly modified in comparison to previous editions of the *Financial Stability Report*.

financial condition and performance of the banking sector (conventional and Islamic), while Chapter 4 assesses the financial condition and performance of the conventional insurance industry. Chapter 5 reviews recent trends on the equity market while Chapter 6 examines stability issues relating to the payment and settlement systems.

Unless indicated otherwise, this report analyzes data covering the period between end-September 2007 and end-March 2008.

Executive Summary

Overall assessment

The Bahraini financial system remains safe and sound, despite months of turmoil in international financial markets. Aside from losses suffered by three banks on holdings of mortgage-related securities, the financial sector was generally untouched by the global "sub-prime crisis". Although the financial sector presents a reasonably robust picture, rising inflation has led to concerns about the stability of the general macroeconomic environment. Higher inflation reduces the real income of households and makes it more difficult for economic agents to assess and monitor risks.

International and domestic macroeconomic trends

As the sub-prime financial crisis lingers, *global growth* is expected to slow to 3.7% in 2008, down from 4.9% in 2007. Most of the slowdown is expected to occur in the United States, with rapid growth of emerging and developing economies (principally China and India) helping to mitigate the expected downturn in global output.

The global macroeconomic situation is even more fragile in the face of *increasing prices for food and energy*, which have contributed to rising levels of inflation in both advanced and emerging markets.

International financial markets have still not recovered fully from the turmoil that began in the second half of 2007. Despite various liquidity-providing measures by central banks to assist the functioning of key financial markets, confidence on the interbank market is still a scarce commodity. As banks remain reluctant to lend to one another, risk premiums are still above their pre-crisis levels. Major international banks continue to declare valuation losses further dampening confidence.

Macroeconomic conditions in Bahrain are broadly satisfactory, although rising levels of inflation have led to some concerns about general macroeconomic stability. Given Bahrain's pegged exchange rate regime, there is a limited set of policy tools for managing liquidity and a loose monetary policy has been compelled by the need to match the policy stance in the United States. Higher prices may erode real incomes of households and in an inflationary environment, market players (households, businesses, financial institutions) will find it harder to assess and monitor risk. Similarly, while general macroeconomic conditions are broadly satisfactory in other GCC countries, inflation levels are even higher than in Bahrain, with consumer prices rising much faster in Qatar, UAE and Saudi Arabia.

The non-financial sector

Household debt burdens have increased since the last *Financial Stability Report*, with the personal loans-to-GDP ratio standing at 21.7% by end-March 2008 (compared to 19.6% in September 2007). In an environment of rising prices, falling real incomes and rising interest rates on personal loans, this trend raises some concern about the ability of households to service debt. In contrast, the level of indebtedness in *the business sector* fell during the review period, with the ratio of business loans to GDP falling from 49.1% in September 2007 to 45.7% in March 2008. We consider this level of debt bearable, given the strong performance of the non-oil sector.

The *construction and real estate sector* is beginning to suffer from high costs and shortage of essential materials (e.g. cement, sand and steel). In 2007, commercial licenses issued for construction and real estate activities were down 26% and construction permits down by 6%. Compared with a year ago, the first quarter of 2008 witnessed a 21% decline in commercial licenses issued for construction and real estate activities plus a 14% fall in the number of construction permits issued.

The banking sector

A look at key financial soundness indicators shows that *domestic banking institutions* (conventional and Islamic) are financially strong. Bahraini banks are characterized by high capital adequacy, healthy profitability, sufficient liquidity and good asset quality. However, lending portfolios are relatively concentrated, raising concerns about "asset concentration" risks. A look at specific risk factors also indicates credit and liquidity risks may be increasing in certain segments of the banking sector and need to be closely monitored in the months ahead.

The insurance industry

The insurance sector displays financial strength with high capital levels and wide solvency margins. Expense ratios are also down substantially and year-on-year stock market performance is positive. The principal cause for concern in this sector is the relatively high levels of insurance receivables , which could become a source of credit risk to insurance companies.

Equity markets

The *Bahrain stock market* experienced significant expansion in market capitalization, which stood at BD 11.2 billion in May 2008 (36.3% higher than a year ago). The "Commercial banks" segment continues to be the key driver of market growth, with capitalization 48.8% higher year-on-year. Between October 2007 and May 2008, the All-Share Index gained 225 points. Valuations however dipped slightly, with the price-earning (P-E) multiple standing at 11.81 in May 2008, compared to 12.52 in October 2007.

Payments and settlement system

After operating for a full year, the new Real Time Gross Settlement System (RTGS) has been a success, improving the safety and security of the payments and settlement infrastructure in Bahrain substantially. Regular testing of the technical infrastructure has been introduced to manage operational risk. Despite these improvements there are outstanding concerns regarding the absence of an overarching legal framework for the payments system and the settlement agent risk associated with the clearing and settlement of equity trades on the Bahrain Stock Exchange (BSE).

Financial Stability Alerts

Although the overall financial stability assessment indicates no serious concerns about the safety and soundness of the Bahraini financial system, the following areas warrant attention:

- In an environment of higher household borrowing and relatively high rates on personal loans, rising inflation may erode real incomes of households leading to difficulties in servicing debt.
- Higher costs and supply shortages are slowing down activity in the construction and real estate sector, with a reduction in the number of "construction starts". There is a need to monitor these developments closely in case the slowdown affects real estate prices as well. Given the relatively high exposures of Bahraini banks (conventional and Islamic) to this sector, a downturn in this sector will have serious adverse implications for the asset quality of banks as well as collateral values.
- Although aggregate asset quality is good, both conventional retail and wholesale banks continue to show concentrated lending patterns. For locally-incorporated retail banks, over 40% of outstanding loans were in two sectors: "consumer and personal" and "financial". For overseas retail banks, the "manufacturing" segment alone accounts for 30% of outstanding loans. In conventional wholesale banks, over 60% of lending is in three sectors ("financial", "services" and "manufacturing").
- Although non-performing loans in construction continue to diminish, coverage ratios (i.e. provisions and interest in suspense as a proportion of non-performing loans) are relatively low in this sector for retail banks.
- Liquidity risks appear to be rising in the Islamic banking segment. Islamic retail banks have highly concentrated deposits and have also experienced a decline in liquid assets. While deposits in Islamic wholesale banks are more diversified, they have been experiencing a decline in liquid assets as well.

- Insurance companies have relatively high levels of insurance receivables, which could become a source of credit risk.
- As mentioned in the last two editions of the *Financial Stability Report*, the clearing and settlement system on the Bahrain Stock Exchange is exposed to *settlement agent risk.*

1. International and Domestic Macro-Financial Developments[2]

Key Points

Slowdown in global growth

High commodity prices push up global inflation

GCC countries experiencing inflationary pressures

Although rising, inflation in Bahrain is the lowest within the GCC

General macroeconomic outlook for Bahrain remains positive

From a financial stability perspective, a review of international macroeconomic trends is important because globalization has increased the potential for cross-border transmission of economic and financial shocks. This is particularly relevant to Bahrain, as a small, open economy with a fixed exchange rate and fully open capital account.

In addition, developments in the domestic macroeconomic environment have a strong influence on financial stability as adverse movements in key macroeconomic indicators can increase various types of risk facing financial institutions or lead to the emergence of serious vulnerabilities. Indeed, lessons of experience with episodes of financial crisis have shown that macroeconomic shocks have often preceded financial crises.

[2] This chapter draws on various projections contained in the IMF's, *World Economic Outlook*, April 2008 and *Global Financial Stability Report*, April 2008.

Slowdown in global growth

In the wake of the 2007 "sub-prime financial crisis", global growth is expected to slow to 3.7% in 2008, down from the 4.9% recorded in 2007 (Table 1.1). The deceleration in the United States has been especially significant, with output expected to grow by a tiny 0.5% in 2008. With India and China at the forefront, growth performance in emerging and developing economies is expected to remain robust, helping to mitigate the overall impact on global growth prospects.

