

2013

RISK DEVELOPMENTS AND ASSESSMENT OF FINANCIAL STABILITY IN 2013

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RISK DEVELOPMENTS AND ASSESSMENT OF FINANCIAL STABILITY IN 2013

OVERVIEW

Domestic financial stability was well-preserved throughout the year, providing an environment that continued to be conducive for the growth of the Malaysian economy. The domestic financial system exhibited a high degree of resilience amid heightened volatility in the global financial markets. While economic conditions generally improved in the major advanced economies, financial market developments largely driven by sentiment triggered several episodes of capital flow reversals in some emerging economies during the year. The deep financial markets and presence of a pool of strong institutional investors in Malaysia supported orderly conditions in the domestic financial markets during these episodes. Financial institutions in the banking, insurance and takaful sectors continued to maintain strong financials, supported by sustained improvements in governance and risk management practices, and appropriate restraint in risk-taking in an environment of persistent ample domestic liquidity. This ensured continued access to financial solutions to meet the needs of businesses and households, underpinned by lending practices that have been further strengthened. Confidence in the Malaysian financial system has also remained firmly intact.

Domestic financial stability continued to be preserved in 2013, supported by orderly financial market conditions and strong financial institutions

Consistent with the outlook provided by the Bank in the previous Financial Stability and Payment Systems Report, the key risks to domestic financial stability in 2013 were associated with the more volatile financial markets, continued growth in household borrowings and rising property prices. These issues were the focus of deliberations by the Bank's Financial Stability Committee, Joint

Policy Committee and the Financial Stability Executive Committee during the year. While the risks remain well-contained at present, additional macroprudential and fiscal measures were introduced to promote macro- and socio-economic stability and avert the potential for future risks to domestic financial stability. The macroprudential measures were extended for the first time to non-bank financial institutions (NBFIs) in order to provide a more complete response to the rising household debt level, particularly among lower income households. Further measures, both supply and financing measures, intended to curb speculative activity and moderate the increase in house prices are also expected to contribute towards reducing the overall household debt load. The implementation of these measures involved the close coordination with relevant authorities, notably the Malaysia Co-operative Societies Commission (Suruhanjaya Koperasi Malaysia, SKM) and the Ministry of Urban Wellbeing, Housing and Local Government (Kementerian Kesejahteraan Bandar, Perumahan dan Kerajaan Tempatan, KPKT).

The balance sheet and debt servicing capacity of the household sector remained intact despite further increase in the level of indebtedness. This has been supported by the favourable conditions for employment and higher income levels, which also saw households accumulating more financial assets. Financial institutions have also maintained sound underwriting and risk management standards. The leverage position has been stable for borrowers who have high leverage or are more exposed to financial challenges in an environment of rising cost of living. These factors collectively ensured that any potential risk to financial stability remains well-contained, which is reinforced by the strong capacity of financial institutions to withstand potential shocks affecting the household sector.

While house prices have continued to increase at a strong pace, measures introduced by the Government and continued vigilance over bank lending and valuation practices should serve to curb excessive speculation and risk-taking. Risks to household finances and financial stability from a potential correction in house prices are largely

mitigated by limited borrowings by households to finance speculative investment purchases and the substantially strengthened lending practices of banks.

Despite the slower growth in household debt, particularly personal financing, the level of indebtedness is expected to remain elevated over the next few years as the demographic profile of households, broader access to financing and increasing urbanisation will continue to generate strong demand for asset and wealth accumulation. Household indebtedness is only expected to begin moderating as the effects of structural measures to increase the supply of affordable housing and to improve the public transportation system become more entrenched. The series of measures introduced thus far aims to ensure that the risks to domestic financial, macro- and socio-economic stability remain contained while these adjustments are taking shape.

Credit risk to financial institutions arising from exposures to businesses remained largely unchanged. The financial and balance sheet strength of businesses, including large and systemic borrowers, was generally intact with stable liquidity positions observed. The overall leverage position was lower despite higher borrowings. Although some business sectors were more affected by the elevated input costs and exchange rate volatility, particularly those businesses with high import content and large external borrowings, overall debt servicing capacity of businesses remained strong amid further improvement in the interest coverage ratio.

Malaysian financial institutions remained well-capitalised and profitable. As expected, banks managed a smooth transition to strengthened capital requirements, consistent with Basel III, which were phased in from 2013. A number of banks successfully raised new capital with Basel III compliant features, which was well received in the market. Overall profitability of the banking, insurance and takaful sectors was sustained, although contributions from trading and investment activities were more volatile, reflecting market conditions. Financial institutions also remained prudent in taking market risk positions, and continued to actively manage foreign currency funding positions and exposures to exchange rate movements. Strategies by life insurers to better manage

insurance risk in the prevailing low interest rate environment continued to lend support to the financial resilience of these institutions. Stress tests conducted by the Bank affirmed that even under the assumptions of extreme portfolio outflows and adverse economic conditions, banks and insurers are expected to remain adequately capitalised.

During the annual International Monetary Fund (IMF) Article IV consultation in December 2013, the assessors noted significant progress in the implementation of the recommendations highlighted in the Financial Sector Assessment Program (FSAP) for Malaysia in the previous year. In particular, the new financial services legislation significantly strengthens the regulatory and supervisory framework in Malaysia, and arrangements that support effective inter-agency coordination in the management of crises have been enhanced. The Bank has also further strengthened the framework for stress testing of financial institutions and has advanced efforts to improve the granularity of household data for purposes of risk analyses. The IMF Article IV consultation assessment also independently affirmed the resilience of the banks, consistent with earlier results of the stress tests undertaken during the FSAP exercise.

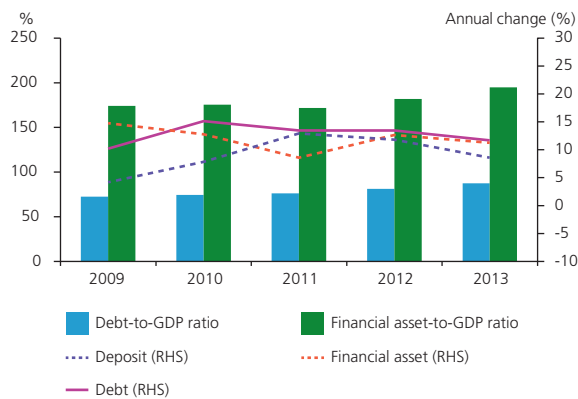
While the external environment will remain challenging in 2014, the Bank expects that domestic financial stability will continue to be preserved. The Malaysian financial sector is well-placed to manage the attendant risks due to the presence of strong financial institutions, deep financial markets, and continued close supervision by the Bank on risk-taking activities by financial institutions and the management of contagion risks. The comprehensive institutional arrangements that are in place for dealing with financial distress will further add to the enhanced capacity to manage shocks. Domestic risks, including those emanating from NBFIs and developments in the property sector, are also expected to be contained by the broad measures that have been implemented. While the risks are assessed to be contained, the Bank's surveillance and supervisory activities will be maintained at a heightened level of vigilance in the foreseeable future. The Bank continues to stand ready to act pre-emptively to address any build-up of emerging risks and threats to domestic financial stability.

MANAGING RISKS ARISING FROM HOUSEHOLD INDEBTEDNESS

Aggregate household borrowings grew at the slowest pace of 11.7% (2012: +13.5%; 2011: +13.5%; 2010: +15.1%) to RM854.3 billion since the introduction of the series of measures in 2010 to rein in the excessive accumulation of debts by households. This was driven primarily by the substantially slower pace of expansion in lending by NBFIs, particularly in the second half

Chart 1.1

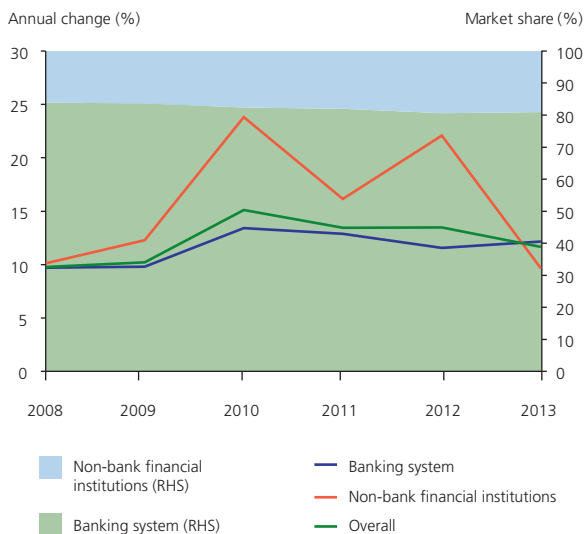
Household Sector: Debts and Financial Assets



Source: Bank Negara Malaysia

Chart 1.2

Household Sector: Annual Change and Market Share of Lending by Banks and Non-bank Financial Institutions



Source: Bank Negara Malaysia

of 2013 (Chart 1.1 and Chart 1.2). The aggregate balance sheet of households remained healthy, with stable employment and income conditions throughout the year, lending continued support to the financial strength and debt servicing capacity of households at large. Household financial assets expanded at a closer rate to the pace of growth in household debts, compared to previous years. In 2013, household financial assets grew by 11.2% (2012: +12.7%) to RM1.9 trillion or 193.5% of gross domestic product (GDP). Similar to previous years, the composition of household financial assets was broadly unchanged with 42% of financial assets held in the form of deposits and deposit-like instruments. Investments in shares and unit trusts expanded slightly to account for about 25% (2012: 24%) of financial assets. At the aggregate level, the ratio of household financial assets to debt remained stable at 2.2 times.

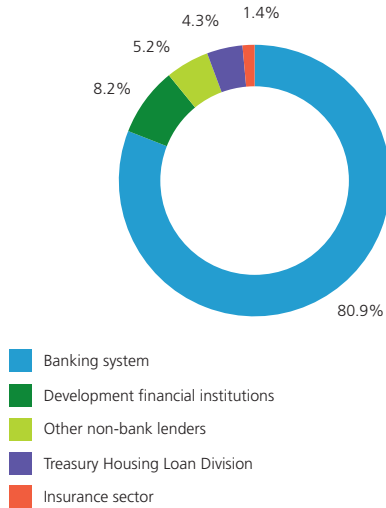
Household debt grew at the slowest pace since 2010, matched by the expansion in financial assets. Aggregate leverage of lower income borrowers remained stable

Notwithstanding the slower growth in household borrowings, the level of household indebtedness increased to 86.8% of GDP at the end of the year on account of the slower growth in nominal GDP of 4.5% (2012: +6.4%). Risks to domestic financial stability, however, remained well-contained given the strong fundamentals in the household and financial sectors, and pre-emptive measures in place to restrain excessive behaviours. The steady economic growth and favourable employment conditions further reinforce these fundamentals.

Banks remained the main credit provider to households, accounting for 80.9% (2012: 80.6%) of household debts (Chart 1.3). Close to 60% of lending to households were for the purchase of properties and investment in equities and unit trust funds which add to household wealth (Chart 1.4). The combined effects of incremental measures introduced since 2010 to curb excessive indebtedness continued to be observed, particularly in reducing the vulnerability of lower income households and preventing households in general from becoming over-leveraged.

Chart 1.3

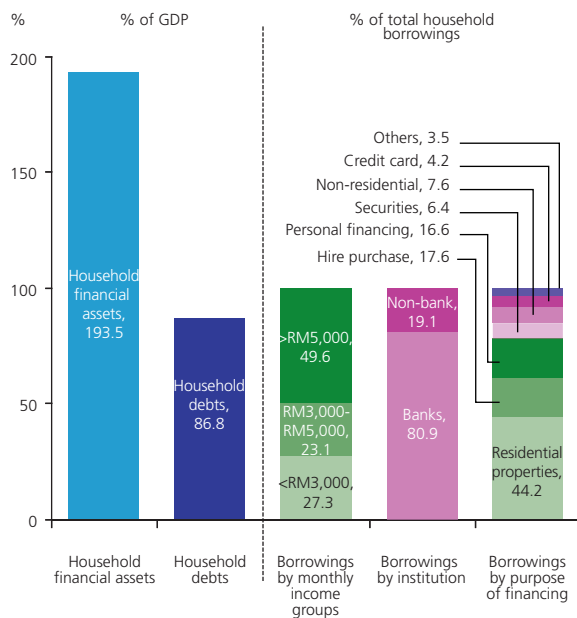
Household Sector: Composition of Credit Providers



Source: Bank Negara Malaysia and Treasury Housing Loan Division

Chart 1.4

Household Sector: Profile of Borrowings and Financial Assets



Source: Bank Negara Malaysia

Consequently, the proportion of households with monthly earnings of up to RM3,000 accounted for a significantly lower share of total household borrowings at 27% (2012: 33%) or RM230.7 billion (2012: RM252.5 billion). Although aggregate leverage for households earning up

to RM3,000 a month was stable at about seven times (measured as the ratio of outstanding borrowings to annual income), the level remains high. It would be prudent to reduce the level of leverage for this group of borrowers to increase their buffers against income or expense shocks. In other income categories, while the leverage is considerably lower, it is equally important for these households to manage their leverage position. Households appear to be paying greater attention to managing their overall leverage, as indicated by the Bank's survey on consumer sentiment. This will provide support towards preserving the resilience of the household sector.

The latest package of measures introduced by the Bank in July and November 2013 responded to lending practices which were found to be incompatible with prudent affordability assessments and responsible lending behaviour. Practices that were of concern include (i) the lengthening of repayment tenures of up to 45 years for new housing loans; (ii) long repayment tenure of up to 25 years for personal financing offered by NBFIs; and (iii) increased lending for the development and purchase of residential properties under housing projects that offer interest capitalisation schemes (ICS) (including developer interest bearing schemes (DIBS)). Such schemes were found to inflate property prices by as high as 30%, while encouraging speculative activity in the property market by lowering the entry cost for buyers. Given the significant share of household borrowings for the purchase of properties, lending directed towards these schemes, if left unchecked, could also contribute to a higher level of household debt.

The new measures limit the repayment period for the purchase of properties to 35 years and personal financing to 10 years. The offering of pre-approved personal financing facilities without an application from the borrower was also prohibited. Apart from financial institutions regulated by the Bank, these measures were extended to all credit co-operatives regulated by SKM and two large retail credit providers, namely Malaysia Building Society Berhad (MBSB) and AEON Credit Service (M) Berhad. Practices of lending institutions in observing a prudent debt service ratio (DSR) for household lending were also streamlined to ensure that the total debt obligations of a borrower (including loans taken from both banks and NBFIs) are properly and adequately captured in the DSR computation. In extending the measures to credit co-operatives,

the Bank coordinated closely with SKM, which participated in the decision by the Financial Stability Executive Committee. The coordination included specifying the detailed requirements to give effect to the measures, joint briefings, monitoring and examinations on co-operatives to ensure the effective implementation of the measures. In response to concerns around property-related lending practices which were fuelling higher property prices, financial institutions were prohibited from financing the development and purchase of properties with elements of ICS, including DIBS. This followed a ban by the Government on the offering of properties for sale by developers under such terms.

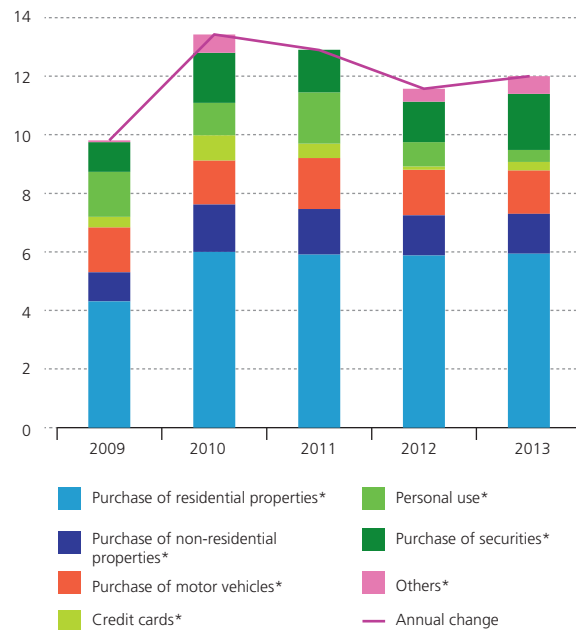
Bank lending to households

Outstanding bank lending to the household sector grew by 12% to RM690.6 billion or 70.2% of GDP as at end-2013. The growth continued to be largely driven by lending for the purchase of residential and non-residential properties (mainly shops) (Chart 1.5). Lending growth in these segments has declined from the peak growth rates recorded in 2010. Residential property financing remained relatively stable over the last four years,

Chart 1.5

Household Sector, Banking System: Contribution to Loan Growth

Annual change (%), contribution to growth (percentage point)

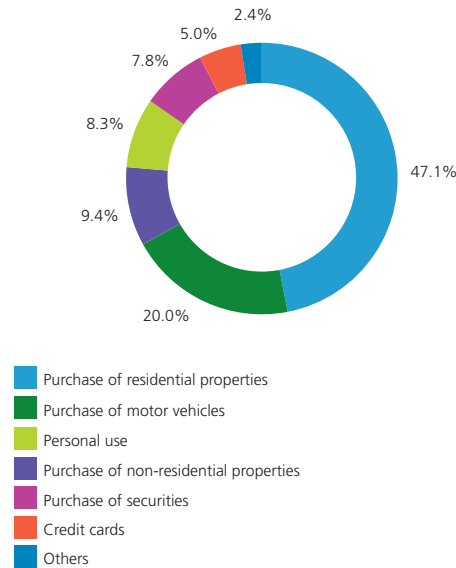


* In percentage point

Source: Bank Negara Malaysia

Chart 1.6

Household Sector, Banking System: Exposure by Purpose of Financing



Source: Bank Negara Malaysia

while non-residential property financing showed a declining trend. The composition of bank lending to households remained broadly unchanged, with lending for the purchase of properties continuing to account for the bulk (56.5%) of total household loans from the banking system (Chart 1.6). The continued strong growth in lending for housing and motor vehicles reflects the demographic profile of a relatively young and growing working population with increasing affluence. In 2013, the labour force grew by 4.3% (2012: +3.5%), with more than half of the labour force aged below 35 years old. Many Malaysians also view owning or investing in properties as an important financial goal in preparation for marriage and retirement, to finance education of children, or to provide a form of financial security for the next generation.

The share of unsecured financing has been stable at below 15% of banking system loans to households. Notably, financing for personal use grew annually at a much slower pace of 4.6% in the second half of the year, compared to 7.5% in the first half (2012: +9.1%), following the measures implemented by the Bank in July. Outstanding credit card balances increased slightly by 4.3% in 2013, of which about 93% of the outstanding balances were current (yet to pass payment due date) and another 6% were less than three months overdue. Although revolving

card balances (credit card balances that are rolled over) were slightly higher (+2.3%) than in the previous year, the number of card holders with revolving balances declined further by 4% to account for 48% of total cards in circulation as borrowers continued to consolidate credit card debts. In addition, the proportion of card holders who paid their credit card balances in full each month (about one third) continued to do so as in the previous year. Credit risk from exposures to the credit card segment remained limited as reflected by stable and low delinquencies. The Bank has, since 2011, emphasised the requirement for card issuers to provide clear disclosures on the implications of making partial settlements on overall outstanding card balances due to the higher amount of interest incurred. Banks have also been actively promoting debit cards as an alternative for purposes of making payments.

Sound lending standards preserved, with further improvements in conduct of affordability assessments

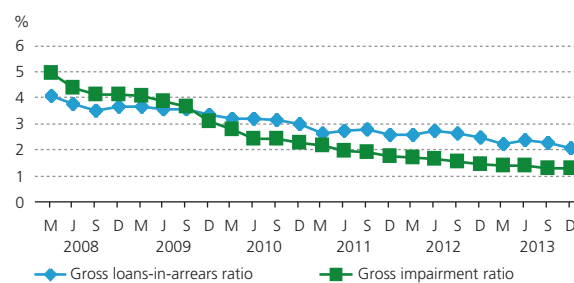
Banks generally continued to maintain sound lending standards notwithstanding credit conditions that remained highly competitive and the ample liquidity situation. Since the implementation of the Guidelines on Responsible Financing two years ago, further improvements were observed in banks' conduct of affordability assessments. This was particularly evident in the strengthened documentation requirements observed by banks for the purpose of verifying income, and more conservative assumptions used to estimate variable income in assessing a borrower's debt repayment capacity. A number of banks also reviewed existing retail credit scorecards to capture behavioural information, as well as additional and more granular information to improve the risk profiling and monitoring of borrower segments. This was supported by the continued access to real time credit information on borrowers via the Central Credit Reference Information System (CCRIS). Data collected from and engagements with banks since July showed that the average DSR on new financing facilities approved remained prudent at less than 40% and is underpinned by more robust assessments of income and debt.

In respect of property loans, the Bank increased scrutiny over valuation practices on concerns of a possible easing in valuation practices due to the rising trend in property prices. The review across major bank lenders in the housing loan market revealed that valuation standards remained generally sound. While most banks, in competing for loans, were initiating the processing of loan applications based on indicative property valuations, formal valuations continued to be required and used to determine the final approved loan amount in accordance with internal loan-to-value (LTV) ratio policies. Approved LTVs are more differentiated across risk segments, with lower levels applied to properties in locations where price increases have been stronger or for borrowers who have a higher credit risk profile based on the bank's credit scorecard and affordability assessments. Banks also use property valuations from multiple sources to support annual revaluation of collateral as part of the portfolio management and credit review process. For a number of banks, internal information systems have been enhanced to better support these processes through the capture of more detailed information on transacted values of properties financed, independent valuations and other comparative information from credible secondary sources.

Household loans from the banking system continued to improve in quality across all segments with low incidence of delinquencies (Chart 1.7 and Table 1.1). The vintage analysis for housing loans, the largest component of bank exposures to the household sector, has been exhibiting lower default rates for new loans originated in the later periods since 2004 (Chart 1.8). The default experience has continued to improve steadily over the years, reflecting the strengthening of banks' underwriting standards and practices. Consistent with this trend,

Chart 1.7

Household Sector, Banking System: Delinquencies

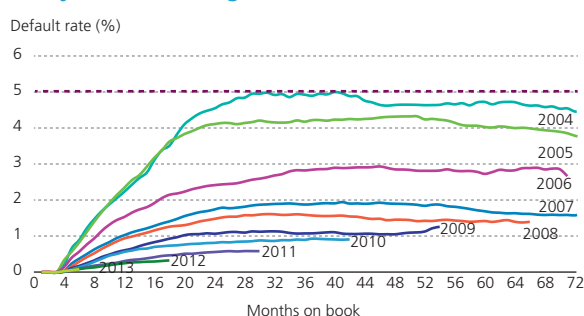


Source: Bank Negara Malaysia

Table 1.1**Household Sector, Banking System: Gross Loans-in-arrears Ratio**

	2011	2012	2013
	%		
Overall	2.6	2.5	2.1
Purchase of residential properties	2.0	1.9	1.6
Purchase of motor vehicles	5.5	5.6	4.7
Personal financing	1.7	1.3	1.2

Source: Bank Negara Malaysia

Chart 1.8**Household Sector, Banking System: Vintage Analysis for Housing Loans**

Source: Bank Negara Malaysia

housing loans-in-arrears of between one and three months declined further in 2013, accounting for only 1.6% (2012: 1.9%) of total housing loans.

