



# Financial Stability Report

## Risk Assessment of the Financial System

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# Risk Assessment of the Financial System

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## OVERVIEW

Financial stability was preserved throughout the year although the financial markets experienced bouts of increased volatility, influenced primarily by developments in the external environment, particularly in the global financial and credit markets. The growing risk aversion and the continuous repricing of risks, which led to the tightening of liquidity and credit conditions in the global markets, however, had no major impact on the Malaysian financial system.

**The financial system remained resilient with financial institutions exhibiting sound financial performance and stronger fundamentals, supported by continuous enhancements to risk management, financial infrastructure development as well as strengthened governance and oversight at the institutional level. Non-performing loans improved to a 10-year low of 3.2%, while return on equity of banking institutions rose to 19.7% in 2007.**

The financial system remained resilient with financial institutions recording sound financial performance supported by stronger lending and treasury activities. This was further supported by continuous enhancements to the risk management infrastructure, practices and capability, financial infrastructure development, and strengthened governance and oversight at the institutional level. Financial intermediation remained robust throughout the year and supportive of economic activity, while developments in the capital market continued to remain favourable for fund raising by the private sector.

The risk-bearing capacity of the financial sector strengthened further, supported by the continuous accumulation of financial buffers. The level of capitalisation of banking institutions, measured in terms of the risk-weighted capital ratio (RWCR), remained at a level of at least 13% throughout the year while the quality of the loan portfolio improved significantly, with non-performing loans (NPLs) recording a 10-year low of 3.2% as at end-2007. Capital in excess of the minimum regulatory requirement of 8% RWCR stood at RM38.5 billion as at end-2007. With minimal exposures to the United States (US) subprime mortgage segment and associated derivatives, financial institutions in Malaysia generally benefited from the more vibrant domestic business environment, registering strong profitability despite greater volatility in the domestic financial markets. Preliminary unaudited pre-tax profit for the banking sector rose to RM17.7 billion resulting in a substantially higher average return on equity of 19.7%. The high degree of resilience of the banking institutions was also supported by the stress test results which demonstrated the strengthened risk absorption capacity and tolerance against adverse shocks.

Financial stability surveillance for the year was largely concentrated on monitoring and assessing the implications for asset markets arising from inflows of portfolio funds that persisted during the first half of the year, and the increased volatility in the financial markets following adverse developments and uncertainties in the external environment. Surveillance was also focused on the impact of rising prices on the debt servicing capacity and cash flow position of households and businesses.

## GLOBAL MACROECONOMIC AND FINANCIAL DEVELOPMENTS

The year 2007 was highly challenging to policy makers and financial market participants globally. The prolonged period of excessive risk-taking activity in an environment of low risk premia and increasing sophistication of financial instruments has masked the excessive build-up of risk which experienced a major turning point in 2007. This was triggered by the rapid rise in mortgage delinquencies by subprime borrowers in the US.

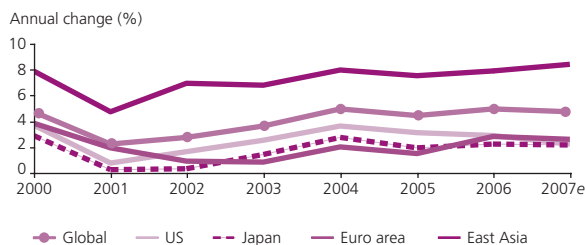
Such mortgages formed the underlying for a substantial portion of structured investments and risk transfer instruments. Beginning with the financial institutions and their structured investment vehicles and conduits, it has extended into a more widespread problem that has affected other financial markets. While global growth was generally sustained in 2007, the year ended on a pessimistic note. In addition, greater inflationary pressures from higher food, oil and commodity prices have increased the uncertainty on the outlook of the US economy and stability in the international financial system.

**Global growth was sustained while the Asian region continued to expand amidst increasing inflationary pressures following rising oil and food prices**

Global growth was sustained in 2007 in an environment of a slowing US economy, rising concerns on inflationary pressures and persistent financial market turbulence. The downturn in the US housing sector after decades of robust growth led to increased incidences of delinquency emanating from the subprime segment of the mortgage market that eventually led to broader disruptions in the credit markets and volatility in global financial markets. In the Asian region, while exports of electronic products and equipment have slowed, overall growth remained resilient, supported by strong domestic demand and robust expansion in the major economies (Chart 2.1).

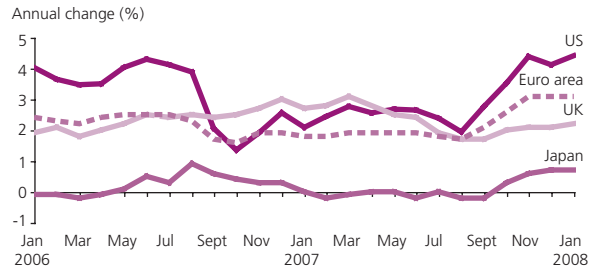
The prolonged period of favourable global growth for four consecutive years has created price pressures on resource utilisation and resulted in the high commodity prices. Oil prices have surged to record highs which has consequently contributed to higher food prices due to the

**Chart 2.1  
Real GDP Growth**



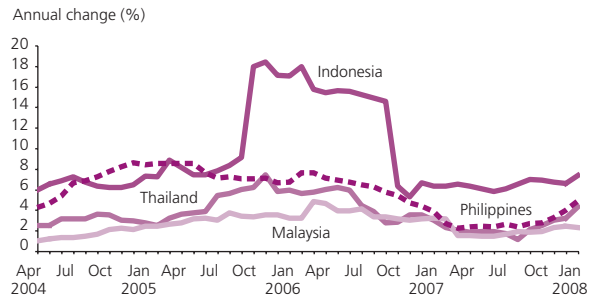
e Estimate  
Source: National Authorities

**Chart 2.2  
Headline Inflation in Major Industrialised Countries**



Source: National Authorities

**Chart 2.3  
Headline Inflation in Regional Countries**



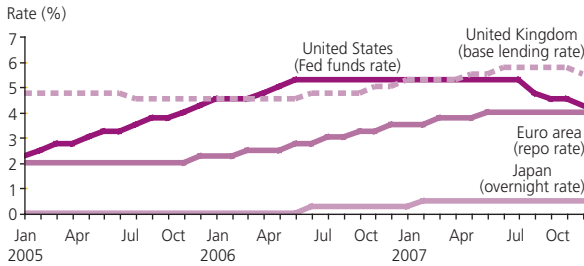
Source: National Authorities

increasing demand for conventional fuel substitutes, including renewable energy such as biodiesel and ethanol. More frequent incidences of adverse weather conditions as well as rising transportation costs, have also contributed to higher food prices. Recent trends seem to suggest that underlying demand conditions for commodities remain firm, especially in the fast-growing regions. Hence, in comparison to the previous year, there has been a pick-up in overall global inflation. The US economy has experienced increases in headline inflation, while the Euro area continued to record rapid money and credit growth amidst increasing pressures for higher wages. Meanwhile, in the Asian region, several countries faced price pressures from tighter labour market conditions in addition to the increase in food and energy prices (Charts 2.2 and 2.3).

**Mixed monetary policy actions by major central banks**

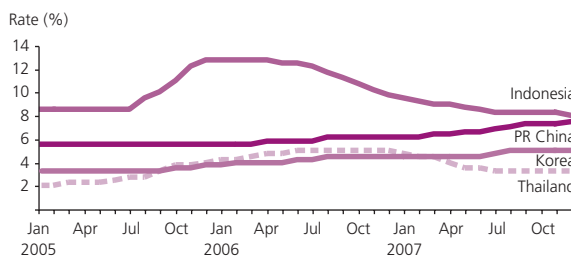
While global inflationary pressures heightened in 2007, disparate growth performance and

**Chart 2.4**  
Interest Rate Movements in Major Industrialised Countries



Source: National Authorities

**Chart 2.5**  
Interest Rate Movements in Regional Countries



Source: National Authorities

domestic issues between the industrialised and Asian countries resulted in mixed monetary policy actions by the respective central banks. In the US, the Federal Reserve Board reduced the policy rate by 100 basis points during the year to support growth as domestic demand weakened due to the major downturn in its housing market and the deepening financial and credit market crisis that led to credit tightening by financial institutions. In Europe, however, rising inflation prompted the European Central Bank to raise interest rates to curb inflationary pressures. The Bank of England raised interest rates during the early part of 2007 but subsequently eased monetary policy in December to support growth as the impact of the financial market turbulence intensified. In the Asian region, China raised interest rates to slow credit and investment growth while other regional economies, including South Korea and India, also tightened monetary policy to contain inflation. Meanwhile, the Philippines, Thailand and Indonesia reduced interest rates in 2007 to stimulate domestic demand as inflationary pressures eased (Charts 2.4 and 2.5).

**Heightened risk aversion led to repricing of risks and increased volatilities across global financial markets in the second half of the year**

Global and regional equity markets were largely bullish in the first half of 2007 despite emerging concerns of declining house prices in the US housing market and inflationary pressures following rising commodity prices. Capital flows into emerging economies and Asia were substantial in view of the strong prospects for growth in the region. Despite some signs of repricing of risk during the February-March 2007 sell-off in the global equity markets, the continued search for better returns by investors contributed to a quick rebound in equity prices and a sustained low bond yield environment.

Deterioration in house prices in the US in the second half of the year led to higher arrears and delinquencies in residential mortgages, particularly those in the subprime segment. This eventually precipitated a downward spiral in prices of residential mortgage-backed securities (RMBS) backed by subprime mortgages which subsequently spilled over into a wider class of structured credit products. Heightened uncertainties and increased risk aversion caused a widespread repricing of risks (Chart 2.6) and increased volatilities. Liquidity tightened in the asset-backed commercial paper (ABCP) and money markets as financial institutions retained liquidity in anticipation of potential losses from exposures to the subprime market and related securities. Flight to quality was evident as investors switched from corporate commercial papers into treasury bonds. While the flight to quality also affected the demand for sovereign bonds of emerging market economies, liquidity conditions remained favourable on account of

**Chart 2.6**  
Spreads on CDX Crossover and iTraxx Crossover



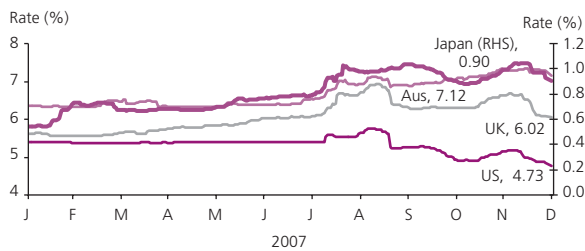
Source: Bloomberg

# Financial Stability and Payment Systems Report 2007

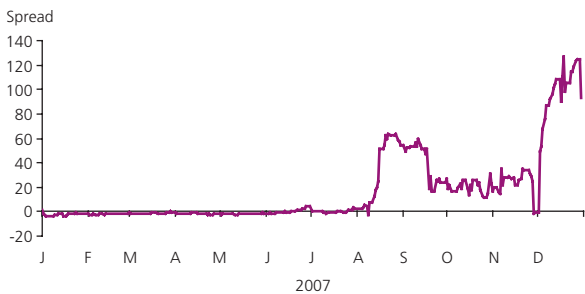
improved economic fundamentals, strong external balances and more developed financial markets (Charts 2.7 to 2.9).

Tightened liquidity conditions and the increasing incidence of losses reported by major financial institutions in the US, Europe and some parts of Asia triggered periods of heightened volatilities and large declines in major

**Chart 2.7**  
**Money Market Rates in Major Industrialised Economies**



**Chart 2.8**  
**US Asset-Backed Commercial Paper (30-day) Spreads<sup>1</sup>**

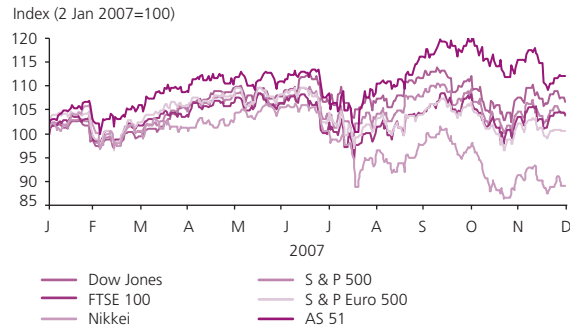


<sup>1</sup> Against US Libor of corresponding maturity  
Source: Bloomberg

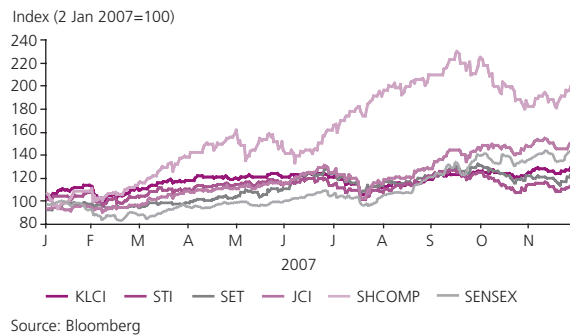
**Chart 2.9**  
**Emerging Market Bond Spread**



**Chart 2.10**  
**Major International Equity Indices**



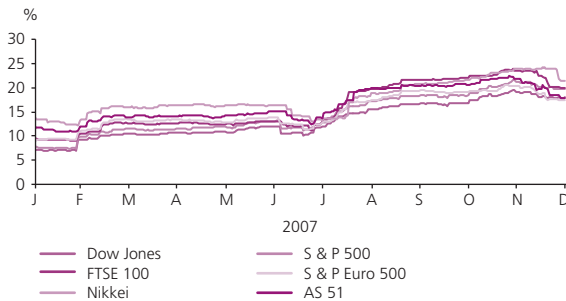
**Chart 2.11**  
**Regional Equity Indices**



international equity indices. This was further exacerbated by the unwinding of carry trade activities. Although regional equity markets experienced some adjustments, the magnitude was relatively less and equity markets in the region rebounded fairly quickly on account of signs of sustained strong economic growth (Charts 2.10 and 2.11).

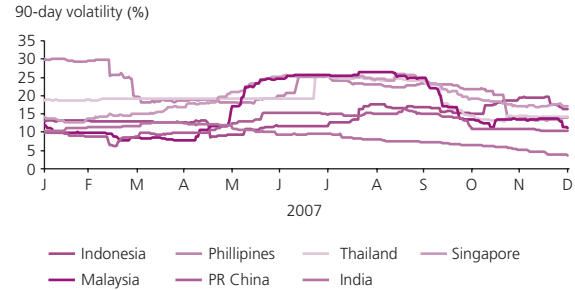
Meanwhile, global equity markets rebounded following central bank liquidity injections and the lowering of the policy rate in the US. Volatilities remained high across global and regional equity as well as bond markets (Charts 2.12 to 2.15), while the longer-term funding market in the major economies remained relatively less liquid given further write-downs and losses reported by financial institutions. In early 2008, confidence suffered yet another setback following the downgrades of several monoline insurers which sparked another round of sell-offs and further write-downs of securities by financial institutions.