Table 1.1: Global Output Growth—2006-2009

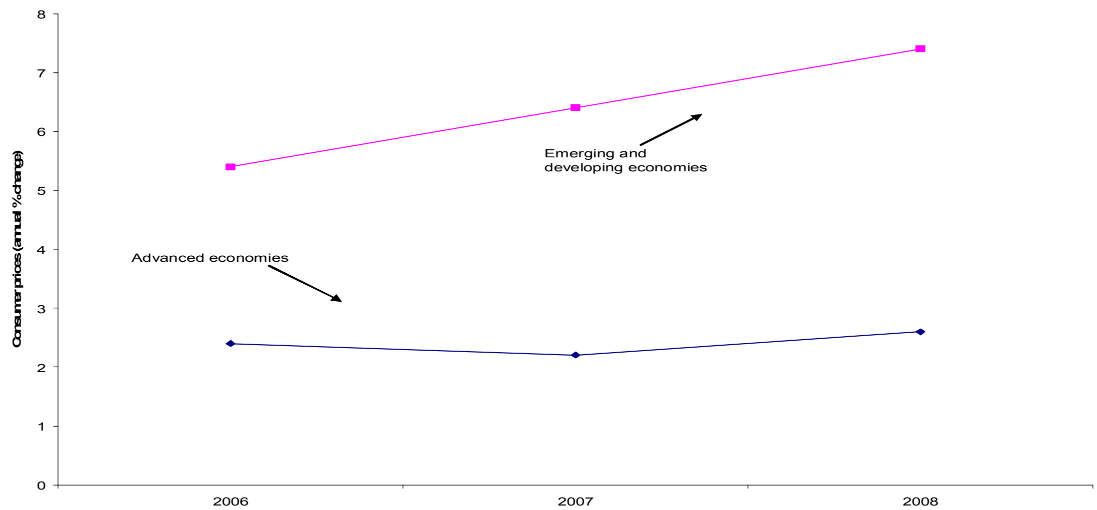
	2006	2007	2008*	2009*
World	5.0	4.9	3.7	3.8
United States	2.9	2.2	0.5	0.6
Euro Area	2.8	2.6	1.4	1.2
Japan	2.4	2.1	1.4	1.5
Developing Asia	9.6	9.7	8.2	8.4
---China	*11.1*	*11.4*	*9.3*	*9.5*
---India	*9.7*	*9.2*	*7.9*	*8.0*
Middle East	5.8	5.8	6.1	6.1
Africa	5.9	6.2	6.3	6.4

**IMF projections.*
Source: IMF, World Economic Outlook, April 2008.

Higher commodity prices push up inflation

Increasing prices for food and energy have contributed to rising levels of inflation in both advanced and emerging markets. Inflation in emerging and developing economies (as measured by changes in consumer prices) reached 6.4% in 2007 and is expected to rise further to 7.4% in 2008. Price increases in advanced economies should be more modest from 2.2% in 2007 to 2.6% in 2008 (Chart 1.1).

Chart 1.1: Global Consumer Prices, 2006-2008 (%)*



**2008 IMF projection*
Source: IMF, World Economic Outlook, April 2008

Strong demand for food and oil, capacity constraints in the oil industry and the increasing use of crops for bio-fuel have combined to push up commodity prices to record levels. By the third week of June 2008, oil prices had reached a record high of $145 per barrel, compared to $99 per barrel as recently as November 2007.

The sub-prime financial crisis lingers

The global financial system has suffered severe disruptions following the financial crisis with began in the summer of 2007, triggered by defaults in the US sub-prime mortgage market. Despite massive coordinated injections of liquidity into the financial markets by the US Federal Reserve, the Bank of England and the European Central Bank, interbank rates remain higher than normal and banks are still reluctant to lend to one another. Repeated cuts in US Federal Funds rate have also had a minimal impact on interbank rates. More seriously, as several banks announce valuation and loan losses, a credit squeeze has emerged, with banks more reluctant to lend to households and businesses. This has raised fears of economic recession in the United States and Europe.

Although emerging and developing economies are still expected to maintain their robust growth rates, the risk of a "recessionary spillover" will be higher if there are more significant cutbacks in bank lending to households and businesses in the advanced economies.

Satisfactory macroeconomic outlook for Bahrain

Final 2007 output numbers for Bahrain are not yet available but the projection of a 6.6% growth in real GDP for the year remains unchanged (Table 1.2). The non-oil sector is expected to expand by 7.7% slightly lower than the 8% recorded in 2006.

Table 1.2: Bahrain—Selected Macroeconomic Indicators

	2005	2006	2007
Real GDP growth (%)	7.9	6.5	6.6*
Oil sector (%)	*-8.8*	*-1.0*	*0.3**
Non-oil sector (%)	*11.6*	*8.0*	*7.7**
Inflation (CPI)	2.6	2.2	4.4**
Domestic Government Debt (% of GDP)	19.6	15.7	10.4
M2 Growth (%)	22.0	15.0	39.2
Export growth (%)	33.3	15.3	11.7
Import growth (%)	22.5	12.6	9.7
Current account balance (% of GDP)	11.0	13.3	14.6

**Estimates only*

*** Please note that CPI numbers from 2007 onwards are not directly comparable to previous years due to the construction of a new CPI basket in 2006. Number shown is as at end-December 2007*

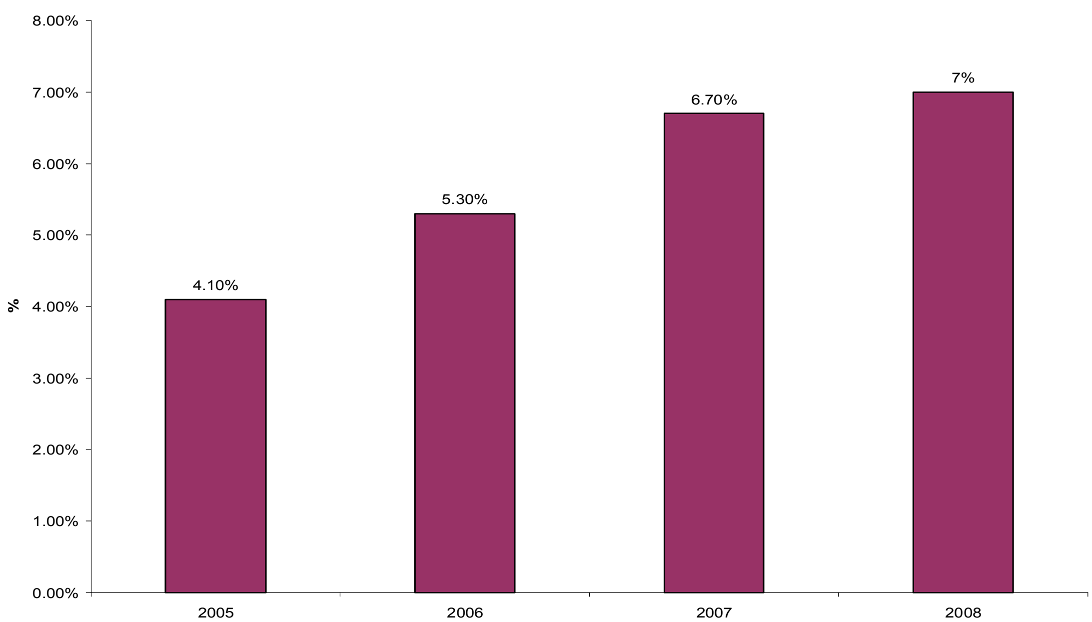
Sources: Central Bank of Bahrain, Ministry of Finance and Central Informatics Organisation

Annual inflation, as measured by the official Consumer Price Index (CPI) was 4.4% as at end-2007. However, this number is based on a new 2006 CPI basket and is not directly comparable to the inflation numbers reported in previous years. Notably, the inflation rate in Bahrain is the lowest among the GCC countries. Nonetheless, rising inflation has led to some concerns about the stability of the macroeconomic environment. In an inflationary environment, market agents find it more difficult to assess risk and higher prices may erode the real incomes of households, potentially leading to debt-servicing difficulties. The *current account surplus* widened to 14.6% of GDP, driven primarily by a surge in oil export receipts.

GCC countries experiencing inflationary pressures

Given the fact that GCC currencies (except the Kuwaiti dinar) are pegged to the US dollar, the Gulf region has been importing expansionary monetary policy from the US. Combined with the lower value of the dollar and expansionary fiscal policies, this has resulted in further upward pressures on consumer prices. Estimates by the Institute of International Finance (IIF) indicate that average GCC inflation will reach 7% in 2008, compared to just 4.1% three years ago (Chart 1.2). Qatar and the UAE already have inflation rates higher than this average, registering rates of 13.9% and 9.8% respectively by the end of 2007.

Chart 1.2: Average Inflation Trends in the GCC, 2005-2008 (%)*



** 2008 figures are projections*
Source: Institute of International Finance

2. The Non-Financial Sector

Key Points

Although rates on personal loans remain high, aggregate household borrowings have increased

In contrast, business enterprise borrowings have fallen even as rates fall on business loans

There are some early signs of a slowdown in the construction and real estate sector

The assessment of financial stability requires an evaluation of the financial condition and performance of non-financial entities: households, business enterprises, as well as the construction and real estate sector. Households and business enterprises are the major customers of financial institutions. Not only are they sources of deposits, they represent major sources of demand for financial sector products and services. The financial condition and performance of financial institutions therefore depend to a large extent on the financial condition of their customers (households and enterprises) and their vulnerabilities to changes in the economic environment.