While there were sustained improvements in the lending practices and quality of the household loan portfolio, the Bank has observed a gradual reduction in collective impairment provisions made by banks since the adoption of the new financial reporting standards on provisioning in 2012. Across individual banks, the Bank also observed a degree of divergence in the determination of loss rates and time frame for evaluation of loss experience. In an environment of continued strong credit growth, it is prudent to strengthen buffers against potential future loss events. With this in view, banks are required to maintain, on aggregate, collective impairment provisions and regulatory reserves of not less than 1.2% of total outstanding loans (net of individual impairment provisions). Banks are expected to progressively build the required buffers in order to achieve full compliance by end-2015. Prudent pricing practices by banks in line with requirements under the

Risk-informed Pricing Standards issued by the Bank in 2013 will further reinforce banks' buffers against potential losses (refer to Chapter 3 on 'Regulatory and Supervisory Framework').

Measures introduced to enhance provisioning and risk pricing practices of banks will further strengthen buffers against potential future loss events

The estimated average loss given default (LGD) and probability of default (PD) experiences have remained stable (Table 1.2, Table 1.3 and Table 1.4). Under normal operating conditions, assuming a simultaneous materialisation of default incidences across the different types of borrowings by households with monthly earnings of RM3,000 and below (which accounted for 24% (2012: 29%) of total bank lending to households), the expected losses to the banking system is estimated at RM1.9 billion or 2.4% of the capital buffer of banks (2013: RM79.3 billion) that is in excess of the minimum Basel III regulatory requirement.

Table 1.2**Household Sector, Banking System: Average Probability of Default (PD)**

	2011	2012	2013
	%		
Purchase of residential properties	3.1	2.5	2.4
Purchase of motor vehicles	3.2	2.8	2.4
Unsecured financing	3.5	3.5	3.5

Source: Bank Negara Malaysia

Table 1.3**Household Sector, Banking System: Average Loss Given Default (LGD)**

	2011	2012	2013
	%		
Purchase of residential properties	19	18	18
Purchase of motor vehicles	48	49	49
Unsecured financing	77	76	78

Source: Bank Negara Malaysia

Table 1.4**Household Sector, Banking System: Expected Loss**

	2011	2012	2013
	RM billion		
Purchase of residential properties	1.5	1.3	1.4
Purchase of motor vehicles	1.9	1.8	1.6
Unsecured financing	2.2	2.4	2.5

Source: Bank Negara Malaysia

In the unlikely event of similar default incidences materialising across all income groups, the estimated expected losses would still be manageable at RM6.4 billion or 8.1% of excess capital of the banking system. Even under severe assumptions of an approximate tripling of the PD and significantly

higher LGD, the estimated expected losses of about RM30.5 billion remained well within the absorption capacity of the banking system (Table 1.5).

NBFI lending to households

Following the measures implemented by the Bank in July, the annual growth in outstanding NBFI lending to the household sector (including lending by development financial institutions (DFIs)) more than halved for the year (2013: +9.6%; 2012: +22.1%), corresponding with a marked slowdown in the annual growth of personal financing to 13.9% (1H 2013: +25%) (Chart 1.9). Compared to the first half of 2013, the number and value of new personal financing facilities approved by NBFIs in the second half of the year declined by 25.5% and 68.1% respectively (Table 1.7). Despite the slower expansion in personal financing, NBFIs remained the largest provider of personal financing with a share

Table 1.5**Household Sector, Banking System: Potential Losses Based on Severe Assumptions on Household Default Incidences and Loss Given Default**

	Housing loan	Vehicle hire purchase	Personal financing	Credit cards	Total ¹
Probability of default (%)	7.2	7.2	10.5	10.5	
Loss given default (%)	40	75	95	95	
Potential losses (RM bil)					
- Borrowers earning RM3,000 or less per month	1.5	2.8	2.2	0.8	8.4
- Borrowers earning RM5,000 or less per month	3.4	4.6	3.6	1.7	15.3
- All borrowers	9.4	7.5	5.7	3.5	30.5

¹ Includes other household loans such as financing for the purchase of non-residential properties and consumer durables

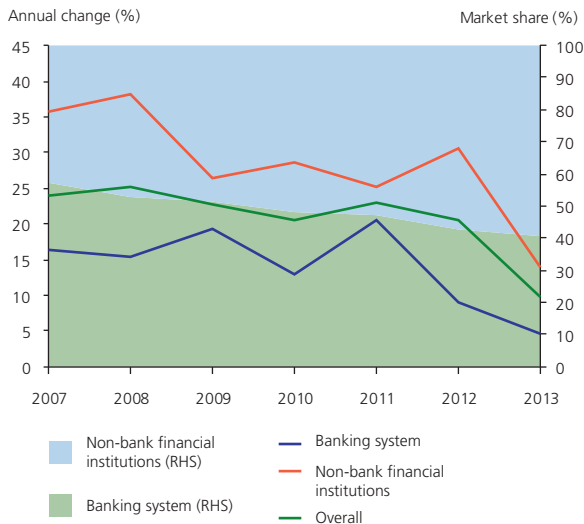
Source: Bank Negara Malaysia

Table 1.6**Household Sector: Factors Supporting the Assessment on Risks to Domestic Financial Stability Arising from Household Indebtedness**

Financial institutions	<ul style="list-style-type: none"> • Strong capital buffers to absorb potential losses from adverse conditions affecting debt servicing capacity of households • Sound lending standards preserved with continued improvements in affordability assessments (including NBFIs), improving pricing discipline and enhanced valuation practices • Robust and comprehensive risk management infrastructure in place, reinforced by adequate loan loss provisions
Households	<ul style="list-style-type: none"> • Strong financial buffers, with continued growth in household financial assets in tandem with household debt • Sustained aggregate debt servicing capacity of households and healthy repayment trends • Stable leverage of vulnerable borrowers
Authorities	<ul style="list-style-type: none"> • Macroprudential measures in place, reinforced by fiscal measures and other initiatives by the Government • Clear arrangements and powers to implement and adjust measures as needed if risks increase • Continued strong supervisory vigilance • Intensified financial education and literacy efforts • Greater national level and inter-agency coordination

Chart 1.9

Household Sector: Annual Change and Market Share of Personal Financing by Banks and Non-bank Financial Institutions



Source: Bank Negara Malaysia

Table 1.7

Household Sector: New Approvals of Personal Financing

Credit providers	Number of borrowers		Amount (RM mil)	
	1H 2013	2H 2013	1H 2013	2H 2013
Banks	304,967	270,024	9,303	7,652
NBFIs	286,215	213,318	20,422	6,508

Source: Bank Negara Malaysia

of 60% (2012: 57%) of total personal financing to households. Similar to banks, improvements were also observed in the DSR of borrowers who obtained new financing from NBFIs in the second half of the year, where about 70% of the new loans granted were to borrowers with a DSR of below 40%. The average personal financing amount disbursed by NBFIs was also more than 50% lower at around RM30,000 per facility.

Despite the adjustments resulting from the measures implemented in July, the profitability of the three NBFIs with the largest market share in personal financing (namely Bank Kerjasama Rakyat Malaysia Berhad, MBSB and AEON Credit Service (M) Berhad) remained strong, with the annual growth in profit before tax ranging between 24% and 42%. More than 80% of the respective

lending portfolios of these entities comprised personal financing. Of this, about 80% of the lending portfolio continued to be extended to civil servants based on the automatic salary deduction scheme administered by the Angkasa Service Bureau (Biro Perkhidmatan Angkasa, BPA). As a safeguard, the scheme prescribes a maximum deduction threshold of 60% of a borrower's total income, including deductions for loan repayments (now strengthened to also include loans other than those administered under BPA), statutory and other obligations. This feature serves to significantly reduce the credit risk borne by the NBFIs, which is evident in the low impairment ratio of 1.7% recorded for the personal financing portfolio of NBFIs, similar to that for banks. This also enabled NBFIs to maintain financing rates at low levels (as low as 3.25% per annum on a flat rate basis).

The high level of indebtedness of households is expected to persist over the next few years with the continued strong demand for dwelling and transportation, and increasing urbanisation combined with the relatively young and more affluent population. As the effects of earlier macroprudential measures taken by the Bank together with broader structural measures by the Government, in particular to increase the supply of affordable housing and to improve the public transportation system, become more entrenched in the years to come, the level and growth of household indebtedness should begin to moderate. Under conditions where growth in household debt will likely remain relatively strong in the foreseeable future, it is therefore particularly important that continued emphasis on sound lending discipline and affordability assessments by financial institutions be maintained. This will be complemented with further intensification of education initiatives that serve to reinforce responsible borrowing behaviours (refer to Chapter 4 on 'Market Conduct and Consumer Empowerment').

MANAGING DEVELOPMENTS IN THE DOMESTIC PROPERTY MARKET

House prices remained elevated during the year and continue to be an area that warrants close monitoring in view of the effect of higher house prices on overall household debt and the exposure of financial institutions to the property market. Any substantial correction in property prices can add pressures on the balance sheets of financial institutions.

Credit Expansion and Implications on Financial Stability

A well-functioning financial system, through its role in maturity and liquidity transformation, risk diversification and the payment systems, enables the efficient intermediation of funds which supports economic activity. The expansion of credit to businesses and households contributes to financial deepening and facilitates growth-enhancing investment and consumption activities. However, excessive credit expansion that outstrips economic fundamentals and output potential can pose destabilising risks to the economy and financial system. Prolonged periods of such rapid credit growth have generally been seen to precede banking crises and tend to be associated with increased macroeconomic and financial fragility. While excessive credit growth is widely seen as a useful indicator of potential systemic vulnerability, studies have also shown that a sustained period of high credit growth is more likely to amplify the likelihood or severity of systemic distress if the financial system is characterised by other structural fragilities or financial imbalances.

Credit conditions in Malaysia have been conducive to the financing needs of the economy and reflect greater financial deepening in Malaysia. In the more recent period, credit growth has also been driven by ample liquidity conditions in the domestic financial system. Since 2001, credit expansion has averaged around 9.2%. This period of strong credit expansion coincides with a period of wide ranging reforms undertaken to strengthen the banking sector following the Asian Financial Crisis (AFC). Against this backdrop, this article identifies the determinants of credit expansion in Malaysia and examines whether there are signs of excessive credit growth based on an analysis of common metrics of credit growth against long-term trends. The article also discusses the limitations associated with the use of common methodologies to determine excessive credit growth. These limitations imply that it is relevant to also pay attention to characteristics of the domestic financial system which can either amplify or reduce risks to financial stability in an environment of sustained high credit growth.

Determinants of Credit Expansion

In ascertaining the key drivers of credit growth, total private sector credit (both loans and private sector debt securities) was regressed against a set of independent variables¹ influencing the demand and supply of credit using an Error Correction Model (ECM)². Three statistically significant variables were found to influence credit expansion over the long-term, namely total deposits, GDP and the Malaysian House Price Index (MHPI). Customer deposits have consistently been the dominant funding source for major credit providers in Malaysia. The continued expansion of the deposit base of banks (CAGR of 9.4% from 2001 to 2013) is therefore a key driver of financing activities by banks (CAGR of 9.1% for the same period), effectively enlarging the supply of loanable funds. The demand for credit by households and businesses also typically rises in tandem with higher consumption and investment activities on the back of an expanding economy. Combined with the ongoing process of financial deepening in Malaysia, this increases both the demand for and supply of credit which in turn supports economic activity and growth. Finally, property prices are an important determinant of the private sector's borrowing capacity, reflecting its common use as collateral for financing. Property prices also influence credit providers' willingness to lend as changes in prices can have a material impact on banks' balance sheets through holdings of property-related assets or higher potential losses on loans secured by property. In Malaysia, 28.1% of total banking system loans were extended to finance the purchase of residential properties and another 12.6% for the purchase of non-residential properties. Including loans extended for other purposes, approximately RM587.1 billion (or 47.9%) of outstanding loans are secured by properties. It is therefore not surprising that the MHPI which grew by a CAGR of 5.5% since 2001 emerged as a significant factor influencing both credit supply and demand.

¹ Factors influencing credit demand and supply that were considered include the nominal and real GDP, average lending rate, average 10-year yields for AAA-rated private debt securities (PDS), Consumer Price Index (CPI), MHPI, average house transaction value, FBM Kuala Lumpur Composite Index (FBM KLCI), working population, total domestic deposits, portfolio capital flows, stock market capitalisation, savings rate, money supply, US policy rate, and return on assets and equity of banks.

² The ECM enables estimations of both the long-run relationship between cointegrated variables and the potential short-run deviations from the long-run relationship.

Trend Estimations of Credit Growth and Related Limitations

A major challenge in constructing a reliable indicator for excessive credit³ growth is determining the threshold level that may pose significant risks to the stability of the financial system. For the purpose of this study, a routinely used method in literature that applies the statistical Hodrick-Prescott (HP) filter was employed to derive a trend from a time series of credit-to-GDP (CTG) ratios. This method is also proposed by the Basel Committee on Banking Supervision (BCBS) for the purpose of setting the 'countercyclical capital buffer', a macroprudential tool aimed at protecting the banking sector from periods of excessive credit growth⁴. Deviations between the actual values and the underlying long-term trend (CTG gaps) were compared with commonly used thresholds in literature to ascertain periods of credit growth excessiveness (Table 1).

Table 1
Common Thresholds Used in Literature

Threshold ⁵	Definition
A	CTG gap >1.5 times its standard deviation
B	Annual growth rate of CTG ratio >10%

The study suggested that there were no strong indicative signs of credit excessiveness based on the abovementioned thresholds. The CTG ratios in the past 7 quarters moved above the long-term trend but remained within threshold A (Chart 1). Compared to the 1994-1998 period where the above-trend credit growth was observed for a period of 13 consecutive quarters prior to the AFC, the CTG ratio in the recent three years has increased at a much slower and more gradual pace. The level also remains well below the peak recorded in 1997. Turning to threshold B (Chart 2), the annual growth of the CTG ratio and credit has remained below the levels seen prior to the AFC over the past 14 years. The threshold was exceeded temporarily during the 2008-09 Global Financial Crisis, but this was driven largely by changes in the denominator (GDP) resulting from external shocks to the economy, while domestic conditions continued to support the demand for and supply of credit. The annual growth of the CTG ratio fell quickly below the threshold as the economy recovered. This contrasts with the period prior to the AFC which saw a prolonged and rapid acceleration of credit expansion (where credit growth grew by more than 20% and threshold B was exceeded for more than 3 years consecutively), combined with weaker underwriting standards.

While the HP filter is often used to determine trends in macroeconomic variables and provides effective means to capture structural breaks, the methodology has several limitations. The trend estimation of a time series to a large extent is highly dependent on the length of series used, and therefore produces varying estimations of CTG gaps and thresholds as illustrated using two sets of time series (Chart 3). This study used a 20-year horizon⁶ given that a longer time series

³ Data on credit includes (i) those provided by Malaysian banks and other sectors of the economy; (ii) credit to non-financial corporations, households and non-profit institutions serving households; and (iii) loans and debt securities.

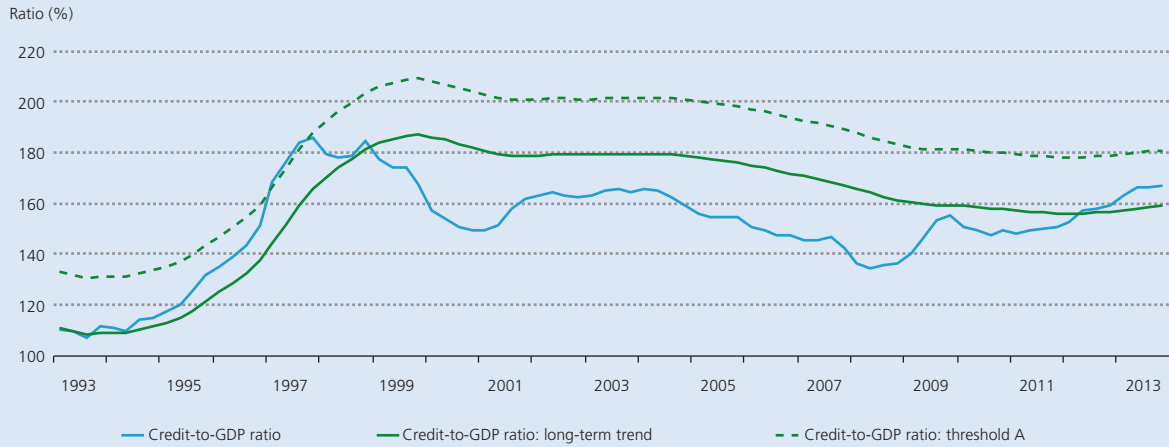
⁴ BCBS (2010a) proposed that the primary aim is to use a buffer of capital to achieve the macroprudential goal of protecting the banking sector from periods of excess credit growth by ensuring adequate capital to help maintain the flow of credit in the economy, when the broader financial system experiences stress after a period of excess credit growth. In addressing the aim of protecting the banking sector, the capital buffer may also help to lean against the build-up of financial imbalances by raising the cost of credit and dampening its demand.

⁵ Dell' Ariccia et al (IMF, 2012) classified an episode of credit boom if either of the following two conditions is satisfied: (i) the deviation from trend is greater than 1.5 times its standard deviation and the annual growth rate of the credit-to-GDP ratio >10%; or (ii) the annual growth rate of the credit-to-GDP ratio exceeds 20%. The second condition is introduced to capture episodes in which aggregate credit accelerates very gradually but credit growth reaches levels that are well above those previously observed in the country.

⁶ BCBS recommended a minimum of 20-year period in the context of countercyclical capital buffer.

Chart 1

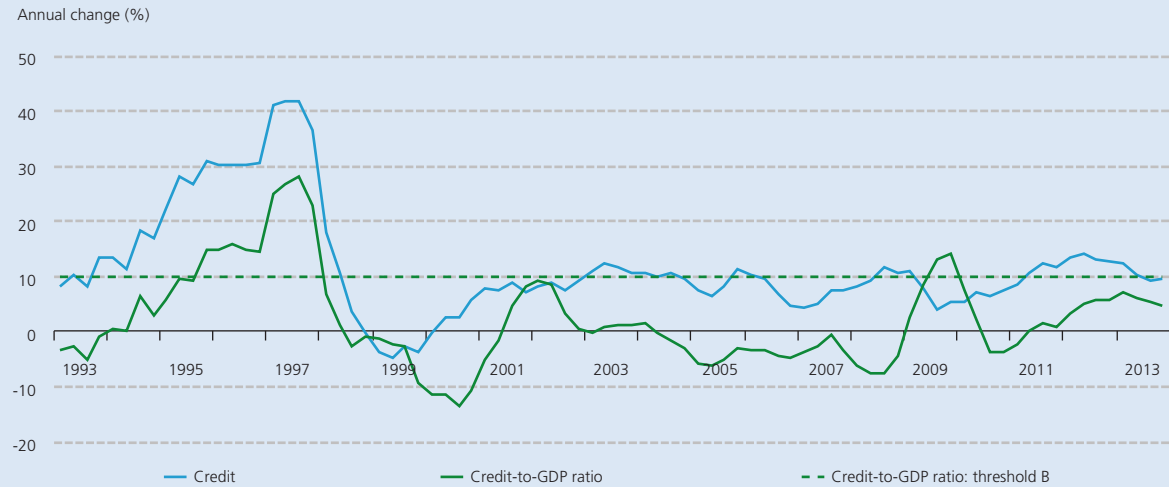
Credit-to-GDP Ratio



Source: Bank Negara Malaysia, Department of Statistics, Malaysia, Bank for International Settlements and internal computation

Chart 2

Credit and Credit-to-GDP Ratio: Annual Growth



Source: Bank Negara Malaysia, Department of Statistics, Malaysia, Bank for International Settlements and internal computation

provides a more reflective estimation of a country's position in a credit cycle⁷. Another drawback relates to the sensitivity of trend estimations to the smoothing parameter (λ)⁸ (Chart 4). Further, differing signals to policymakers may arise by applying the HP filter recursively to determine the trend based on current available data at each quarter (a one-sided filter, as recommended by BCBS and used in this study), instead of the entire time series (two-sided filter) (Chart 5). This can pose

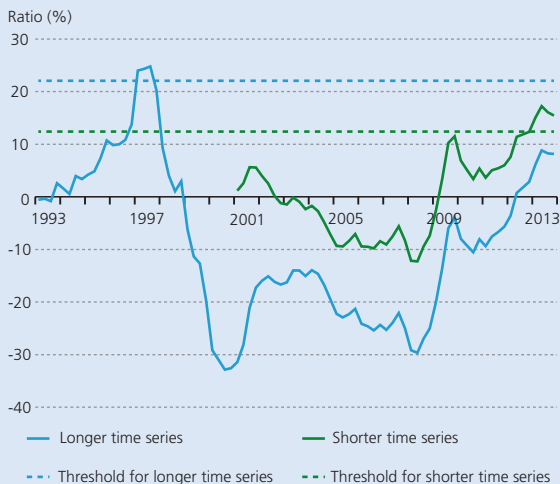
⁷ Drehman et al (2012) study on financial cycle observed that assessment using longer time series will better capture medium-term component of fluctuations in credit cycle.

⁸ Empirical analysis by Drehman et al (2010) revealed that the trend component calculated using a λ of 400,000 (as adopted in this study) performs well in picking up the long-term trend in private sector indebtedness. Similarly, Ravn et al (2002) suggested a λ of 1600 for the business cycle and quarterly observations. For cycles with longer duration such as the credit cycle, a higher value is considered appropriate.

some challenges for determining if policy responses are required to control excessive credit growth and if so, the intensity of those responses. Another relevant consideration relates to the use of other denominators besides GDP such as financial and non-financial assets of the private sector which are relevant to the evaluation of debt servicing capacity and credit excessiveness (Chart 6).

Chart 3

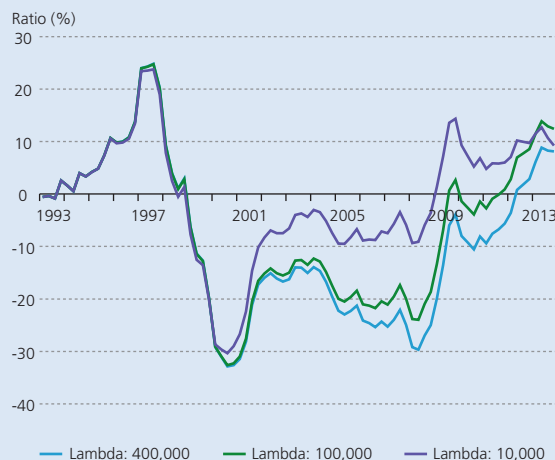
Credit-to-GDP Ratio Gap: Comparison between Lengths of Time Series



Source: Bank Negara Malaysia, Department of Statistics, Malaysia, Bank for International Settlements and internal computation

Chart 4

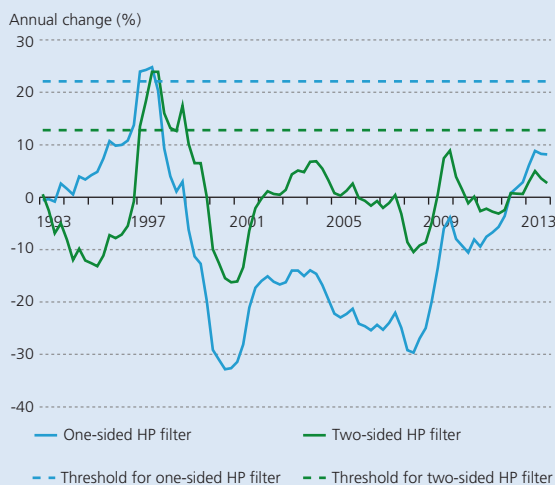
Credit-to-GDP Ratio Gap: Comparison between Smoothing Parameters



Source: Bank Negara Malaysia, Department of Statistics, Malaysia, Bank for International Settlements and internal computation

Chart 5

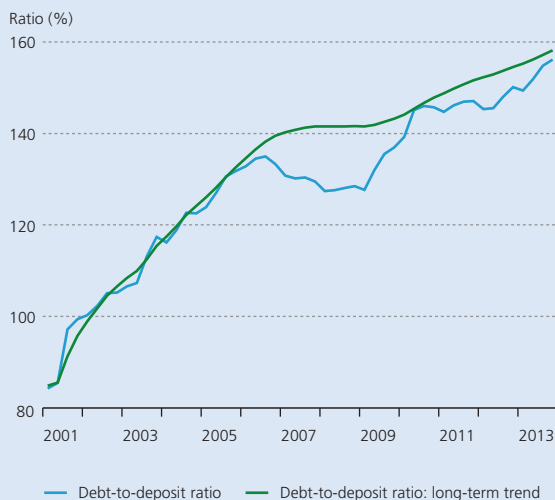
Credit-to-GDP Ratio Gap: Comparison between One-Sided and Two-Sided HP Filters



Source: Bank Negara Malaysia, Department of Statistics, Malaysia, Bank for International Settlements and internal computation

Chart 6

Household Sector: Debt-to-deposit Ratio



Source: Bank Negara Malaysia and Treasury Housing Loan Division

Assessing Factors Influencing Vulnerabilities in an Environment of Higher Credit Growth

The limitations of current methodologies used to assess if credit growth is excessive imply that any conclusions drawn must also take into account other relevant and important factors. As noted earlier, these factors should include inherent strengths or fragilities in the financial system that can amplify or reduce risks to financial and macroeconomic stability. For emerging market or transition economies, studies have suggested that rapid credit growth may also signify a convergence towards the average credit level in advanced economies⁹, and not necessarily excessive borrowing.