**Chart 2.12**  
Volatilities of Equity Indices in Major Economies



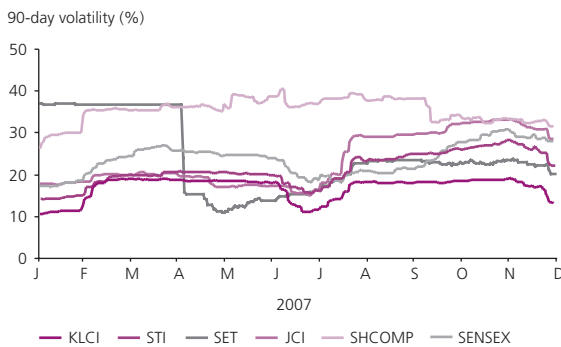
Source: Bloomberg

**Chart 2.15**  
Volatilities of Benchmark Yields (10-Year) in Regional Economies



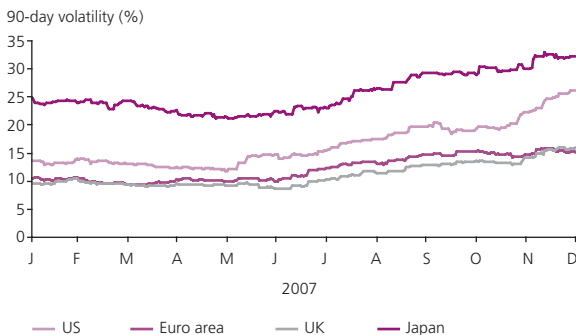
Source: Bloomberg

**Chart 2.13**  
Volatilities of Equity Indices in Regional Economies



Source: Bloomberg

**Chart 2.14**  
Volatilities of Benchmark Yields (10-Year) in Major Economies



Source: Bloomberg

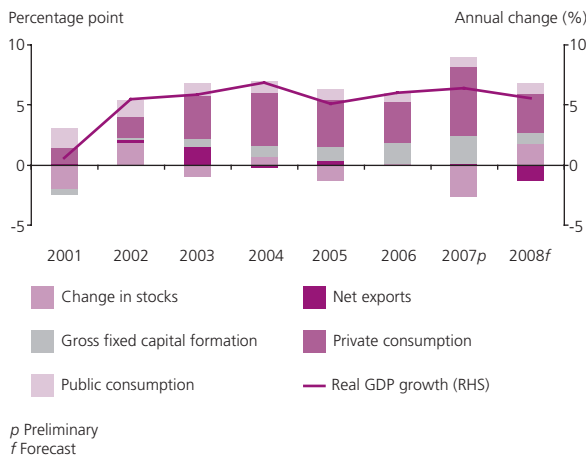
The ensuing widening of spreads in the credit default swap market and tightness of liquidity in the auction-rate securities market raised new sets of concerns regarding the capability of municipalities and public entities in the US to fund social and infrastructure development commitments which could have undesirable spillover implications for the already weakened US economy.

**MALAYSIAN MACROECONOMIC AND FINANCIAL DEVELOPMENTS**

***Continued expansion in the Malaysian economy driven by strong domestic demand despite weaker external environment***

The Malaysian economy strengthened further by 6.3% in 2007, driven mainly by strong domestic demand (Chart 2.16). Growth was led by the strong performance in the services sector and supported by the construction and mining sectors. Private consumption expenditure was robust, recording the highest growth of 11.7% since 2000. Consumers benefited from continued growth in disposable income supported by high commodity prices, salary increments in the public and private sectors, and favourable labour market conditions. Promotions in conjunction with the Visit Malaysia Year 2007 also encouraged higher consumer spending. Gross fixed capital formation expanded by 10.2%. Strong investment activity in the manufacturing, services, construction and oil and gas industries, combined with positive business sentiments, supported the higher growth in private investment by 12.3% compared to 7% in the

**Chart 2.16**  
**Contribution to Real Gross Domestic Product (GDP) Growth**



preceding year. This was further reinforced by the large inflows of foreign direct investment in 2007.

Growth was also supported by greater public sector activity. Public consumption increased by 6.4% supported by higher expenditure on emoluments as well as supplies and services. In addition, public investment expanded further at a sustained rate of 8% in 2007. Large development expenditure was channelled into projects to further improve the economic and social services sectors, particularly in enhancing the transportation and public utilities infrastructure, as well as upgrading and providing essential services such as healthcare and education.

### Ringgit Developments

The broadly orderly performance of the ringgit against major and regional currencies during the year was driven by strong two-way trade and investment flows. While the ringgit benefited from a positive net trade balance, sustained inward direct investment and substantial repatriation of profits and dividends by Malaysian companies with investments abroad, there were significant outflows attributed to foreign direct investment by Malaysian corporations, the repatriation of profits and dividends of foreign multinationals operating in Malaysia, and the repayment and prepayment of foreign debt. Ringgit demand was further

augmented by significant portfolio inflows, especially into the equity market, as expectations of further currency appreciation and the strong domestic economic growth performance enhanced investor sentiment. This was further reinforced by the generally optimistic investor sentiment towards the region and the broad weakness of the US dollar.

### Inflation and Monetary Policy Developments

Headline inflation rate, as measured by the annual change in the Consumer Price Index (CPI), increased at a slower pace of 2% in 2007 (2006: 3.6%), attributed to the absence of major adjustments to price-administered items during the year. Nevertheless, the combined effect of rising global prices of primary commodities and food as well as strong private consumption led both headline and core inflation rates to edge slightly higher in the final quarter of the year. The Producer Price Index (PPI) increased by an annual rate of 6.7% in 2007 (2006: 5.1%), following higher global prices of commodities such as rubber, crude palm oil and crude oil. Against these developments, monetary policy took into consideration the downside risks to domestic growth following the weaker global growth performance, and the upside risks to domestic prices. The Overnight Policy Rate was thus kept unchanged at 3.5% with the monetary policy stance remaining still supportive of the domestic economy.

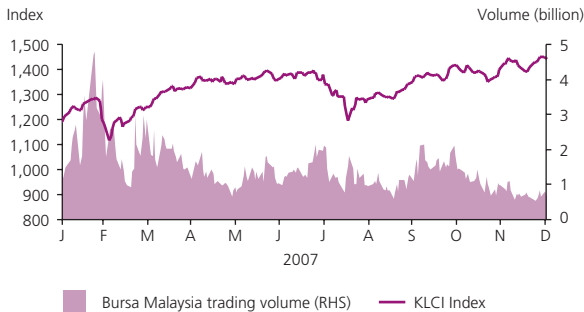
### Financial Market Developments

#### ***Domestic financial markets remained resilient despite increased volatilities reflecting global developments***

The Malaysian equity and bond markets exhibited strong rallies in the first half of the year, driven mainly by positive domestic macroeconomic conditions, expectations of a stronger ringgit, anticipation of changes in monetary policy and continued portfolio inflows into the region. Nonetheless, with the developments in global financial markets in the second half of the year, heightened volatilities in the domestic financial markets persisted.

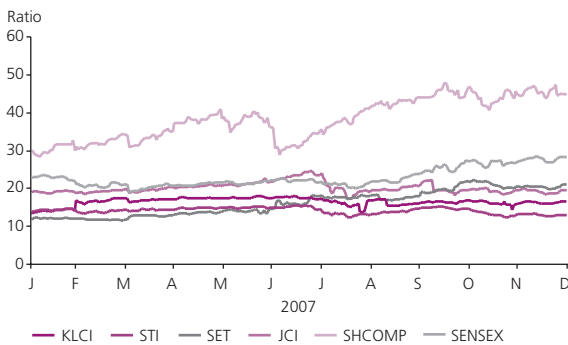
The Kuala Lumpur Composite Index (KLCI) remained resilient throughout 2007, supported by strong domestic conditions (Chart 2.17). Positive business sentiment was sustained with continued increase in capacity expansion and stronger recovery in the property sector. In addition, the

**Chart 2.17**  
**KLCI Performance**



Source: Bloomberg

**Chart 2.18**  
**Price-Earnings Ratio of Regional Equity Indices**



Source: Bloomberg

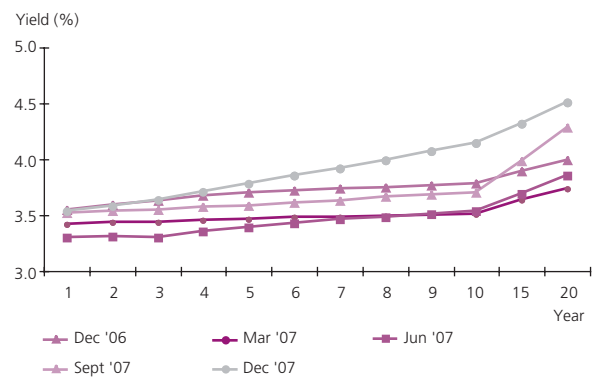
relatively lower price-earnings (P/E) ratio of the KLCI compared to regional indices and expectations of a stronger ringgit continued to attract higher foreign participation in the equity market (Chart 2.18). Against this backdrop, the KLCI concluded the year with an annual growth of 31.8% to reach 1,445.03 points, recording an all-year high of 1,447.04 points on 28 December. Following developments in the global financial markets, the domestic equity market experienced two major setbacks during the year, first in late February to early March attributed mainly to contagion effects from the weaker US macroeconomic performance and developments in the Chinese financial markets, and second, in the period July to August following concerns triggered by the US subprime market. There were also some profit-taking activities during the year. Total turnover in Bursa Malaysia was the highest since 1996, amounting to RM540.2 billion (2006: RM250.6 billion), with market capitalisation

growing by 30.3% to RM1,106.2 billion or 172.4% of GDP as at end-2007. While the impact of the retracement in early 2007 was only temporary, the ensuing correction at the onset of the US subprime mortgage crisis that caused portfolio outflows from the region in the period June to August 2007 almost wiped out the earlier gains as the KLCI dipped to 1,191.55 points on 17 August. Nevertheless, the KLCI rebounded quickly to 1,273.52 points on 24 August as portfolio funds returned to the region.

The domestic bond market also grew significantly following the stronger new issuances of debt papers and sukuk during the year. As at end-2007, total outstanding public and private debt securities expanded by 22.8% to account for 86.8% of nominal GDP. With increased interest in the domestic bond market, the turnover in the bond market rose by 45.8% to RM777 billion.

Malaysian Government Securities (MGS) yields were more volatile in 2007 with movements generally reflective of domestic and global developments. Yields on MGS declined in the first quarter of 2007 following sustained investors' interest and expectations of a stronger ringgit. In the second half of 2007, amidst net portfolio outflows, portfolio rebalancing following greater uncertainties and increased risk aversion arising from the subprime and credit crisis, and a higher inflationary outlook, MGS yields readjusted upwards (Chart 2.19). The spread between the 10-year MGS and the shorter- and medium-term MGS widened and

**Chart 2.19**  
**Movements in MGS Yield Curve**



Source: Bloomberg

**Chart 2.20**  
**Implied Volatility Index**

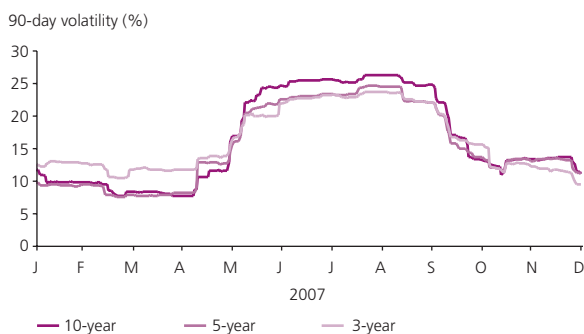


Source: Bloomberg

eventually led to the steepening of the MGS benchmark yield curve in December 2007. In the corporate bond market, yields generally moved in tandem with the movement of MGS yields, especially for the higher rated credits. However, during periods of uncertainty, a higher degree of risk aversion was observed particularly in the lower rated issues, as reflected in the slight widening in the spread between corporate bonds and MGS yields.

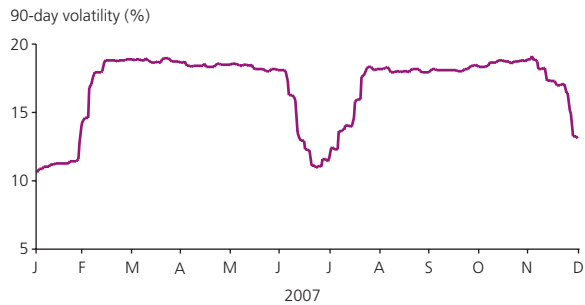
Given the openness of the domestic economy, the domestic financial markets are not insulated from uncertainties in the global environment. Volatility in the domestic equity and bond markets increased as global risk aversion became more pronounced in the second half of 2007 (Charts 2.20 to 2.22).

**Chart 2.21**  
**Volatility in MGS Yields**



Source: Bloomberg

**Chart 2.22**  
**Volatility in KLCI**

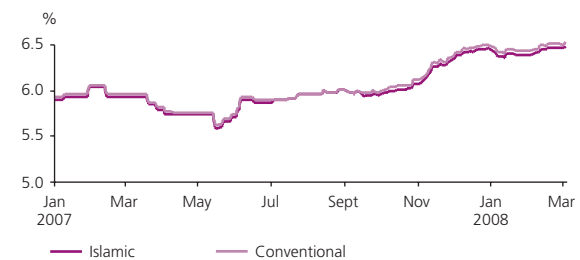


Source: Bloomberg

While volatility levels in the MGS market have generally subsided and stabilised, the domestic equity market remained susceptible to global market developments. The 90-day volatility in the KLCI remained at an elevated average level of 16.3% for the year.

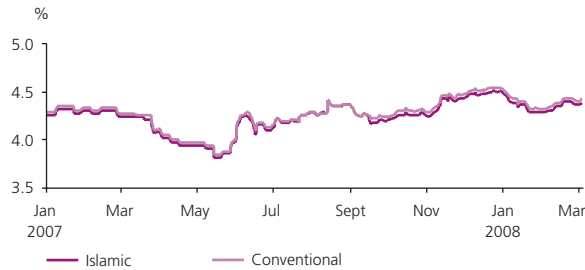
Yields on corporate sukuk were on average three basis points below similarly rated conventional asset-backed bonds, reflecting the lower cost of issuing these papers and strong demand for sukuk. The trend in sukuk yield movements mirrored the pricing of conventional bonds, suggesting that the sukuk market is already well-established and reflective of behaviours in a mature market. The distinctive features of Islamic financing require that any financial transactions must be supported by underlying trade- or business-related activities. These unique characteristics added to the attractiveness of sukuk as an investment instrument. Many investors thus adopted a

**Chart 2.23**  
**Yields on Malaysian Sukuk and Conventional Asset-Backed Securities (5-year) (A1 Rated)**



Source: Bondweb Malaysia

**Chart 2.24**  
**Yields on Malaysian Sukuk and Conventional Asset-Backed Securities (5-year) (AAA Rated)**



Source: Bondweb Malaysia

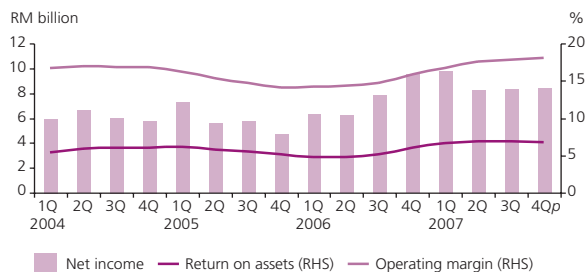
"buy-and-keep" attitude in view of its scarcity and high market demand. During the period when the general level of uncertainty rose in the wake of problems in the US subprime mortgage market where all asset classes were treated indiscriminately, the sukuk market was also affected. Yields on corporate sukuk converged with conventional yields during the period July to mid-September 2007 before trending to its normal level thereafter following the reduction in the US Federal Reserve Board federal funds target rate (Charts 2.23 and 2.24).