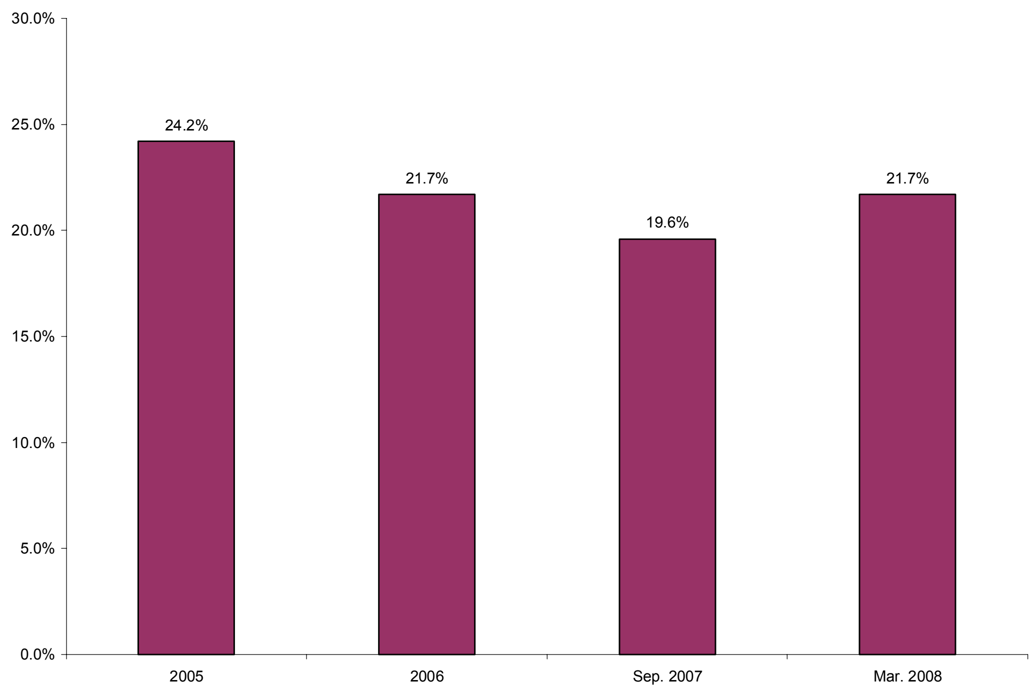
The construction and real estate sector receives special attention because this sector is usually highly sensitive to developments in macroeconomic conditions and financial institutions in Bahrain have direct and indirect exposures to the sector.

2.1. *Households*

Household borrowing increases

Using outstanding personal loans from all banks as a proxy for "household" borrowing, we observe that the household debt burden has increased since the last *Financial Stability Report*. The ratio of personal loans to GDP has risen from 19.6% as at end-September 2007 to 21.7% by end-March 2008 (Chart 2.1)[3]. In tandem, personal loans outstanding increased by 11% over the same period (Chart 2.2). Financing conditions for personal loans have remained tight, with average lending rates standing at 9.0% by end-2008:Q1, marginally down from the 9.1% recorded at the same time last year.

Chart 2.1: Personal Loans and advances (% of GDP)



Source: Central Bank of Bahrain

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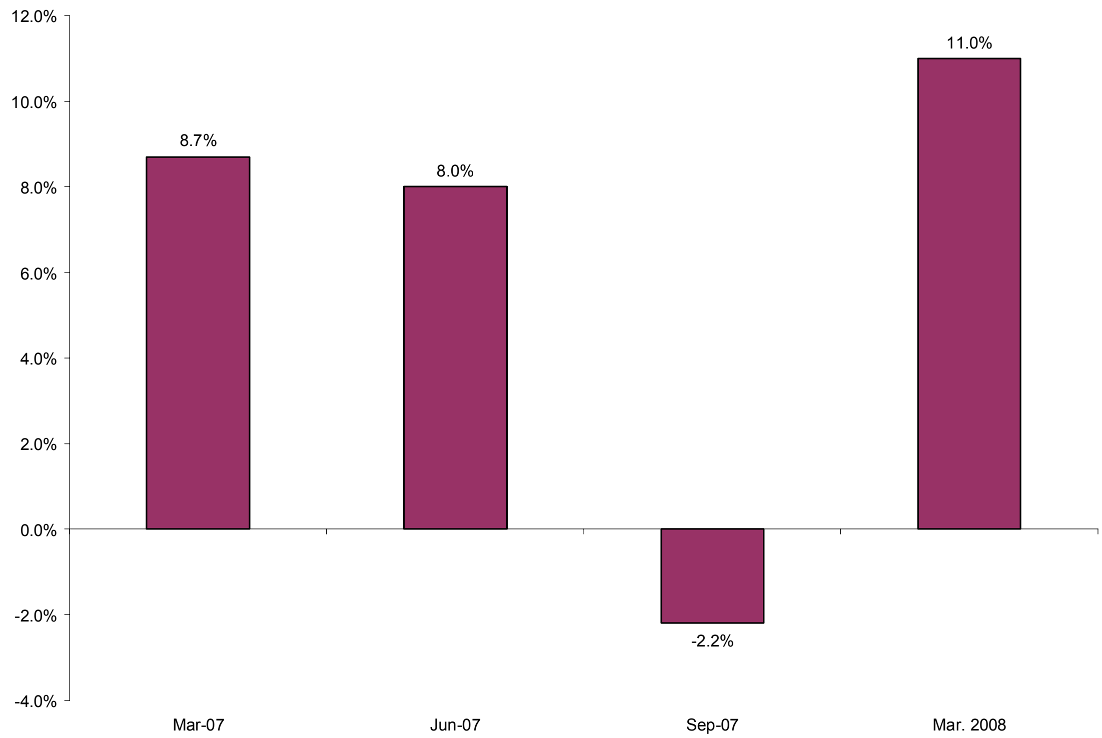
3 We relate household borrowing to nominal GDP in the absence of reliable household income data. The denominator uses IMF projections for 2007 nominal GDP.

Chart 2.2: Growth Rate of Total Personal Loans and Advances (%)



Source: Central Bank of Bahrain

Mixed outlook for household income risks

Household income is a principal source of funds to service and repay debt. The creation of new jobs suggests that household income risks are falling. As at end-2008:Q1, overall employment levels in Bahrain stood at 410,162 compared to 381,126 as at 2007:Q1 (an addition of 29,036 jobs).

In general, wages have also been rising. In the absence of household income data for Bahrain, we look at average monthly wages in the private and public sectors, as a rough proxy for trends in household income. Average private sector wages have been increasing steadily, reaching BD246 per month as at end-March 2008 (Table 2.1). Average monthly public sector wages have been consistently higher than private sector wages but dipped slightly to BD772 during 2008:Q1 (from a peak of BD774 in 2007:Q1).

Table 2.1: Average Monthly Wages (BD)

	2006:Q1	2006:Q2	2006:Q3	2006:Q4	2007:Q1	2007:Q2	2007:Q3	2007:Q4	2008:Q1
Private Sector	212	211	213	210	224	228	231	232	246
Public Sector	674	684	677	700	695	706	705	774	772

Sources: General Organisation for Social Insurance and Civil Service Bureau

As the private sector continues to account for the lion's share of total *formal* employment (90.4% as at end-March 2008), a trend of improving average private sector wages suggests that households depending on private sector wages are experiencing an improving ability to service debt out of current income (on average).

However, this scenario is countered by rising prices, especially of food, which is a major component of consumption baskets in Bahrain. Higher inflation reduces the spending power of residents and with financing conditions remaining tight, debt- servicing difficulties may emerge in the coming months.

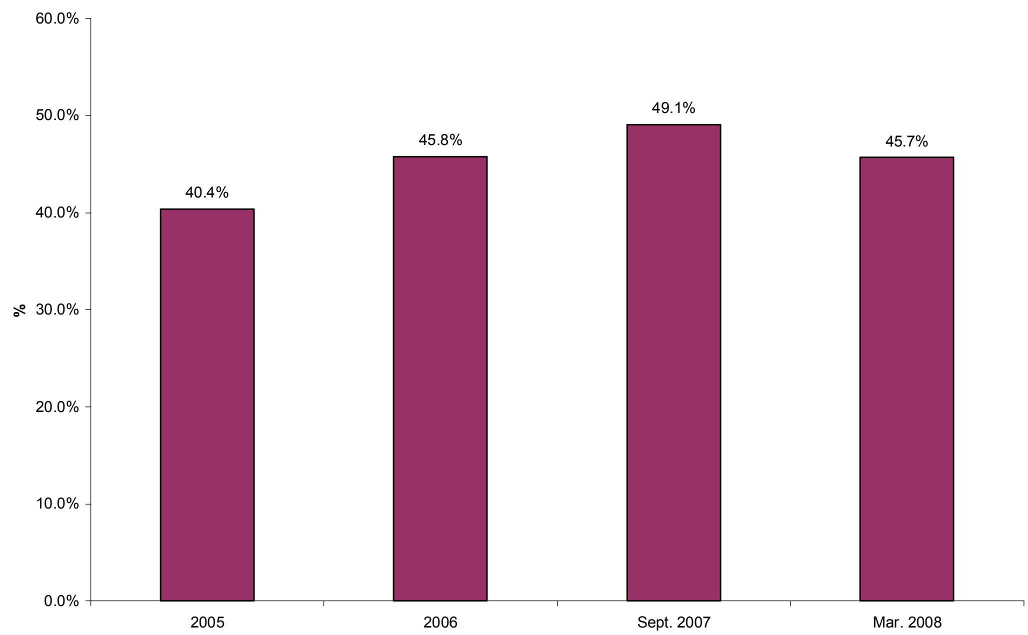
2.2. Business Enterprises

Business debt burden falls

Between September 2007 and March 2008, the ratio of business loans to GDP fell from 49.1% to 45.7% (Chart 2.3). As mentioned in previous editions of the *Financial Stability Report*, we do not consider this level of indebtedness to be too burdensome for business enterprises given the ongoing economic boom in Bahrain and the solid performance of the private, non-oil sector, which is expected to expand by 7.7% in 2007. It is also notable that average lending rates to businesses have come down somewhat, standing at 6.6% in 2008:Q1, compared to 7.6% the previous year.