There are a number of factors that can indicate fragility within the financial system, which combined with a protracted, brisk pace of credit expansion, could lead to destabilising threats to financial stability if left unattended. These include (i) imprudent underwriting practices and mispricing of risk; (ii) inadequate financial buffers to absorb temporary shocks; (iii) weak supervision of major credit providers that may include non-bank financial intermediaries; (iv) high proportion of externally sourced foreign currency loans that are vulnerable to foreign exchange and roll-over risks; (v) credit-fuelled asset price distortions; and (vi) high and increasing leverage positions of households and businesses.

The Bank has been closely monitoring developments in domestic credit growth, particularly in light of ample liquidity conditions, low borrowing costs and rising property prices. The Bank assesses that at present, risks to financial stability are well-contained. Notwithstanding this, the Bank has taken a series of measures since 2010 to pre-emptively address potential weaknesses that could increase risks to financial stability in the longer term. These measures reflect a targeted and incremental approach which aims to avoid unintended consequences that could result in an over-adjustment in the economy, while allowing market participants, including households and businesses, to gradually adjust their expectations, behaviour and risk appetite, and thus ensure that these risks continue to be well-managed.

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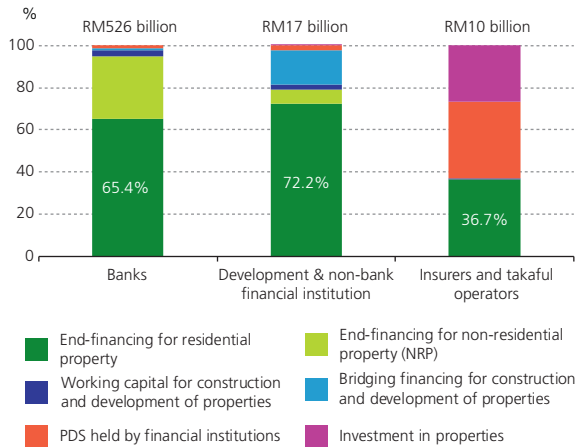
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⁹ For this reason, the existing literature suggests using the out-of-sample panel estimation to better estimate the correct equilibrium relationships between economic fundamentals and private credit using a suitable set of countries.

Chart 1.10

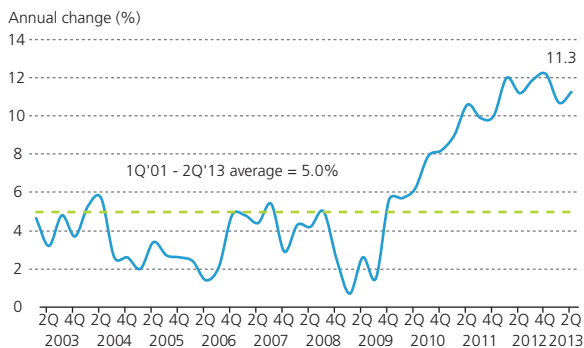
Property Market: Financial Institutions' Exposures to the Property Market



Source: Bank Negara Malaysia and financial statement of non-bank financial institution

Chart 1.11

Property Market, Residential: Growth of Malaysian House Price Index (MHPI) and Long Term Average



Source: National Property Information Centre

Total exposures of financial institutions to the property sector (mainly in the form of direct lending to property developers and purchasers, and to a lesser extent, holdings of debt securities issued by property-related companies and investments in properties) expanded by 14.3% (2012: +15.1%) during the year to RM53.5 billion, or 21.9% of total financial system assets (Chart 1.10). Of this amount, aggregate exposures of the banking system to the property market increased by 14.7% to RM526.2 billion, or 25.4% of total assets. About 65% of such exposures comprised end-financing extended for the purchase of residential properties, while about 29% was for the acquisition of non-residential properties. Credit facilities for working capital and bridging financing for the construction and development of properties made up another 4% of bank exposures to the property market. Exposures of insurers and takaful operators to the property market, mainly through holdings of debt securities and investments in properties, amounted to RM10 billion or only 4.3% of total assets. Some large life insurers also extended loans for the purchase of residential properties in order to match the maturity profile of life insurance liabilities, but these only accounted for 1.6% of total assets of the industry, or 1% of total end-financing for the purchase of residential properties.

The lower volume of residential property transactions in the first half of the year had little effect on house prices. The Malaysian House Price Index (MHPI) edged higher while house prices in major urban centres remained elevated (Chart 1.11 and Table 1.8). Despite a marked decline in the volume of residential

Table 1.8

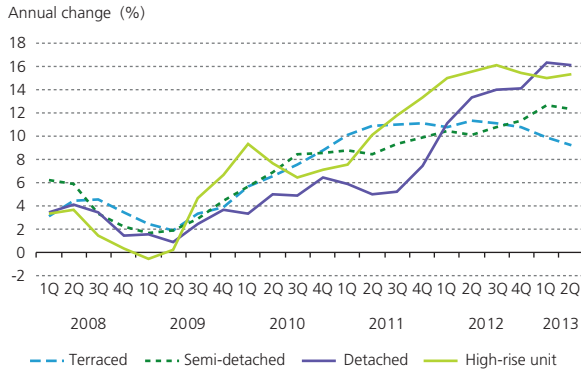
Property Market, Residential: Growth of House Prices by State

Annual change (%)	'01-'10 Average	4Q'11	4Q'12	2Q'12	1Q'13	2Q'13
Malaysia	3.6	10.0	12.2	11.2	10.7	11.3
Kuala Lumpur	4.7	13.9	17.4	9.1	13.6	25.3
Selangor	3.1	11.9	10.4	16.5	7.5	8.1
Johor	0.2	9.1	15.8	8.1	20.0	24.1
Penang	4.3	11.4	12.5	11.9	12.6	15.6

Source: National Property Information Centre

Chart 1.12

Property Market, Residential: Growth of House Prices by Segment



Note: Data based on a 3-quarter moving average
Source: National Property Information Centre

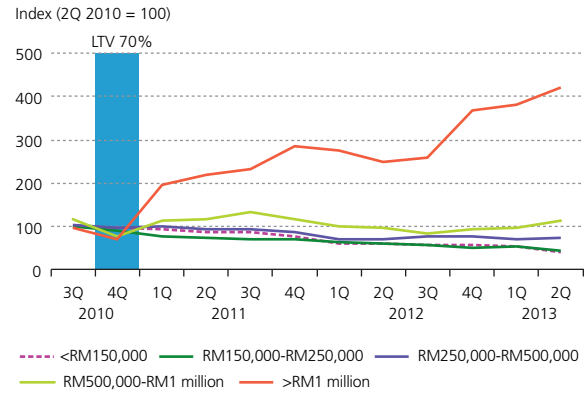
property transactions by 12.6% in the first half of 2013 as house buyers and investors stayed on the sidelines prior to the general election, the aggregate value of transactions was marginally higher by 1.1%. House prices rose across the board for all property categories, with stronger growth observed for detached and high-rise properties (Chart 1.12). The concentration in new property launches on high-end properties (Chart 1.13) continued to exert upward pressure on prices of other properties. Housing affordability will remain challenging for households in major city centres in the near term as the incoming supply of housing units under initiatives by the Government will take time to materialise.

House prices remained elevated and continued to be driven by the structural mismatch between supply and demand. Credit-induced speculative purchases of residential properties have remained subdued

The upward pressure on house prices continued to be largely explained by structural factors. Demand (using average transacted units as a proxy) continued to outpace the new supply of houses (as measured by the incremental stock of houses) by a large margin (Chart 1.14), particularly

Chart 1.13

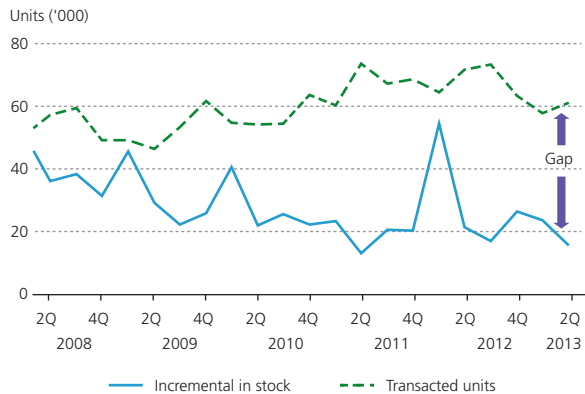
Property Market, Residential: Index of Units Launched by Price



Source: National Property Information Centre

Chart 1.14

Property Market, Residential: Transaction and Incremental in Stock of Houses

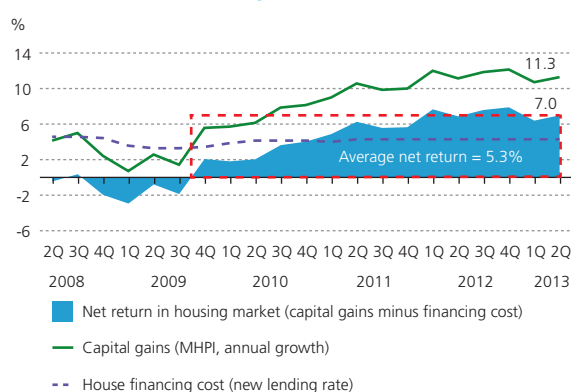


Source: National Property Information Centre

in the low- to medium-priced segments and in major employment centres. Demographic factors given Malaysia's relatively young population and labour force (Table 1.9), increasing urbanisation and general inclination to own a house, are expected to sustain strong demand for affordable residential properties in major urban centres, likely outstripping supply over the near- and medium-term. Part of the mismatch is due to rising land prices and construction costs which increased the incentive for developers to build high-end properties where the margins are higher. This has reinforced a trend in which the bulk of demand for more affordable homes is being met in the secondary market by home owners who sell their existing properties at higher prices. Secondary

Chart 1.15

Property Market, Residential: Capital Gains from Investments in Housing Market



Source: National Property Information Centre and internal computation

market transactions accounted for about 80% of residential property transactions in 2013.

Purchases of residential properties for investment purposes have also been encouraged by the attractive and relatively stable net return on investment in an environment of persistent low interest rates (Chart 1.15). Although investment demand remained strong, the bulk of house purchases continued to be for own occupation or medium- to long-term investment. This was corroborated by data showing that 84% of housing loan borrowers only have one outstanding housing loan account. Credit-induced speculative purchases of residential properties remained subdued following the implementation of the LTV limit on borrowers with three or more outstanding housing loans since November 2010. The annual growth in the

number of borrowers with multiple housing loans has declined substantially from the peak of 15.8% just prior to the implementation of the measures to account for only 3% of individuals with outstanding housing loan accounts with banks, a level that has been preserved since the introduction of the LTV limit. Investment purchases by foreigners (usually with cash and at the high end of the property market) also contributed to strong demand for houses in specific locations, but these transactions remained minimal, accounting for less than 2% of the total number of property market transactions.

The risks to household finances arising from a potential correction in house prices are mitigated by several factors including that speculative purchases that are financed by borrowings have not been significant. Based on the Bank's supervisory monitoring, there is also no strong evidence to suggest a widespread trend of home owners increasing their leverage by taking on more borrowing (through refinancing) against the rising value of their properties for consumption purposes. This is supported by the sustained growth of 6.7% (2012: +6.5%) in housing loan repayments during the year. Measures taken by the Bank to strengthen affordability assessments by banks further ensure that new borrowings are supported by household income rather than rising property valuations.

Banks have exhibited greater vigilance in observing prudent underwriting standards. The proportion of outstanding housing loans with LTV above 70% tapered to 46.6% (2012: 50.1%). This provides a comfortable buffer for banks against a decline in the value of the underlying collateral

Table 1.9

Property Market, Residential: Demographic Breakdown by Age in Major Employment Centres

Age Group	Klang Valley		Johor		Penang		Malaysia	
	Person	(%)	Person	(%)	Person	(%)	Person	(%)
0 - 14 years	1,742,216	24.4	910,413	27.2	361,081	23.1	7,827,907	27.6
15 - 24 years	1,421,967	19.9	631,233	18.9	279,771	17.9	5,689,674	20.1
25 - 44 years	2,536,659	35.5	1,038,112	31.0	506,742	32.5	8,525,994	30.1
45 - 64 years	1,160,073	16.3	590,520	17.6	313,128	20.1	4,863,220	17.1
+65 years	275,847	3.9	178,005	5.3	100,661	6.4	1,427,340	5.1
Total	7,136,762	100	3,348,283	100	1,561,383	100	28,334,135	100

Source: 2010 Census, Department of Statistics Malaysia and internal computation

relative to the outstanding amount of a housing loan in the event of defaults. Banks have also demonstrated an increased rigour in the assessment of factors which support property valuations, such as the level of development in a specific location, population density, status of overhang, existing and potential demand, and number and value of turnover of properties within the surrounding areas. These factors were observed to be more regularly updated to take account of new developments and trends. It was also observed that the lower margin of financing was applied by banks on new housing loans for properties in locations where price increases have been stronger. In the more recent period, valuations used for this purpose have excluded values inflated by incentives offered by developers to house purchasers which can increase house prices by between 10% and 30% above the intrinsic values.

Borrowers with one housing loan account are typically owner-occupants or strategic investors with a medium- to long-term investment horizon. For such borrowers, the propensity to continue to service housing debt is typically high and in cases where a temporary income shock occurs, there is a high willingness to seek debt management assistance at an early stage. Such borrowers are less inclined to dispose of the property in response to a downward movement in property prices as the loan repayment capacity is not dependent on the home equity value or expected capital gains, given the medium- to long-term nature of ownership and investment horizon. This could thus limit the potential for a sharp increase in default incidences and hence credit losses to banks in the event of a price correction in the property market. Based on a single factor sensitivity analysis on the housing loan portfolio of banks with a stressed PD of up to 10% (about four times the current PD) and an adverse correction in house prices of 40%, banks' excess capital buffers stood at more than five times the estimated expected losses.

The macro top-down stress test over a three-year horizon conducted on the banking system exposures to the residential property, non-residential property and construction sectors revealed potential losses of RM11.3 billion per year. This was premised upon assumptions of stressed PD which ranged between 6% and 10%, and a severe correction in house prices of up to 40%. Of this, about RM9.2 billion are potential losses attributed to conventional banks

and RM2.1 billion to Islamic banks. Data at the end of 2013 showed strong capacity to absorb the assumed shocks as the excess capital buffers of conventional and Islamic banks covered 7.3 times and 5.9 times the estimated annual potential losses respectively.

Banks' capital buffers stood at more than five times the estimated losses from a 40% contraction in house prices and stressed probability of default

Since 2010, a range of macroprudential and fiscal measures have been put in place to curb speculative activities and promote a sound and sustainable property market. In July 2013, the Bank acted to limit the maximum tenure for financing granted for the purchase of properties to 35 years to ensure that assessments of households' debt repayment capacity were not being undermined by extended financing tenures. This measure also serves to discourage speculative borrowers. Subsequently, in November 2013, the Bank prohibited financial institutions from financing new development projects and end-purchases of properties with elements of ICS, including DIBS or any permutations thereof, which have contributed to property prices that exceed the true valuations and lower entry costs for property speculators. The Government also banned new property developments that offer these interest capitalisation schemes. Further measures have also been introduced by the Government to curb speculative activities, including a further increase in the real property gains tax, higher thresholds for property purchases by foreigners, and improved transparency in property prices.

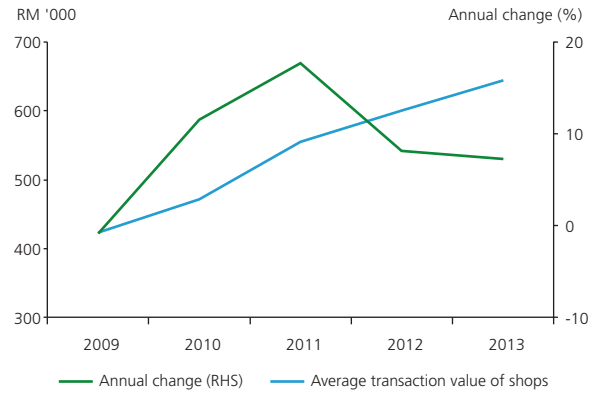
In the 2014 Budget, the Government has pledged to increase access to home ownership at affordable prices, with the construction of about 223,000 additional affordable housing units in various strategic locations nationwide. Based on recent trends, prices of housing units under the 1Malaysia People's Housing (Perumahan Rakyat 1Malaysia, PR1MA) Programme are expected to be approximately 20% below prevailing market prices. The establishment of the National Housing Council by the Government

in 2014, comprising federal agencies, state governments, the National Housing Department, PR1MA Corporation Malaysia, Syarikat Perumahan Negara Berhad and the private sector, is an important development to ensure the effective coordination and timely implementation of housing supply measures. An important part of its mandate will include improving the coverage and timeliness of data to facilitate analysis of developments in the property market and the impact of measures taken.

Financial institutions' exposures to the non-residential segment of the property market comprised mainly end-financing by banks for the purchase of shops and land. Overall financing by banks for the purchase of non-residential properties (including land) grew slower by 17.7% (2012: +19.4%) during the year. Financing for the purchase of shops grew higher by 17.3% (2012: +16.1%) to account for 5% of total bank loans, while financing for the purchase of land and office space recorded slower growth of 15.7% and 15.2% respectively (2012: +17.7% and +37.6% respectively) to account for 2.7% and 1.9% of total bank loans respectively (Chart 1.16). About 42% of bank lending for non-residential property purchases is estimated to be associated with purchases by households and retail investors, with shops being the most common alternative investment option to residential properties. Consequently, individuals with outstanding borrowings for the purchase of both residential and non-residential properties grew by 12.4% (2012: +13.1%). This also partly explains the strong positive correlation of 0.96 between the

Chart 1.17

Property Market, Non-residential, Shops: Average Transaction Value



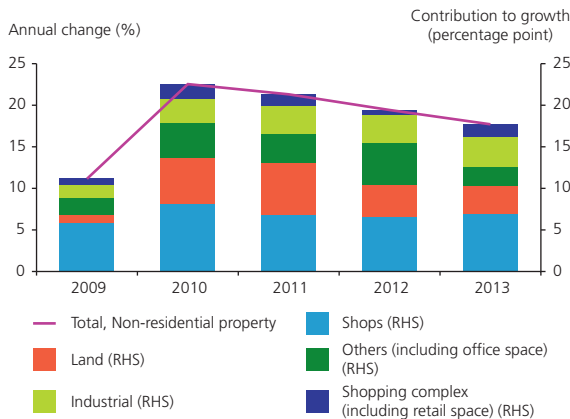
Source: National Property Information Centre

prices of shops and residential properties. Investing in shops and other non-residential properties entails a broader and differentiated set of risks. It is therefore important for households and retail investors to fully understand these risks and have more realistic expectations on the returns for these types of investments.

The compounded annual growth rate (CAGR) of shop prices between 2009 and 2013 was 11.1%. In 2013, shop prices rose by 7.3% along with higher and elevated rental rates (Chart 1.17). Similarly, land prices in major employment centres have been on an upward trend since 2009, recording a CAGR of 14.5% for the period up to the third quarter of

Chart 1.16

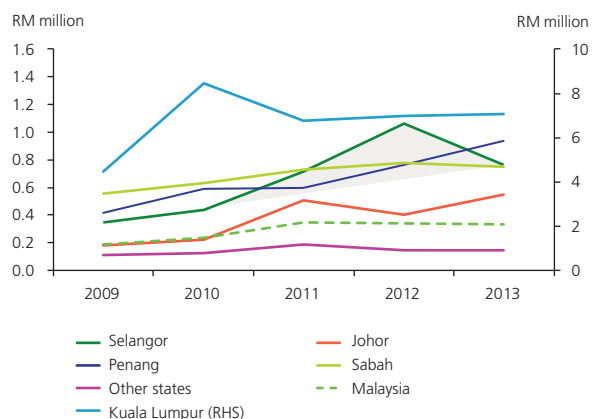
Property Market, Non-residential: Loan Growth and Contribution to Growth by Segment



Source: Bank Negara Malaysia

Chart 1.18

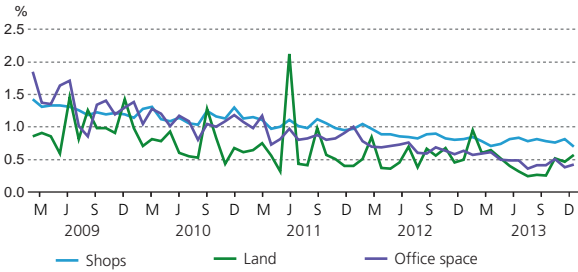
Property Market, Non-residential, Land: Average Transaction Value by State



Source: National Property Information Centre

Chart 1.19

Property Market, Non-residential: Loans-in-arrears Ratio



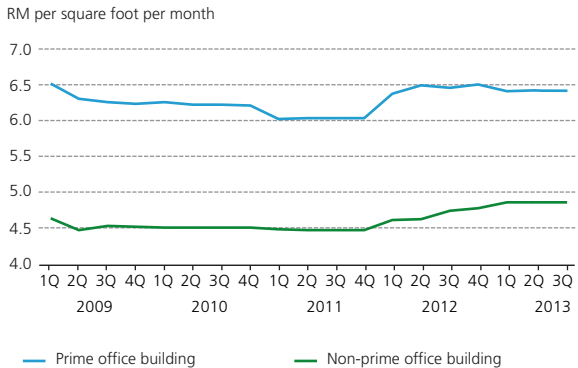
Source: Bank Negara Malaysia

2013 (Chart 1.18). Average land prices (measured as the ratio of average transaction value to volume) in Kuala Lumpur have been relatively stable since 2010, but remained significantly higher than the national average and levels observed in most states. The bulk of land transactions was purchases by property developers to replenish land banks and to gain exposure to high growth areas in and around major city centres. At present, financing exposures of banks for the purchase of shops and land remained small with a low and stable level of delinquencies (Chart 1.19).