### Non Financial Sector Developments

**Corporate sector performance benefited from strong domestic growth despite rising cost pressures**

Businesses experienced improved financial performance during the year in tandem with the favourable domestic economic conditions. Against the backdrop of robust domestic demand, higher tourism receipts and construction-related activities, business revenue

**Chart 2.25**  
**Profitability for Selected Companies**



p Preliminary  
 Source: Bloomberg

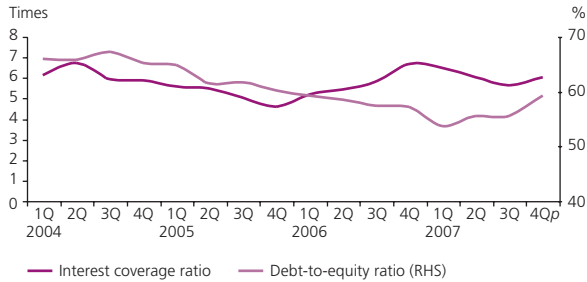
and profitability strengthened despite increasing costs of production in an environment of high commodity and energy prices. Private investment by businesses remained encouraging, supported by continued access to financing at competitive costs. During the year, a total of RM405.5 billion was disbursed by the banking system for various activities and to a broad range of businesses, while new financing via the bond market amounted to RM66.5 billion. As at end-2007, total financing extended to businesses through the banking system and the capital market expanded at a rate of 14.1% to account for 79.3% of GDP.

### Businesses registered improved operating and financial performance supported by favourable domestic economic conditions despite weaker export performance faced by export-oriented industries and escalating costs of production in an environment of high commodity and energy prices.

A sample of 100 listed corporations which represents approximately 60% of Bursa Malaysia's total market capitalisation showed that profits were higher since the third quarter of 2006 (Chart 2.25). In 2007, these listed companies recorded further improvements having achieved the highest returns on assets and equity since 2000 of 7% and 13.9% respectively. Meanwhile, the debt-to-equity ratio was sustained at 59.2% despite higher financing obtained. The debt servicing capacity of these corporations remained unchanged with the interest coverage ratio (measured as the ratio of earnings before interest and taxes to total financing cost) of 5.7 times (Chart 2.26). On aggregate, despite rising costs, the stronger business sector performance and resilience led to further improvements in the delinquency rates on bank loans (Chart 2.27).

While businesses operating in some of the export-oriented industries were affected by the weaker external demand, the corporate sector

**Chart 2.26**  
Debt Servicing Capacity and Leverage Position for Selected Companies

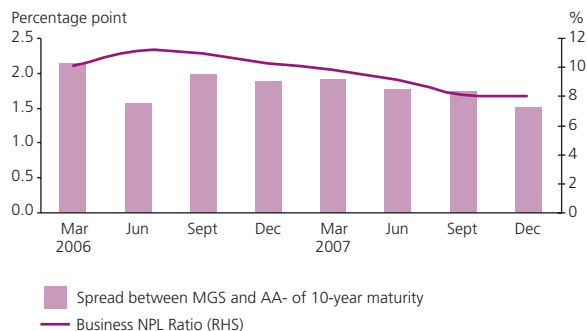


p Preliminary  
Source: Bloomberg

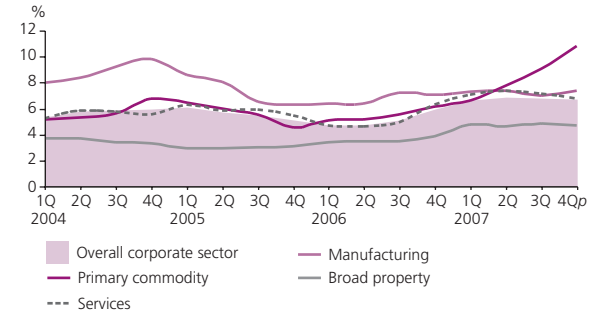
generally benefited from strong domestic and regional demand as well as higher commodity prices (Charts 2.28 and 2.29). During the year, businesses in the plantation industries continued to strengthen on account of the strong rally in the prices of crude oil, crude palm oil and rubber. Similarly, businesses in the construction sector, especially those in the civil engineering segment and commercial and residential property development, also posted stronger performance following increased activity in the property market. Within the services sector, the performance of tourism and related industries, particularly leisure and hospitality and the retail and wholesale sectors, were boosted by the record level of tourist arrivals and higher hotel occupancy rates during the year.

Growth in the manufacturing sector moderated in 2007 attributable mainly to a slowdown in exports of electrical and electronics (E&E) goods, in particular computers and parts,

**Chart 2.27**  
Spreads and Delinquency Rate



**Chart 2.28**  
Return on Assets for Selected Sectors

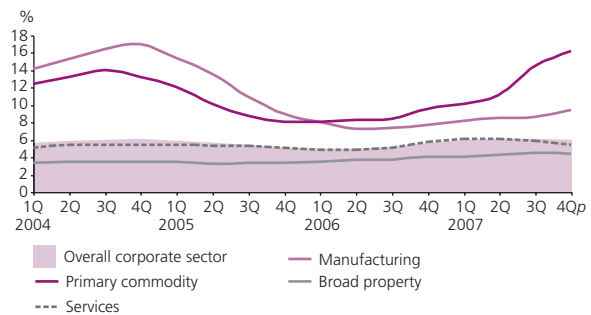


p Preliminary  
Source: Bloomberg

amidst slower demand from the US. Financial indicators of selected companies in the E&E segment (Charts 2.30 and 2.31), however, exhibited sustained profitability, debt service capacity and cash flow position, despite lower prices of E&E exports.

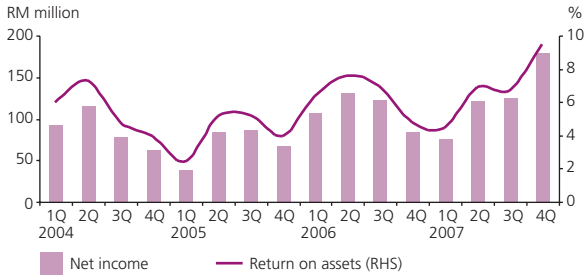
Having registered negative growth since the second quarter of 2004, the construction sector turned around with a marginal expansion of 0.6% in the final quarter of 2006. It has sustained its momentum, expanding by 4.6% during 2007. In the property development segment, vacancy rates for offices and retail properties remained stable at 19.8% and 20.5% respectively. The level of overhang and unsold properties improved amidst a slightly lower number of new housing units launched. The average sales performance of new housing units launched during the year also improved to

**Chart 2.29**  
Interest Coverage Ratio for Selected Sectors



p Preliminary  
Source: Bloomberg

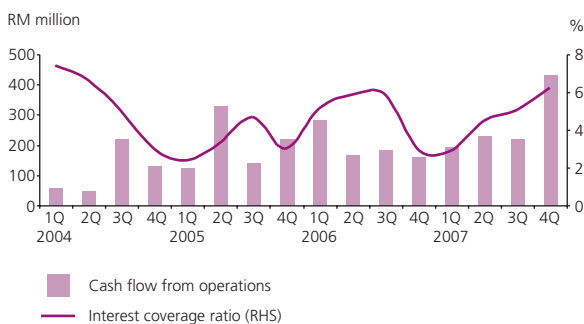
**Chart 2.30**  
Profitability of Selected Companies in the E&E Segment



Source: Bloomberg

19.7% (1Q-3Q 2006: 11.3%), while residential property transactions registered an increase in both units and value of transactions (Table 2.1). The increased activity in the primary and secondary residential property market was stimulated by a series of measures by the Government to boost activity in the property market. These include the liberalisation of the Foreign Investment Committee rules to facilitate easier access to the domestic property market by foreign investors, the exemption of the Real Property Gains Tax, and the greater flexibility on the use of funds maintained with the Employees Provident Fund for property purchases. While the above developments contributed to easing concerns on the profitability and debt servicing capacity of property developers (Charts 2.32 and 2.33), rising prices of raw materials may pose risks to the growth of the property and

**Chart 2.31**  
Cash Flow Position of Selected Companies in the E&E Segment



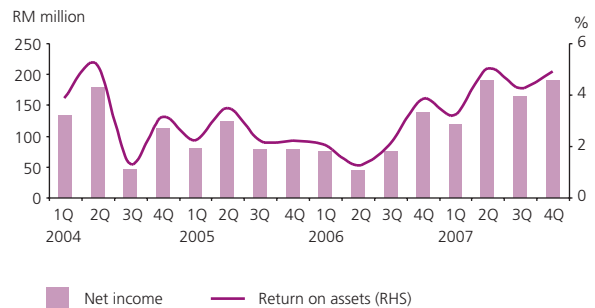
Source: Bloomberg

**Table 2.1**  
Residential Property Transactions and Sales Performance

	1Q-3Q 2006	1Q-3Q 2007	Growth
Residential property transactions			
Units	135,322	149,004	10.1%
Value (RM billion)	21.5	26.7	24.3%
Sales performance	11.3%	19.7%	8.4 pts
Unit launched	34,670	33,617	-3.0%
Unit sold	3,912	6,611	69.0%

Source: National Property Information Centre (NAPIC), Valuation and Property Services Department

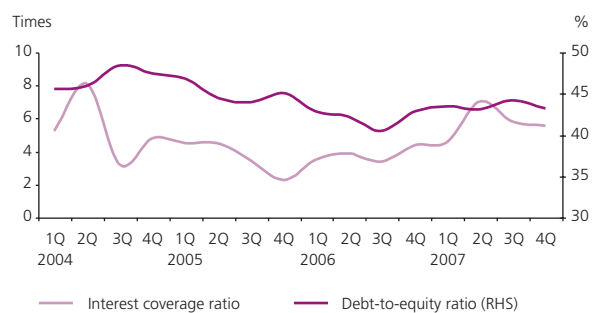
**Chart 2.32**  
Profitability of Selected Companies in the Property Development Segment



Source: Bloomberg

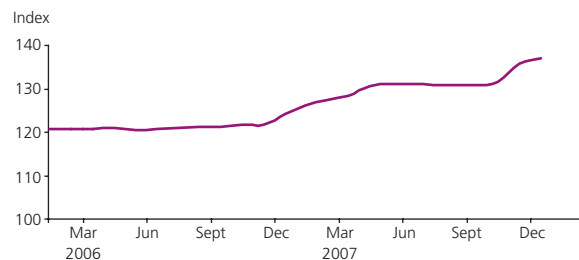
construction sector as a whole going forward. Since early 2007, the cost of building materials has risen steadily as reflected by the Building Materials Cost Index (Chart 2.34) which increased to 136.7 as at end-2007 (130.5 as at end-September 2007).

**Chart 2.33**  
Debt Servicing Capacity of Selected Companies in the Property Development Segment



Source: Bloomberg

**Chart 2.34**  
**Building Materials Cost Index (for Kuala Lumpur, Selangor, Melaka & Negeri Sembilan)**



Source: CEIC

### **Households demonstrated stronger adaptability and capacity to adjust to the rising cost of living**

The balance sheet position of the household sector strengthened in 2007, supported by the continued rise in disposable income, especially among those employed in the commodity sector following a sustained period of high output prices. The higher income level was also achieved on account of wage increments in both the public and private sectors. The stronger wealth position of households was further supported by the strong performance of the equity market.

## **The household sector has demonstrated greater resilience to rising prices given the stronger financial position and improved indebtedness in an environment of favourable labour market conditions and wage levels.**

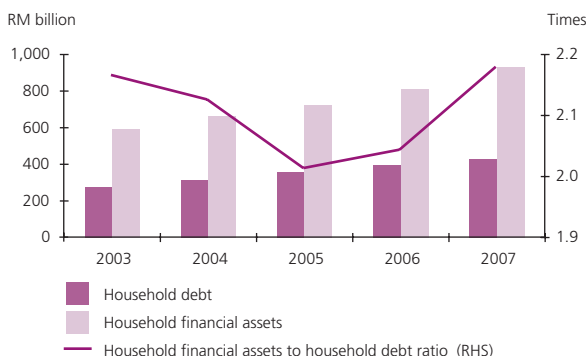
In addition, a moderation in the pace of growth in indebtedness and the stronger liquidity position of households also strengthened their debt repayment capacity, thus resulting in the continued improvement in the quality of household borrowings throughout the year. This has placed households on a better position to adjust to the higher cost of living.

Aggregate household financial assets expanded strongly by 15.1% as at end-2007, mainly attributed to the higher growth in savings and deposits with financial institutions and increased net asset value of unit trust

investments. This led to an increase in the ratio of household financial assets-to-debts to 217.8%, from 204.2% as at the end of the preceding year. In terms of liquidity, liquid assets grew strongly by 18.6% (2006: 12.8%) to account for nearly 60% of total financial assets. The ratio of household liquid assets<sup>1</sup>-to-debts consequently expanded further to 119.6% as at end-2007 (Charts 2.35 and 2.36).

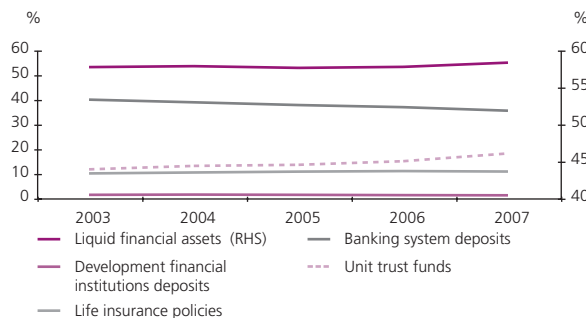
The level of indebtedness moderated slightly with the ratio of household debts to nominal GDP declining to 66.7% (2006: 69.3%) on account of

**Chart 2.35**  
**Household Financial Assets to Household Debt Ratio**



Source: Treasury Housing Loans Division, Employees Provident Fund, Securities Commission Malaysia and internal estimates

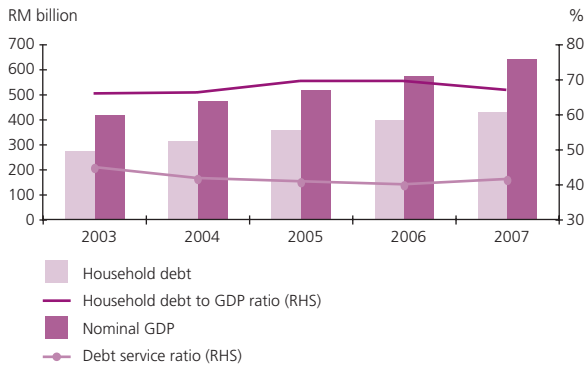
**Chart 2.36**  
**Composition of Household Financial Assets (expressed as % of total household financial assets)**



Source: Treasury Housing Loans Division, Employees Provident Fund and internal estimates

<sup>1</sup> Household liquid assets comprise deposits with banking institutions and two development financial institutions as well as investments in unit trust funds. Meanwhile, household financial assets also include funds in the Employees Provident Fund and insurance policies akin to deposits.

**Chart 2.37**  
**Household Indebtedness and Debt Service Ratio**



Source: Treasury Housing Loans Division and internal estimates

**Chart 2.38**  
**Employment and Consumer Sentiment Indices**



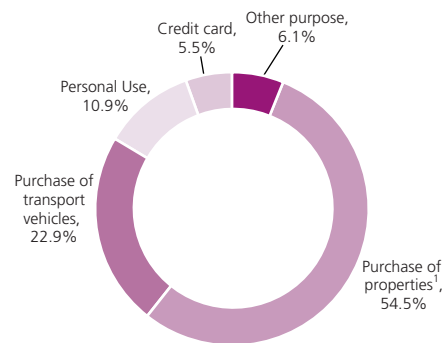
Source: Malaysian Institute of Economic Research

stronger GDP growth which outpaced the accumulation of household debts during the year (Chart 2.37). Household debts expanded by RM31.3 billion during the year to RM427.9 billion. The expansion in household debts in 2007 was more moderate at 7.9% compared to an annual average growth of 13.9% for the period 2001 to 2006. This, in part, was reflective of increased attention to spending in an environment of rising prices of food and other essentials. The Consumer Sentiment Index however only moderated from 124.1 to 110.7 as at end-2007 (Chart 2.38).