However, as we have repeatedly stated in the past, the seeds of distress are typically sown in good times. <u>It is therefore important that lenders continue to monitor existing business borrowers closely while ensuring that new loans are extended on a sound and prudent basis</u>.

Chart 2.3: Business Loans and Advances (% of GDP)



Source: Central Bank of Bahrain

2.3. Construction and Real Estate

Slowdown in licensing and permits for construction and real estate

Using end-September 2007 figures, the last *Financial Stability Report* reported a slowdown in licensing and permits for construction and real estate. Available numbers for the whole of 2007 have confirmed this finding, indicating that the total number of new commercial licenses issued for construction, real estate and associated activities totaled 1900, down 26% compared to 2006 (Table 2.2). In the first quarter of 2008, a total of 443 licenses were issued compared to 561 for the same period of 2007.

Similarly, the total number of construction permits issued by the Ministry of Municipalities Affairs and Agriculture in 2007 was 4188, compared to 4461 issued in 2006 (down 6%). In the first quarter of 2008, a total of 840 permits were issued, compared to 977 for the same period of last year (Table 2.3).

Table 2.2: Commercial Licenses Issued for Construction and Real Estate

	2006	2007	2008:Q1	2007:Q1
Construction	1494	857	149	**261**
Real Estate, Rentals and Associated Activities	1097	1043	294	**300**
Total	**2591**	**1900**	**443**	**561**

Source: Ministry of Municipality Affairs and Agriculture

Table 2.3: Selected Construction Permits by Type

	2006	2007	2008:Q1	2007:Q1
Demolition and New construction	404	413	36	**78**
New construction	4021	3748	801	**891**
Reclamation	36	27	3	**8**
Total	**4461**	**4188**	**840**	**977**

Sources: Ministry of Municipality Affairs and Agriculture

No slowdown in land prices

Despite the fall in the number of licenses and permits issued for construction and real estate activities, land prices have remained high. In 2007, the *value of traded land permits* reached BD1365 million, a 56% increase over 2006 (Table 2.4). This rapid pace seems to have carried over into 2008 with first quarter figures showing a value of BD537 million in traded land, compared to BD245 million last year (119% increase).

Table 2.4: Trading in Land (BD Million)

	2006	2007	2008:Q1	2007:Q1
Total Value of Traded Land Permits	**876**	**1365**	**537**	**245**
Value of Permits for Bahrainis	*810*	*1265*	*500*	*204*
Value of Permits for Non-Bahrainis	*65.8*	*99.8*	*37*	*41*

Sources: Ministry of Municipality Affairs and Agriculture

Overall Assessment of the Non-Financial Sector

From a financial stability perspective, it is likely that the impact of higher prices on household budgets may affect their ability to comfortably service debt out of current income. Financing conditions for personal loans have also remained tight, with average lending rates standing at 9.0% by end-2008:Q1, despite recent cuts in the CBB's policy rate. Hence, it is important to carefully monitor the indebtedness and the debt servicing performance on personal loans over the coming months in order to detect any signs of stress on household balance sheets.

Debt burdens in the business sector appear bearable and average lending rates to businesses have come down to 6.6% in 2008:Q1 (compared to 7.6% in 2007:Q1), further improving the ability of businesses to acquire and service debt.

For the construction and real estate sector, it seems we are beginning to see a slowdown in levels of activity due to the high costs and relative shortage of materials such as steel, cement and sand.

3. Financial Condition and Performance of the Banking Sector

Key Points

Overall, the financial condition and performance of the banking sector is satisfactory

However, lending portfolios remain concentrated across the industry

In Islamic banks, liquidity risks are low but increasing

This chapter analyzes the banking sector under the following categories: conventional retail banks (section 3.1), conventional wholesale banks (section 3.2), Islamic retail banks (section 3.3), and Islamic wholesale banks (section 3.4). Section 3.5 provides an overall assessment of the banking industry.

Unless specified otherwise, the analysis in this chapter is based on consolidated financial data (Bahraini and non-Bahraini operations), as at end-December 2007[4].

[4] Please note that the consolidated figures in this chapter are not directly comparable to some of the banking data contained in the Central Bank of Bahrain's *Statistical Bulletins*, which cover Bahraini operations only.

3.1. Conventional Retail Banks

Retail banks show strong capital positions and sound profitability[5]

As at end-December 2007, the aggregate capital adequacy ratio for locally-incorporated retail banks stood at 24%, a significant improvement over the 16.7% recorded in September 2007. The core capital ratio (ratio of Tier 1 capital to risk-weighted assets) similarly rose to 17% (from 9.6% in September). Although total risk-weighted exposures increased over the period of analysis, retail banks were able to boost both Tier 1 and Tier 2 capital positions substantially, resulting in an overall improvement in capital adequacy ratios.

Year-on-year, retail banks experienced a 65% growth in net profits. Locally-incorporated banks showed higher profitability with return on assets (ROA) standing at 1.7%, compared to 1.4% for overseas banks.

Lending remains concentrated

As observed in previous editions of the *Financial Stability Report*, over 40% of outstanding loans in locally-incorporated retail banks were in two sectors: "consumer and personal" and "financial" (Table 3.1). For this group, the top three sectors (consumer/personal, financial and manufacturing) represented 58% of total loans outstanding.

Lending is even more concentrated in overseas retail banks, where the "manufacturing" sector alone accounts for 30% of lending and the top three sectors (manufacturing, services and consumer/personal) jointly represent 68% of total loans outstanding.

[5] The capital adequacy ratio relates total capital to risk-weighted assets. The numbers exclude overseas retail banks, which do not have prescribed capital levels or ratios.

Table 3.1: Distribution of Retail Bank Lending (% shares; locally incorporated banks only)*

	March 2007	Sept 2007	Dec. 2007
Consumer and Personal	23.1	21	21.6
Government	6.6	6.1	6.3
Construction	11.6	12.7	13.4
Manufacturing	14.0	16.4	15.4
Mining & Quarrying	0.7	1.3	1.3
Agric, Fishing and Forestry	0.2	0.2	0.1
Financial	21.2	21.0	21.4
Trade	12.0	10.2	9.7
Services	10.6	11.2	10.7

Source: Central Bank of Bahrain

**Figures may not add to a hundred due to rounding*

Table 3.2: Distribution of Retail Bank Lending (% shares; overseas banks)*

	March 2007	Sept 2007	Dec. 2007
Consumer and Personal	26.7	13.2	13.4
Government	8.7	3.9	3.3
Construction	11.3	8.6	8.1
Manufacturing	11.6	30.6	30.4
Mining & Quarrying	0.1	0.3	0.3
Agric, Fishing and Forestry	0.0	0.6	0.4
Financial	6.3	15.3	9.2
Trade	29.9	12.3	8.9
Services	5.4	15.1	24.4

Source: Central Bank of Bahrain

**Figures may not add to a hundred due to rounding*

Sound asset quality

As at end-December 2007, aggregate non-performing loans (NPLs) in all retail banks stood at 3%, slightly up from the 2.5% recorded at the end of September. NPLs in locally-incorporated retail banks were higher at 6% (compared to 4.3% in September) while overseas retail banks showed NPLs of 1.4% (vs. 1.7% in September 2007).

Overall coverage ratios continue to improve, standing at 90% for locally-incorporated banks (up from 85% in September 2007) and 92% for overseas retail banks (up from 86.6% in September). Nonetheless, it is notable that the loan book of retail banks expanded by 80% between December 2006 and December 2007. This rapid expansion of lending warrants attention given the possibility that lending standards are being relaxed in the current environment of economic boom.

Trends in Sectoral NPLs

A notable development in the sectoral picture of NPLs is the sharp fall in the consumer and personal segment from 8.9% in September to 3.3% in December (Table 3.3). NPLs also declined in the "agriculture, fishing and forestry" segment from 13.4% to 5.8%.

Although coverage ratios are reasonable for most sectors, the construction sector is still an area of concern with a coverage ratio of 26.8%, down from the 30.1% registered in September 2007 (Table 3.4).

Table 3.3: Retail Banks' NPL Ratios by Sector - Locally Incorporated Banks (%) **

	March 2007	Sept 2007	Dec. 2007
Consumer and Personal	8.6	8.9	3.3
Government	1.5	1.5	1.5
Construction	9.9	7.3	6.7
Manufacturing	5.7	4.6	4.3
Mining & Quarrying	0.3	0.1	0.1
Agric, Fishing and Forestry	11.3	13.4	5.8
Financial	0.8	0.8	0.8
Trade	16.5	16.5	16.7
Services	4.1	3.2	3.4

Source: Central Bank of Bahrain

***NPL numbers refer to proportion of outstanding loans that are non-performing*

Table 3.4: Retail Banks' Coverage Ratios by Sector - Locally Incorporated Banks (%) **

	March 2007	Sept 2007	Dec. 2007
Consumer and Personal	98.2	105	118
Government	100	100	100
Construction	24.4	30.1	26.8
Manufacturing	96.1	93.2	93.0
Mining & Quarrying	100.0	100	127
Agric, Fishing and Forestry	97.4	100	100
Financial	100	100	100
Trade	84.8	86	90.4
Services	80.1	85	82.3

Source: Central Bank of Bahrain

*** Coverage ratios are defined as specific provisions and interest in suspense/non-performing loans.*

Minimal liquidity risks

The overall liquidity position of retail banks remains strong, given the continued expansion of total deposits. The composition of deposits also point to limited liquidity risks as the ratio of non-bank deposits to total deposits increased from 64% in September 2007 to 68% by end-December. This indicates that retail banks continue to have a stable base for funding their assets. Further, the liquid asset ratio for retail banks improved slightly, rising to 30% in December, following a fall to 28% in September 2007.