In the office space segment, rental rates for older buildings improved slightly in 2013 but remained under pressure from the large incoming supply of newer buildings, particularly in the Klang Valley. Building owners of older office space continued to offer various incentives to attract prospective tenants. In contrast, office space in

Chart 1.20

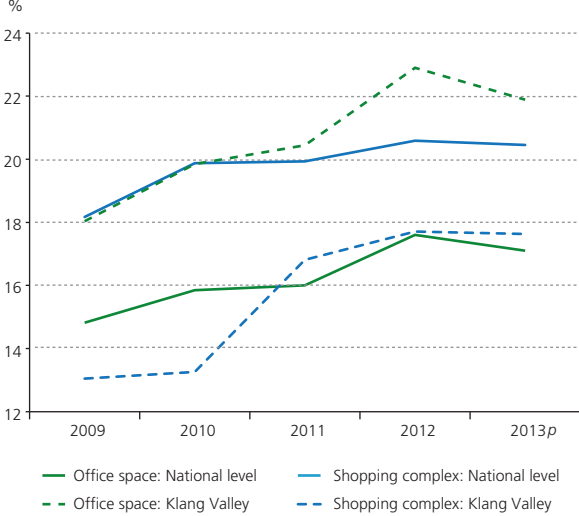
Property Market, Non-residential, Office Space: Rental Rate in Klang Valley



Source: Knight Frank

Chart 1.21

Property Market, Non-residential, Office Space and Shopping Complex: Vacancy Rate



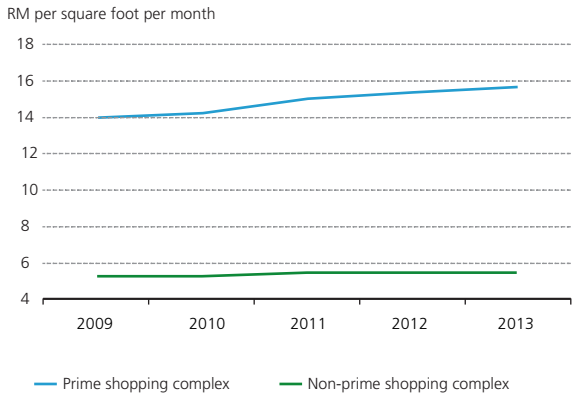
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Source: National Property Information Centre

newer buildings that are equipped with modern facilities, improved security and green features have been able to maintain higher rental rates, although rates have also started to come under downward pressure during the year as new supply outpaced demand (Chart 1.20). The overall vacancy rate for office space remained elevated at 17.1% and is expected to rise further with the planned incoming supply of office space over the next few years (Chart 1.21). The vacancy rate for shopping complexes has also been rising, averaging at

Chart 1.22

Property Market, Non-residential: Rental Rate of Shopping Complex in Klang Valley



Source: Jones Lang Wootton

20.2% for the period 2010-2013, with the entry of new supply into the market over the last few years. Despite the high vacancy rate, well-managed shopping complexes with large catchment areas continued to be in high demand, supporting a steady increase in rental rates (Chart 1.22).

Going forward, it is important to allow room for demand for commercial properties to catch up in order to avoid further increases in vacancy rates in the segment. While direct risks to domestic financial stability are limited as financing exposures of banks to the office space and shopping complex segments only accounted for 3% of total bank loans, and loans-in-arrears of between one and three months remained stable and below 0.6% of total loans in these segments, broader implications may arise from a general dampening of sentiment and a slowdown in the construction sector in the event of a sharp escalation in vacancy rates.

MANAGING CREDIT RISK EXPOSURES TO BUSINESSES

Credit risk to financial institutions arising from exposures to the business sector remained largely unchanged despite higher borrowings by businesses during the year. The continued strength of the financial position of businesses and sustained risk management and lending practices of financial institutions contributed towards lowering the risk of default. Steady economic prospects further added to the low potential for wide scale default incidences.

Lower aggregate leverage position of businesses, and further decline in business loans-in-arrears

The financial and balance sheet strength of businesses, including large borrowers in the banking system, were generally intact. Aggregate operating margins improved to 12.8% (2012: 11.7%), although the average return on assets was lower at 4.7% (2012: 5%) for the year amid elevated input costs and more volatile exchange rate movements (Chart 1.23). Businesses also recorded a lower aggregate leverage position with a debt-to-equity ratio of 39.7% (2012: 41.3%), while the overall liquidity position and cash balances were relatively unchanged (Chart 1.24).

Chart 1.23

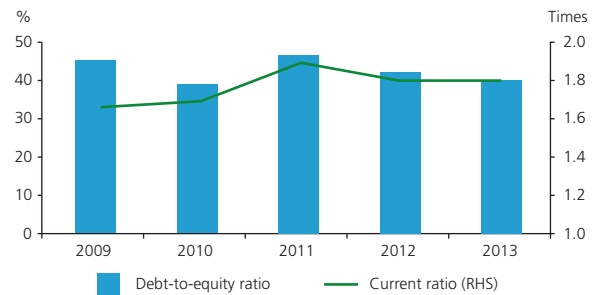
Business Sector: Profitability Indicators



Source: Bloomberg and internal computation

Chart 1.24

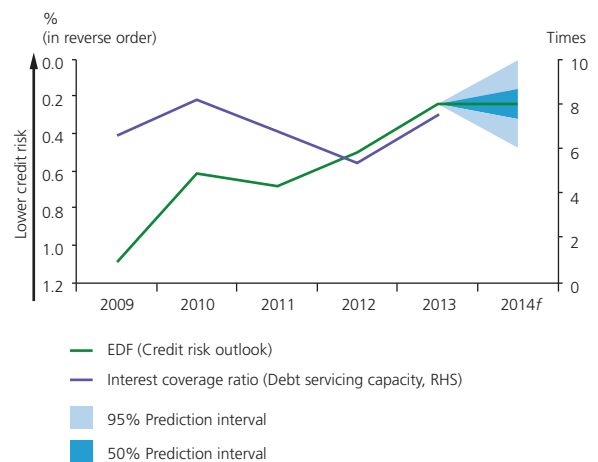
Business Sector: Leverage and Liquidity Indicator



Source: Bloomberg and internal computation

Chart 1.25

Business Sector: Debt Servicing Capacity and Credit Risk Outlook

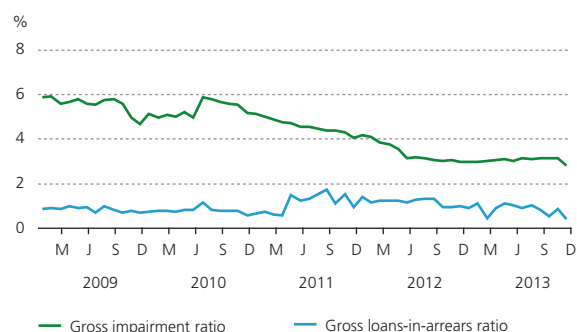


f Forecast

Source: Moody's KMV Credit Edge™, Bloomberg and internal computation

Chart 1.26

Business Sector, Banking System: Delinquencies



Source: Bank Negara Malaysia

Table 1.10

Business Sector, Banking System: Gross Loans-in-arrears Ratio

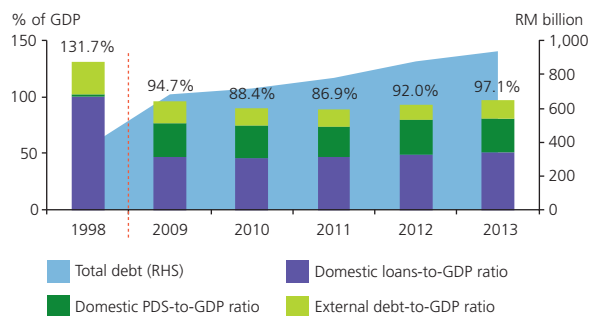
	2011	2012	2013
	%		
Overall	1.0	1.0	0.4
Construction	0.3	0.7	0.3
Real estate	0.1	0.1	0.1
Wholesale and retail trade, restaurants and hotels	0.7	0.6	0.4
Transportation	1.3	1.0	1.0
Utilities	0.1	0.1	0.02
Small and medium enterprises	1.5	0.9	0.5

Source: Bank Negara Malaysia

In addition, businesses continued to demonstrate strong debt servicing capacity as reflected in the improvement in the interest coverage ratio to 7.7 times (2012: 5.4 times) (Chart 1.25). The strong repayment capacity was also demonstrated in the steady repayment trends and high loan repayment-to-disbursement ratio of 94.1%. Business loans that are in arrears for between one and less than three months declined further to 0.4% (2012: 1%) of total business loans, with improvements observed in sectors with the largest credit exposures to Malaysian financial institutions (Chart 1.26 and Table 1.10). Reflecting the generally sound financial position of businesses, the loans-in-arrears ratio for small and medium enterprises (SMEs) improved further to 0.5% of total loans to the segment (2012: 0.9%).

Chart 1.27

Business Sector: Debt-to-GDP Ratio



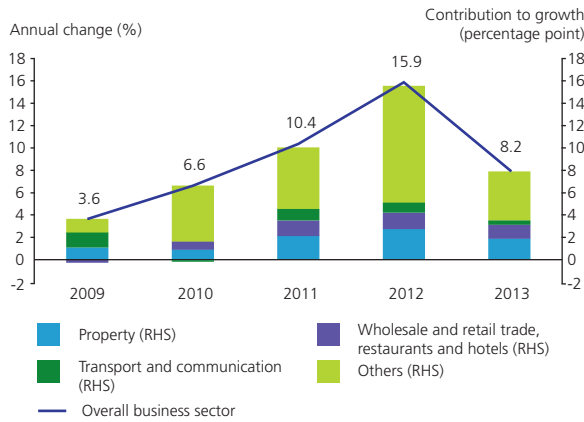
Source: Bank Negara Malaysia and Bloomberg

Total outstanding debts (both domestic and external borrowings) of businesses, comprising loan facilities and private debt securities (PDS) (including sukuk) issued (excluding financial institutions), expanded at a slower annual rate of 10.4% (2012: +12.7%). Borrowings by businesses in the form of PDS issued increased more moderately by 7.7% (2012: +24%) due partly to the temporary deferment of fund raising in the domestic capital market prior to confirmation of the timing of the general election. Banks, insurers and takaful operators constituted the major investors, accounting for about 53.9% of total PDS and sukuk issued by domestic businesses. Business loans from Malaysian banks recorded a growth of 8.5% (2012: +10.9%), with strong expansion observed in financing to SMEs (2013: +12.8%; 2012: +15.5%). The level of overall business debt-to-GDP ratio has increased to 97.1% (2012: 92%), but remained well below the levels recorded during the Asian Financial Crisis (Chart 1.27).

On aggregate, Malaysian financial institutions are most exposed to the property-related, wholesale and retail trade, transportation, utilities and infrastructure sectors, which accounted for 46.1% of total exposures to businesses. In 2013, the property-related and wholesale and retail trade sectors contributed the most to the overall expansion in business sector debt (Chart 1.28). Borrowings via both bank loans and PDS by the property-related sectors increased by 15.7% (2012: +23.4%) reflecting sustained activity in the domestic property market, while borrowings by the wholesale and retail trade sectors increased by 10.4% (2012: +11.5%) in tandem with sustained private consumption. Based on internal estimates by the Bank, banks have sufficient capacity and liquidity to meet the higher future financing needs of businesses including projects under the

Chart 1.28

Business Sector: Domestic Debt Growth and Contribution to Growth by Industry



Source: Bank Negara Malaysia

Economic Transformation Programme through direct financing and investments in debt securities, without crowding out other private sector funding needs, even with more stringent capital requirements based on Basel III in place.

The overall external debt exposures of Malaysian businesses increased by 22.3% (2012: +1.5%) during the year to RM168 billion to account for 17.6% (2012: 15.9%) of total business debt. This was driven partly by intra-group borrowings of onshore corporations from overseas parents. The level of external borrowings (as a proportion of GDP) remained below that seen during the period of the Global Financial Crisis (GFC). As the bulk of the borrowings was denominated in US dollars, some corporations with substantial external debt and in businesses with high import content (including corporations in the power, aviation, building- and construction-related materials and automotive sectors) were affected by the greater volatility in foreign currency denominated exposures. Thus far, these corporations did not show any significant deterioration in the capacity to service borrowing obligations, and continued to maintain strong balance sheets and cash flow positions. Greater flexibility given to corporations to hedge foreign currency exposures provided further protection from fluctuations in exchange rates. Under a simulated scenario of significant portfolio outflows which could result in a significant appreciation of the US dollar against the ringgit (more than twice the movement exhibited in 2013), the estimated potential credit

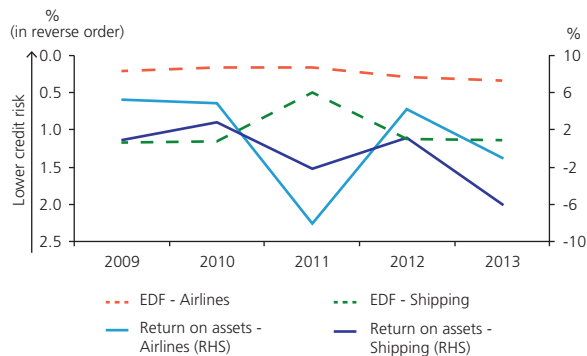
losses arising from the default of selected large Malaysian corporations affected by the adverse currency movements were small at about 4% of the excess capital of banks.

Aggregate exposures of banks and DFIs (both through direct financing and holdings of PDS) to large borrowers (corporations with borrowings exceeding RM1 billion from Malaysian financial institutions) accounted for 17.8% (2012: 19%) of total exposures of banks and DFIs. Aggregate exposures of the insurance and takaful sector to large borrowers accounted for 26.2% of total fund assets. The large borrowers mainly comprised companies in the infrastructure and utilities sectors and conglomerates with a diversified business focus. The financial strength of these large borrowers remained intact, supported by improved debt servicing capacity and sustained liquidity. The aggregate interest coverage ratio and current ratio for large borrowers was at 4.6 times (2012: 4 times) and 1.5 times (2012: 1.6 times) respectively. This in turn supported stable repayment trends and correspondingly low delinquencies amounting to 0.2% (2012: 0.1%) of business loans to the large borrowers.

The underwriting practices and risk management control functions of banks in managing credit risk exposures to the business sector continued to strengthen over the years. Apart from enhanced approaches in setting the risk appetite and risk acceptance criteria for different business sectors and target markets, the banks had further strengthened the management of credit concentration risk. This includes having limits on exposures to specific borrower groups and high-risk segments. Banks were also preparing towards full compliance with the revised requirements on the single counterparty exposure limit by March 2015. Compliance with this requirement will further strengthen the management of concentration risk particularly to large borrowers and their related entities. In this respect, banks continued to make good progress in enhancing internal methodologies to measure and monitor sectoral and counterparty concentrations which support the Internal Capital Adequacy Assessment Process (ICAAP) under Pillar 2 of the capital framework. Based on the Bank's supervisory assessments, the credit assessment standards of banks in relation to exposures to the business sector were generally well-supported by robust credit risk management infrastructures, sufficiently rigorous credit monitoring and recovery processes,

Chart 1.29

Business Sector: Profitability and EDF for Transportation Industry



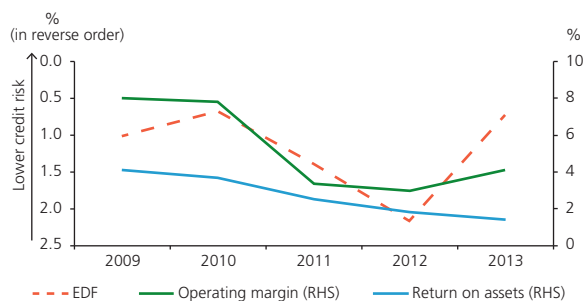
Source: Moody's KMV Credit Edge™, Bloomberg and internal computation

conservative loan loss provisioning practices, and strong oversight arrangements.

The overall debt servicing capacity of businesses is expected to remain intact as observed in the Expected Default Frequency (EDF) for 2014, a measurement of credit risk outlook, which improved further to 0.2% (2013: 0.5%) (Chart 1.25). The EDF for the top five industries that Malaysian financial institutions were most exposed to generally improved during the year, except for a marginal deterioration in the EDF for the transportation industry (Chart 1.29). The weak credit risk outlook for the transportation industry is due to the downward pressure on passenger yields in the global airline industry. Compared to the previous year, the building- and construction-related materials (BCM) industry recorded a marked improvement in the EDF to 0.7%

Chart 1.30

Business Sector: Profitability and EDF for BCM Industry



Source: Moody's KMV Credit Edge™, Bloomberg and internal computation

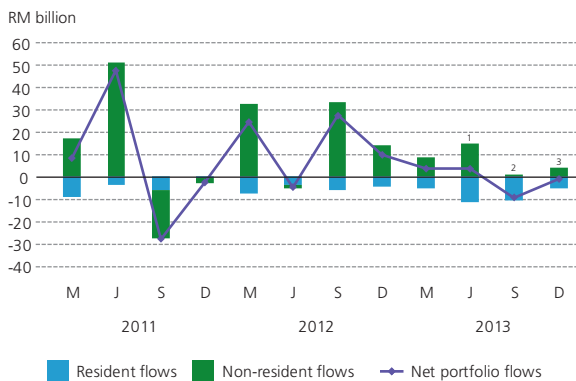
(2012: 2.2%) due to the cement sub-segment which has been experiencing strong demand from the on-going infrastructure construction, although the level remained higher than other industries (Chart 1.30). Domestic steel producers, however, continued to experience compression in profit margins from lower selling prices and sales volume amid competition from cheaper imports. A simultaneous materialisation of default incidences in the transportation and BCM sectors has been assessed to be manageable with estimated losses totalling RM1 billion or 1.3% of the excess capital of banks. Under a simulated adverse macroeconomic scenario applied over three years to business exposures as a whole, excess capital buffers of banks are estimated to be sufficient to cover potential credit losses by more than 4 times (refer to macro stress testing results under 'Financial Institution Soundness and Resilience' of this chapter).

MANAGING FINANCIAL MARKET VOLATILITY AND CONTAGION RISK FROM EXTERNAL EXPOSURES AND OVERSEAS OPERATIONS

The domestic financial markets remained orderly and facilitative of intermediation activity despite being confronted with the spillover effects of continued uncertainties and developments on the external front. These global developments weighed heavily on general investor sentiment and behaviour throughout the year and induced bouts of volatility in short-term capital flows. Domestic developments including concerns over domestic inflation and growth, as well as Malaysia's fiscal consolidation plans also contributed to the higher volatility. The deeper and more diversified domestic financial markets continued to support the smooth intermediation of the short-term and two-way capital flows while containing sharp movements in asset prices and yields, thereby preserving orderly market conditions. These conditions were further supported by the presence of strong domestic institutional investors in the markets. Financial institutions in Malaysia recorded net gains from trading and investment portfolios, while ringgit and the US dollar funding conditions remained favourable. Other exposures arising from claims of Malaysian financial institutions on overseas counterparties, and vice versa, and spillovers from the expansion in overseas operations of Malaysian banks were also well-contained. The potential impact from deleveraging

Chart 1.31

Financial Market: Quarterly Net and Gross Portfolio Flows

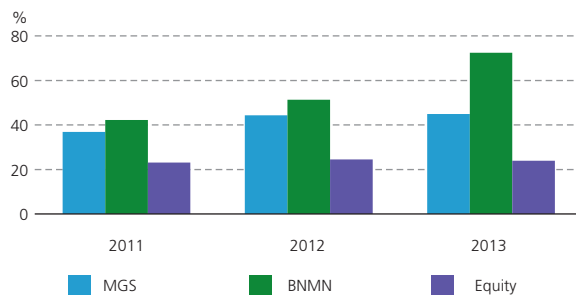


¹Federal Reserve Chairman Ben Bernanke first hinted tapering of asset purchases on 22 May 2013
²Continued uncertainty on Federal Reserve's strategy until the Federal Reserve unexpectedly announced "no-tapering" on 18 September 2013
³Federal Reserve announced first gradual tapering of USD10 billion on 18 December 2013

Source: Department of Statistics, Malaysia

Chart 1.32

Financial Market: Non-resident Holdings of MGS, BNMN and Equity



Holdings of MGS and BNMN quoted as percentage of total outstanding while holdings of equity quoted as percentage of total market capitalisation

Source: Bursa Malaysia, Bank Negara Malaysia and internal computation

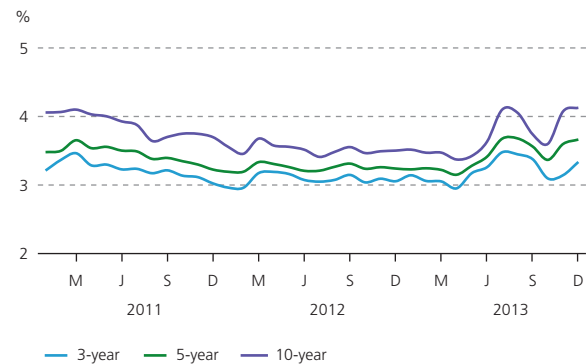
by overseas financial institutions, particularly those in Europe, remained low and further subsided amid improving economic conditions.

Intermediation of volatile short-term portfolio flows in domestic financial markets

Short-term portfolio flows were volatile during the year, with large inflows recorded in the first five months. Between May and August 2013, heightened uncertainties on the timing and pace of the tapering of quantitative easing (QE) by the US Federal Reserve triggered capital flow reversals from emerging market economies including Malaysia. Net portfolio inflows resumed in September and October 2013 as the US

Chart 1.33

Financial Market: MGS Yields



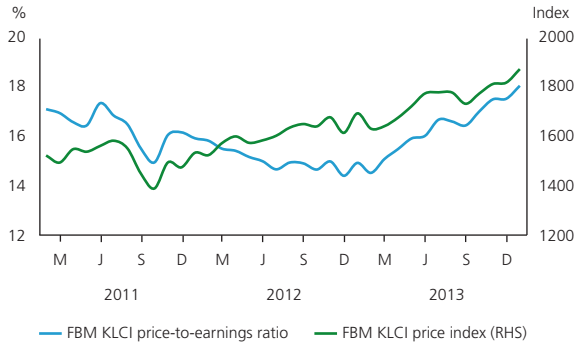
Source: Bank Negara Malaysia

Federal Reserve maintained its large-scale asset purchases. In the last two months of the year, net portfolio outflows were again recorded on market expectations that QE tapering would begin amid improved US economic indicators. The US Federal Reserve subsequently announced that it would begin scaling back its asset purchases from January 2014 onwards. Overall, the year recorded net portfolio outflows of RM2.8 billion, compared to net inflows of RM58.4 billion in the previous year (Chart 1.31). Non-resident holdings of Malaysian Government Securities (MGS) were broadly unchanged at 44.9% of outstanding MGS (2012: 44.4%), while holdings of Bank Negara Monetary Notes (BNMN) increased substantially to 72.5% of outstanding BNMN (2012: 51.4%) as at end-2013. Non-resident holdings of equities were also broadly unchanged at 23.9% of total market capitalisation (2012: 24.5%) (Chart 1.32).