In 2007, almost 40% of the increase in household debts was to finance house purchases, while personal loans accounted for another 28.8% of the aggregate increase in household debts. In terms of the composition of outstanding

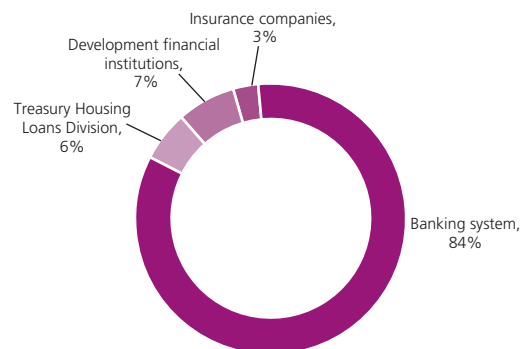
loans, the bulk of household debts comprised loans obtained to finance the acquisition of assets (Charts 2.39 and 2.40). Demand for housing loans was sustained at a high level, particularly to finance the purchase of high-end properties. The strong demand and higher volume of transactions in the residential property market were partly in response to attractive property units with distinctive characteristics and innovative development concepts offered by developers. Demand was further supported by more flexible repayment and financing packages offered, particularly by banking institutions. As at the end of the year, outstanding housing loans grew by 5.9% to RM207.1 billion. Outstanding personal financing recorded a strong growth of 23.9% to amount to RM46.8 billion or 10.9% of total

**Chart 2.39**  
**Composition of Household Debt by Purpose**



<sup>1</sup> Includes residential and non-residential properties  
Source: Treasury Housing Loans Division and internal estimates

**Chart 2.40**  
**Composition of Credit Providers to Household Sector**



Source: Treasury Housing Loans Division and internal estimates

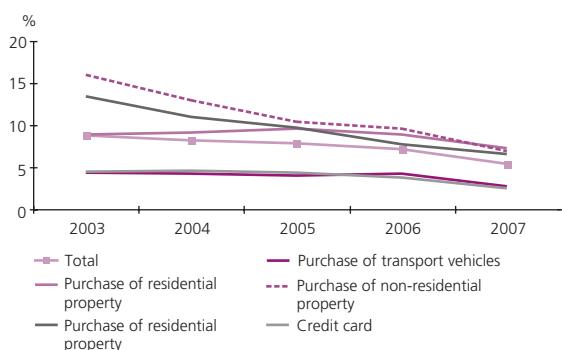
household debts (2006: 9.5%). After a weaker first half performance in car sales that recorded a decline of 12.2%, demand for hire purchase financing rebounded in the second half of the year with the introduction of new domestic and foreign car models at affordable prices. This resulted in a small increase of 2% in outstanding car hire purchase. The bullish equity market performance led to a growth of 11.1% in household borrowings for the purchase of quoted securities and unit trusts. Nevertheless, these borrowings accounted for only a small proportion of 3.4% of household debts.

The improved level of disposable income also strengthened the debt servicing capacity of households. Total loan repayments during the year surged by 16.2% resulting in an improvement in the ratio of repayments to disposable income to 41.1% and larger declines in the level of delinquencies. As at end-2007, the amount of non-performing household loans in the banking system reduced further by 19.3% to RM19.1 billion. Coupled with the moderate growth in household debts, the banking system NPL ratio of household loans improved to 5.3% at the end of the year (Chart 2.41). In addition, the number of personal bankruptcies also declined slightly by 0.6% during the year. This was also attributed to some restructuring of household debts both by the lending institutions as well as under the debt management programme of the Credit Counseling and Debt Management Agency (CCDMA) that has enabled borrowers to meet the scheduled instalment payments. Up to 2007, more than 5,000 borrowers with aggregate debts totalling RM478 million benefited from the debt management programme of CCDMA.

While growth in unsecured loans continued to be high, particularly credit card and personal loans which expanded by 17.7% and 23.9% respectively during the year, potential vulnerabilities from these exposures remained fairly limited. On aggregate, these debts accounted for 16.4% of total household debts with delinquency rates of 2.5% for credit cards and 6.3% for personal loans. Despite the increase in credit card balances, growth in revolving balances moderated while the amount of cash advances remained small, collectively indicating manageable liquidity conditions of households. The number of cardholders with revolving balances accounted for 54.7% of total credit cards in circulation, of which 34% of cardholders settled at least half of the card balances. Cash advances accounted for only 5.8% of total credit card transactions during the year.

Efforts to enhance data collection at a more granular level on the household financial position remained an area of emphasis during the year. This is a necessary step towards enhancing the assessment of household sector issues, particularly in identifying potential stress in different segments of the population, hence enabling more pre-emptive policy responses to be implemented if and where necessary. Available data seemed to indicate that while employment conditions and income levels are favourable, increasing food prices, transportation costs and other costs of living might have some impact on certain segments of the household sector going forward, although the risk remains manageable at present. Learning from the experience of the late 90s, banking institutions are more forthcoming in formulating debt rehabilitation and management programmes to support the continued capacity of borrowers to meet their debt obligations, hence preventing premature delinquencies. In addition, households can also avail themselves of the advisory and debt management services provided by the CCDMA.

**Chart 2.41**  
**Banking System: NPL Ratio of Household Sector**



## FINANCIAL SECTOR RISK ASSESSMENT

### Financial system stability and soundness preserved amidst mounting challenges on the external environment

Key risks to the Malaysian financial system in 2007 emanated mainly from developments on the external front which translated into higher exposures of financial institutions to market and credit risks. The strong performance of the bond

and equity markets during the year also encouraged increased investments and activity in financial assets and instruments, while competition in the lending market and growth in structured products and investments intensified further. Downside risks emanating from the US subprime and credit market events were felt only in terms of the increased volatility in the equity and bond markets given the small exposures of the financial institutions to subprime-related instruments. On aggregate, the financial system demonstrated stronger financial resilience. The continued accumulation of financial buffers has also led to an increased capacity of the financial sector to withstand higher risk levels from greater market volatility and financial shocks. This was affirmed by the series of stress tests performed during the year.

### **Assessment of financial sector risks during the year was largely concentrated on the implications of capital inflows for asset markets and lending behaviours of banking institutions, increased financial market volatility and rising food and raw material prices on the debt servicing capacity of households and businesses.**

The banking system, both conventional and Islamic, posted stronger preliminary unaudited profit before tax (PBT) of RM17.7 billion for the year, resulting in a return on average equity of 19.7%. The increase of 36.4% in profits was achieved on account of more diversified income sources driven mainly by sustained growth in revenue from financing and related advisory activities, the provision of remittance and settlement services, portfolio and wealth management, as well as trading and investment activities. Meanwhile, higher overhead expenses relating to new establishments and rebranding strategies increased by 15.9%. The highly competitive labour market in the financial sector has also led to higher staff-related expenditures which posted a growth of 13.2%. This resulted in an increase in staff cost per employee to

RM77,519 (2006: RM74,786). However, productivity improved for the year as evidenced by the PBT generated per employee of RM168,094 (2006: RM131,785).

The highly competitive and surplus liquidity environment continued to pose downward pressures on interest margins of banking institutions. NPLs improved to the lowest level in a decade, underpinned by higher recoveries and the reclassification of NPLs to performing status. This was also driven by intensified efforts to strengthen balance sheets through write-offs and the disposal of loans via securitisation and outright sales. As a result, net NPLs registered a significant decline of 26.6% to RM20.1 billion, or 3.2% of total net loans as at end-2007. Loans in arrears of between two to three months were also lower for the year, registering a decline of 7.2% to account for 1.5% of gross loans. These developments contributed to the sustained high level of capitalisation of banking institutions. The risk-weighted capital ratio (RWCR) was sustained at a level of at least 13% throughout the year, with excess capital above the minimum regulatory capital requirement of RM38.5 billion, providing a sizeable buffer against unexpected losses and shocks. Efforts to diversify and enhance the cost efficiency of capital continued during the year, as banking institutions benefited from greater innovation in capital management activities which contributed to a slight decline in the composition of Tier-1 capital to 70.8% of total capital (2006: 72.7%). On aggregate, the stronger financial resilience enabled the banking sector to continue to play an effective and efficient intermediary role in the economy and as an enabler of economic growth.

As at end-2007, total deposits mobilised by the banking sector amounted to RM869.9 billion or 135.6% of GDP, while loan and financing activities by the banking sector expanded at a strong pace of 8.6% to RM644.2 billion in outstanding loans and financing, or 100.4% of GDP. As large businesses continued to tap the capital market as an alternative source of financing, the financing portfolio of banking institutions continued to be concentrated in the retail-based sectors. Loans and financing extended to the household sector and the small and medium enterprises (SME) accounted for 55.9% and 17.7% of total financing outstanding respectively.

## Financial Stability and Payment Systems Report 2007

**Table 2.2:**  
**Key Financial Soundness Indicators**

	As at end				
	2003	2004	2005	2006	2007 <sup>p</sup>
	% (or otherwise stated)				
<b>Banking System</b>					
Risk Weighted Capital Ratio	13.8	14.4	13.7	13.5	13.2
Core Capital Ratio	11.1	11.4	10.7	10.7	10.1
Return on Assets	1.3	1.4	1.4	1.3	1.5
Return on Equity	15.6	16.7	16.7	16.2	19.7
Liquid Assets to Total Assets	8.2	8.0	8.0	8.7	18.6
Liquid Assets to Short-term Liabilities	10.7	10.6	10.2	11.1	23.6
Net Non-performing Loans Ratio - 3 months	8.9	7.5	5.8	4.8	3.2
Impact of a 1% increase of interest rates (in % of capital)	4.8	5.0	8.3	7.5	4.5
Net Open Positions in FX to Capital Base	3.8	3.9	1.1	4.7	4.5
Net Open Positions in Equities to Capital Base	2.9	2.3	2.1	2.6	2.5
<b>Insurance Companies (RM million)</b>					
Solvency Surplus <sup>1</sup>	6,073.6	7,369.5	7,939.0	9,485.1	18,351.2
Solvency Margin Ratio <sup>1</sup>	108.8	109.9	109.7	110.8	120.6
Capital Adequacy Ratio	n.a.	n.a.	n.a.	139.6	157.9
<b>Life Insurance &amp; Family Takaful (RM million)</b>					
Excess of Income over Outgo	9,132.1	11,427.2	10,596.4	12,532.9	15,308.0
New Business Premiums / Contributions	5,363.0	7,264.9	7,426.9	8,428.2	9,066.3
Solvency Margin Ratio (conventional only)	107.9	108.8	108.7	109.9	121.8
<b>General Insurance &amp; General Takaful (RM million)</b>					
Underwriting Profit	583.6	577.6	1,126.6	536.3	13.8
Operating Profit	1,422.6	1,294.2	1,714.9	1,517.9	1,371.5
Gross Direct Premiums / Contributions	8,587.8	9,049.4	9,939.6	10,352.9	10,800.5
Claims Ratio	59.0	60.2	54.9	60.5	66.1
Solvency Margin Ratio (conventional only)	112.4	114.2	114.4	115.2	120.7
<b>Household (HH) Sector</b>					
HH Financial Assets to Debt Ratio	216.4	212.4	201.2	204.2	217.8
HH Debt to GDP Ratio	65.7	66.0	69.3	69.3	66.7
HH Liquid Financial Assets to Total HH Debt Ratio	115.1	113.8	106.3	108.8	119.6
Debt Service Ratio	44.7	42.4	41.3	39.8	41.1
NPL Ratio of Household Sector	8.7	8.0	7.7	7.1	5.3
<b>Corporate Sector</b>					
Return on Assets	5.0	5.9	5.1	5.9	7.0
Return on Equity	11.6	11.0	10.8	12.5	13.9
Debt-to-Equity Ratio	66.6	65.2	60.1	57.2	59.2
Interest Coverage Ratio	5.5	6.1	5.1	5.8	5.7
Operating Margin	16.2	16.7	14.0	15.8	19.0
NPL Ratio of Business Sector	14.1	13.3	11.1	10.2	7.9
<b>Development Financial Institutions<sup>2</sup></b>					
Lending to targeted sectors (% growth)	11.4	19.2	29.6	17.5	18.6
Deposits mobilised (% growth)	9.0	22.4	12.4	11.1	12.4
Non-performing Loans Ratio - 6 months	14.1	13.2	10.4	10.0	8.8
Return on Assets	1.4	1.3	3.0	1.5	1.9

<sup>1</sup> As at financial year end, except for 2007 position

<sup>2</sup> Refers to development financial institutions regulated under the Development Financial Institutions Act 2002

<sup>p</sup> Preliminary

n.a. Not available

Note: Insurance figures are based on unaudited calendar year, unless indicated otherwise

Meanwhile, the insurance and takaful sector recorded combined premiums and contributions totalling RM29.4 billion, representing a growth of 11.4% during the year. Driven primarily by stronger demand for savings and investment-related products, new business premiums and contributions in the life insurance and family takaful sector grew by 7.6% to amount to RM9.1 billion. Despite lower sales of motor

vehicles in the first half of the year, the general insurance and takaful sector recorded moderate growth in the level of premiums and contributions of 4.3%. Operating profits were higher on account of larger income from treasury activities, albeit with weaker underwriting performance recorded due mainly to higher claims which also prompted higher reserving provisions. The solvency position of

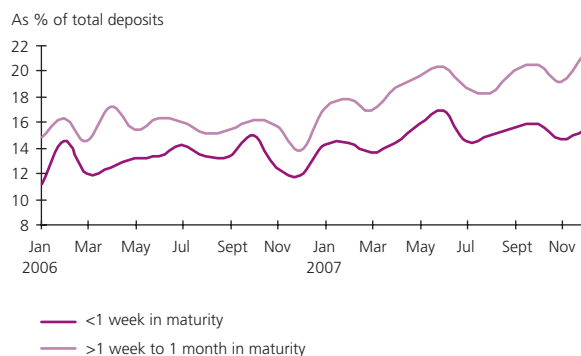
the insurance industry strengthened further with an aggregate solvency surplus of RM18.4 billion (on an unaudited basis) as at end-2007 to buffer against potential challenges.

### **Limited implications of the US subprime crisis on the Malaysian financial system**

The subprime crisis has had a minimal impact on the operations, profitability and solvency of the Malaysian financial institutions, as well as on liquidity in the system. Both direct and indirect exposures of financial institutions in terms of holdings of securities linked to US subprime mortgages and lending to entities associated with the subprime mortgage business were minimal, accounting for about 0.3% of the banking system capital base. These exposures were limited to the overseas operations of a few domestic banks. On aggregate, banking system exposures to foreign securities holdings only accounted for less than 0.5% of total banking system assets. In the case of the insurance industry, investments in subprime related securities accounted for not more than 1% of total foreign assets in the investment-linked funds.

During the two-week period of heightened risk aversion and volatility in the financial markets in August 2007, Malaysia, like other regional economies experienced some net capital outflows as the unwinding of positions took place. Nevertheless, liquidity in the Malaysian financial system continued to remain ample and money market rates were stable with no banking institutions experiencing difficulty in sourcing funds for their liquidity needs (Chart 2.42). The Malaysian banking system lending is predominantly funded by deposit-based instruments. The securitisation

**Chart 2.42**  
**Banking System: Liquidity Buffer**



market, which has been concentrated in the past on the funding of housing loans on a recourse basis, is now becoming increasingly significant for funding of other types of activities. As at end-2007, banking system deposits accounted for 60% of total funding, while total loans securitised by the banking system through Cagamas Berhad, the national mortgage corporation, was RM16.6 billion.