Risk outlook for retail banks[6]

Table 3.5 below presents a matrix of selected risk factors facing retail banks in Bahrain.

- ***Credit risk:*** In terms of level, we consider that credit risk is relatively low for retail banks as a group going by: i) the low level of aggregate NPLs (as a proportion of gross loans); ii) the sound macroeconomic environment; and iii) the strong performance of

[6] See Box 3.1 on page 36 for various types of banking risks.

business enterprises. However, in terms of direction, credit risks are increasing due to: i) the rapid year-on-year increase in retail bank lending; ii) the rise in NPLs for locally-incorporated retail banks; iii) the possible negative impact of inflation on household real incomes and ability to service debt; iv) the concentration of retail banks' loan portfolios (asset concentration risk); and v) the relatively high NPLs in construction, combined with low coverage ratios.

- ***Liquidity risk:*** We judge liquidity risk to be low and decreasing, given the success of retail banks in mobilizing deposits, the increasing proportion of non-bank deposits in total deposits as well as the upward trend in the liquid asset ratio.
- ***Market risk:*** As at end-December 2007, investments in securities constitute only 9.5% of total assets for retail banks. This ratio has not exceeded 10% for the past two years. We therefore assess market risks for retail banks to be low and stable.

Table 3.5: Risk Matrix for Retail Banks

	Decreasing	Stable	Increasing
LOW	*Liquidity Risk*	*Market Risk*	*Credit risk*
MODERATE			
HIGH			

Source: Central Bank of Bahrain assessment

3.2. Conventional Wholesale Banks

High wholesale bank capitalization[7]

As at end-December 2007, the capital adequacy ratio for locally-incorporated wholesale banks stood at 21%, slightly higher than the 19.5% recorded for September 2007. In tandem, the core capital ratio (ratio of Tier 1 capital to risk-weighted assets) rose from 16.1% to 17.3% as

[7] The capital adequacy ratio relates total capital to risk-weighted assets. The numbers exclude overseas wholesale banks, which do not have prescribed capital levels or ratios.

wholesale banks began to strengthen Tier 1 capital, following recent increases in their Tier 2 capital.

Low NPLs but concentrated portfolios

Wholesale banks have sound asset quality, as evidenced by relatively low non-performing loans. As at end-December 2007, NPLs amounted to only 1.5% of gross loans, despite the 24% year-on-year growth in total lending. This was slightly up from the 0.8% recorded for September 2007. A breakdown of NPLs by sector shows no cause for concern as NPL ratios are generally in single-digits (Table 3.6). However, we have witnessed increases in NPL ratios in virtually all sectors, except in the "financial" segment, which saw a decline (Table 3.7). The jump in NPLs in the "agriculture, fishing and forestry" segment is particularly notable, rising from 0.8% to 6.4%. This is not a cause for concern since this segment represents less than 1% of wholesale bank lending.

Table 3.6: Wholesale Banks' NPL Ratios by Sector - Locally Incorporated Banks (%) **

	March 2007	Sept 2007	Dec. 2007
Personal	3.5	3.9	5.3
Government	4.5	2.1	3.6
Construction	0.3	0.3	0.7
Manufacturing	2.4	1.7	2.4
Mining & Quarrying	0.1	0.2	0.8
Agric, Fishing and Forestry	4.2	0.8	6.4
Financial	2.9	2.6	2.4
Trade	2.6	2.0	2.5
Services	1.8	1.7	1.9

Source: Central Bank of Bahrain

*****NPL numbers refer to proportion of outstanding loans that are non-performing*

Table 3.7: Wholesale Banks' Coverage Ratios by Sector - Locally Incorporated Banks (%) **

	March 2007	Sept 2007	Dec. 2007
Personal	63.5	38.9	26.8
Government	249.5	234.5	205.9
Construction	56.5	52.2	51.4
Manufacturing	74.2	81.0	57.0
Mining & Quarrying	11.8	16.1	77.1
Agric, Fishing and Forestry	13.3	36.8	27.3
Financial	109.5	104.0	107.1
Trade	86.9	88.8	75.7
Services	105.7	109.9	37.7

Source: Central Bank of Bahrain

*** Coverage ratios are defined as specific provisions and interest in suspense/non-performing loans.*

Lending patterns for wholesale banks are still concentrated although the data shows some improvement for locally-incorporated wholesale banks. For this sub-group, the top three recipients of loans ("financial", "services" and "manufacturing") jointly account for 63.2% of total lending, compared to 66% in September (Table 3.8). For overseas wholesale banks, concentration risks have increased somewhat with the same sectors accounting for 68.1% of total lending, compared to 66% at the end of the previous quarter (Table 3.9).

Table 3.8: Distribution of Wholesale Bank Lending (% shares; locally incorporated banks only)*

	March 2007	Sept 2007	Dec. 2007
Consumer and Personal	3.1	2.0	7.0
Government	3.2	5.6	2.7
Construction	7.4	7.7	9.5
Manufacturing	20.9	21.0	20.2
Mining & Quarrying	2.7	2.7	2.8
Agric, Fishing and Forestry	0.6	0.7	0.6
Financial	28.0	25.0	21.3
Trade	14.0	15.0	14.1
Services	20.7	20.0	21.8

Source: Central Bank of Bahrain

**Figures may not add to a hundred due to rounding*

Table 3.9: Distribution of Wholesale Bank Lending (% shares; overseas banks)*

	March 2007	Sept 2007	Dec. 2007
Consumer and Personal	0.6	0.5	0.3
Government	8.7	9.5	7.7
Construction	5.9	10.3	11.4
Manufacturing	13.8	15.7	17.7
Mining & Quarrying	5.3	5.3	3.3
Agric, Fishing and Forestry	1.3	1.2	1.3
Financial	32.9	23.8	24.1
Trade	7.6	7.6	7.9
Services	22.9	26.1	26.3

Source: Central Bank of Bahrain

**Figures may not add to a hundred due to rounding*

Stable profits and high liquidity

Between December 2006 and December 2007, net profits for wholesale banks increased by 12%. Over the same period, the return on assets (ROA) declined slightly from 0.7% to 0.6%. Non-interest income continues to dominate wholesale banks' revenue streams, accounting for 56% of total income in December 2007.

The ongoing boom in the region has kept wholesale banks very liquid with liquid assets constituting 31% of total assets. However, a significant proportion of their deposits (56%) come from other banks and financial institutions, indicating the potential for volatility, especially in times of stress.

Risk outlook for wholesale banks

Table 3.10 below presents a matrix of selected risk factors facing wholesale banks in Bahrain:

- ***Credit risk:*** We assess credit risk in wholesale banks to be low and stable given the following factors: i) the low level of aggregate NPLs; ii) the sound macroeconomic environment; and iii) the strong performance of business enterprises.
- ***Liquidity risk:*** We judge liquidity risk for wholesale banks to be moderate and stable. While the growth in deposits and the size of liquid assets give some comfort, the high proportion of deposits

from other banks and financial institutions indicate a potential for volatility, especially in stressful times.

- ***Market risk:*** As at end-December 2007, securities investments constitute roughly 15% of total assets for wholesale banks, down from 17% a year earlier. We therefore consider market risks for wholesale banks to be low and decreasing.

Table 3.10: Risk Matrix for Wholesale Banks

	Decreasing	Stable	Increasing
LOW	*Market Risk*	*Credit risk*	
MODERATE		*Liquidity Risk*	
HIGH			

Source: Central Bank of Bahrain assessment

3.3. Islamic Retail Banks

Sound capitalization and increased profitability

The capital position of Islamic retail banks is solid and is not a cause for concern at the moment. As at end-December 2007, the Capital Adequacy Ratio (CAR) for these banks was 34%, slightly lower than the 35.7% attained at the end of September. The core capital ratio (ratio of Tier 1 capital to risk-weighted exposures) remained steady at 29%.

Profitability has also improved, with the Return on Assets (ROA) standing at 3.8%, compared to 3% in September and 2.5% in December 2006.

Good asset quality but liquidity risks increasing

In spite of rapidly expanding balance sheets, Islamic retail banks continue to present a positive picture on asset quality. As at end-December 2007, aggregate non-performing financing facilities (NPF) in Islamic retail banks stood at 3.5%, down from the 3.8% recorded at the end of September.