From May to August 2013, selling pressure by non-residents in the government bond market caused MGS yields to rise across the five- to ten-year tenures, increasing by as much as 58 to 92 basis points within the period (Chart 1.33). However, liquidity in the bond market remained intact during the period as domestic institutional investors provided strong support and continued to fill the void amid selling pressure by non-residents. Yields for 5-year MGS and 10-year MGS increased from a trough of 3.03% and 3.08% respectively in May 2013 to reach a peak of 3.68% and 4.14% in August and December 2013 respectively, before ending the year at 3.66% and 4.13%. In the equity market, the FBM KLCI rallied and hit a peak of 1,873 points in December 2013, before ending the year at

Chart 1.34

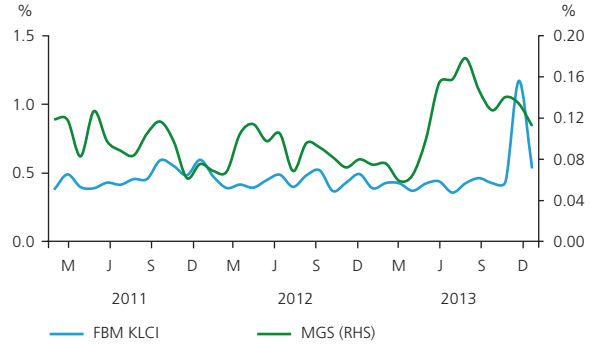
Financial Market: FBM KLCI Price Index and Price-to-earnings Ratio



Source: Bloomberg

Chart 1.36

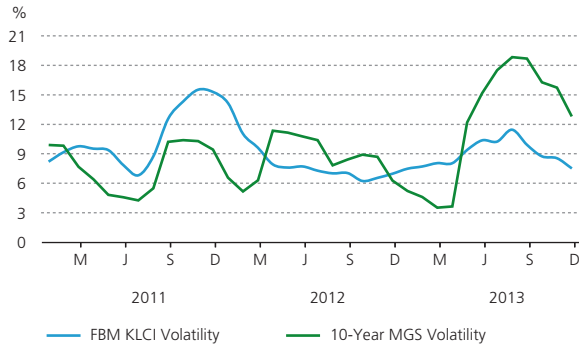
Financial Market: Average Bid-Ask Spreads of FBM KLCI and MGS (% of Mid-price)



Source: Bloomberg, Reuters and internal computation

Chart 1.35

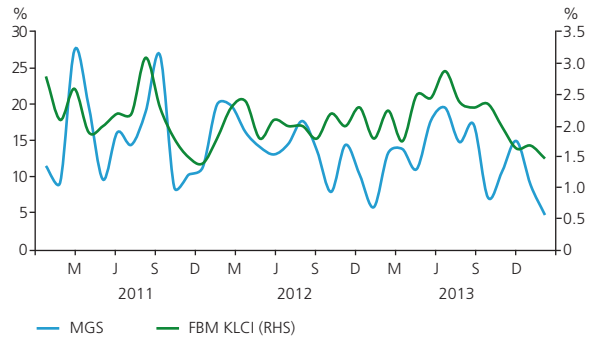
Financial Market: 90-Day FBM KLCI and MGS Yields Volatility



Source: Bloomberg

Chart 1.37

Financial Market: FBM KLCI and MGS Monthly Turnover Ratio



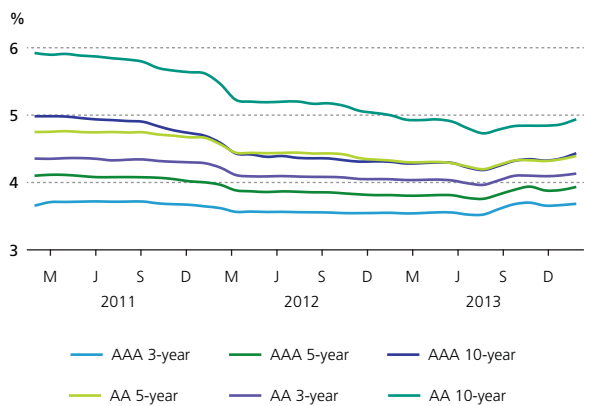
Source: Bloomberg

1,867 points (2012: 1,689 points). The price-to-earnings ratio of the FBM KLCI rose further to 17.7 times (2012: 15.1 times) as at end-2013. Equity prices continued to be driven by economic fundamentals and continued strong and stable earnings performance (Chart 1.34). Volatility in the domestic bond and equity markets increased to average at 11.6% and 9% respectively for the year, recording the highest levels between July and September 2013 (Chart 1.35). Volatility levels, however, remained substantially lower than that observed during the GFC and that of regional peers.

There was also no significant tightening in trading liquidity, both in terms of price and volume (Chart 1.36 and Chart 1.37). During the year, overall bid-ask spreads for MGS increased compared to the previous year in tandem with the movement of volatile portfolio flows, particularly in August,

Chart 1.38

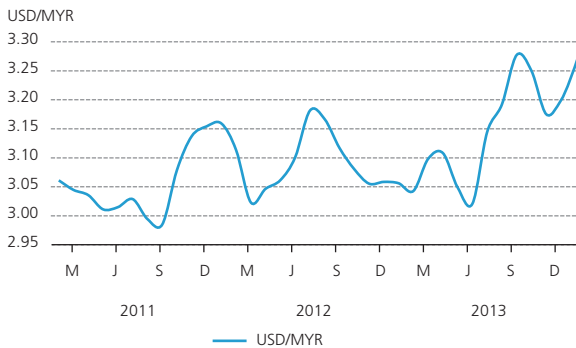
Financial Market: PDS Yields



Source: Bank Negara Malaysia

Chart 1.39

Financial Market: Ringgit Exchange Rate Movement



Source: Bank Negara Malaysia

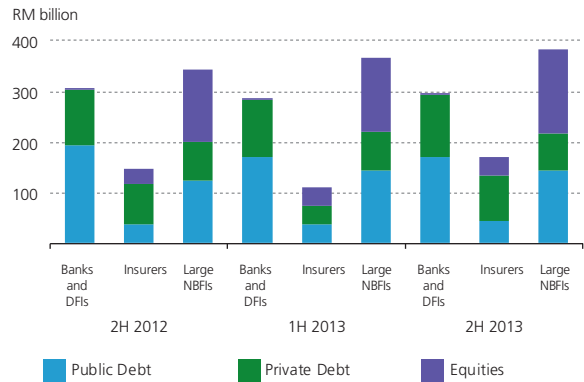
where average spreads increased to a high of 18 basis points before easing back to 13 basis points towards the end of the year. Meanwhile, average bid-ask spreads for the FBM KLCI rose sharply in December, but this was a one-off market reaction to corporate news and had an immaterial impact on the overall prices and volatility of the FBM KLCI. Despite the volatile movements in short-term capital flows, the cost and availability of funding in the domestic PDS (including sukuk) market were largely unaffected. Total new PDS issued (all issuers including financial institutions) amounted to RM121 billion in 2013. While PDS yields tracked the movements in MGS yields, overall levels remained conducive to fulfill the funding needs of businesses (Chart 1.38). Reflecting developments in movements of capital flows, for the year as a whole, the ringgit experienced increased volatility and depreciated by 6.8% against the US dollar at end-2013 (Chart 1.39).

Deeper financial markets and presence of strong institutional investors contributed to orderly intermediation of volatile short-term portfolio flows

During the episode of portfolio outflows between May and August, the sell-off by non-residents was largely absorbed by the large pool of domestic institutional players, namely banks, pension and provident funds, and insurance companies, which provided support for the domestic capital market

Chart 1.40

Financial Market: Holdings of Securities by Domestic Institutional Investors

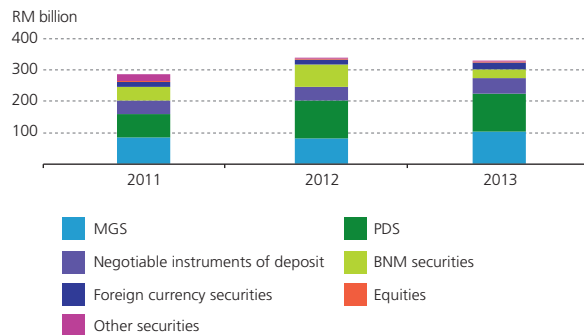


Source: Bank Negara Malaysia

(Chart 1.40). Over this period, MGS holdings by pension and provident funds and insurers expanded by 5.7% and 17.6% to account for 23.7% and 10.8% of total outstanding MGS respectively (end-May 2013: 23.1% and 9.4% respectively). Banks' holdings of MGS also grew by 29.5% or RM23.9 billion to account for 35% of total outstanding MGS (end-May 2013: 27.7%). At the same time, banks reduced holdings of BNMN as non-resident investors who remained in the domestic market increased demand for papers with shorter maturities. Consequently, by year-end, banks' holdings of BNMN declined substantially to account for 8.2% (2012: 21.3%) of the securities portfolio of the banking system, while holdings of government securities, PDS, negotiable instruments of deposit (NIDs) and equities increased correspondingly to account for 32.4%, 42.1%, 15.2% and 1% of the total

Chart 1.41

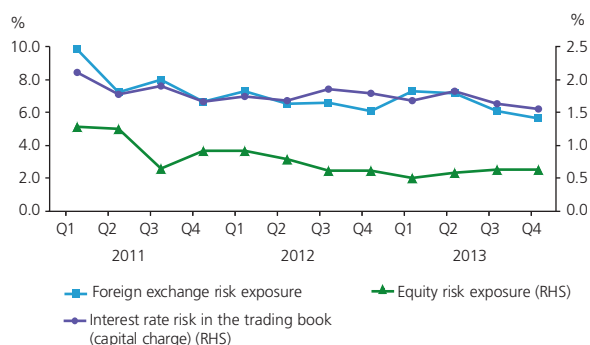
Banking System: Composition of Securities Portfolio



Source: Bank Negara Malaysia

Chart 1.42

Banking System: Equity, Foreign Exchange and Interest Rate Risks (% of Total Capital)



Source: Bank Negara Malaysia

securities portfolio respectively (2012: 24.8%, 38.8%, 13.1% and 0.3% respectively) (Chart 1.41). In general, there were no material changes in the risk appetite and behaviour of financial institutions. Nevertheless, banks with larger trading book exposures experienced greater income volatility during the year (trading securities formed 3.2% of banking system total assets while trading income comprised 18.3% of banking system pre-tax profit). In particular, investment banks recorded lower pre-tax profit on account of lower gains from investment and trading activities. Overall, the banking system continued to record net gains from the trading and investment portfolios, which increased by 2.9% to contribute 20.1% (2012: 19.9%) of total pre-tax profit.

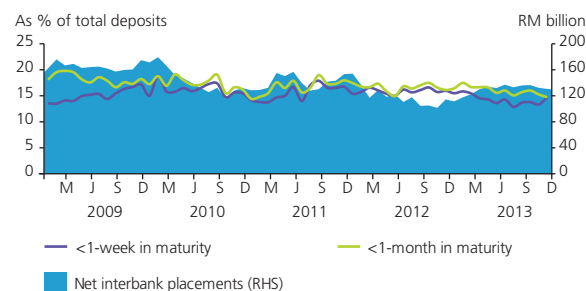
The continued active risk management and hedging by banks contained market risk exposures within manageable levels (Chart 1.42). Banking system exposures to equity risk continued to remain minimal at less than 1% of total capital despite the slight increase in holdings. The capital charge accorded to interest rate risk in the trading book declined to 1.6% (2012: 1.7%) of total capital during the period. During the year, banks continued to actively hedge interest rate exposures via interest rate swaps (IRS) and other interest rate-related derivative contracts, which grew in nominal value by 8.3% to RM786.2 billion. Basis risk remained manageable, supported by easing volatility of spreads between MGS and IRS rates. In 2013, the largest daily differential between changes in 10-year MGS yields and IRS rates narrowed by 4 basis points to 12 basis points (2012: 16 basis points).

The aggregate foreign exchange (FX) risk exposures of the banking system fluctuated in tandem with greater exchange rate volatility during the year, reaching a peak of 7.9% of total capital at the end of the first quarter. This reflected the activities and exposures of several locally incorporated foreign banks with active portfolios in FX-related derivatives and foreign currency (FCY) funding. The FX risk exposures were primarily attributed to derivative contracts arising from continued demand by businesses to better manage exchange rate-related risks, interbank transactions, and FCY lending and funding. Banks continued to actively manage the FX exposures, supported by internal value-at-risk limits, thus resulting in the narrowing of the net open position (NOP) to 5.7% (2012: 6.1%) of total capital by year-end as banks pared down US dollar exposures. Consequently, the US dollar NOP of the banking system remained stable at 0.3% (2012: 0.2%) of total capital, while the NOP of other major currencies, such as the euro, Singapore dollar, pound sterling and Australian dollar, were less than 0.3% of total capital for each respective currency. Banks also actively hedged the FCY positions via swaps, forwards and other FX-related derivative contracts, which grew in nominal value by 11.8% to RM585.3 billion.

The funding and liquidity positions of banks remained sound and stable throughout the year supported by four key factors. First, banks maintained a largely ringgit deposit-based funding structure. In 2013, total deposits placed with the banking system grew strongly by 8.5%. Meanwhile, the loan-to-deposit ratio rose slightly to 84.5% (2012: 82.1%). The profile of depositors remained generally unchanged and evenly distributed between individuals (35.8%),

Chart 1.43

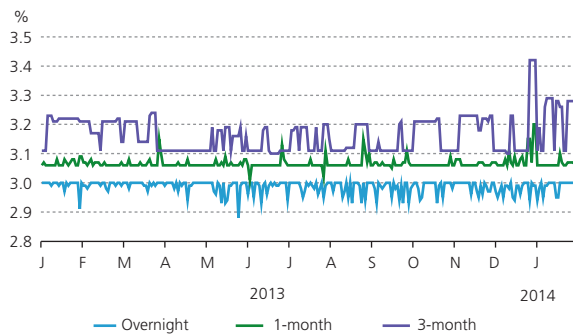
Banking System: Liquidity Buffer and Net Interbank Placements with Bank Negara Malaysia



Source: Bank Negara Malaysia

Chart 1.44

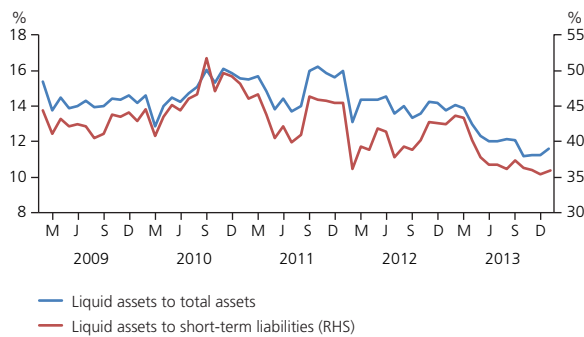
Financial Market: Ringgit Interbank Rates



Source: Bank Negara Malaysia

Chart 1.45

Banking System: Liquid Assets to Total Assets and Short-term Liabilities



Source: Bank Negara Malaysia

Note: Beginning January 2012, the computation of liquid assets excludes interbank deposit

and domestic business enterprises (35.5%). Non-resident deposits only accounted for 3.8% of total deposits and remained relatively stable over the past five years. Despite a relatively high composition of 'at call' deposits comprising NIDs, current, saving and time deposits, these deposits continued to demonstrate a high level of stability even during periods of heightened volatility in the domestic financial markets. Second, existing ringgit and FCY liquidity buffers of the banking system remained well above the minimum regulatory requirements at 14.7% of total deposits for liquidity needs maturing in less than one week (or three days for investment banks). Net interbank placements with the Bank amounted to RM130.2 billion or 8.5% of total deposits (Chart 1.43) while ringgit interbank rates were relatively unchanged across all maturities, with little signs of market segmentation or heightened counterparty risk aversion across individual banks (Chart 1.44).

Banks also continued to maintain a comfortable level of liquid assets which accounted for 11.5% (2012: 13.8%) of total assets or 36.5% (2012: 42.5%) of short-term liabilities (Chart 1.45).

Third, banks have not been reliant on offshore wholesale funding markets to fund domestic operations. Such funds have consistently been less than 11% of total funding, thus minimising the risk of any disruption in domestic financial intermediation if global liquidity contracts or is reallocated to other parts of the world. Onshore US dollar liquidity remained intact as cross-currency swap spreads ended lower than the previous year, and narrowed significantly by between 45 and 77 basis points across different tenures from peak levels in June 2013 (Chart 1.46). Fourth, the banking system FCY funding gap also remained small at 0.2% of total capital, with low currency or maturity mismatches associated with external exposures to non-resident counterparties. During the year, some banks increased the amount of FCY borrowings as part of centralised FCY liquidity management operations to fund overseas operations and foreign investments, and to fulfil the FCY funding needs of local customers. This contributed to an expansion in the external liabilities of the Malaysian banking system. Although total external liabilities grew by 28.1% during the year, the banking system maintained a net external asset position of RM14.7 billion as at end-2013 on account of higher foreign lending and direct investments in foreign securities, partly due to portfolio diversification and increased overseas operations and transactions (Chart 1.47). In the final quarter of 2013, the banking system

Chart 1.46

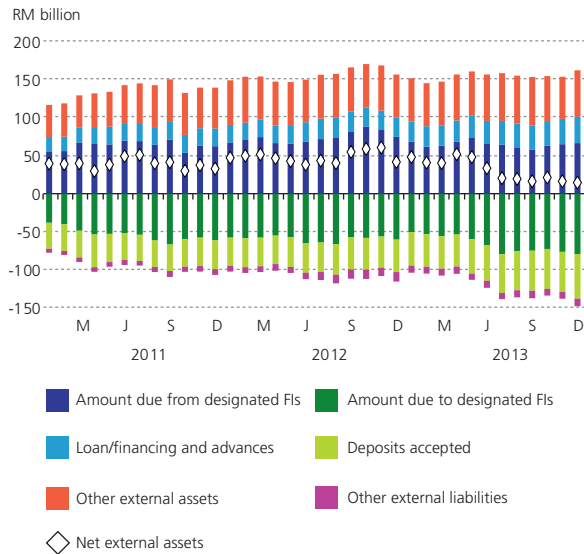
Financial Market: USD/MYR Cross-currency Basis Swap Spread



Source: Bank Negara Malaysia

Chart 1.47

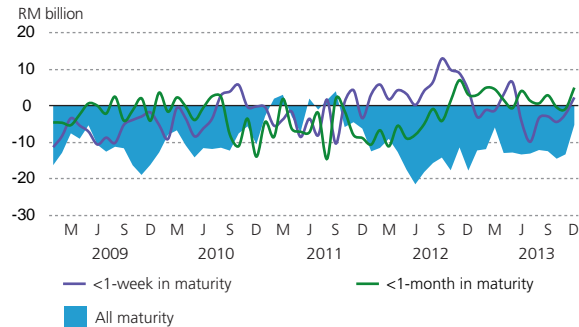
Banking System: External Assets and Liabilities



Source: Bank Negara Malaysia

Chart 1.48

Banking System: US Dollar Liquidity Mismatch



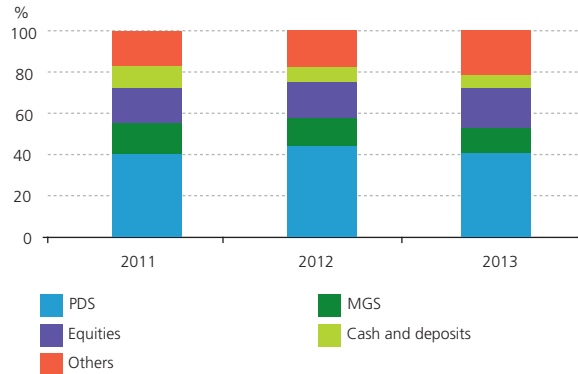
Source: Bank Negara Malaysia

recorded a net surplus position in US dollar liquidity of RM1.5 billion and RM5.3 billion in the less than one week and one month maturity buckets respectively (Chart 1.48).

Similar to the banks, there was no material shift in the risk taking behaviour of insurers and takaful operators. Investments in equities were higher by 22.6% to account for a larger share of 17.6% (2012: 15.4%) of total insurance and takaful fund assets but this had little effect on the overall investment profile of insurers and takaful operators. The higher equity holdings were attributed mainly to portfolio rebalancing strategies by life insurers and family takaful operators in efforts to improve

Chart 1.49

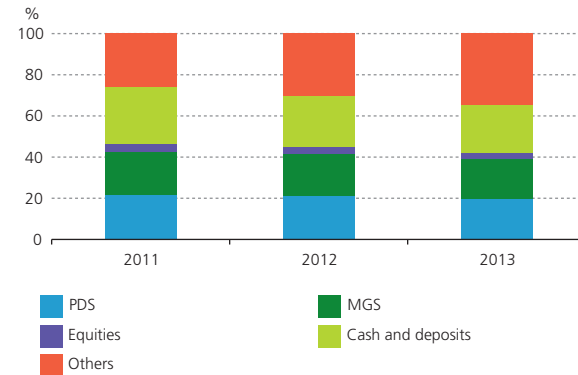
Life Insurance Sector: Assets Composition



Source: Bank Negara Malaysia

Chart 1.50

General Insurance Sector: Assets Composition

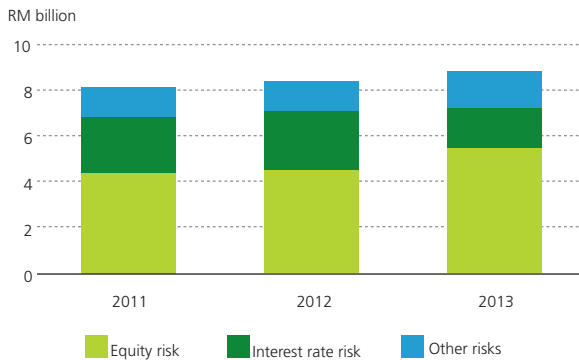


Source: Bank Negara Malaysia

overall investment returns on in-force policies under a prolonged low interest rate environment. In general, the investments of life insurers and family takaful operators continued to be concentrated in MGS and high-grade PDS rated AA and above, which accounted for 50.9% of total assets. FCY denominated assets remained small at 8.1% (2012: 8%) of total capital. Liquid asset holdings of general insurers and takaful operators, in the form of deposits placed with domestic financial institutions to meet short-term obligations, remained relatively stable at 22.8% (2012: 24.6%) of total assets (Chart 1.49 and Chart 1.50). On aggregate, the market risk exposures of the insurers and takaful operators declined slightly to account for 12.2% of total capital (2012: 12.5%), comprising mainly equity and interest rate risks (Chart 1.51). Some insurers and takaful operators with relatively larger investments in debt securities were more affected by the increased

Chart 1.51

Insurance Sector: Market Risk Composition



Source: Bank Negara Malaysia

market volatility during the year which resulted in higher mark-to-market losses and a decline in investment-related income. Overall, the life insurance and family takaful sector recorded lower excess income over outgo of RM13 billion (2012: RM17.9 billion), driven by a net capital loss of RM1.5 billion (2012: net gains of RM2.2 billion).