### **Continued inflow of portfolio funds during the year amidst an environment of prevalent ample liquidity exerted downward pressures on interest rates**

While liquidity in some major markets tightened, the persistent inflow of portfolio funds into Malaysia continued to pose liquidity management challenges to the banking institutions throughout 2007 (Chart 2.43). Up until the onset of the financial market turbulence period in the US and Europe, deposits mobilised by the banking system grew strongly by approximately 20% compared to the previous year, attributed partly to the higher growth in ringgit deposits by non-residents. The cumulative liquidity surplus of the banking system based on the estimated liquidity demands and unexpected withdrawals remained high. As at end-2007, the projected surplus was at RM104.5 billion for the maturity bucket of up to one-week and RM145.6 billion for the maturity bucket of up to one-month (Table 2.3). Given the ample liquidity conditions, the overnight and one-week money

**Chart 2.43**  
**Composition of Assets and Liabilities of the Banking System**



**Table 2.3**  
**Banking System: Liquidity Projection as at 31 December 2007**

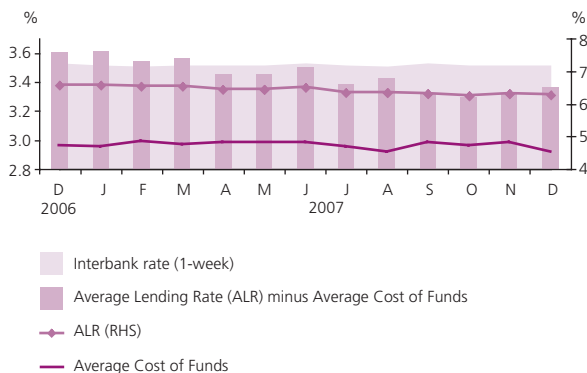
	Cumulative mismatch (RM billion)		Buffer as % of total deposits	
	≤1 week <sup>1</sup>	>1 week to 1 month <sup>2</sup>	≤1 week <sup>1</sup>	>1 week to 1 month <sup>2</sup>
Commercial banks	83.3	114.9	14.6	20.2
Islamic banks	9.7	17.2	16.1	28.5
Investment banks	11.5	13.5	34.7	40.9
<b>Banking system</b>	<b>104.5</b>	<b>145.6</b>	<b>15.8</b>	<b>22.0</b>

<sup>1</sup> ≤3 days bucket for investment banks

<sup>2</sup> >3 days to 1 month bucket for investment banks

Note: Numbers may not add up due to rounding

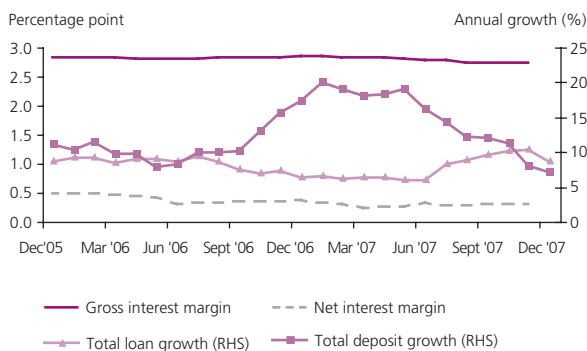
**Chart 2.44**  
**Movements in Interbank Rate, Average Lending Rate and Average Cost of Funds**



**Chart 2.46**  
**Banking System: Movement in PER and Average Quoted FD Rates**



**Chart 2.45**  
**Banking System: Movement in Gross and Net Interest Margins**



market rates remained almost unchanged at 3.49% per annum and 3.52% per annum at the close of 2007. The rapid growth in banking system deposits which outstripped the expansion in financing activities in the first half of the year led to downward adjustments in deposit rates offered by some

banking institutions. While the adjustments helped to ease the rising pressures on interest margins, the increase of 16.9% in interest expense on deposits and intense competition in the lending market contributed to a 0.15 percentage point decline in the gross interest margin to 2.70 percentage points. Nevertheless, continued improvements in asset quality which reduced loan loss provisions partially offset the decline to record a marginal increase in the net interest margin of the banking system, albeit remaining tight at 0.39 percentage point (Charts 2.44 and 2.45). Meanwhile, the lowering of conventional deposit rates lessened the displaced commercial risk (shifting of Islamic to conventional deposits due to higher returns on conventional deposits) on Islamic deposits. Consequently, the profit equalisation reserves (PER) averaged at above RM300 million in 2007 (Chart 2.46).

Some of the portfolio inflows were also directed to the property market segment. Overall property prices remained largely stable, albeit with a slightly higher increase observed in the prices of residential properties in specific prime locations due to strong demand in the high-end segment from both residents and non-residents. The

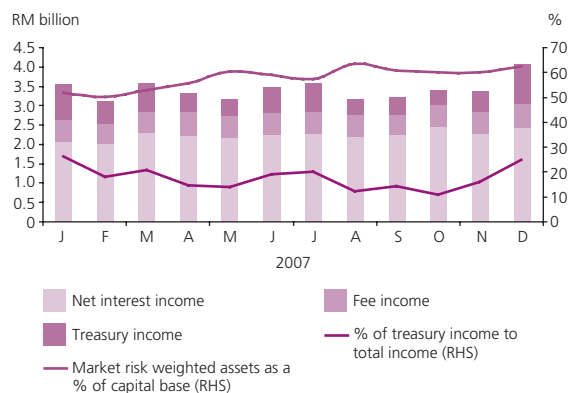
Malaysian House Price Index was sustained at 122.2 in the first half of 2007, with a moderate increase of 3.2% compared with the corresponding period in the previous year. While the average house price for the country stood at approximately RM169,000 in the first half of the year, the average house price for Kuala Lumpur was higher at approximately RM342,000 while that for the state of Selangor was approximately RM248,000 reflecting the higher prices in the prime locations. Risks arising from financial institutions' exposures to the property sector have remained within prudent levels, with more robust criteria applied by financial institutions in assessing and approving loan applications. Moreover, the risks are further balanced by the stable outlook for property prices. The favourable developments in the property market will not only provide a stronger impetus for growth in housing loans, but also have positive effects on other supporting industries, hence promoting further opportunities for financial institutions.

***Financial institutions generally benefited from the vibrancy of the domestic financial markets albeit faced with higher credit and market risks***

The bullish performance and higher trading activities in Bursa Malaysia led to higher financing demand for the purchase of quoted securities and unit trusts. The drawdown of existing credit lines by both individuals and business entities also expanded strongly especially in the first quarter, resulting in the robust growth in disbursements of 261.9% during the year. In addition, growth in approvals was also high at 305.3%. While credit risk exposures to the equity market increased, the level remained low at 4% of total outstanding loans (end-2006: 3.3%), with a corresponding improvement in the delinquency rate to 4.6% (end-2006: 9.5%).

In 2007, revenue from the fee-based business segment, particularly in corporate advisory services, remittances and wealth management services, expanded by 33.3% to account for 16.8% of total income (Chart 2.47). Income from treasury activities, supported by the bullish domestic financial market performance, posted a strong growth of 26.1% to account for 17.6% of total income (2006: 16.2%). Securities held for trading purposes grew by 55.2% to account for 4.3% of total banking system assets. The expanded size of the treasury portfolio of banking institutions translated into higher market risk exposures, in terms of both equity and interest rate risks, as reflected in the 31.3% expansion in

**Chart 2.47**  
**Banking System: Composition of Income**

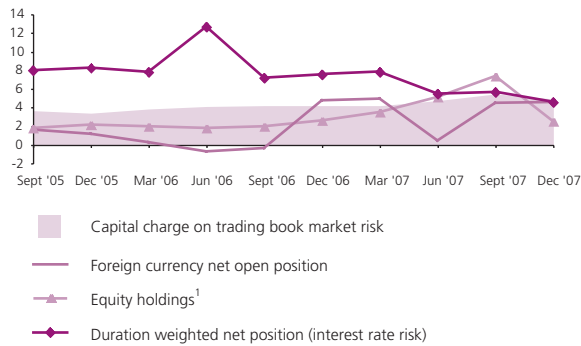


total market risk-weighted assets. Risk exposures arising from equity holdings remained below 1% of total banking system assets in 2007. On aggregate, the banking system exposure to equity market movements from proprietary holdings and margin financing remained low, accounting for only 2.5% of total banking system assets. Total holdings of securities, both fixed income and equities, by the insurers grew by 14.7% to account for 65% of total assets, the bulk of which was in the form of higher rated investment-grade corporate debt securities and MGS. The higher risk exposures of insurers were compensated by the significantly higher net gains from disposal of securities and investment income, which expanded by 63.8% to account for 59.3% of total income.

Exposures to currency fluctuations as a percentage of total market risk-weighted assets remained stable across all banking institutions, reflecting an unchanged risk appetite in currency trading and investment activities. While the directional open positions in certain major currencies were evident in anticipation of a further weakening of the US dollar in the aftermath of the subprime crisis, the potential impact of volatile foreign exchange rates remained low with the corresponding net open position accounting for only 4.5% of the capital base of the banking system (Chart 2.48). In terms of capital charge, foreign currency-denominated exposures accounted for 0.8% of capital base.

The greater usage of interest rate swaps and futures during the year led to lower interest rate risk exposures of banking institutions to account

**Chart 2.48**  
**Banking System: Market Risk Exposures**



¹ Amount of investment in quoted shares

for 4.5% of the capital base. The outstanding notional amount of these contracts increased by 9% during the year to RM507 billion. Spreads between MGS and corporate bonds remained fairly stable throughout 2007, both across tenures and credit grades. Nonetheless, a widening of such spreads, as observed in the early part of 2008, may amplify the magnitude of basis risk, thus affecting the effectiveness of hedging strategies previously undertaken.

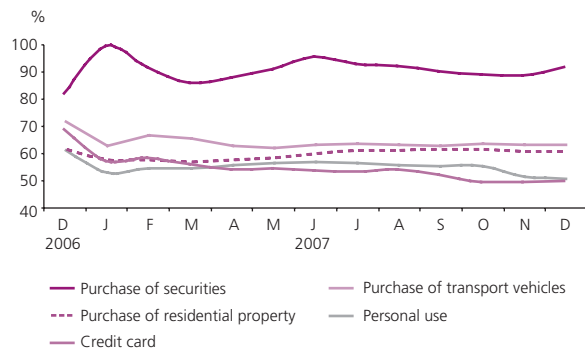
***Underwriting discipline was sustained in an environment of intensified competition and innovations in credit products***

Competitive pressures in the credit market remained intense, especially in the retail lending market where the products and services offered are generally less differentiated. This was evidenced by the more competitive rates offered on housing loan packages, greater repayment flexibility and aggressive marketing and advertising strategies. Some of the attractive features offered include the lengthening of loan tenures, rebates on interest charged and flexible graduated repayment plans with an option to defer principal repayments. Meanwhile, competition was also visible in the non-bank segment that saw insurance companies offering cross-generation loans with flexible repayment options in addition to the traditional fixed-rate financing. The increased attractiveness of housing loan products resulted in an increase in housing loan applications received by banking institutions by 48.3%. Similarly, loan applications for personal use registered a higher increase of 59% in 2007. This was in part supported by promotional activities by banking

**Chart 2.49**  
**Banking System: Annual Growth of Loan Applications**



**Chart 2.50**  
**Banking System: Loan Approval Rates**



institutions in attempts to expand the micro-credit portfolio by targeting new customers to establish new banking relationships (Charts 2.49 and 2.50). Meanwhile, on the funding side, strategies focused mainly on attracting deposits from high net worth individuals as a means to broaden the customer base and prospects for wealth management activities. As at end-2007, deposits placed by individuals expanded by 10.5% to RM330.6 billion.

These developments raised concerns on the underwriting standards and risk management practices of banking institutions, particularly in the light of the subprime problems in the US. The proliferation of creative advertising which to some extent, lacked proper disclosures on important information such as effective financing rates, interest computation methods and existence of incidental costs or charges, was another area of

concern. An assessment of these concerns to identify the possible excessive build up of risks and weaknesses in risk management practices of banking institutions revealed that on aggregate, the downside risks emanating from the housing and personal loan portfolios of banking institutions remained subdued, underpinned by the strengthened credit assessment capacity and underwriting standards maintained by banking institutions. The assessment was supported by a number of factors:

- the risk management infrastructure and practices of banking institutions continued to strengthen. This included the adoption of a wider range of criteria and risk drivers in credit scoring and risk ratings, particularly in preparation for the implementation of Basel II (2008 for banking institutions adopting the standardised approaches and 2010 for those adopting the Internal Ratings-Based approaches);
- greater accessibility to current and more comprehensive information on the borrowers' debt levels and performance of their existing loans through the Central Credit Reference Information System (CCRIS) that enables a more informed decision making process;
- the overall approval rate for household loans was lower at 60% for the year compared to 66.2% in 2006, despite the strong demand. The approval rate for personal loans was much lower at 50.5%;
- unsecured personal loans accounted for a small proportion of 7.5% of outstanding household loans amidst a continued improvement in the NPL ratio to 6.3% as at end-2007 (2006: 7.7%); and
- NPLs for housing loans recorded a significant decline of 13.4% in 2007 to RM12.2 billion, resulting in the NPL ratio for housing loans improving to 7% (2006: 8.7%) from the peak of 9.9% in 2000. This was further supported by a fairly stable level of past due housing loans at approximately 4% of total outstanding loans.

The prevalent "originate-and-hold" business model adopted by banking institutions for the lending segment provides sufficient incentives for the continued vigilance in assessing the customers' repayment capacity and the constant monitoring of the quality of the loan throughout its lifespan. This is discussed in further detail in "Characteristics of Malaysian Housing Finance".

### Characteristics of Malaysian Housing Finance

- "Originate-and-hold" versus "originate-and-distribute" business models
  - Financial institutions adopt the originate-and-hold business model where credit risks are retained within financial firms' balance sheets until the loan is fully repaid or refinanced with another institution. This provides strong natural incentives for lending institutions to vigilantly conduct thorough due diligence on prospective borrowers and to continuously monitor the performance of mortgages until maturity or full settlement.
  - The attractiveness of residential mortgage-backed securities and other forms of securitisation for credit risk reallocation purposes has thus far been limited due to the strong capitalisation of financial institutions, improving loan quality and continuous improvements in risk management infrastructure and practices.
- Deposit-based versus wholesale-based funding structure
  - The housing loan portfolio is funded largely from customer deposits given the high proportion of deposits placed with the banking institutions, while the housing loan portfolio of insurance companies is funded from premiums received from policyholders.
  - These limit the exposures of lending institutions to fluctuations in market liquidity.
- Fixed versus variable rate financing
  - Housing loans are typically based on variable rates and referenced against the Base Lending Rate, except for home financing under the Islamic principles which is largely based on a fixed profit rate, and those extended by insurance companies which are also based on fixed rates. As at end-2007, 82.8% of housing loans extended by banking institutions were on the variable rate basis.

- Most housing loan products offered by banking institutions provide for a preferential/ graduated lending rate in the initial three to five years of the loan. This is reflective of the sell-then-build concept characteristic of residential property development in Malaysia, where full disbursement of the housing loan generally occurs in year three.
- Risk management infrastructure
  - At the institutional level, risk management practices have strengthened with the adoption of internal ratings-based and credit scoring models to facilitate underwriting processes and decisions. Some financial institutions have also begun to incorporate behavioural aspects of borrowers in their internal ratings. In addition, there has been a strong improvement in loan monitoring, management and recovery.
  - The Central Credit Reference Information System (CCRIS), to which all banking institutions have access, provides extensive information on the debt level and quality of the debt exposures of all borrowers, regardless of the value and performance of the exposures.
- Lending to low and middle income groups
  - Credit decisions and risk management standards for housing loans extended to the low and middle income segments are based on the same prudential considerations as other credits extended by financial institutions to ensure that such exposures do not unnecessarily result in excessive risk exposures to the institutions. Proof of income is a compulsory document required in the processing of loan applications.
  - Effective from 1 January 2008, the Government has set aside funds totalling RM50 million, through Syarikat Jaminan Kredit Perumahan and Prokhas Sdn. Bhd., to provide guarantees on housing loans extended by financial institutions to deserving low and middle income borrowers.
- Providers of housing finance
  - Housing finance is largely provided by regulated entities, namely banking institutions and development financial institutions, with a growing participation of life insurance companies in the more recent periods. Collectively, lending by these institutions account for 85.2% of total housing finance.
  - Other participants in the housing finance market include the Malaysia Building Society Berhad, the Treasury Housing Loan Division (that provides housing loans to public sector employees), the Sabah Credit Corporation and the Borneo Housing Mortgage Finance Berhad.
- Institutional arrangements for consumer education and financial literacy
  - Bank Negara Malaysia has established *bankinginfo*, an information portal on financial products and current rates offered by banking institutions, to facilitate comparisons by consumers.
  - The Credit Counselling and Debt Management Agency (CCDMA) provides counselling and advisory services relating to budgeting and financial management. The CCDMA also provides assistance in the resolution of potential credit issues through debt management and restructuring programmes for individual borrowers.