However, there is a need to keep a close watch on their liquidity positions, given the ongoing decline in liquid assets and the relative concentration of deposits. As at end-December 2007, liquid assets represented 21.2% of total liabilities, compared to 25% in September 2007 and 29% at end-March 2007. Also, the Top 10 depositors still account for over 75% of total deposits, making Islamic retail banks potentially vulnerable to liquidity risks arising from shifts in depositor sentiment.

Risk Outlook for Islamic retail banks

Table 3.11 below presents a matrix of selected risk factors facing Islamic retail banks in Bahrain:

- ***Credit risk:*** We assess credit risk in Islamic retail banks to be low and decreasing given the following factors: i) the low level of aggregate non-performing facilities (NPFs); ii) the sound macroeconomic environment; and iii) the strong performance of business enterprises.
- ***Liquidity risk:*** We consider liquidity risk for Islamic retail banks to be moderate and increasing given the fact that liquid assets are declining and deposits are highly concentrated.
- ***Market risk:*** Since the investments and facilities of Islamic banks have to be asset-backed, these banks are exposed (directly or indirectly) to a possible decline in asset prices. We therefore consider market risk for Islamic retail banks to be moderate but stable.

Table 3.11: Risk Matrix for Islamic Retail Banks

	Decreasing	Stable	Increasing
LOW	*Credit risk*		
MODERATE		*Market Risk*	*Liquidity risk*
HIGH			

Source: Central Bank of Bahrain assessment

3.4. Islamic Wholesale Banks

Strong capital position and improving profitability

Similar to the situation in Islamic retail banks, capital adequacy in Islamic wholesale banks is high, standing at 40% in December 2007 (slightly down from the 42% of September 2007). The core capital ratio (ratio of Tier 1 capital to risk-weighted exposures) was also slightly lower at 37% compared to the 38% recorded in September 2007 and the 40% of March 2007.

At the end of December 2007, the return on assets (ROA) stood at 4.2%, significantly higher than the 1.2% of September 2007 and the 2% of December 2006.

Some deterioration in asset quality and liquidity positions

As at end-December 2007, aggregate non-performing financing facilities (NPF) in Islamic wholesale banks stood at 4.2%, much higher than the 0.8% of September 2007 and the 2% of December 2006.

Liquidity positions are also deteriorating, with liquid assets representing 25% of total liabilities, compared to 35% in September 2007. This is however tempered by the fact that Islamic wholesale bank deposits are well-diversified, with the Top 10 depositors accounting for only 5.3% of total deposits.

Risk outlook for Islamic Wholesale Banks

Table 3.12 below presents a matrix of selected risk factors facing Islamic wholesale banks in Bahrain:

- ***Credit risk:*** We assess credit risk in Islamic wholesale banks to be low and increasing given the recent increases in aggregate non-performing facilities (NPFs), despite the favorable macroeconomic environment and the strong performance of the business sector.

- ***Liquidity risk:*** We judge liquidity risk for Islamic wholesale banks to be low and increasing taking into consideration the consistent fall in the size of liquid assets, tempered by the fact that their deposits are well-diversified.
- ***Market risk:*** Since the investments and facilities of Islamic banks have to be asset-backed, these banks are exposed (directly or indirectly) to a possible decline in asset prices. We therefore consider market risk for Islamic wholesale banks to be moderate but stable.

Table 3.12: Risk Matrix for Islamic Wholesale Banks

	Decreasing	Stable	Increasing
LOW			*Credit risk* *Liquidity Risk*
MODERATE		*Market Risk*	
HIGH			

Source: Central Bank of Bahrain assessment

3.5. Overall Assessment of the Banking Sector

A look at key financial soundness indicators shows that *domestic banking institutions* (conventional and Islamic) are financially strong. Bahraini banks are characterized by high capital adequacy, healthy profitability, sufficient liquidity and good asset quality. These features provide substantial buffers against unforeseen shocks. However, lending portfolios are relatively concentrated, raising concerns about "asset concentration" risks. A look at specific risk factors also indicates credit and liquidity risks may be increasing in certain segments of the banking sector and need to be closely monitored in the months ahead.

Box 3.1: Types of Banking Risks

Banking institutions are exposed to a variety of risk factors arising from both balance sheet and off-balance sheet activities. The Central Bank of Bahrain has identified the following major categories of risk to be monitored on a regular basis as part of its supervisory and surveillance activities:

Credit risk: This is the most common type of banking risk. It refers to the possibility that a bank will suffer losses due to the failure of a borrower or counterparty to perform on an obligation.

Market risk: This refers to the potential for losses due to adverse movements in market rates or prices, such as interest rates, exchange rates, equity prices, real estate prices or commodity prices.

Liquidity risk: This is the risk that a bank will be unable to meet its obligations when they come due. Two major sub-types of liquidity risk exist: (i) "Funding liquidity risk" arises if the bank is unable to meet its obligations because of an inability to liquidate assets or obtain adequate funding; (ii) "Market liquidity risk" refers to the banks inability to meet obligations because it cannot easily unwind or offset specific exposures without incurring large losses or significantly lowering market prices.

Operational risk: This is the potential that operational problems, failure of information systems, breaches of internal controls, fraud or unforeseen physical disasters will cause losses to the bank (e.g. breaches of IT security systems, virus attacks on computer systems, or fraud by an employee).

Legal risk: This is the potential that problems with contract enforcement, lawsuits or adverse legal rulings will disrupt a bank's operations or negatively affect its financial condition and performance.

Reputational risk: This is the potential that negative publicity about a bank or about its business practices (whether true or not) will cause a decline in its customer base, expensive lawsuits or loss of income.

4. Financial Condition and Performance of the Insurance Industry[8]

Key Points

High capital levels and wide solvency margins

The level of insurance receivables is relatively high

Downward path for expense ratios

Year-on-year stock market performance of listed insurance companies is positive

Solid capital adequacy

All indicators point to solid capital positions for insurance companies. As at end-March 2008, Insurers' Tier 1 capital accounted for 22% of total assets, slightly down from the 23% recorded in September 2007. For both general and life business lines, the available capital exceeds the required margin of solvency, with the actual solvency margin representing 58% of net premiums, 200% of claims and 49% of total capital.

Relatively high insurance receivables

The December 2007 *Financial Stability Report* identified high insurance receivables as a source of concern in the insurance industry. This problem appears to be getting worse. As at end-March 2008, insurance receivables (mostly premiums) represented over 100% of gross premiums, reversing the decline in receivables observed six months ago. As previously

[8] Please note that this chapter focuses only on conventional insurance companies and excludes companies licensed to do business in Saudi Arabia.

mentioned, such a high level of receivables could become a major source of credit risk for insurance companies.

Reasonable risk-retention ratios

The risk retention ratio (net premiums/gross premiums) rose to 95% in March 2008 (from 65% in September) indicating a fall in the willingness of Bahraini insurers to pass along underwriting risks to re-insurers. While it is prudent to share the risks of insurance with re-insurers, the strong balance sheets of insurers have boosted confidence in their capacity to bear risk.

Insurers achieving lower cost ratios

The *claims ratio* (ratio of claims incurred to premiums earned) fell sharply from 56% in September 2007 to 29% in March, while the *expense ratio* (ratio of expenses to earned premiums) similarly declined from 32% to 18%.

The *combined ratio* (claims ratio plus expense ratio) stood at 47% in March 2008, down significantly from the 88% recorded in September 2007.

In spite of these improvements in the expense ratios, a fall in investment income tempered the overall positive impact on net income, with net income of insurers increasing by 9% over the period.

Market perceptions of insurance companies

The market capitalization of the insurance sector declined from BD210.7 million in October 2007 to BD200 million in May 2008. However, the May 2008 level represents a 16.6% increase compared to the same period of last year. Also, the All-Share Index for Insurance in May 2008 was at 2259.15, 328 points higher than a year ago.

Overall assessment

The financial condition of the insurance sector is satisfactory going by available data on capital positions, solvency margins, earnings, stock market performance and ratings. The principal source of concern is the high level of insurance receivables.

5. Performance of Equity Markets

Key Points

Significant year-on-year expansion in market capitalization

Upward trend in the Bahrain All Share Index

Reasonable pricing for Bahraini stocks

Aggregate trading is still relatively low, despite increased activity in some market segments

Significant increase in market capitalization

As at end-May 2008, market capitalization of the Bahrain Stock Exchange (BSE) stood at BD11.2 billion, equivalent to 151% of GDP. This level was 36.3% higher than the level for the same period of 2007, indicating the continued growth in the size of the stock market.

The "Commercial banks" segment is once again the principal driver of market growth, with capitalization 48.8% higher year-on-year (Table 5.1). The "Investment" and "hotel and tourism" segments come next with expansions of 37.5% and 24.2% respectively. Double-digit growth was also recorded in "Insurance" (16.6%) and "Services" (12.8%). The only downside was the continued slump in the industrial sector, which recorded a 5.4% decline in market size year-on-year.