Banks and insurers are expected to withstand mark-to-market and credit losses under simulated scenarios of severe portfolio outflows

Two-way portfolio flows and volatile financial market conditions are expected to continue in 2014 although financial institutions have increasingly factored in key drivers such as the growth outlook and QE tapering in their investment strategies. Malaysian financial institutions remain well-positioned to manage the expected volatile portfolio flows. Under simulated scenarios of severe portfolio outflows (more than double the levels exhibited during the GFC) over a short duration, banks and insurers are expected to continue to record profits, albeit at lower levels. This assessment has incorporated a range of extreme shock parameters, including mark-to-market losses from holdings of equities, interest rate risk in the trading books and FCY exposures in the balance sheets, and credit losses from businesses affected by significant exchange rate volatility. Disregarding available retained earnings buffers to withstand such shocks, the total capital

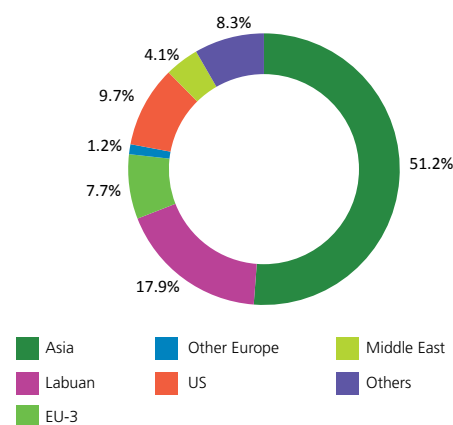
ratio of banks is estimated to remain close to 14% and the capital adequacy ratio of insurers will remain above 200%. In terms of US dollar liquidity shortfall under the simulated scenarios, the potential shortfall for the banking system is assessed to be limited at less than 5% of the Bank's international reserves as at end-2013.

Counterparty risk from financial institutions' external exposures

Counterparty risk arising from claims by Malaysian financial institutions on external parties remained manageable during the year. Claims by Malaysian onshore banks on all external or overseas counterparties (including counterparties in the Labuan International Business and Financial Centre (IBFC)), increased by 13.1% in 2013 to RM165.7 billion. Such claims represented 8% of banking system total assets and were largely attributed to higher claims on counterparties in Labuan IBFC, PR China and the US. About 69% of total external claims were on Asian economies, including Labuan IBFC, in line with the sustained intra-regional trade and continued overseas expansion of Malaysian banks (Chart 1.52 and Chart 1.53). These were mainly claims on Singapore, Indonesia, Hong Kong SAR and Thailand, of which the bulk was with the overseas branches and subsidiaries of domestic banking groups (DBGs) in the form of equity investments, retained earnings held, interbank placements and nostro account balances with these entities. More than 70% of these intra-group claims are denominated in the US dollar and Singapore dollar,

Chart 1.52

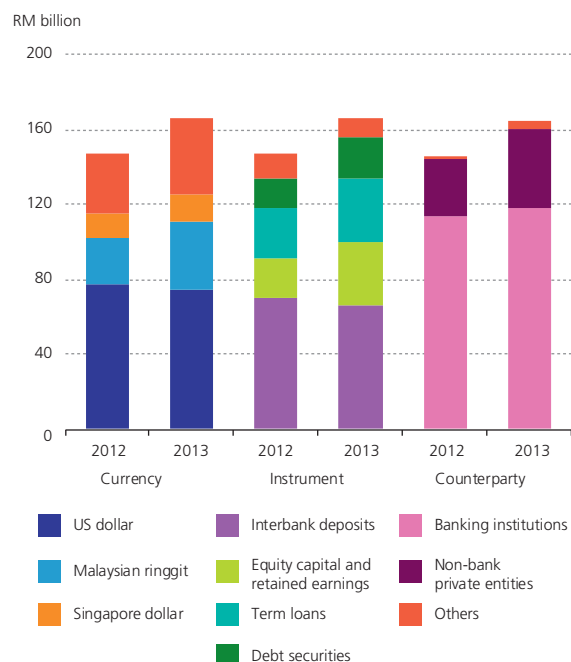
Banking System: Composition of External Claims by Location



Source: Bank Negara Malaysia

Chart 1.53

Banking System: Composition of External Claims by Currency, Instrument and Counterparty



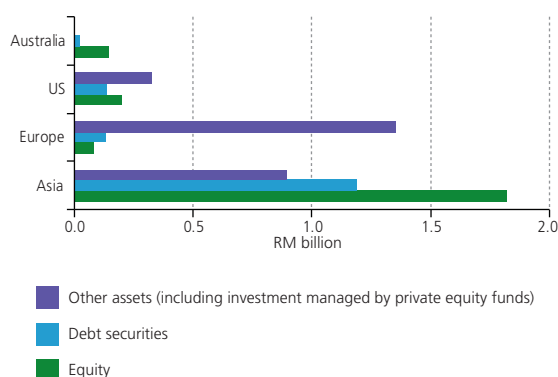
Source: Bank Negara Malaysia

and generally pose relatively low counterparty and contagion risks to onshore operations. Claims on Labuan IBFC counterparties were mainly against banks and financial institutions, more than half of which were related entities of Malaysian onshore banks. Similarly, a large portion of these claims was in the form of equity investments and interbank placements denominated in the US dollar.

Claims by Malaysian banks on counterparties in the US and Europe remained stable at 18.5% (2012: 18.4%) of total external claims during the year following the resumption of capital flows into the major advanced economies amid stronger indicators of growth. In 2013, claims on counterparties in the US increased by 61% to RM16 billion, of which more than 70% were in the form of US treasury securities, US dollar-denominated private debt securities and nostro account balances. Claims by Malaysian onshore banks on European counterparties declined slightly to RM14.7 billion on account of lower interbank placements and nostro account balances, where the bulk was primarily concentrated in the EU-3 (United Kingdom (UK), France and Germany). Other claims in the form of derivative transactions, and holdings of money market

Chart 1.54

Insurance Sector: External Investment Exposure by Region



Source: Bank Negara Malaysia

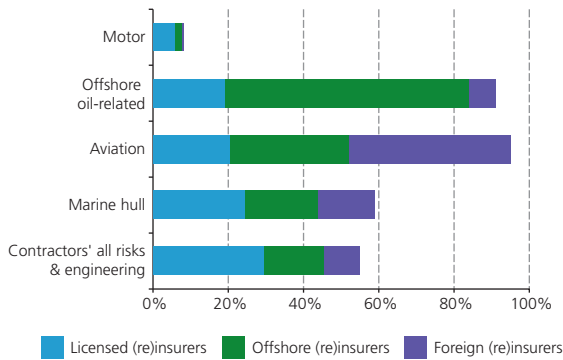
instruments, debt and equity securities issued by European counterparties remained very small at less than 0.4% of banking system total assets. Exposures to valuation losses arising from euro currency movements continued to be limited, as external claims denominated in the euro remained low at 0.9% (2012: 1.1%) of total capital. In addition, credit risk exposures of banks from term loans provided to non-bank private corporations in the euro area amounted to only 0.5% of total capital. The study on the potential contagion implications using the network simulation analysis on interlinkages via cross-border claims and liabilities also reaffirmed the limited contagion implications on the Malaysian banking system from a single or simultaneous event of distress in the banking systems of one or two countries (refer to the box article 'External Connectivity and Risk of Contagion to the Malaysian Banking System').

External claims by Malaysian insurers (including takaful operators) were predominantly in the form of direct overseas investments and reinsurance exposures. Total overseas investments remained small at 2.9% of total assets or 9.2% of total capital base, with about 58.6% in Asia comprising mainly equities issued in Indonesia and Singapore. Investments in Europe increased substantially to RM2.2 billion (2012: RM0.4 billion) or 3.1% of total capital base driven by a few large insurers amid economic recovery in Europe. These comprise mainly investments in private equity funds and equities issued in the UK, France and Germany (Chart 1.54).

During the year, Malaysian general insurers ceded a lower amount of premiums to (re)insurers

Chart 1.55

Insurance Sector: Reinsurance Ceded Ratio by Selected Business Classes



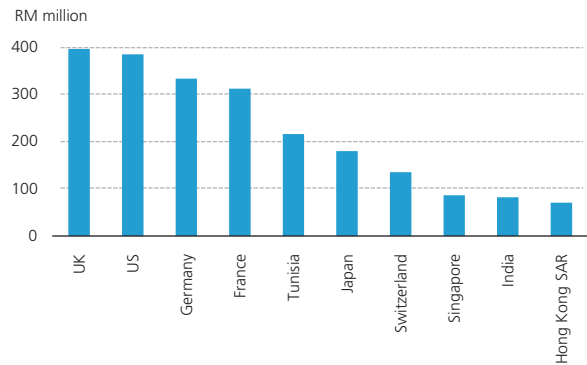
Source: Bank Negara Malaysia

operating in Labuan IBFC and abroad (reinsurance of life business is negligible). This amount declined by 3.7% to RM2.9 billion or 18.1% (2012: 20.1%) of total gross premiums, mainly on large and specialised risks in the aviation, fire, oil and gas, engineering and marine hull business classes (Chart 1.55). Reinsurance exposures to (re)insurers abroad were mainly to entities based in Europe and the US, which collectively accounted for 65.3% (2012: 52%) of total foreign reinsurance exposures. Exposures to European (re)insurers grew by 13.3% to RM1.75 billion or 18.5% of general insurers' total capital base. Counterparty risks from exposures to such entities, which are mainly headquartered in Germany, Switzerland and the UK (Chart 1.56), remained low given the sustained strong ratings and sound financial positions. About 30% of the exposures were from reinsurance placements with the Malaysian branch of three European-based (re)insurers. As at end-2013, the branches recorded a combined capital adequacy ratio of 239% (calculated based on net working funds held in Malaysia).

Reinsurance claims exposures to Labuan IBFC entities, comprising mainly branches or subsidiaries of global insurers with strong credit ratings and financial standing, amounted to RM1.5 billion or 17.6% of the total capital base for the general insurance industry. The global reinsurance market recorded lower estimated losses of about USD45 billion during the year (2012: USD75 billion; 2011: USD124 billion), the lowest level since 2009, on account of fewer catastrophes. Global reinsurers recorded sustained profitability with an average return on equity of 11.4% (2012: 12.2%). The

Chart 1.56

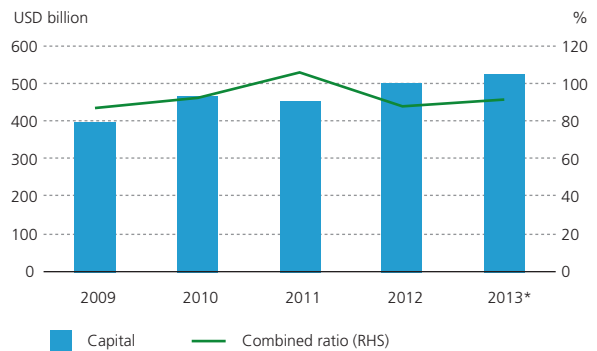
Insurance Sector: Foreign Based Reinsurance Exposure by Top Countries



Source: Bank Negara Malaysia

Chart 1.57

Insurance Sector: Global Reinsurers Capital and Combined Ratio



* Capital based on figure of third quarter 2013
Source: Aon Benfield and Standard & Poor's Ratings Services

combined capitalisation of global reinsurers reached a record level of about USD525 billion (2012: USD505 billion), providing additional surplus reinsurance capacity (Chart 1.57). The credit default swap spreads of global reinsurers narrowed and remained relatively low throughout the year.

The potential impact on Malaysia from deleveraging activities by European financial institutions remained low, with risks subsiding further since the GFC. As at end of the third quarter of 2013, European banks' claims on Malaysia (including Labuan IBFC entities) increased to USD66.5 billion (2012: USD63 billion) or 22% of GDP, according to the Consolidated Banking Statistics published by the Bank for International Settlements (BIS statistics). The profile of these

External Connectivity and Risk of Contagion to the Malaysian Banking System

The increasing complexity and globalisation of financial services has reinforced the interlinkages between financial institutions, markets and countries. This higher level of interconnectedness promotes innovation, growth and competition, allows for greater diversification and redistribution of risks, and enhances the efficiency of liquidity and credit allocation. However, extensive interlinkages of the financial system can also increase contagion risk across markets and borders through the network of on- and off-balance sheet financial obligations and reputational links between banks and their counterparties. Increasingly complex networks of financial obligations have further heightened the potential for idiosyncratic shocks affecting an internationally active financial institution (or a highly interconnected banking system) to cause wider spillovers to other financial systems as experienced during the Global Financial Crisis (GFC). The magnitude of such contagion shocks is also likely to be amplified.

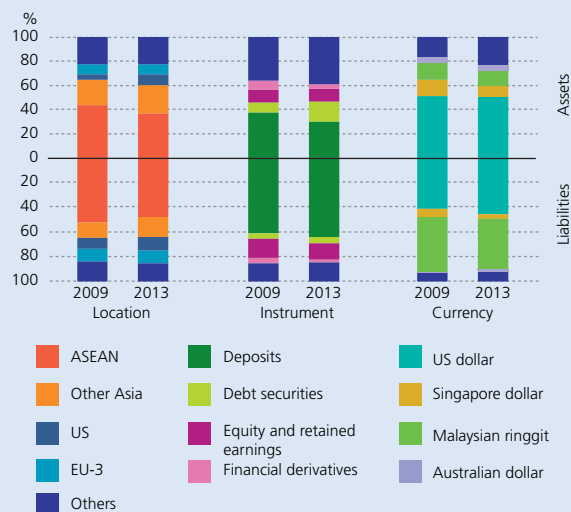
This article evaluates the cross-border claims and liabilities of Malaysian banks, and the potential risks associated with increased financial integration from a network analysis perspective. The network analysis is used to examine linkages between the Malaysian banking system and banking systems in other countries, including those that headquarter internationally active banks¹, to establish if and to what extent external linkages have resulted in heightened contagion risks to Malaysian banks.

Cross-border Interconnectedness of Malaysian Banks

The nature and extent of external financial linkages of the Malaysian banking system have evolved and increased steadily since the GFC. Claims on, and liability obligations to, non-resident counterparties grew at a compounded annual growth rate (CAGR) of 13% and 12% respectively over the past five years. Total external exposures however, remained low at less than 10% and 15% of the total assets and total funding of the banking system respectively as at end-2013. The bulk of the external exposures of the banking system relates to intra-group transactions between banking institutions in Malaysia and their overseas parents, subsidiaries and affiliates, mostly in the form of interbank

Chart 1

Banking System: External Assets and Liabilities by Location, Instrument and Currency



Source: Bank Negara Malaysia

¹ There are 12 global systemically important banks (G-SIBs) operating in Malaysia through locally-incorporated subsidiaries, some of which have extensive branch networks operating in the major cities.

placements and borrowings (Chart 1). The counterparty risks associated with these transactions are assessed to be manageable based on the low default probability of the counterparties, which also avoided destabilising credit or funding shocks during the peak of the GFC.

Apart from interbank placements and borrowings, the increase in cross-border exposures was also contributed by the higher holdings and issuances of debt securities (CAGR of 29% and 17% respectively). These exposures accounted for 16% and 5% of external claims and liabilities respectively. More than 40% of the banks' holdings of non-resident debt securities were papers of good credit standing issued by financial institutions, sovereigns and non-bank private entities in the US and Singapore. On the liability side, approximately 83% of total debt securities issued by domestic banks in the international capital markets were denominated in US dollar and Singapore dollar. The higher holdings and issuances of these debt securities were in part driven by the diversification of trading and investment portfolios, and to better meet growing liquidity and funding needs in significant currencies, particularly, for overseas operations. As for the locally-incorporated foreign banks, the steady expansion of the Malaysian operations during this period had also resulted in the paid-up capital and retained earnings to grow at a CAGR of 9%, constituting 13% of total external liabilities of Malaysian banks.

The country composition of cross-border exposures was dominated by on-balance sheet transactions with (i) regional financial centres; (ii) countries where Malaysian banks have overseas operations; and (iii) countries with internationally active banks, particularly those with locally-incorporated subsidiaries in Malaysia. Claims on, and liabilities to, Asian countries accounted for 62.8% of Malaysian banks' total external exposures. Cross-border claims on ASEAN grew steadily at a CAGR of 8% over the past five years in tandem with new business acquisitions and the organic expansion by several domestic banking groups in Singapore, Indonesia, Thailand, Vietnam, Laos and Cambodia. Within the same period, claims on East Asian countries also increased by 15%, driven by higher placement of interbank deposits and nostro balances with the parent and affiliates in Hong Kong SAR and PR China to facilitate growing regional trade and currency settlements. About a fifth of the cross-border claims were to the US and UK, predominantly arising from holdings of US Treasuries and interbank transactions between domestic banks or locally-incorporated foreign banks in Malaysia and the parent and affiliates in London and New York. As a result of the growth in cross-border exposures, banks in Malaysia were more exposed to adverse developments in the foreign exchange markets and yield movements across different economies. Moderate spillover effects were felt in the domestic market during periods of tightened US dollar conditions in 2008, as evident from the increased spreads of onshore USD/RM cross-currency swap rates and the widening of short-term US dollar liquidity mismatch positions of banks in Malaysia. This risk however, is mitigated largely by the low reliance of banks in Malaysia on cross-currency funding and offshore wholesale funding markets, limits on counterparty exposures and more active centralised liquidity management of US dollar funds within the banking groups. This is supported by the network analysis presented below.

A Network Approach to Assess Cross-border Contagion and Network Externalities

The network simulation analysis is used to (i) quantify and trace the propagation of credit and funding shocks (contagion paths) across banking systems induced by a hypothetical default event in a particular country; (ii) identify potential systemic linkages and cross-border domino effects between internationally active banks and the Malaysian banking system; and (iii) measure a banking system's susceptibility to external spillovers and its propensity to amplify cross-border contagion. For the purpose of this study, the network analysis is constructed from a matrix of inter-banking system cross-border claims and liabilities² involving selected countries with a higher relative degree of connectivity with the Malaysian banking system, either due to (i) high direct external claims and

² Data for the network analysis is derived from the Bank for International Settlements (BIS) Locational Statistics, with conservative interpolation and estimation of bilateral credit and funding exposures for selected countries. Alternatively, the cross country analysis can be undertaken using the BIS Consolidated Statistics (immediate borrower basis or ultimate risk basis).

funding obligations with Malaysian banks; (ii) the presence of significant regional operations of Malaysian banks; or (iii) high intra-group linkages of locally-incorporated foreign banks with parent or related institutions abroad. The banking systems of these 11 countries represented more than 80% of total external claims on, and of total external liabilities to, all Malaysian banks.

The network simulation model is applied by generating the impact on the capitalisation of the banking systems in the sample population from: (i) a hypothetical default by the banking system of a particular country (the 'trigger country'); or (ii) hypothetical simultaneous default by two banking systems. The model simulates the combined impact of credit and funding shocks on the cross-border interbank obligations³ without taking into account any policy response by the authorities such as liquidity assistance or capital support. To simulate a credit shock, the banking system in the trigger country is assumed to default on the outstanding cross-border interbank borrowings, causing other counterparty banking systems to incur a 100% loss⁴ which is then fully absorbed using system-wide capital. For funding shocks, the banking system in the trigger country ceases to provide cross-border interbank funding⁵, contributing to liquidity strains in other counterparty banking systems. The affected counterparty banking systems are assumed to replace a fraction of the lost funding⁶ through a fire sale of assets. Severe haircuts⁷ are applied in the model to capture the amplification of systemic risk that can arise from exposures to common asset classes, in turn reinforcing a downward spiral in asset values and triggering steep declines in the market value of the portfolios of other banks. The combined effects of credit and funding contagion shocks are simulated in an iterative manner until no additional banking system experiences a decline in capitalisation below 8%.

This analytical framework is not intended to predict the likelihood of distress of a particular banking system. Rather, it seeks to provide useful insights on the potential direct and indirect cross-border spillovers to the Malaysian banking system, and the ability of the system to absorb losses under tail-risk events. The hypothetical simulations using aggregated data treat each banking system as a single foreign counterparty and therefore, assume a widespread default by all individual banks within a country on its foreign exposures⁸. While the likelihood of such extreme events occurring in a contemporaneous and homogenous manner is low, the stringent assumption was used to estimate the maximum potential contagion impact arising from multiple credit defaults and funding shocks materialising simultaneously, disregarding the effects of credit risk transfers, loss mitigation response by banks or policy intervention by authorities. The static modelling of institutional behaviour at the aggregated level also allows an assessment of both the first order impact of distress (direct external contagion) and its amplified effects across banking systems as a result of indirect spillovers due to network externalities. Such self-reinforcing domino effects may not necessarily lead to system-wide failures, but can indicate the degree to which a particular banking system may be weakened by the transmission of cross-border financial distress.

Simulation Results

Single trigger country

The network analysis revealed that the simulated distress of the banking system in one trigger country has limited direct contagion impact on the Malaysian banking system. Out of the 11 individual

³ Cross-border exposures include (i) loans and deposits; (ii) holdings or own issues of debt securities; and (iii) other claims and liabilities.

⁴ Loss given default of 100% reflects the inability of a creditor banking system to recover any of the loans as banks typically face substantial uncertainty over recovery rates in the short run, particularly when it takes considerable time for distress-debt markets to price in recently defaulted instruments.

⁵ Assume no rollover of outstanding external funding irrespective of maturity and funding sources.

⁶ 50% of funding needs are assumed not to be refinanced in the simulations. The extent to which a bank is able to replace an unanticipated decline in interbank funding depends on the liquidity conditions in the global or domestic money markets. As demonstrated in the recent GFC, the complexity and opacity in cross-border banking led to a system-wide liquidity squeeze due to perceived solvency concerns and heightened counterparty risk aversion.

⁷ The model assumes that assets are traded at a discount (market value is less than book value) when the availability of abundant, instantaneous liquidity in the money and capital markets diminishes during stressed periods.

⁸ The simulations arbitrarily assume only a fraction (75%) of the banking system defaults.

hypothetical defaults, six trigger countries were found to have no contagion impact on the domestic banking system. The susceptibility of Malaysian banks to adverse cross-border spillovers is only heightened when a banking system distress spreads to two or more countries in subsequent contagion rounds. In all of the single trigger country simulations, the capitalisation of the Malaysian banking system was only severely affected in the final round of contagion (where the contagion loop from a simulation ends), after other banking systems in the sample have also suffered extreme financial distress. For example, in simulations where the trigger country is outside Asia, the total capital ratio of the Malaysian banking system only fell below 8% after system-wide distress has affected major internationally active banks in at least seven advanced economies within the sample. This indicates that indirect spillovers are only felt through losses amplified by network externalities.

As expected, the contagion impact on the domestic banking system was more pronounced when the financial distress originates from trigger countries with a stronger on- and off-balance sheet links with Malaysian banks. For example, the total cross-border claims by Malaysian banks on Singapore accounted for 23% of total external assets of the domestic banking system as at end-2013, while external liabilities of Malaysian banks to Singaporean counterparties represented 46% of total external liabilities of the domestic banking system. This is attributed primarily to the strong presence of Malaysian banks in Singapore and vice versa. The branch operations of Malaysian banks in Singapore alone accounted for at least 4% of the group assets, with profits from operations in Singapore contributing between 4% and 25% to group profits. Singaporean banks operating in Malaysia accounted for 8.4% of total Malaysian banking system assets. Despite these linkages, the simulated contagion impact on the Malaysian banking system arising from a hypothetical banking system distress scenario originating from Singapore was only felt in the third contagion round. For countries such as the US and UK which are headquarters to internationally active banks, the indirect contagion effects on the Malaysian banking system only occur after all major banking systems in the sample have experienced acute financial distress. This finding supports the limited susceptibility of the Malaysian banking system to the potential indirect spillovers originating from the Malaysian subsidiaries of six G-SIBs headquartered in the US and UK in the event of system-wide distress occurring in these countries. Similar findings were observed for the two European G-SIBs operating in Malaysia.