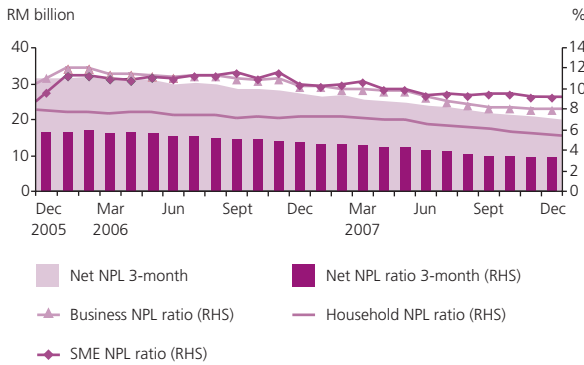
***Downside credit risk remained low resulting from stronger risk management and supported further by the sustained debt servicing capacity of households and businesses***

The strengthened institutional setup and enhanced risk management capacity of banking institutions contributed to the reduced downside risk of credit losses. This was further boosted by the stronger financial position of households which strengthened the flexibility of households to adjust to the gradual rise in the cost of living. Correspondingly, robust growth in the business

sector has bolstered the capacity of corporations to service their debt obligations. Despite the moderation in exports, the financial performance of the business sector was sustained while delinquency rates improved further. As a result, the level of NPLs has continued to decline with improvements observed in SME and corporate loans (Chart 2.51).

Advancements in the risk management infrastructure and practices through the use of retail credit scoring, improved information and portfolio management systems, as well as

**Chart 2.51**  
**Banking System: Non-Performing Loans (NPL) Level and Ratio**

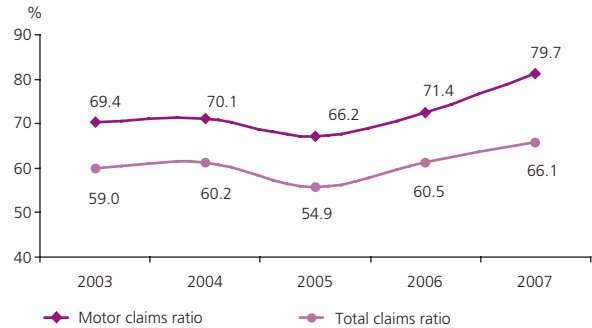


enhanced loan administration, monitoring, management and recovery processes, have been fundamental in supporting improvements in asset quality and lowering the potential risk from continued loan growth. In line with ongoing efforts to fortify the loan management and resolution process, a number of banking institutions disposed off their NPLs to investors that specialise in loans management and recovery. Furthermore, the expansion in credit risk transfer instruments in the domestic market had also encouraged more hedging activities among financial institutions. Collectively, these developments strengthened credit risk management by financial institutions and improved recoveries and the reclassification of NPLs to performing status, while loan loss coverage of the banking system strengthened further to 77.3%.

**Greater challenges in sustaining underwriting performance by general insurers and takaful operators, and in managing asset-liability mismatches by life insurers**

The stronger solvency position and enhanced asset liability management contributed to the sustained performance of the insurance and takaful sector in 2007. This was also boosted by the favourable domestic financial market conditions that led to the generation of higher investment income. New premium growth for life insurers (+6.1%) and family takaful operators (+15.8%) was sustained due to the growing demand for investment-linked products. Meanwhile, the general insurance and takaful sector experienced weak performance in the

**Chart 2.52**  
**General Insurance and Takaful Businesses: Claims Ratios**



motor segment particularly in the first half of the year, attributed to lower sales and prices of motor vehicles as well as higher claims primarily due to the increase in theft and bodily injury claims. This was compensated by strong growth in the medical and health, as well as the marine, aviation and transit business segments, resulting in a modest growth in overall gross direct premiums of 4.3% for the general sector. Coupled with higher claims reserving provisions by several large players, these developments exerted downward pressure on overall underwriting margin (Chart 2.52). Moving forward, the general insurance industry is likely to face continued challenges from higher claims experience in an environment of more volatile financial market conditions, increasing competition as well as a still relatively fragmented industry.

The life insurance industry continued to face challenges in managing the mismatch between assets of the insurance funds and the longer-term insurance liabilities. While the availability of long-term financial instruments has increased, continued inflows of portfolio funds intensified competition for high quality investments, leading to lower yields in the debt securities market. This made it more difficult for insurers to obtain acceptable securities that adequately match the duration profile and return requirements. Recognising these challenges, life insurers are required to provide capital to mitigate the mismatch risk. As at the end of 2007, the basic capital charges for interest rate risk in the life insurance funds (based on the Risk-Based Capital framework parallel run submissions by insurers) accounted for almost 22.5% of total capital charges.

### ***Financial system expected to remain resilient under adverse stress scenarios***

In view of the increasing interconnectedness between the domestic and international financial markets and higher contagion risks, a series of macro stress tests were conducted to assess the potential implications of adverse equity market movements for banking institutions, insurers, takaful operators and households, and their ability to adjust under such conditions. These were conducted in addition to the regular stress tests used as part of ongoing surveillance activities. Stress scenarios were simulated based on the February-March 2007 sell-off, the stock market fallout experienced during the Asian financial crisis and the 1993-94 equity price correction. As the transmission of stress could also be through the financial institutions' exposures to households, similar shocks were applied to the households' unit trust portfolio. Stress testing the scenarios on the position of the households revealed that households could withstand shocks from a significant decline in the net asset value of their unit trust investments which accounted for 16% of total household financial assets, without significantly affecting the debt servicing capability. In addition, the impact from potential second round effects on the debt servicing capacity of the household and corporate sectors was also assessed. The shocks were applied to both the loan and debt securities portfolios of the financial institutions based on the high losses experienced during the Asian financial crisis. The outcome of the stress tests again indicated that the financial institutions and households have the capacity and ability to make adjustments and adapt, given the wealth that had been accumulated over the past several years. For banking institutions, the strong reserves position with capital in excess of the minimum Basel I requirement of RM38.5 billion, also would enable potential losses to be absorbed with only a minimal impact on capitalisation, although the impact on profits from the maximum potential loss would be larger.

For the insurance and takaful sector, more severe shock scenarios were applied due to the higher exposures to the equity market of 14.2% of total assets. These tests produced favourable results, indicating a sufficient level of solvency surplus of the insurance industry to buffer against significant adverse movements in equity prices. In addition, micro level stress tests for the insurance industry were also performed based on a

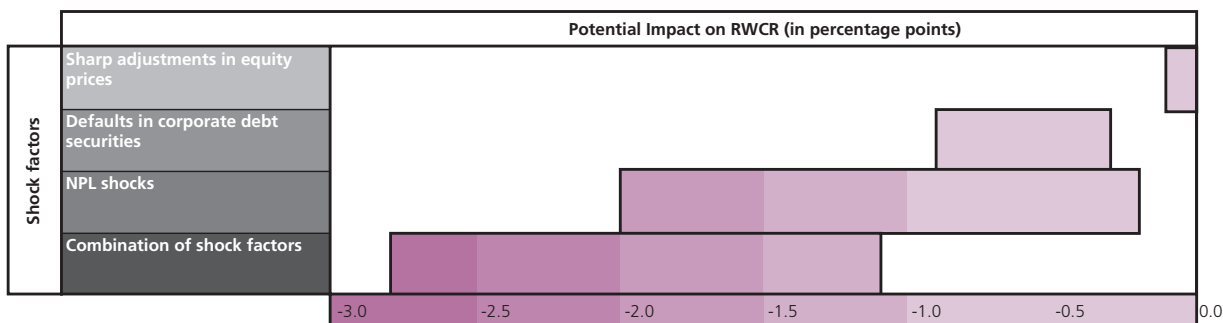
combination of additional stress parameters, such as bond downgrades and higher net claims. Despite the extent of the simulated scenarios, the solvency margin ratios of insurance companies remained sufficiently high with the exception of a small number of institutions that may require some capital injection under the most extreme scenario.

### **A series of stress tests conducted during the year yielded positive results indicating that financial institutions and households are well-positioned to adjust and adapt to stress conditions given the wealth accumulation over several years.**

The series of financial market disruptions in the second half of the year led to some brief periods of net outflows from Malaysia. Outflows of foreign funds drove MGS yields upward and created greater volatility in the domestic securities market, while credit spreads on below-investment grade PDS widened in July and early August. While the implications for the domestic financial system were negligible due to the minimal subprime-related exposures, the resultant higher volatility in the domestic equity and bond market was the key transmission channel for the subprime crisis.

In anticipation of a possible worsening of external financial market conditions, another series of stress tests was conducted to assess the risk-bearing capacity of the financial system. Despite assuming high volatility shocks based on previous major sell-off events, the banking system remained well-positioned to absorb potential losses in their fixed income portfolios, with the potential impact on RWCR not exceeding 1 percentage point across all types of banking institutions (Chart 2.53). Similarly, equity price correction scenarios based on worst historical events were also simulated against banking institutions' direct investments in ringggit and foreign quoted shares. The maximum combined potential impact on the profitability of banking

**Chart 2.53**  
**Potential Impact on RWCR**



institutions would not exceed 40%. In terms of insurance companies' equity exposures, tests revealed that the KLCI would need to contract substantially before fully depleting the unrealised gains of the insurers. Even in the extreme scenario whereby the entire market value of equity exposures were assumed to fall by 100%, the overall insurance industry would still record a solvency surplus of RM1.1 billion, demonstrating the resilience of the industry to shocks.

***Risks emanating from payment systems remained low underpinned by the robust infrastructure and continued attention given to business continuity management***

Preserving financial stability requires the stability of not only financial institutions and markets but also the payment systems. Thus, measures continued to be focussed on enhancing the systemically important payment systems (SIPs) to minimise potential payment and settlement disruptions that may pose risk to overall stability. These include the introduction of a delivery versus payment (DvP) settlement service during the year to facilitate the simultaneous delivery of Malaysian-issued USD-denominated securities deposited in the Real-time Electronic Transfer of Funds and Securities (RENTAS) system with their corresponding USD payments, thus eliminating potential settlement risk associated with the trading of these securities. On operational risk, comprehensive and robust business continuity management has been put in

place whereby regular runs of contingency procedures were conducted by the Bank and members of the payment systems. In addition to enhancing SIPs, measures were also put in place to strengthen the retail payment systems particularly to mitigate risks associated with fraud. The risks as well as the mitigation measures are further elaborated in the chapter "Payment and Settlement Systems".

**RISK ASSESSMENT GOING FORWARD**

**Economic outlook and potential risks**

The 2008 global economic growth outlook is expected to be less favourable, with heightened downside risks to global growth arising from greater uncertainty in the state of the US economy, continued adverse developments in the global financial markets, potential disorderly unwinding of global imbalances and rising inflationary pressures emanating from higher food, commodity and energy prices. The financial markets are expected to remain volatile in 2008. The turbulence as experienced by some of the major financial markets is expected to worsen with the contagion having spread to the prime market and instruments. This has been influenced by the indiscriminate behaviour of investors and participants as deteriorating credit conditions and contraction in risk-taking are further compounded by the increasingly complex interdependencies in the financial system. The extent of the problem

has also spread to a wider credit crunch in some economies. Continued uncertainty surrounding asset valuations, the scale and distribution of further losses as well as the ratings of securities insured by monolines remains high, and has not been fully accounted for by loss reports thus far. The further crystallisation of warehousing risk among major banks may trigger more write-downs as the demand and price of leveraged loans intended for distribution decline further. Distress in major global financial institutions as a result of more losses would further undermine investors' confidence, potentially leading to prolonged volatility across all major asset classes and financial markets. This will exert greater downward pressure on the capital position of US financial institutions that may weaken further their lending capacity. Effective ongoing measures to restore confidence in the creditworthiness and solvency of such financial institutions will therefore be crucial to ensure gradual improvements in international market liquidity and the credit intermediation process.

**Surveillance of the financial sector in 2008 will focus on assessing the transmission implications of developments in the external environment, persistent large capital inflows, volatility in the financial markets and inflationary pressures for risks to financial stability. The use of forward looking assessments will intensify to ensure the Bank's state of readiness to implement pre-emptive policy responses in managing any challenging implications.**

On the domestic front, the continued favourable growth prospect for the Malaysian economy is expected to provide a supportive environment for financial stability. However,

the lower demand for domestic exports and a prolonged period of high prices of raw materials and energy would pose challenges to businesses. While businesses have accumulated large buffers over several years, strains on operating revenue and the thinning of margins may impact the debt servicing capacity of some businesses. The increased international linkages would also expose the domestic financial markets to greater volatilities. As investors' risk aversion heightens further, this could potentially cause spreads for Malaysian corporate securities to widen, hence increasing the cost of borrowings from the capital market. Continued pressures may compel businesses to pass on the increased costs to consumers at large. While the outlook for domestic employment and income levels remains favourable, the environment of increasing expenses will need to be managed by households. On aggregate, closer monitoring of the potential contagion risks emanating from a weaker global economic environment and protracted period of market turbulence would remain an area of priority given the openness of the Malaysian economy.

Meanwhile, the more favourable outlook for growth prospects in the Asian region and emerging economies will continue to attract continued inflows of capital into these economies, including Malaysia. Broadly, such developments would be favourable and desirable for growth and wealth creation, as well as for the performance of the domestic financial markets. At the same time, sustained periods of highly mobile capital inflows could potentially fuel the formation of asset price bubbles in the domestic financial and property markets which could have major adverse implications for financial stability.

As the fragility of the external environment remains an area of concern, any sudden reversals, especially that arising from higher risk aversion and the need to unwind investment positions to cover potential losses in other markets, may result in asset price corrections in the domestic financial and property markets. In addition, the persistent surplus liquidity in the system could also induce imprudent behaviour and practices within the financial institutions such as a compromise in underwriting standards for lending facilities. Balancing the trade-offs between realising the benefits from capital

inflows and at the same time, managing the associated risks effectively will remain a key supervisory challenge.

### **Outlook for financial stability remains encouraging amidst heightened downside risks**

Heightened uncertainty in the global macroeconomic and financial environment will present a more challenging environment to the Malaysian financial institutions in the year ahead. While worsening credit conditions and asset price volatility in the global financial system are expected to persist and could have wider ramifications on the international financial markets, the potential destabilising effects on the Malaysian financial system will be cushioned by the substantial financial buffers accumulated and enhanced risk management capacity. The improved risk bearing capacity, supported by strong profit performance, adequate liquidity buffers and capitalisation at levels well above the regulatory minimum, will enable the financial system to withstand further shocks and contagion effects emanating from the volatile external environment.

Recent trends in rising operating costs of financial institutions, partly stemming from higher overheads and marketing expenditures on rebranding and advertising to capture market share, will to some extent exert downward pressures on margins. In addition, the limited supply of new and specialised talent for the financial services industry, and the consequent higher remuneration packages offered to attract and retain competent and experienced staff amidst the intense competition and high mobility in the labour market are expected to pose further challenges to financial institutions. This necessitates closer surveillance to ensure that productivity levels continue to improve and that the higher staff cost and scarcity of talent in critical areas do not result in unfavourable implications for institutional stability.