Table 5.1: Market Capitalization on the Bahrain Stock Exchange (BD Million)

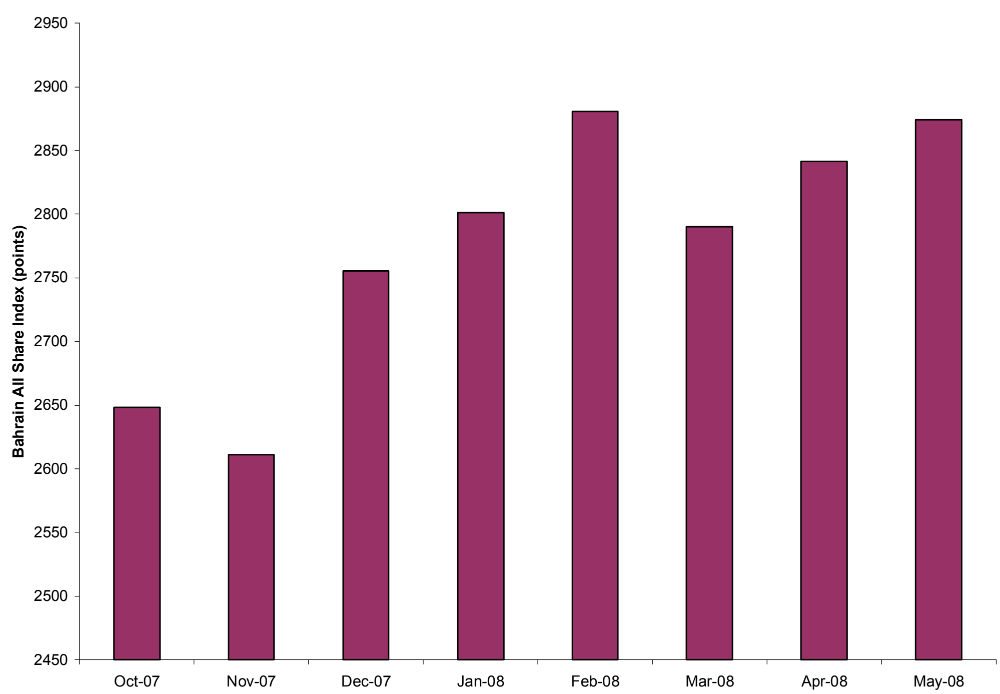
	May 2007	May 2008	May 2007-May 2008 change (%)
Commercial banks	2804.7	4173.6	48.8%
Investment	3672.6	5048.8	37.5%
Insurance	171.6	200.2	16.6%
Services	1451.6	1636.9	12.8%
Industrial	16.7	15.8	-5.4%
Hotel and Tourism	115.9	143.9	24.2%
TOTAL	**8233.3**	**11219.5**	**36.3%**

Source: Bahrain Stock Exchange

Upward trend in market index

Between October 2007 and May 2008, the Bahrain All Share Index gained a total of 225 points (an 8.5% increase) (Chart 5.1). A dip in the index in November 2007 was followed by increases in the following three months, before another dip in March 2008. The index however turned positive again, with increases recorded for both April and May 2008.

Chart 5.1: Recent Trends in the BSE All-Share Index, Oct. 2007-May 2008



Source of Data: Bahrain Stock Exchange

Stock prices look realistic

Available evidence indicates that shares in Bahrain are not overvalued. As at May 2008, the price-earning ratio (P-E ratio) for the stock market stood at 11.81, down from the 12.52 attained in October 2007 (Table 5.2). Bahrain's P-E multiple is lower than multiples for other GCC countries.

Strong investor optimism about the "commercial banks" and "Services" sectors is evidenced by their P-E multiples which are higher than the market average. Multiples for other sectors are below the market average.

Table 5.2: BSE—Price-Earning Multiples

	May 2007	Oct. 2007	May 2008
Commercial banks	15.52	17.76	17.70
Investment	8.61	10.44	9.72
Insurance	6.77	8.49	8.93
Services	12.61	13.03	10.28
Industrial	9.17	9.25	8.71
Hotel and Tourism	9.99	10.63	8.85
Total Market	**10.86**	**12.52**	**11.81**

Source: Bahrain Stock Exchange

Aggregate trading levels remain low

Trading is relatively thin on the BSE, with the turnover ratio (value of trading as a share of market capitalization) at around 0.74%, up from the 0.2% registered in October 2007. There has been a notable surge in trading of shares in the "commercial banks" segment, with its share of total trading increasing to 60.7% by the end of May 2008 (Table 5.3). In contrast, the share of trading in the "Investment" segment dropped significantly from 48.3% to 28.3%. These two sectors still account for the bulk of trading on the exchange, representing 89% of total trading by value, up from 72% in October 2007.

Table 5.3: BSE—Value of Shares Traded by Sector (% shares)*

	May 2007	Oct. 2007	May 2008
Commercial banks	40.5	21.5	60.7
Investment	40.0	48.3	28.3
Insurance	0.5	4.8	0.8
Services	9.5	24.2	8.5
Industrial	0.2	0.1	0.0
Hotel and Tourism	0.4	0.9	1.2

**Figures may not add to a hundred due to rounding*

Source: Bahrain Stock Exchange

Overall assessment

As described above, the level of activity on the Bahrain Stock Exchange is relatively low. Also, an examination of price-earning multiples suggests that stock prices are not overvalued. In sum, we do not see any financial stability issues in this sector at this juncture.

6. Payment and Settlement Systems

Key Points

After operating for a full year, the new RTGS system has been a success, improving the timeliness and reliability of payments

In addition, credit and liquidity risks are minimal

Regular testing of the technical infrastructure has been introduced to manage operational risk

A Payment Systems Act should be considered in order to address residual legal risks

The Bahrain Stock Exchange's clearing and settlement system is still vulnerable to settlement agent risk

Payment and settlement systems are central to the smooth operation of the financial sector and the efficient functioning of the economy at large. Not only do they facilitate trade in goods and services, they are also critical for transactions in financial assets. Hence, disruptions to payment systems have the capacity to transmit shocks and trigger widespread financial and economic disturbances. Therefore, an assessment of the safety and soundness of payment and settlement systems is important for the evaluation of risks to financial stability.

6.1. Key Trends in Payment and Settlement Systems

The current payments and settlement infrastructure in Bahrain comprises of five main components: i) the Real Time Gross Settlement System (RTGS); ii) the Automated Cheque Clearing System (ACS); iii) the ATM clearing system; iv) the Scripless Securities Settlement System (SSSS); and v) the clearing, settlement and depository system for the Bahrain Stock

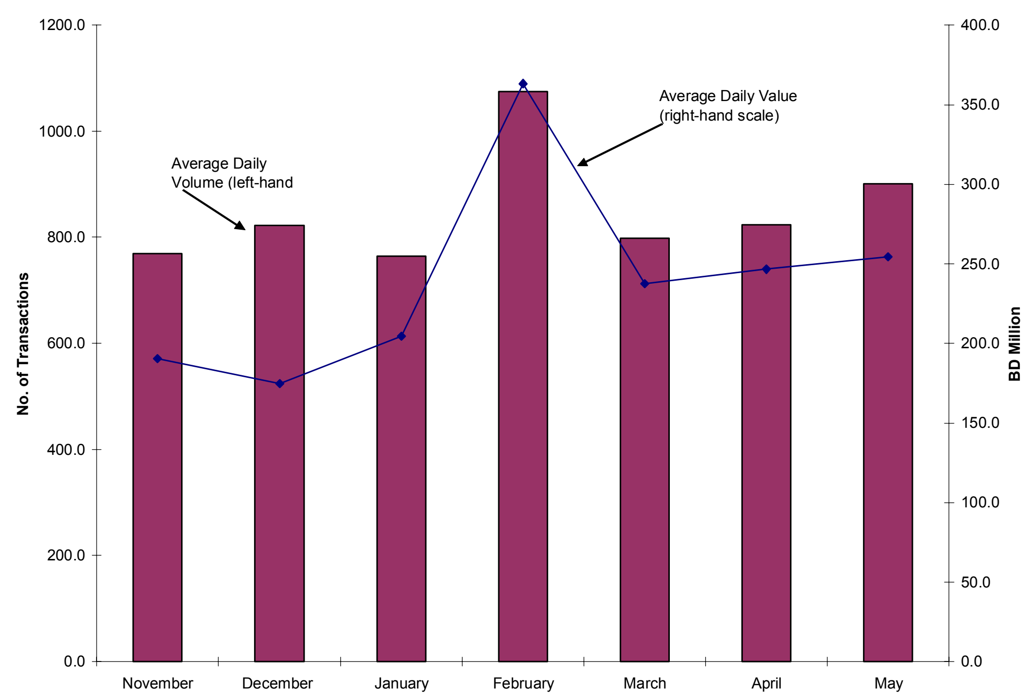
Exchange (BSE). This section describes recent trends in the *RTGS, ACS and ATM components* of the payments system.

Real Time Gross Settlement System (RTGS)

The RTGS was introduced in June 2007 as Bahrain's primary system for processing large-value, inter-bank payments. However, the RTGS is also used to process small-value retail payments for bank customers. The RTGS processes and settles all inter-bank payments in real time, on-line mode, using the global SWIFT messaging system to transmit payment instructions.

Chart 6.1 shows the volume and value of payments passing through the inter-bank payment system from November 2007 to May 2008. Over this period, the *average daily volume of transfers* increased from 769 in November 2007 to 1074 in February 2008 before moderating to 900 per day by May 2008. In value terms, transfers increased from a daily average of BD190 million in November 2007 to a high of BD363.2 million in February, falling back to BD254.5 million by end-May 2008.