Two trigger countries

The potential direct contagion impact to the Malaysian banking system from a simultaneous banking system distress in two countries was also found to be contained. The simulated pair-wise defaults affect domestic banks in the second to fourth rounds of contagion, after all other banking systems in the sample have suffered extreme financial distress. The extent and speed of contagion paths were significantly augmented when a cross-border crisis affects major banking systems in both advanced and emerging economies simultaneously. New contagion paths were found to emerge for countries which did not induce financial distress in other banking systems under the single trigger country simulations. Conclusion derived from the different permutations of simulated joint distress of two banking systems showed that the probability of a contagion impact to the Malaysian banking system was found to be twice as high compared to simulations involving a single trigger country. This is explained partly by the new contagion paths caused by extreme distress in countries without cross-border spillovers on a standalone basis. In other words, potential losses could be further amplified by connections between a pair of banking systems that together can cause wider spillovers than individually.

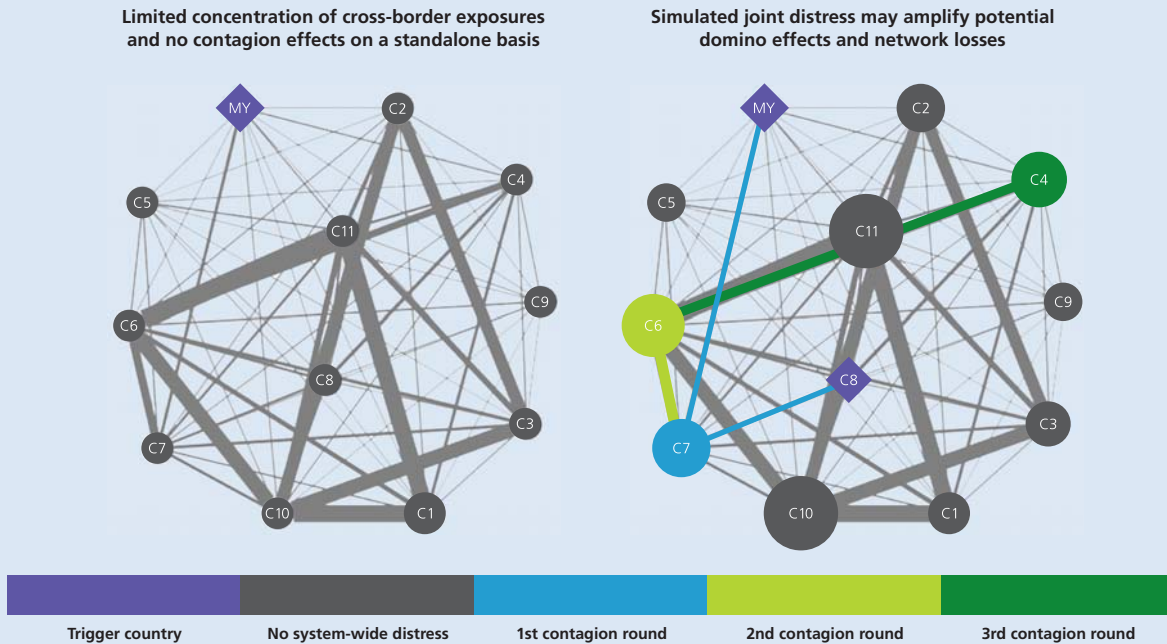
Contagion by Malaysian banks

The extent of potential direct and indirect contagion posed by the Malaysian banking system on cross-border banks in the regional and advanced economies was also found to be limited. The simulated financial stress in the Malaysian banking system alone does not threaten system-wide solvency in other countries. In addition, simulations of joint distress in the Malaysian banking system together with a banking system outside the Asia Pacific region that headquarters internationally active banks did not induce additional system-wide distress in other countries in the sample. This implies that potential losses from a widespread distress among banks headquartered in advanced economies

are not significantly amplified as a result of connections with the banking system in Malaysia. However, when the system-wide distress involves another banking system in the Asia Pacific region simultaneously, the potential contagion impact on other jurisdictions within the sample increases, with two additional contagion paths observed (Diagram 1). This is consistent with the more pronounced cross-border interconnectedness within the region, following the expansion of intra-regional trade and regionalisation activities of the Malaysian banks.

Diagram 1

Interconnectedness of Malaysian Banking System and Effects of Network Externalities on Contagion



Note: Each node represents the banking system of a country from the sample population (12 in total, including Malaysia). The width of the lines denotes the relative degree of interconnectedness between two banking systems, as measured on a net cross-border exposures basis. The size of the node in the right diagram represents the relative measure of cumulative capital losses arising from simulated credit and funding shocks in all contagion rounds.

Source: Bank for International Settlements, Bank Negara Malaysia and internal estimation

Policy Priorities

The increasing level of financial and non-financial linkages among internationally or regionally active banks underscores the importance of monitoring interconnectedness as a potential source of systemic vulnerability. However, financial network structures are complex, constantly in flux and therefore, often challenging to ascertain. While the Bank will continue to develop and enhance the use of macroprudential surveillance tools to monitor systemic financial linkages within and outside of the financial system, including the practical application of financial network analysis, there is a role for collective efforts by policymakers to improve the monitoring of global and regional systemic linkages. This should include effective arrangements for multilateral information sharing and surveillance, and wider coverage of reporting on cross-border financial obligations. At the regional front, the Executives' Meeting of the East Asia Pacific Central Banks (EMEAP) serves as an important platform in monitoring potential risks associated with greater global and regional interconnectivity. This multilateral cooperation framework has forged strong cross-border coordination within the region in areas relating to surveillance, financial safety nets and crisis prevention, management and resolution. Going forward, EMEAP will continue to play an important role in bolstering such regional arrangements as financial integration within Asia and between Asian and other regions deepens.

Given the potential for external contagion shocks to expose domestic vulnerabilities and exacerbate the risk of instability within the domestic financial system, the Bank places a high priority on ensuring strong domestic institutions that are prudently managed, and comprehensive and effective arrangements for crisis containment, management and resolution. This is critically supported by the enhanced financial stability arrangements that have been put in place under the Central Bank of Malaysia Act 2009 (CBA), the Financial Services Act 2013, the Islamic Financial Services Act 2013 and the Malaysia Deposit Insurance Corporation Act 2011. They include the ability of the Bank to take broad measures to address risks to financial stability arising from the exposures and activities of non-regulated institutions; strengthened governance arrangements to oversee and coordinate such measures through the Financial Stability Executive Committee which is established under the CBA; comprehensive powers to undertake resolutions of financial institutions and non-bank financial institutions; and an effective and comprehensive deposit insurance system that provides strong incentives for sound risk management. The strengthened prudential framework and enhanced cross-border cooperation arrangements that are being implemented for the oversight of financial groups (elaborated further in Chapter 3) will further reinforce the resilience of the domestic financial system against external contagion.

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claims has remained unchanged, with about 58% comprising ringgit-denominated claims by European banks' subsidiaries in Malaysia. Such claims represent equity investments by the parents and assets of the Malaysian subsidiaries. Malaysia has seven locally-incorporated European banking entities (LIEBs) with headquarters in the UK, France and Germany. The LIEBs continued to exhibit strong and consistent operating performance and returns while maintaining stable market shares. The local operations of these subsidiaries largely comprised lending to Malaysian borrowers, holdings of securities issued by Malaysian entities, deposits placed with financial institutions in Malaysia, and transactions involving financial contracts with Malaysian counterparts. Excluding UK-based banks, total foreign claims by European banks on Malaysia as reported in the BIS statistics only accounted for USD16 billion or 5.3% of GDP. For the insurance industry, European-based insurers in the domestic market accounted for 21.8% of total premiums. The parent entities of these insurers have continued to demonstrate strong financial positions throughout the year, thus limiting risk of contagion to the Malaysian operations.

Overseas operations of domestic banking groups

The overseas operations of DBGs expanded further in 2013 particularly in the Asian region, benefitting from continued growth in these economies. Total assets of overseas subsidiaries and branches of the DBGs expanded by 16.3% since end-2012 to RM410 billion as at end-

2013 (2012: RM353 billion). This accounted for 23.2% of total assets of the DBGs with overseas operations, ranging between 2.9% and 39.1% for individual DBGs. Indonesia and Singapore are hosts to a significant share of DBGs' overseas operations, with assets of overseas operations of DBGs in these two countries accounting for about 62% of total overseas operations of the banks (Chart 1.58). Exposures from overseas operations in the Labuan IBFC remained low at 2.8% of DBGs' total assets and ranged between 1.2% and 7.5% of individual DBGs' total assets.

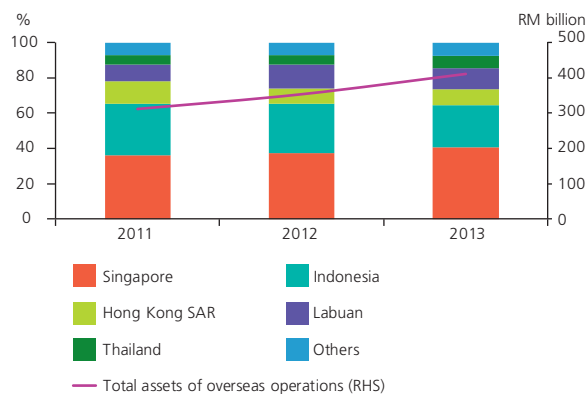
Contribution of overseas operations to profit of domestic banking groups remained stable, supported by strengthened group-wide risk management

The risk of adverse spillovers from the overseas operations of DBGs continues to be limited by the (i) stable asset profile, which comprises mainly traditional lending activities; (ii) low-risk funding structure, predominantly supported by local currency deposits; (iii) active risk management at the entity level and on a group-wide basis; and (iv) sound financial standing and performance. During episodes of more volatile regional financial market conditions and exchange rate movements, these factors supported the continued growth of consumer and commercial banking activities, and sustained the contribution of overseas operations to overall group profitability.

During the year, some regional economies where DBGs have a significant presence implemented tightening measures in the property and retail financing markets. While this has affected lending growth in these economies, the impact on the group as a whole has been limited. The implementation of tighter loan-to-value ratios for mortgage loans and tighter financing conditions in Indonesia, coupled with higher interest rates and weaker exchange rates resulted in slower lending growth of between 8% and 10% (2012: between 15% and 20%) for some of the large DBGs, while selected retail portfolios in other economies also expanded at a more cautious pace in response to new financing regulations. While overall assets from overseas operations continued

Chart 1.58

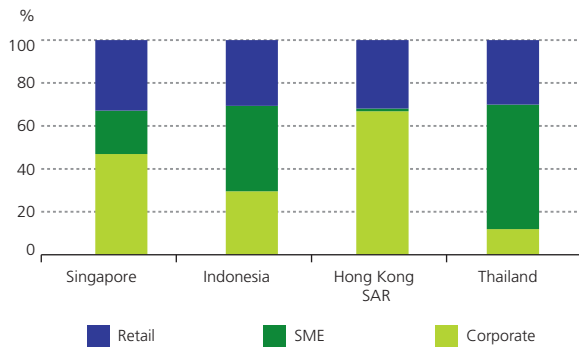
Banking System: Asset Composition of Operations in Labuan IBFC and Overseas



Source: Bank Negara Malaysia

Chart 1.59

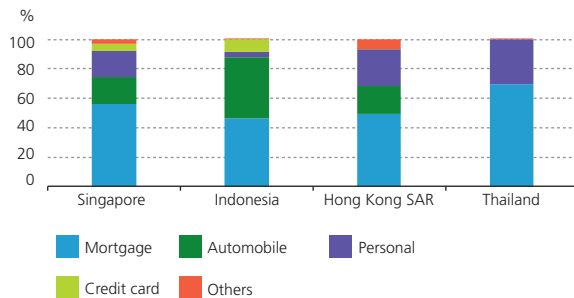
Banking System: Loan Composition of Selected Overseas Operations



Source: Bank Negara Malaysia

Chart 1.60

Banking System: Retail Loan Composition of Selected Overseas Operations



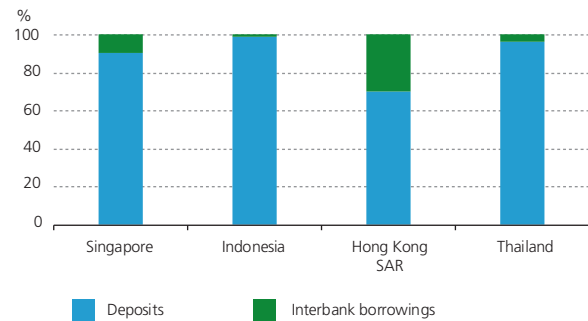
Source: Bank Negara Malaysia

to grow, the effects of exchange rate movements and economic and regulatory developments led to some retrenchment in the contribution to total assets from Hong Kong SAR and Indonesia, relative to contributions from Singapore and Thailand. On aggregate, however, overseas operations continued to record positive loan growth of 14.4% (2012: +17.1%) during the year.

Loans and investments in plain vanilla debt securities continued to dominate the asset profile of overseas operations, accounting for 62.3% and 14.5% of total assets of the overseas operations respectively. The bulk of the holdings of debt securities were in government papers and investment-grade PDS. The profile of lending activities differs across economies, reflecting the varying economic structure and stage of economic and financial sector development in the respective economies (Chart 1.59). To some extent, this contributed to the diversification

Chart 1.61

Banking System: Funding Structure of Selected Overseas Operations



Source: Bank Negara Malaysia

of risks arising from the overseas operations of DBGs and softened the impact of slower growth experienced in some economies on overall group profit and capital. Retail loans are largely secured. Unsecured financing accounted for less than 20% of the total outstanding retail loans of overseas operations (Chart 1.60). There was also greater scrutiny observed over valuation and underwriting practices of DBGs, particularly in economies experiencing upward pressures on asset prices.

The overseas operations of DBGs continued to be funded largely by local customer deposits, hence limiting potential cross-border funding risks (Chart 1.61). The loan-to-deposit ratio of large overseas operations with significant financing activities remained relatively stable during the year, even in times of heightened financial market and exchange rate volatility in the region, ranging between 60.8% and 111% for individual entities.

Chart 1.62

Banking System: Range of Key Financial Soundness Indicators of Selected Overseas Operations



Source: Bank Negara Malaysia

The larger DBGs have continued to steadily grow the local currency deposit base at an average rate exceeding 10% which has further strengthened the funding capacity of the overseas operations and reduced reliance on funding from the parent entity. This is further reinforced by strengthened group-wide risk management systems and practices, supported by improved risk indicators, which further reduce the potential for funding pressures from overseas operations to spread to the Malaysian operations.

The capital ratios of the large subsidiaries remained strong, ranging between 10.8% and 21% (Chart 1.62). These ratios already reflect strengthened capital adequacy requirements in some economies which have implemented Basel III standards. These economies also represent the economies in which DBGs have more significant overseas operations. Overall loan quality remained intact with the median gross impaired loans ratio remaining largely unchanged at 1.8%. Around 80% of revenue continued to be derived from core banking activities, while non-interest income sources contributed about 20% of revenue. Heightened volatility in regional exchange rates during the year resulted in higher foreign exchange translation losses for group earnings and lower net income from trading and investment portfolios for some DBGs. Nevertheless, the contribution of overseas operations to the profitability of individual DBGs remained quite stable and ranged between 1.2% and 36.2%, with a median return on equity of 11.2% (2012: 10.8%). Continued improvements in operational efficiency and funding strategies also contributed to a lower median cost-to-income ratio of 53.1% (2012: 60.6%).

Under assumptions of severe stressed scenarios for major overseas operations, which include a significant depreciation of local currencies and a large contraction in real sector activity and hence loan growth, DBGs are expected to remain generally profitable despite a significantly lower level of profit contribution from abroad. Even under assumptions of further capital injection into the overseas operations, DBGs are expected to remain well-capitalised with Total Capital Ratios ranging between 11% and 13%.

The cross-border operations of domestic insurers remained negligible. Total assets of the overseas operations of domestic insurers grew only marginally to RM1,046.4 million (2012:

RM959.8 million), representing 0.5% of total insurance industry assets, broadly unchanged from 2012. Such operations are mainly in the general insurance business segments in Singapore, Indonesia and Brunei.

The Bank's consolidated supervision of domestic financial institutions includes assessing risks that emanate from operations abroad. This is supported by periodic regulatory reports submitted by DBGs on overseas operations and annual on-site examinations for significant overseas operations. The Bank also conducts regular stress tests of the overseas operations under assumptions of adverse regional economic and financial conditions that may affect the asset quality and liquidity position of the entities. In 2013, the Bank continued to hold regular engagements with host regulators on the performance of three significant DBGs through the established supervisory colleges and bilateral meetings. These engagements also provided the opportunity to review developments in local economic and financial conditions, including the implications of recent macroprudential measures and other prudential regulations on the overseas operations of DBGs. The continued strengthening of such home-host engagements and consolidated supervision would enable the early identification of vulnerabilities at the entity and group levels, and facilitate timely supervisory responses by the Bank.

INTERLINKAGES OF THE BANKING SYSTEM WITH NON-BANK FINANCIAL INSTITUTIONS (NBFIs)

NBFIs have expanded over the years both in terms of balance sheet size and number of entities. The GFC has highlighted the importance of managing the role and scope of some NBFIs in the transmission of risks to the banking system, where highly complex activities involving liquidity and maturity transformation, excessive leverage and imperfect credit risk transfers can be sources of systemic risk that arise from the close interlinkages of some NBFIs with the regular banking system. The financial intermediation activities of NBFIs in Malaysia remain non-complex, predominantly focused on basic lending activities and investments in plain vanilla debt securities and equities. The level of liquidity and maturity transformation activities by NBFIs as a group also continues to be low. This limits the potential for risks to be transmitted to

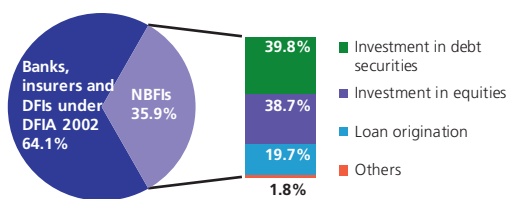
Diagram 1.1

Regulation and Interlinkages of NBFIs

Non-bank financial institutions (NBFIs) refer to institutions which undertake financial intermediation (including credit intermediation) activities that are **not** under the regulatory and supervisory purview of Bank Negara Malaysia.

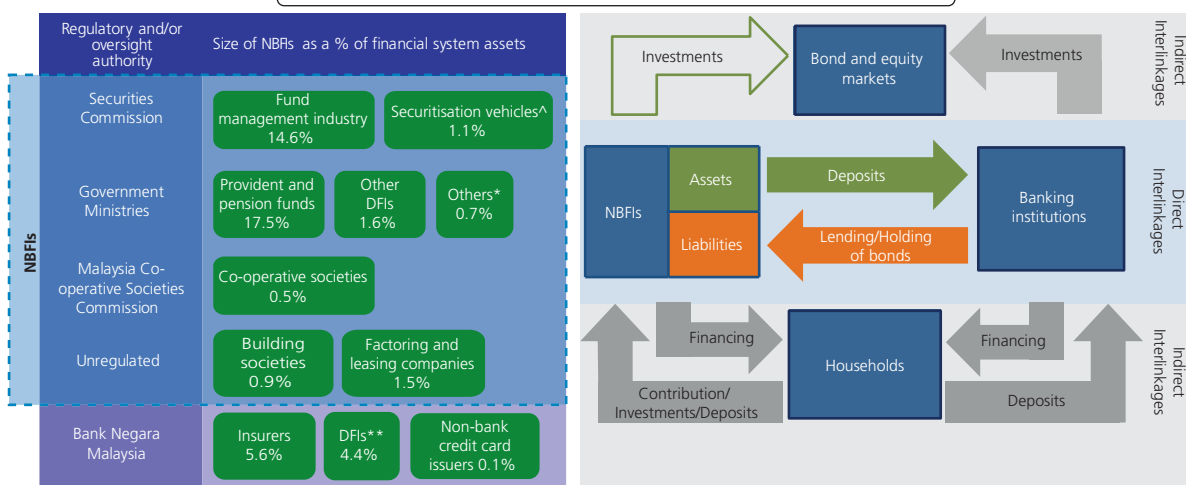
Financial intermediation activities comprise: (i) investment in equities; (ii) loan origination; (iii) investment in debt securities; (iv) securitisation; (v) issuance of credit guarantee or enhancement; and (vi) issuance of credit scoring or rating. **Credit intermediation** comprises (ii) – (vi).

Financial Intermediation in the Financial System



Source: Bank Negara Malaysia

Regulation and interlinkages of NBFIs with the banking system



[^] Refers to outstanding asset-backed securities and asset size of the national mortgage corporation. The offering of asset-backed securities is regulated by the Securities Commission

* Includes pawnbrokers, moneylenders, non-bank providers of hire purchase financing and social security organisations

** DFIs regulated under the Development Financial Institutions Act (DFIA) 2002 - Bank Pembangunan Malaysia Berhad, Small Medium Enterprise Development Bank Malaysia Berhad (SME Bank), Export-Import Bank of Malaysia Berhad (EXIM Bank), Bank Kerjasama Rakyat Malaysia Berhad, Bank Simpanan Nasional and Bank Pertanian Malaysia Berhad (Agrobank)

Source: Bank Negara Malaysia survey, Securities Commission, Malaysia Co-operative Societies Commission, Ministry of Urban Wellbeing, Housing and Local Government, Ministry of Domestic Trade, Co-operatives and Consumerism, various financial statements and internal estimates

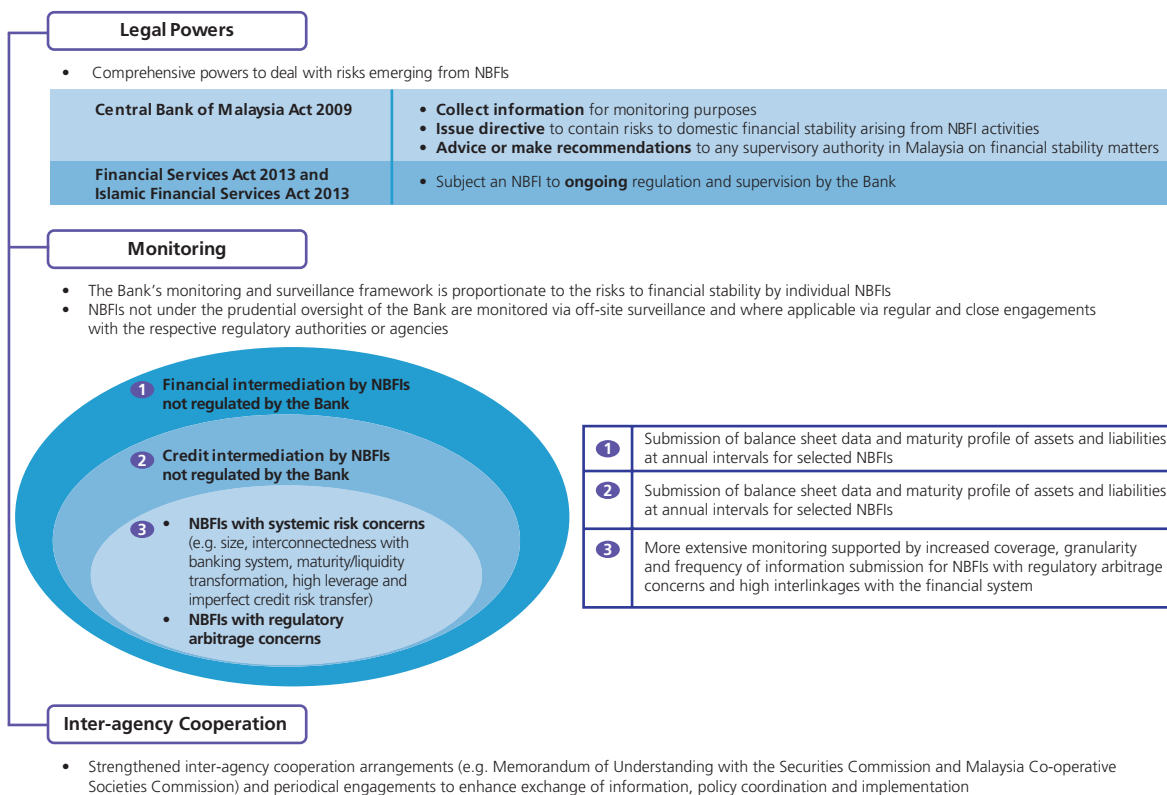
the banking system, which arise mainly from investments in common asset classes. For monitoring purposes, the Bank focuses on NBFIs that are not subject to the prudential oversight of the Bank, comprising provident and pension funds, other DFIs, mortgage corporations, building societies, co-operative societies, moneylenders, pawnbrokers, leasing and factoring companies and non-bank providers of hire purchase. These exclude insurance companies, takaful operators and six large DFIs which are directly regulated and supervised by the Bank.