Moving forward, the macroprudential surveillance and supervisory activities of the Bank will focus on several key areas:

- strengthening the robustness of risk transmission assessments, in terms of the channel and magnitude of transmissions from external developments to the Malaysian financial markets, businesses and households as well as the financial sector;
- ensuring that the risk-bearing capacity of

financial institutions to respond to these risks is enhanced further;

- overseeing the comprehensiveness and effective implementation of enterprise-wide risk management within financial institutions;
- reviewing the effectiveness of current liquidity management plans to deal with sudden liquidity pressures in the domestic or foreign currency markets; and
- strengthening further the Bank's crisis management framework to secure its state of readiness to respond effectively to system-wide distress conditions.

These will be complemented by continuous enhancements in capacity building initiatives within the Bank. This includes efforts in enhancing the forward-looking aspects of the macroprudential surveillance framework which will encompass the development of quantitative assessment tools and leading indicators, as well as enhanced approaches for gathering market-based and more granular information. The development of surveillance tools, such as the vulnerability indicator for the banking sector (VIBeS) (discussed in further detail in the box article "Enhancing Bank Negara Malaysia's Surveillance Framework – Forward Looking Indicator of Banking System Vulnerability"), will facilitate a more integrated and predictive approach towards risk assessment. In view of recent financial market developments, the methods and approach to macro and micro stress tests will be further enhanced to ensure the robustness of the scenarios and assumptions used. These include the incorporation of sufficiently extreme and contagion events, as well as behavioural and second-round impacts to provide more realistic and holistic assessments.

Given the inter-linkages of the financial system with the real economy, the identification and monitoring of key risk drivers in various business segments will provide early warning signs of distress that may spill over into larger credit risk exposures borne by financial institutions. Efforts to enhance the assessment of household sector issues and collection of micro level household balance sheet and income data will also be another key area of focus for the year. These include the development of vintage profiles for housing loans and further enhancements to the CCRIS in terms of data granularity and coverage. This would ensure that the assessment of emerging risks in the various

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segments is not masked at the aggregate level. The enhanced information content in CCRIS will also assist in credit assessments and risk modelling by financial institutions. Another area of focus will be further strengthening the interaction between macro- and micro-

surveillance activities within the Bank. This provides inputs for the implementation of a more structured and forward-looking assessment of financial institutions' risk profiles and risk management systems under the risk-based supervisory framework.

### Enhancing the Surveillance Framework – Forward Looking Indicator of Banking System Vulnerability

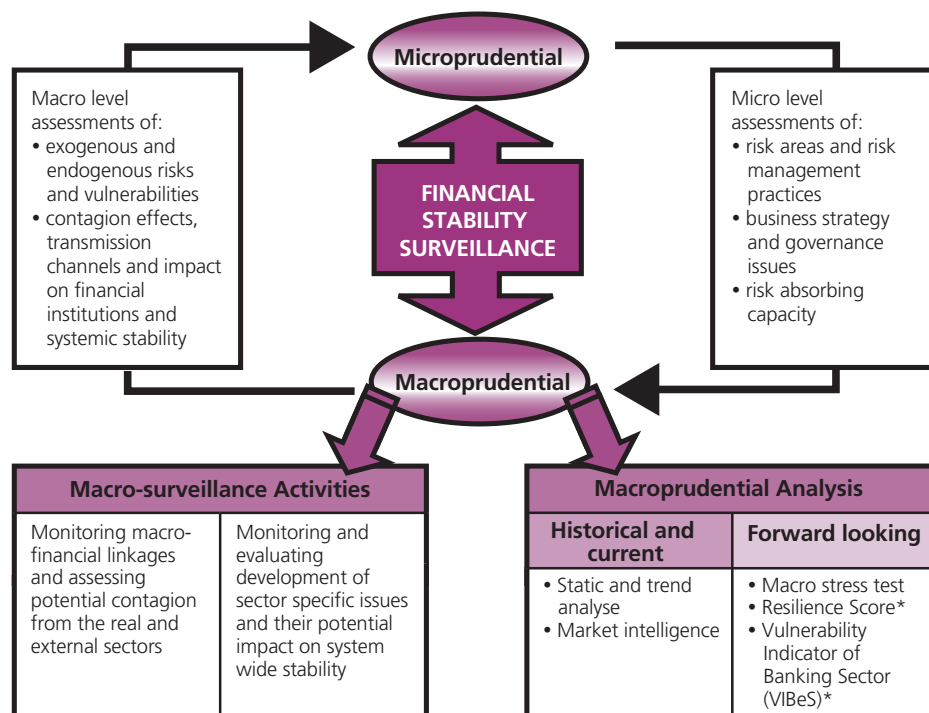
The task of preserving financial stability has become more challenging to policy makers especially in an environment of a rapidly evolving financial landscape and greater volatility in financial markets. The challenge is even greater for an open economy with increasing integration and inter-linkages with the external environment. Having in place a robust and integrated macroprudential surveillance framework is therefore critical to facilitate the early identification of emerging threats and risks to financial system stability. More importantly, it provides the lead time for appropriate policy responses and the implementation of pre-emptive measures to preserve the intermediation function and financial stability.

#### Macro-Surveillance Framework

Strengthening the Bank’s macroprudential surveillance capabilities is a key priority of the Bank. The strategy adopted has been all-encompassing in terms of the framework and infrastructure development, capability enhancement, governance structure and communication. In formulating the macroprudential surveillance framework, the Bank takes cognisance of the potential threats that may emanate directly or indirectly from increasingly complex interlinkages between the financial system and the real sector, greater global trade and financial integration, as well as from payment and settlement systems. Essentially, the focus of the Bank’s macro-surveillance activities encompasses:

- monitoring macro-financial linkages associated with developments and emerging trends in the external sector, domestic economy and financial markets, and corporate and household sectors, as well as assessing their potential contagion implications for the financial system; and
- monitoring and evaluating the development of sector specific issues within the financial sector and the potential implications for overall system wide stability.

An assessment of the extent of risk to financial stability is reached by incorporating both quantitative and qualitative information using static and trend analyses, as well as scenario and sensitivity analyses through integrated macro stress tests and market intelligence. These assessments are also integrated with the micro-surveillance oversight functions of the Bank.



\* These forward looking surveillance tools are currently being developed for use by Bank Negara Malaysia

Assessments of the potential risks to financial stability are conducted in a holistic manner, internally within the Bank and with other domestic regulators. The key potential risks to financial system stability once identified, assessed and ranked in the order of importance, are used as inputs to achieve coherent policy formulation and coordinated pre-emptive actions among key stakeholders including financial institutions, other domestic regulatory and supervisory authorities as well as with regulators from other jurisdictions. The outcome also ultimately forms the basis for communication of risks to financial system stability to the general public.

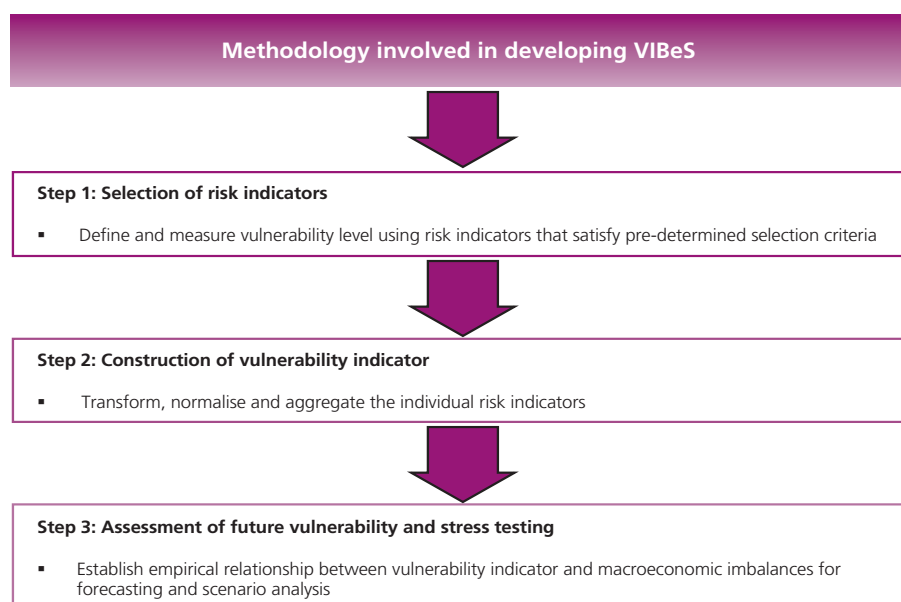
There is recognition that forward looking quantitative tools form a key component of a robust macro-surveillance framework. Accordingly, the continuous development of these tools to aid coherent and integrated analysis is given importance. The following describes the development of one of these surveillance tools which measures the level of vulnerability of the banking sector, the methodology and underlying assumptions adopted, as well as present efforts being undertaken to ensure the robustness of the tool.

### Vulnerability Indicator for Banking Sector

The vulnerability indicator for the banking sector, or VIBeS, is a composite of risk indicators that measures the intensity of systemic distress at a particular point in time. Recognising the limitations of the previously developed binary variable Early Warning System in elucidating intensities of various distress symptoms and capturing the complexities of banking crises, a more robust composite indicator is being developed to quantify systemic vulnerability that may emerge from different sources. This measure of banking sector conditions aims to enable early prognosis of distress build-up prior to the occurrence of a crisis. Using information derived from macroeconomic and financial imbalances, VIBeS will assist in forecasting future conditions in the banking sector. The general approach used in developing the VIBeS framework is adapted from a Bank for International Settlements research paper<sup>1</sup>, with modifications to enable its applicability in the context of the Malaysian banking sector.

### Methodology and assumptions

The development of VIBeS involves a three-step approach as outlined below:



<sup>1</sup> See Monnin, P and E Hanschel (2004), "Measuring and forecasting stress in the banking sector: evidence from Switzerland", *BIS Paper No 22*.

### **Selection of risk indicators**

The risk indicators are selected mainly based on their ability to explain symptoms of instability during identified systemic distress periods. Other selection criteria include the availability of a long time series with quarterly frequency and widely used financial stability indicators. In our preliminary analysis, the various dimensions of banking vulnerability and risk indicators cover capitalisation, profitability, credit quality, liquidity and market-based information.

Based on historical trend analyses of various measures of capitalisation, annual growth in Tier-1 capital provides a more sensitive indication of change in capital levels during past distress periods. For example, the relatively stable risk-weighted capital ratio (RWCR) of banking institutions observed during the Asian financial crisis as a result of recapitalisation efforts by Danamodal Nasional Berhad did not adequately reflect the decline in the core capital positions of banking institutions. In terms of credit quality, the gross non-performing loans (NPL) ratio, after adjusting for loans sold to, and recovered by, Danaharta, was found to be more reflective of the occurrence of higher delinquencies during the same crisis. While accumulation in provisions has been widely used in some banking crisis literature to indicate banks' early detection of credit deterioration, it is also subject to potential biased signals of vulnerability due to reduced provisioning capacity in distressed periods, and differing provisioning behaviour in good times through the adoption of income smoothing or stricter provisioning policies.

In relation to liquidity risk, net interbank deposits of banking institutions is currently used to gauge possible liquidity shortages and funding problems in the system. Meanwhile, the sensitivity and applicability of other indicators such as weighted averages of interbank rates and spreads, liquid assets ratios and liquidity buffers as a percentage of deposits, are also being explored. As a measure of profitability and efficiency, return on assets is adopted as it takes into account regulatory and structural changes in the banking sector, for example, the rationalisation or emergence of new players. Market-based indicators of financial distress, such as the spread of debt securities issued by banking institutions or index of banks' share prices are also being considered to capture investors' evaluations of banks' idiosyncratic risks and their intrinsic value.

### **Construction of VIBeS**

VIBeS is in essence a composite indicator. The construction of VIBeS involved the following process:

- transforming all components of the composite indicator to reflect higher vulnerability when symptoms of distress intensify;
- normalising all indicators with respect to their averages and standard deviations into comparable units; and
- aggregating normalised components using equal weights.

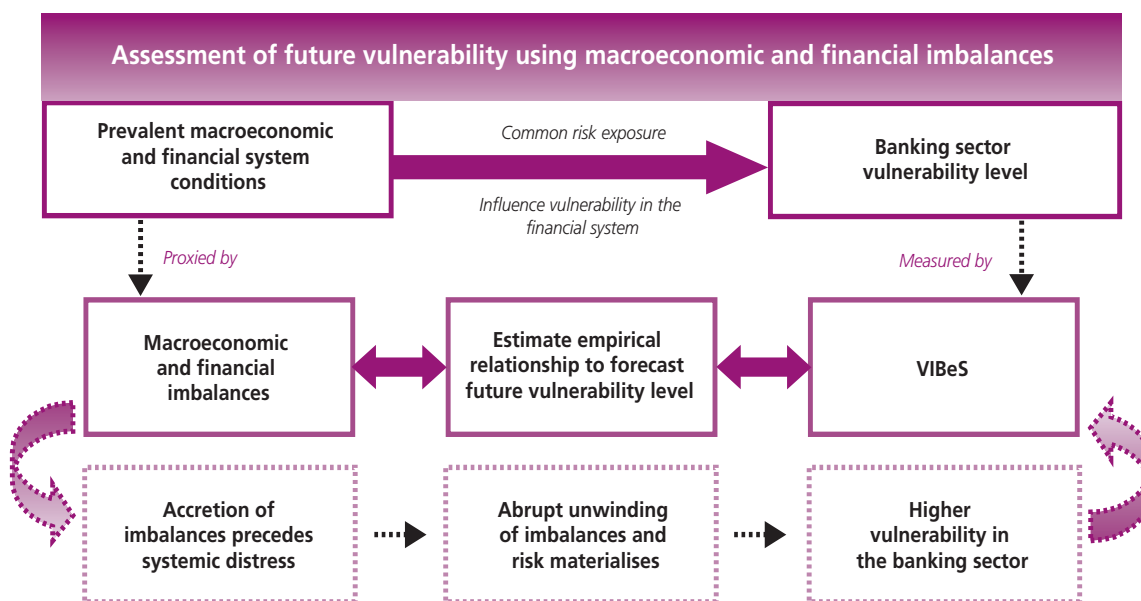
### **Assessment of future vulnerability and stress testing**

While VIBeS is constructed to provide a snapshot of the current level of banking system vulnerability, it also aims to facilitate forward looking assessments of potential stress within the system. For this, the relationship between macroeconomic and financial imbalances, and the distress level of the banking system is currently being empirically modelled and tested. Any weakening of economic conditions, coupled with the accretion of macro imbalances and abrupt adjustments are often associated with destabilising consequences on financial stability. By focusing on early signals of potential instability amassing in macro imbalances which normally precede systemic distress, the empirical model will be able to identify the potential source of vulnerability.

The empirical relationship is established by regressing VIBeS on selected macroeconomic and financial indicators<sup>2</sup> that are robust determinants of past systemic distress episodes. These indicators are

<sup>2</sup> Indicators of macroeconomic and financial imbalances considered, inter alia, include (1) Gross domestic product (GDP), (2) ratio of domestic credit to GDP, (3) Kuala Lumpur Composite Index, (4) Malaysian House Price Index and (5) ratio of private investment to GDP.

computed to measure potential macroeconomic and financial imbalances by taking the deviation of selected macroeconomic and financial variables from their respective long term trends<sup>3</sup>. Subsequently, forecasts of the future vulnerability level are generated based on the regression model that satisfies the predetermined “best model” criteria<sup>4</sup>. The following diagram summarises the framework adopted to assess the future vulnerability level in the banking sector using these measures of imbalances.