Chart 6.1: RTGS System: Average Daily Volume and Value of Payments Processed

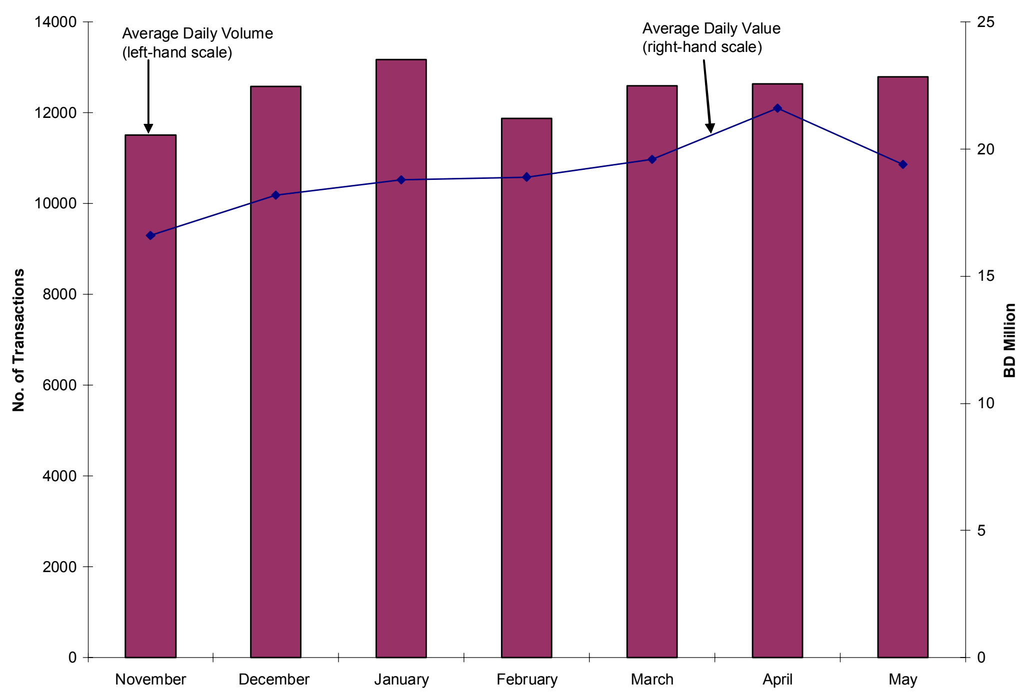


Source: Central Bank of Bahrain

The Automated Cheque Clearing System (ACS)

The ACS uses the Magnetic Ink Character Recognition (MICR) coding scheme to process inter-bank cheques through pre-programmed cheque sorting machines. Settlement is done on a Deferred Net Settlement (DNS) basis. Chart 6.2 below shows the volume and value of cheques processed through the system from November 2007 to May 2008. Over this period, the average daily volume of cheques processed increased from 11,513 in November 2007 to 12,794 by May 2008. In tandem, the *average daily value of cheques* increased from BD16.6 million in November 2007 to BD21.6 million in April 2008 before falling slightly to BD19.4 million in May 2008.

Chart 6.2: ACS System: Average Daily Volume and Value of Payments Processed

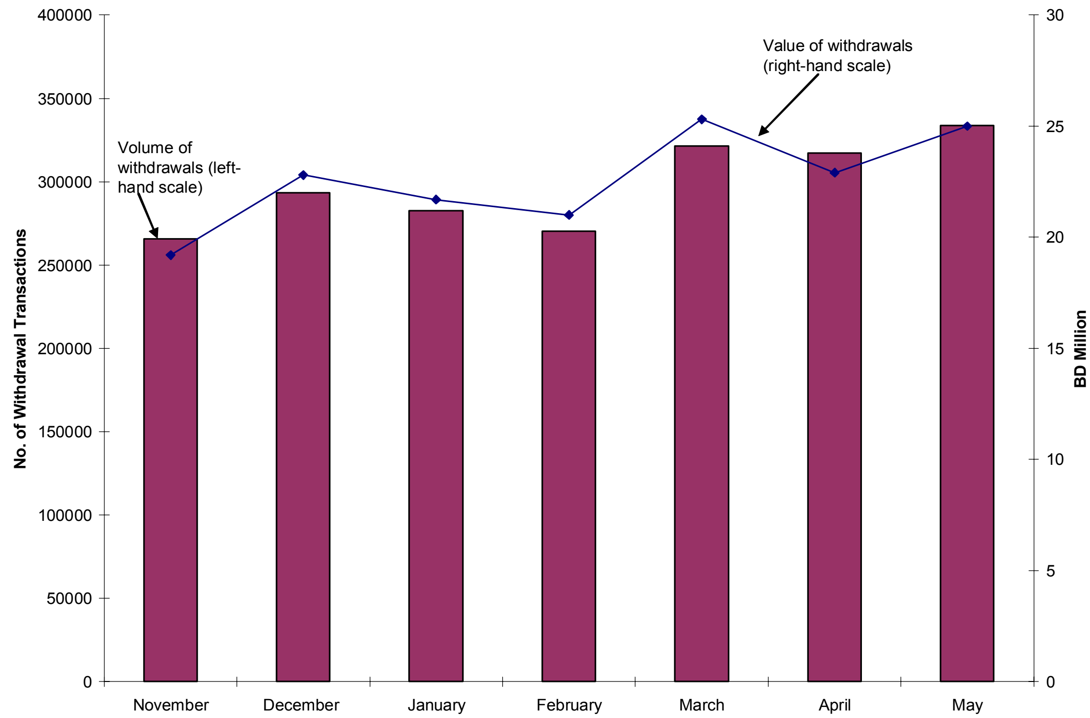


Source: Central Bank of Bahrain

ATM Clearing System

Using a Deferred Net Settlement (DNS) System. *The Benefit Company*, a firm owned by a consortium of Bahraini banks, receives and processes all the ATM transactions (in addition to debit card transactions)[9]. Between November 2007 and May 2008, the number of withdrawal transactions processed through the system increased from 265,699 to 333,769 (Chart 6.3). In value terms, total withdrawals processed increased from BD19.2 million to BD22.9 million over the same period.

Chart 6.3: Number and Value of ATM Transactions



Source: The Benefit Company

6.2. Assessment of Payment and Settlement Systems

Credit and liquidity risk

After operating for a full year, the new RTGS system has been a resounding success, improving the timeliness and reliability of inter-bank transfers as well as improving the efficiency of retail payments in Bahrain. Overall, the RTGS has enhanced the robustness of Bahrain's payments

[9] *The Benefit Company* only handles transactions where one bank's ATM card is used to withdraw cash from another bank's ATM.

system. Since payments are processed and settled in real time, credit and liquidity risks have been reduced substantially. Hence, we do not see any credit or liquidity risk issues at this juncture.

Legal risk

As pointed out in previous editions of the *Financial Stability Report*, the lack of an overarching Payment Systems Act means that the payment and settlement systems lack a statutory legal foundation. For now, the use of detailed rules, regulations, standards and procedures for participants in the RTGS is substituting for a statutory code.

Operational risk

Bahrain's payment systems continue to prove robust in terms of security and operational reliability. The use of the secure global SWIFT system for transmitting payment messages provides comfort and there have been no operational problems with the RTGS since its inception. In addition, the payment infrastructure is covered under CBB's Business Continuity Planning, with emergency back-up processing capacity (off-site) and contingency planning developed. Regular testing of these arrangements has also begun, by simulating actual crises and evaluating the effectiveness of the contingency arrangements.

Settlement agent risk

Settlement agent risk in the Bahrain Stock Exchange's securities clearing and settlement system is still a concern. Bank of Bahrain and Kuwait (BBK) is the sole settlement agent for stock market transactions, indicating that the settlement of market transactions is heavily dependent on the continued financial and operational health of BBK. It is therefore important to reform the clearing and settlement framework, possibly by establishing an independent, non-bank settlement agent owned by the BSE or the brokers, with settlement carried out through the RTGS system.

Overall assessment

The payments and settlement system has been strengthened substantially with the introduction of the RTGS system. Over the past year, substantial progress has been made in enhancing the safety, security, efficiency and robustness of Bahrain's payment systems thereby reducing payment system risks and fostering financial stability. In addition, CBB is in the process of finalizing a *Payments System Roadmap*, to further strengthen the system and improve compliance with the Core Principles for Systemically Important Payment Systems (see Box 3.2).

Box 3.2: Summary of the CPSS Core Principles

Legal Foundation

I. The system should have a well-founded legal basis under all jurisdictions

Risk Management

II. The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.

III. The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.

IV*. The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum, at the end of the day.

V*. A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.

VI. Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.

Security, Operational Reliability and Contingency Arrangements

VII. The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.

Efficiency and Level Playing Field

VIII. The system should provide a means of making payments which is practical for its users and efficient for the economy.

IX. The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.

Governance of the Payment System

X. The system's governance arrangements should be effective, accountable and transparent.

*Systems should seek to exceed the minima included in these two Core Principles.

Source: BIS, *Core Principles for Systemically Important Payment Systems*

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