To complement other variants of macro stress tests, additional scenario analysis is conducted via this framework to assess the impact of adverse macroeconomic developments on ViBeS. Regression coefficients from the best estimate model are used in simulating specific macroeconomic shocks and the results are compared with historical vulnerability levels to assess the current degree of resilience of the banking system.

### Future Refinements to the Framework

Efforts are currently focused at further improving the robustness of the forecast capability of ViBeS by leveraging on higher frequency macroeconomic variables, for example, data on monthly portfolio flows and the consumer price index. Refinements are also being made to the regression model to adequately capture the non-linear interactions of macroeconomic and financial imbalances with that of systemic vulnerability. In addition, the framework’s applicability in supervisory assessments of individual banking institutions is being explored to facilitate further integration of the Bank’s macro- and micro-surveillance activities. Mindful of the transformation of the financial sector and constantly changing financial environment, attempts are also being made to broaden the scope of coverage by incorporating non-financial indicators including measures of structural changes and financial liberalisation, into ViBeS.

No tool, regardless of its sophistication, may predict the future with absolute precision. Given an increasingly complex financial landscape, the use of forward looking indicators such as ViBeS, serves only as a means to assess the level of vulnerability within the banking system in an unbiased and objective manner, and as a supplement to other surveillance tools within the Bank’s framework. The ultimate aim is to achieve an in-depth and informed macroprudential as well as microprudential analysis of each component of the financial system and the interactions and feedback effects to ensure that emerging threats and risks are well anticipated and pre-emptively acted upon.

<sup>3</sup> The long run fundamental trend of each macroeconomic and financial variable considered is determined using the rolling Hodrick-Prescott filter. See Borio, C and P Lowe (2002), “Asset prices, financial and monetary stability: exploring the nexus”, *BIS Working Paper* No 114, for full details.

<sup>4</sup> These include: (1) Minimum significance level of 10% for all regression coefficients, (2) Maximum lags of 16 quarters, (3) Minimum of four regressors, (4) Highest adjusted R-squared and (5) Comparable estimates between post-crisis and entire period samples.

### Malaysia's Anti-Money Laundering / Counter Financing of Terrorism (AML/CFT) Programme

#### Overview

Malaysia has in place a comprehensive AML/CFT regime. The AML/CFT programme implemented in Malaysia is reinforced by the Anti-Money Laundering and Anti-Terrorism Financing Act 2001 (AMLA) and its related AML/CFT regulations, which are consistent with international standards, namely, the Financial Action Task Force on Money Laundering (FATF) Forty Recommendations on Money Laundering and Nine Special Recommendations on Terrorist Financing (FATF 40+9 Recommendations). The FATF is the inter-governmental body that sets the international standard for the development of national and international policies to combat money laundering and terrorism financing.

A coherent AML/CFT programme is achieved through a robust and comprehensive legal framework, preventive measures as well as effective domestic and international inter-agency cooperation to support capacity building, surveillance and enforcement activities of the respective authorities. The legal and institutional framework for AML/CFT in Malaysia has been incrementally implemented and strengthened since 2002 and is applied to financial institutions as well as designated non-financial businesses and professions (DNFBPs).

In early 2007, the second round of the Asia/Pacific Group on Money Laundering (APG) Mutual Evaluation Exercise was carried out on Malaysia. The APG Mutual Evaluation Exercise provides an independent assessment of the state of Malaysia's AML/CFT programme and its compliance with international standards. Malaysia's ratings were comparable with many developed countries. Based on the Mutual Evaluation Reports (MER) of 40 countries that were published as at July 2007, Malaysia was one out of only three countries that were rated "Largely Compliant" against the FATF Recommendation on customer due diligence, while no country has been assessed to be fully compliant.

Overall, Malaysia obtained nine "Compliant", 24 "Largely Compliant", 15 "Partially Compliant" and one "Non-Compliant" ratings against the FATF 40+9 Recommendations. The results of the APG Mutual Evaluation affirm Malaysia's significant efforts in developing and implementing a comprehensive legal system in criminalising money laundering and terrorism financing, law enforcement, financial intelligence, freezing, seizure and confiscation of proceeds of crime, as well as implementing effective preventive measures for financial institutions and DNFBPs, which have served to safeguard Malaysia's financial system against the threat posed by money launderers and terrorist financiers. As an ongoing effort, Bank Negara Malaysia will continue to be vigilant in monitoring and ensuring effective implementation of the AML/CFT legal and regulatory framework, while directing attention towards capacity building as well as domestic and international cooperation.

#### AML/CFT Legal and Regulatory Framework

The AML/CFT legal and regulatory framework is regularly reviewed and where necessary, appropriate amendments to the laws and regulations are made to ensure that they remain effective and relevant in dealing with money laundering and terrorism financing threats. In this regard, the Anti-Money Laundering (Amendment) Act 2003 and consequential amendments to four other related acts, namely, the Penal Code (Amendment) Act 2003, Criminal Procedure Code (Amendment) Act 2006, Courts of Judicature (Amendment) Act 2004, and Subordinate Courts (Amendment) Act 2004 were brought into force in March 2007. The amendments were made to incorporate provisions dealing with the offence of terrorism financing. The new Part VIA in the Anti-Money Laundering (Amendment) Act 2003 provides for measures to be taken for the prevention of terrorism financing offences and for the forfeiture of terrorist property and property involved in, or derived from terrorism financing offences. Consequently, Malaysia's anti-money laundering legislation became known as the Anti-Money Laundering and Anti-Terrorism Financing Act 2001.

These amendments have put in place a set of comprehensive laws and in particular, recognises the procedures for freezing of terrorist-related property, thus enhancing Malaysia's compliance with the FATF Special Recommendations on Terrorist Financing while facilitating Malaysia's accession to the United Nations International Convention for the Suppression of the Financing of Terrorism.

The list of predicate offences under the AMLA has also been expanded to include a broader range of offences commonly associated with money laundering and terrorist financing. These offences include corruption, fraud, criminal breach of trust, illegal gambling, credit card fraud, currency counterfeiting, robbery, forgery, human trafficking, extortion, smuggling and drug-related crimes. The list of predicate offences may be expanded by the authorities from time to time as deemed necessary.

In 2007, an offence relating to piracy or the counterfeiting of non-artistic goods was included as a predicate offence in the AMLA. With this inclusion, the list of offences in the AMLA is fully compliant with the FATF Recommendations. The comprehensive coverage of predicate offences in the AMLA will facilitate the more timely detection of money laundering and terrorism financing activities through the receipt of suspicious transaction reports (STRs) in relation to such offences from all reporting institutions. The STRs will also facilitate prompt investigations and prosecutions by law enforcement agencies into suspected money laundering or terrorism financing offences.

### **Preventive Measures for Financial Institutions and DNFBPs**

Malaysia's AML/CFT preventive measures are uniformly applied to both conventional and Islamic financial institutions, and to the DNFBPs. In 2006, Bank Negara Malaysia issued the AML/CFT Guidelines and relevant Sectoral Guidelines for banking institutions and insurers. Under the Guidelines, financial institutions in Malaysia are required to consistently apply AML/CFT procedures and controls across all domestic and foreign branches as well as their subsidiaries. This would include the requirement for financial institutions to appoint compliance officers in each branch and subsidiary with appropriate independence and authority to access records and submit STRs.

Out of the 19 FATF Recommendations on preventive measures for financial institutions that were assessed in the APG MER, Malaysia was rated "Compliant" and "Largely Compliant" against 15 Recommendations. The remaining four Recommendations were rated "Partially Compliant", due mainly to the inability of the APG assessment team to fully establish the effectiveness of the implementation of the Guidelines as the APG MER was conducted during the early implementation phases of the AML/CFT Guidelines issued by the Bank. With the Guidelines having been fully implemented, the Bank is confident of being able to achieve broad compliance against these recommendations.

The effectiveness of the implementation of the relevant AML/CFT Guidelines and controls at financial institutions are evaluated under the risk-based supervisory framework, as part of the assessment of the overall safety and soundness of individual financial institutions. With the increasing focus on ensuring adequate AML/CFT internal control programmes, financial institutions have significantly strengthened their internal mechanisms for the detection of suspicious transactions, resulting in an improved quality of STRs submitted to the Bank and more timely provision of requested information for investigation purposes.

Obligations to establish an AML/CFT compliance programme for the DNFBPs sector came into force in early 2007 following the issuance of the AML/CFT Sectoral Guidelines to a licensed casino, licensed gaming outlets, lawyers, accountants and company secretaries. These AML/CFT Sectoral

Guidelines, which were issued to the relevant reporting institutions between February and April 2007, specify the regulatory requirements that are in line with the AMLA and the relevant FATF 40+9 Recommendations.

During the year, Bank Negara Malaysia undertook both on-site and off-site compliance examinations, targeted at selected reporting institutions, in particular, institutions engaging in predominantly cash-based transactions where the risk of money laundering and terrorism financing may be more prevalent. Such institutions include accountants, company secretaries and lawyers, as well as licensed gaming outlets. These compliance examinations enabled Bank Negara Malaysia to determine the state of compliance of DNFBPs with the AML/CFT legal and regulatory requirements.

### **Domestic Cooperation and Capacity Building**

While Bank Negara Malaysia is the designated competent authority under the AMLA, the National Co-ordination Committee to Counter Money Laundering (NCC) consisting of 13 Ministries and Government agencies was set up in 2000 in order to achieve a coordinated approach towards ensuring the effective implementation of national AML/CFT measures. The NCC provides an integrated platform for the relevant Ministries, Government agencies and supervisory authorities to ensure that Malaysia implements an effective national AML/CFT system in line with the international standards. Bank Negara Malaysia, as the Secretariat to the NCC, continued to play an instrumental role in this process by promoting a collaborative culture between the Government and private sector towards achieving AML/CFT compliance. Among other things, regular engagements, dialogues and consultations with self-regulatory organisations (SROs) and associations were held during the year to enhance AML/CFT awareness while emphasising the importance of preventive measures.

In 2007, the NCC formulated a national action plan to address the various recommendations put forward in the APG MER over the next few years. The action plan includes legislative amendments, measures to strengthen regulatory guidelines and compliance monitoring, measures to enhance the investigative powers of law enforcement authorities and, in the longer term, the establishment of a national asset management corporation for seized and forfeited assets.

To further support the effective implementation of the AML/CFT programme, the development of the necessary expertise and capabilities within supervisory and regulatory agencies, law enforcement agencies (LEAs) and other related Government agencies and Ministries continued to receive priority. In 2007, training programmes on AML/CFT continued to focus on the supervisory and regulatory framework, legal aspects, typologies, financial investigative methods and analytical skills. These training programmes were organised by the relevant domestic agencies in collaboration with multilateral/regional bodies so as to promote a broader exchange of experiences and knowledge on implementation of effective AML/CFT programmes.

During the year, another 29 officers successfully completed the Certified Financial Investigator Programme (CFIP) and graduated as Certified Financial Investigators (CFIs) (2006: 24 officers). To reinforce the skill sets and competencies developed among the CFIs, two training programmes on forensic accounting and case analysis using the i2 software were organised by the Sub-Committee for Inter-Agency Training under the NCC as part of the continuous development programme for Alumni members.

### **International Cooperation**

In view that money laundering and terrorism financing activities are transnational in nature, Bank Negara Malaysia continues to promote the exchange of financial intelligence with its international counterparts. In 2007, six Memoranda of Understanding (MoUs) on the exchange of financial

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intelligence were signed, bringing the total number of MoUs signed by Bank Negara Malaysia to 13, as follows:

No	International Counterparts	Country	Date Signed
1.	Australian Transaction Reports and Analysis Centre	Australia	2 August 2002
2.	<i>Pusat Pelaporan dan Analisis Transaksi Keuangan</i> (Indonesian Financial Transaction Reports and Analysis Centre)	Republic of Indonesia	31 July 2003
3.	Anti-Money Laundering Council	Republic of the Philippines	4 August 2004
4.	Anti-Money Laundering Office	Kingdom of Thailand	18 April 2005
5.	China Anti-Money Laundering Monitoring and Analysis Center- People's Bank of China	People's Republic of China	30 June 2006
6.	Korea Financial Intelligence Unit	The Republic of Korea	30 April 2007
7.	Japan Financial Intelligence Centre	Japan	29 May 2007
8.	Serious Organised Crime Agency	United Kingdom	30 May 2007
9.	<i>Finanspolisen Rikskriminalpolisen</i> (National Criminal Intelligence Service, Financial Unit)	Sweden	30 May 2007
10.	Financial Crimes Enforcement Network	United States of America	2 July 2007
11.	<i>Unidad de Análisis Financiero</i> (Financial Analysis and Intelligence Unit)	Republic of Chile	21 August 2007
12.	The Central Bank of Sri Lanka	Sri Lanka	18 January 2008
13.	Ministry of Finance	Brunei Darussalam	4 February 2008

The voluntary and unsolicited sharing of financial intelligence between competent authorities represents an important tenet of the MoUs signed by the Bank. In the recent past, this has resulted in valuable leads provided for further investigations into money laundering offences by the relevant LEAs, and the subsequent prosecution and conviction of perpetrators in foreign countries. This experience underscores the importance of cross-border information sharing and mutual cooperation.

Bank Negara Malaysia has also participated in regional capacity building programmes to enhance AML/CFT knowledge and technical capability in selected ASEAN member countries. The Bank in collaboration with the Australian Transaction Reports and Analysis Centre, provided technical assistance to the Anti-Money Laundering Office (AMLO) of Thailand in September 2007, focusing on enhancing the framework and infrastructure for reporting suspicious transactions to the AMLO.

### Challenges Ahead

Bank Negara Malaysia, as the competent authority, together with the NCC remains vigilant to evolving money laundering and terrorism financing threats. Money laundering and terrorism financing typologies have indicated ongoing threats in high cash concentrated activities such as casinos, cash couriers, as well as informal remittance systems. In this regard, among others, the NCC has established a task force on cross border transportation of currency and bearer negotiable instruments to address the only "Non-Compliant" rating against the FATF Special Recommendation IX on Cash Couriers. The task force, which consists of Bank Negara Malaysia, the Royal Malaysian Customs, Ministry of Home Affairs and Immigration Department, will be making recommendations on appropriate regulatory and enforcement measures to prevent as well as to detect cash couriers moving funds illegally for criminal activity.

To mitigate the potential risk of criminal abuse from the prevalent use of alternative and informal remittance services provided through money changers, these businesses will be subject to more stringent supervisory measures, while the use of formal remittance channels such as banking institutions and licensed non-bank remittance operators will be further encouraged.

The effective compliance monitoring of DNFBPs remains a challenge due to the sheer number of these entities. There are approximately over 30,000 DNFBPs nationwide established either as sole proprietorships, partnerships or limited liability companies. The Bank will continue to promote a more active role on the part of the SROs or the trade bodies to ensure the compliance of DNFBPs with legal and regulatory AML/CFT requirements. This will be supplemented with the development of a comprehensive risk-based compliance framework that appropriately reflects the unique characteristics of this sector.

As financial institutions strengthen their internal AML/CFT programmes in line with the more stringent regulatory measures and international standards, it can be expected that perpetrators of illegal activities will seek alternative channels to further financial crimes. There is therefore a need to ensure on a continuous basis that the AML/CFT supervisory framework remains comprehensive in terms of reporting institutions covered and the effective enforcement of the AML/CFT measures. The challenge is, however, to ensure that the costs associated with increased regulatory and compliance measures are also balanced with the money laundering and terrorism financing risk. To this end, Bank Negara Malaysia and the NCC will continue to work with the relevant business communities in instituting appropriate AML/CFT measures that are commensurate with the size, complexity and risk exposure of the reporting institutions.