Based on the above definition, the financial intermediation activities of such NBFIs amounted to 107.4% of GDP. Total assets of NBFIs accounted for 38.4% of financial system assets as at end-2013. Of this amount, assets held in the form of

loans and investment in debt securities accounted for about 65.9% of GDP or 16.1% of total assets in the financial system (Diagram 1.1). The level of financial intermediation by NBFIs is about half the size of financial intermediation activities undertaken by entities which are regulated by the Bank. The funding structure of NBFIs differs from entity to entity depending on the nature of financial activities undertaken. Generally, provident and pension funds are funded through member contributions whilst fund managers are funded by investors and unit holders. Non-bank credit providers are funded by a mix of internally-generated funds, bank borrowings, issuance of debt securities and for some, deposits. Apart from provident and pension funds and fund managers which make up the bulk (84%) of NBFIs assets, the vast majority of NBFIs are small in size, with average financial assets of less

Diagram 1.2

Powers, Monitoring and Inter-agency Cooperation



than RM7.5 million held individually. Given the diverse size and varying degree of interlinkages of NBFIs with the banking system, the Bank's monitoring and surveillance framework for NBFIs is designed to be proportionate to the risks posed by the entities, either individually, or as a group to the stability of the financial system (Diagram 1.2).

Over the past decade, NBFIs assets tripled as the financial system became deeper and more diversified. NBFIs grew at a compounded annual growth rate (CAGR) of 14.4% over this period, where 66.2% of NBFIs growth was driven by the provident and pension funds, and fund managers which grew at a CAGR of 11.8% and 22.3% respectively during this period. Based on the activities undertaken by NBFIs, risk transmission to the banking system can arise from the direct and indirect financial interlinkages associated with the assets and liabilities of NBFIs. Despite the expansion in size and activities, the nature of financial interlinkages between NBFIs and the banking system remains broadly unchanged. The potential transmission of risks to the banking system from NBFIs' assets arises from two channels: (i) directly via

deposit placements with the banks; and (ii) indirectly via investments in common assets held by banks. Potential risk transmission channels from NBFIs' liabilities are mainly from direct credit exposures in the form of bank lending to NBFIs and bank holdings of debt securities issued by NBFIs. While banking system exposures through these asset-liability channels have increased in value terms in tandem with the growth of the domestic economy and financial sector, the direct exposures from deposit placements in banks only accounted for 6% of the banking system deposit base, and bank lending to NBFIs and holdings of NBFIs debt securities accounted for 2.1% of banking system total assets.

Large NBFIs hold a portion of assets in the form of cash for liquidity management purposes. Cash holdings which include deposits with banks typically have maturities of less than a year and are actively managed, to yield optimal returns and to facilitate the rebalancing of asset allocations. While this results in some volatility in NBFIs' deposit placements with banks, the liquidity risk to banks is manageable for several reasons. First, as noted earlier, the banking system as

a whole is not overly reliant on NBFIs deposits as a major source of funding. Second, across individual banks, the concentration of NBFIs deposits remains low, with these deposits on average accounting for less than 5% of most individual banks' deposit base. Third, there is a high level of cumulative liquidity buffers in the banking system. This is also observed for the investment and Islamic banks that have a relatively higher deposit concentration, where the liquidity surplus ranges between 17% and 56.7%, and between 13.3% and 27.3% of deposits for the maturity buckets of one week and one month respectively.

While direct interlinkages between NBFIs' assets and banks are small and limited, the sizable presence of the larger NBFIs in the domestic capital market poses indirect interlinkages with the banking system. The investments of the larger NBFIs collectively accounted for 28.4% of outstanding public debt securities, 19.3% of outstanding PDS and 24.1% of equity market capitalisation as at end-2013. Over the period from 2007 to 2013, the broad composition of NBFIs' investment holdings has remained relatively stable. Investments in plain vanilla debt securities and listed equities continued to make up more than 65% of the portfolio of NBFIs. In the more recent period, some of the larger NBFIs had increased the holdings of MGS during periods of heightened selling pressure by non-resident investors, and progressively increased investments in overseas assets as part of portfolio diversification strategies. The risk from volatile exchange rates remained small as the composition of foreign financial assets to total financial assets of these NBFIs continued to be contained within a range of 2.8% and 19.9%. Overall, NBFIs remained profitable during the year and recorded healthy levels of return on assets, averaging between 5.6% and 7.3% across individual entities.

NBFIs typically adopt a strategic and long-term investment strategy to minimise the size and extent of maturity transformation. For example, long-term holding of assets allows better matching of the long-term pension and provident contributions received. The low maturity mismatch position of the NBFIs in turn mitigates the risk of a sudden and large-scale disposal of assets that will result in sharp movements in asset prices which could have adverse spillover effects on banks. Price

movements in equities are likely to have a negligible impact on the banking system as banks' equity holdings are less than 1% of banking system total capital. Banks are more likely to be exposed to movements in prices of fixed income securities given the relatively higher exposures. Nevertheless, under simulated stressed scenarios of adverse movements in bond yields and prices, the banking system continues to remain well-capitalised (refer to macro stress testing results under 'Financial Institution Soundness and Resilience' of this chapter).

The interlinkages of NBFIs liabilities to the banking system remain low and are of a non-complex nature. The larger NBFIs are not reliant on the issuance of debt securities or bank borrowings to fund financial intermediation activities. These NBFIs, namely the provident and pension funds and fund managers, have an independent funding structure where activities are funded from member contributions, unit holders and investors, thus limiting the direct interlinkages to the banking system. In addition, access to the interbank market and the use of collateralised funding, such as repurchase agreements and securities lending, to construct highly leveraged and complex interconnected positions by NBFIs remain negligible in Malaysia. The smaller NBFIs, namely non-bank credit providers which include co-operative societies, moneylenders, pawnbrokers, leasing and factoring companies, building societies and non-bank providers of hire purchase financing, have a simple funding structure of internally-generated funds, some bank borrowings and limited deposit collection. A few non-bank credit providers are additionally funded by the issuance of debt securities. The maturity mismatch remains low as the average tenure of PDS issued is 6.8 years, while average financing granted generally does not exceed 10 years. Total exposures of the banking system to the smaller NBFIs through these channels remained small. In aggregate, total bank lending to NBFIs and bank holdings of NBFIs debt securities respectively stood at 14.7% (2012: 12.6%) and 8.2% (2012: 7.4%) of banking system total capital, or collectively at 2.1% of banking system assets.

FINANCIAL INSTITUTION SOUNDNESS AND RESILIENCE

Financial institutions remained resilient throughout the year against the challenging operating environment. This was underpinned by sound risk management and governance practices and further improvements in operational efficiency.

The risk profile of the majority of financial institutions, as reflected in the Bank's supervisory ratings (also known as the composite risk rating (CRR)) of individual institutions, was stable in 2013. The financial positions of these institutions also remained strong. The CRR captures the Bank's annual assessment of the inherent risk and the quality of risk management of a financial institution across all significant activities and subsidiaries. It also takes into account the strength of an institution's capitalisation and capital management practices, as well as sustainability of earnings. For the year, six banks and insurers improved on their supervisory ratings following measures taken to strengthen internal risk management practices and financial buffers.

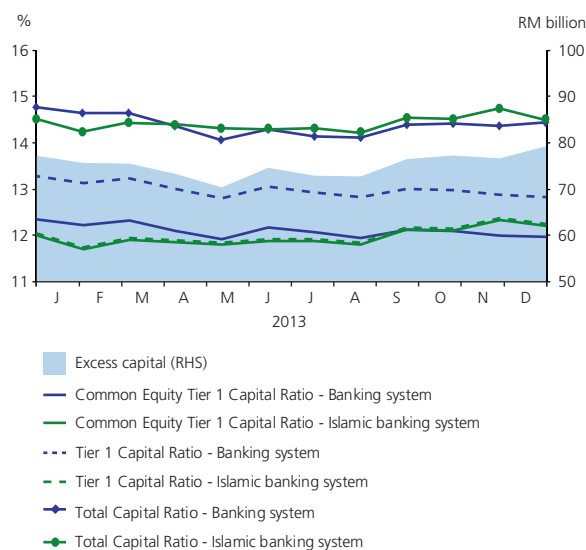
Banking sector

The level and quality of banks' capital remained solid, enabling the smooth implementation of the Basel III Capital Adequacy Framework which was phased in from January 2013. The banking system (including Islamic banks) as a whole maintained a strong Common Equity Tier 1 (CET1) capital ratio, Tier 1 capital ratio and Total Capital Ratio (TCR) of 12.1%, 13% and 14.4% respectively as at end-2013. Banks' capital strength was bolstered by the further build-up of reserves (+21%) and new issuances of equity (+9.1%) in anticipation of the maturing or phasing-out of capital instruments issued under Basel II. The capacity of banks to internally generate capital remained firm with retained earnings totalling more than RM56 billion at the system level. Retained earnings accounted for more than 30% of CET1 capital (before regulatory adjustments). The year also saw the successful implementation of dividend reinvestment plans by three large domestic banking groups to preserve capital strength, which was positive for both the equity level and market capitalisation of these banks.

The overall riskiness of the banks' portfolio remained largely stable in 2013. On aggregate, the ratio of total risk-weighted assets (RWA) to total assets (or RWA density) was at 63.3% (2012: 62.1%). Preliminary reports indicate that the leverage ratio for the banking system stood at more than 6% as at end-September 2013 based on the Basel III definition, which is substantially above the prescribed minimum level of 3%. There were no major shifts observed during the year on the structure of banks' business operations, risk appetite or internal regulatory capital models. As noted earlier, the steady expansion in

Chart 1.63

Banking System: Capital Adequacy Ratios and Excess Capital



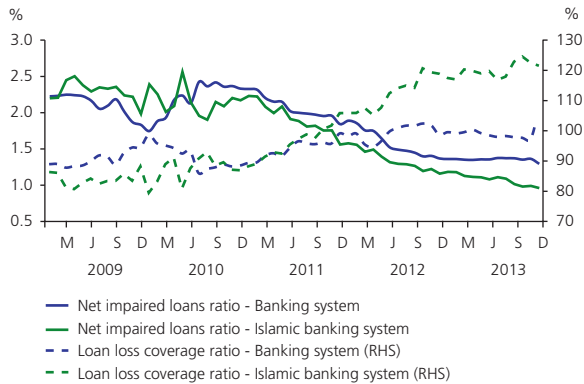
Source: Bank Negara Malaysia

banking system assets was also well-supported by the continued accumulation of high quality capital. This ensured that banks continue to have substantial loss absorbing buffers in excess of the minimum regulatory capital requirement, which stood at RM79.3 billion as at end-2013 (Chart 1.63). Under a conservative scenario where full compliance with the Basel III minimum capital levels were to be applied to the banking system today (i.e. disregarding any transitional arrangements), banks would still have a buffer of RM27 billion above the minimum TCR requirement.

For the year as a whole, the banking system registered pre-tax profit amounting to RM29.8 billion, around the same level as in the previous year, with annual returns on assets and equity averaging at 1.5% and 15.9% respectively (2012: 1.6% and 17.4% respectively). The main driver of earnings performance was from financing and funding activities (+7.3%), which contributed to 42.8% of the gross operating income of banks. Revenue from fee-based business, which has been growing steadily in recent years, continued to reflect a greater focus by banks on fee generation to counteract compressed lending margins in the highly competitive retail lending market. Despite greater income volatility from the trading and investment portfolios, corresponding with more volatile market conditions, higher net gains were recorded for the year as a whole.

Chart 1.64

Banking System: Net Impaired Loans Ratio and Loan Loss Coverage Ratio



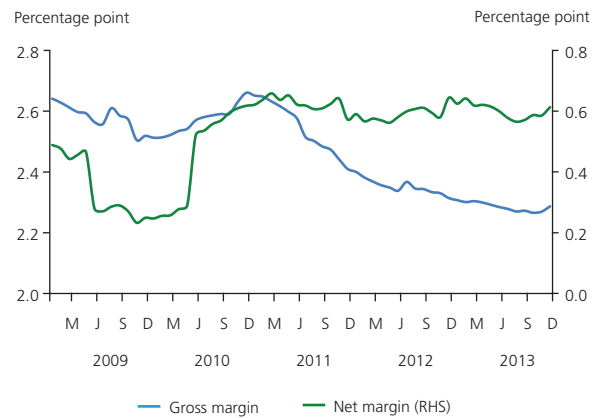
Source: Bank Negara Malaysia

Competitive pressures in the credit market continued to exert downward pressure on the already thin margins. While the historically low delinquency levels across major financing segments and high loan loss coverage ratio of above 100% provided some buffer (Chart 1.64), interest/financing margins (net of expenses on loss provisions) narrowed to 0.61 percentage points (2012: 0.66 percentage points) (Chart 1.65). Lending rates remained highly competitive in the retail segment, ahead of the requirement for banks to comply with risk-informed pricing practices which will take effect in March 2014.

Diversification into fee-based revenue (7.5% of gross income) has provided some stability in bank profit against compressed margins. Commission and service charges from brokerage activities (+39.6%), loan syndications and credit guarantees (+11.4%) and payment services (+159.4%) contributed the bulk of fee income growth (+14.1%). Active risk management by banks during episodes of heightened market volatility was also crucial in supporting bank earnings from proprietary trading and investment activities for the year as a whole. This reflected the enhanced risk management capability of banks in actively managing trading book positions, supported by more developed enterprise-wide and group-wide frameworks for monitoring and controlling market risk exposures. Such frameworks incorporate prudent internal limits, stop-loss and hedging strategies, and the effective use of trading book profit and loss attribution systems which allow better monitoring of treasury performance.

Chart 1.65

Banking System: Gross and Net Interest Margins



Source: Bank Negara Malaysia

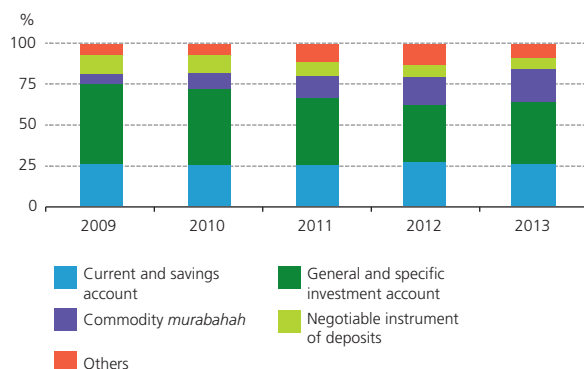
Initiatives taken by banks to improve productivity and operational efficiency helped to control operating costs which posted its most modest increase (+1.8%) over the recent five years. Administration, marketing and general expenses grew at a slower pace (+5.7%) relative to the preceding year, while staff expenses, representing half of banks' total operating costs, declined by 1.8%. This contributed to lower costs per employee which declined by 0.7%, while productivity measures in terms of pre-tax profit per headcount and the ratio of staff cost to revenue improved further.

Islamic banking sector

The rate of return risk in the Islamic banking industry remained manageable under the generally stable conditions in the ringgit funding market and persistent ample liquidity. Islamic banks continued to actively manage this risk through risk reduction strategies on both asset and liability exposures. On the liability side, Islamic banks issued more fixed rate funding instruments with longer tenures and lengthened the re-pricing date of liabilities to narrow the re-pricing gap between assets and liabilities. Fixed-return deposits such as commodity *murabahah* registered an exponential growth of 37.7% during the year (Chart 1.66), with the majority of new deposits having tenures of more than six months. As at end-2013, fixed rate deposits accounted for 20.8% (2012: 17.2%) of total funds of Islamic banks. The share of Islamic NIDs declined to account for a smaller share of 6.7% (2012: 7.4%) of total funds of Islamic banks. A shift was similarly observed in the maturity period of Islamic NIDs away from

Chart 1.66

Islamic Banking: Composition of Deposits



Source: Bank Negara Malaysia

tenures of less than a month into longer tenures of three to six months and six to nine months. Some Islamic banks have also lengthened the maturity structure of the funding base through issuances of medium-term sukuk. About 38% of deposits and investment instruments accepted by Islamic banks have maturities of between one week and six months. The share of funding from deposits and investments with remaining maturities between six months and up to one year increased from the previous year to 25.2% (2012: 23.4%). The lengthening of the overall duration of funding has contributed towards easing the pressure of managing funding mismatches by Islamic banks.

On the asset side, the rebalancing between fixed and variable rate financing continued to occur. As

Chart 1.67

Islamic Banking: Fixed Rate and Variable Rate Financing

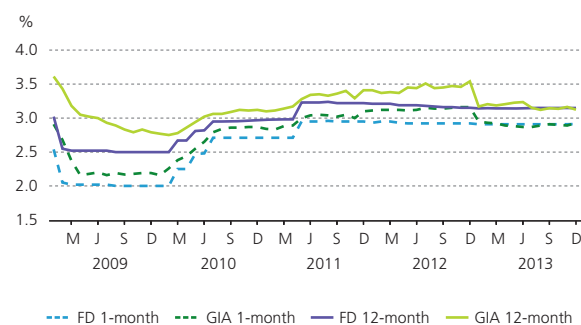


Note: All figures are in RM billion

Source: Bank Negara Malaysia

Chart 1.68

Islamic Banking: General Investment Account (GIA) Rates and Quoted Fixed Deposits (FD) Rates



Source: Bank Negara Malaysia

Islamic banks reduced further the concentration of long-term fixed return financing, thus shortening the duration of the financing assets, the share of variable rate assets in the financing book (Chart 1.67) expanded strongly at 34% to account for 49.4% (2012: 44.2%) of total financing. Such variable assets were mainly in the form of *musharakah* (partnership), *ijarah* (leasing) and variable *murabahah* (mark-up) contracts. Retail financing continued to dominate the financing portfolio of Islamic banks, accounting for 61.8% of total financing where about 42% was financing for the purchase of residential properties and motor vehicles.

Stable funding conditions also reduced the challenges associated with managing displaced commercial risk (DCR). DCR is the risk associated with Islamic banks forgoing part or all of the profits (or absorbing a portion or all the losses) in order to meet the expectations of investment account holders of receiving a competitive rate of return (in comparison with conventional products). This risk is inherent in a dual banking system structure such as that in Malaysia. The difference between the rate of return on general investment accounts and quoted conventional fixed deposit rates (Chart 1.68) narrowed during the year with continued stability observed in the funding base of Islamic banks. This further eased the pressure on Islamic banks to match the returns offered on conventional deposits given the more comparable returns to fund providers. Unlike in the past where profit equalisation reserves were typically used to match the returns offered on conventional fixed deposits, the management of DCR now relies on the use of the *tanazul* concept which enables Islamic banks to waive part or the

entire share of profits (in an agreed profit-sharing ratio contract) in order to meet the expectations of an investment account holder. While the use of *tanazul* concept could potentially increase the volatility of net income for the Islamic banks, this was not observed during the year. The average cost of deposit for Islamic banks remained stable at 2.53% (2012: 2.51%).

The Islamic Financial Services Act 2013 draws a clear distinction between a deposit instrument and an investment account. Under the legislation, general investment account instruments offered by Islamic banks which are not principal-guaranteed will have to be clearly designated as investment accounts and distinguished from principal-guaranteed deposits, both in the terms and conditions of the instruments and the way in which the instruments are managed. To allow for an orderly transition, Islamic banks have been accorded a two-year period, up to June 2015, to bring existing investment accounts in line with the provisions in the law. Most banks are expected to offer alternative deposit products which are principal-guaranteed to existing general investment account holders who wish to hold deposit, rather than investment, accounts. This should preserve a stable funding base for Islamic banks during the transition period. As at end-2013, general investment accounts comprised 26.2% (2012: 26.3%) of total Islamic deposits and investment accounts, with the composition ranging between 5% and 45.4% across individual Islamic banks.

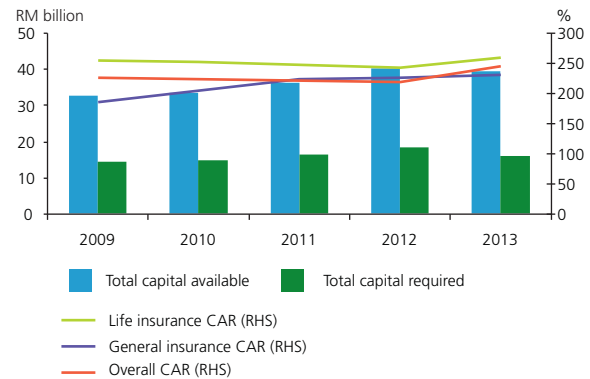
Based on the Bank's review on the operations of the Islamic banks, there was no material Shariah non-compliance event during the year. Islamic banks continued to strengthen the Shariah oversight and control functions, including the Shariah review process and audit functions. The Bank is currently at various stages of developing Shariah and operational standards on key Shariah contracts which will provide further clarity on regulatory requirements applicable to different Shariah contracts, thereby serving to minimise potential Shariah non-compliance risk (refer to the box article on 'Diversification of Islamic Banking Businesses and Products driven by Shariah Contracts').

Insurance and takaful sector

The capitalisation of the insurance industry strengthened further during the year. The aggregate capital adequacy ratio (CAR), computed as the ratio of total capital available

Chart 1.69

Insurance Sector: Capital Adequacy Ratio



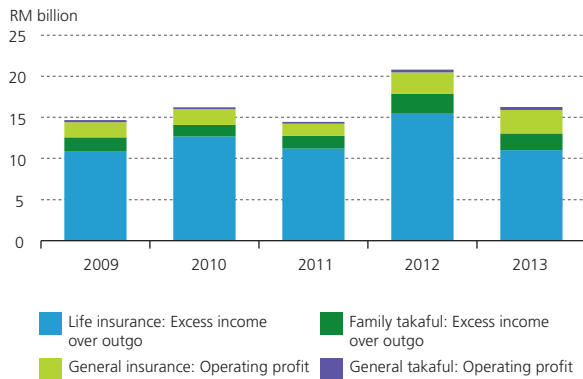
Source: Bank Negara Malaysia

to total capital required, for the industry improved to 245.9% (2012: 219.1%) with capital buffers totalling RM23.5 billion (Chart 1.69). Higher MGS yields had a positive and significant effect on life insurers' capitalisation through lower valuations of insurance liabilities (thereby increasing the surplus available to meet capital requirements which more than offset investment losses incurred during the year), and lower required capital charges for market risk. Insurance risk, which measures the risk of underestimation of insurance liabilities, adverse claims experience, expense and lapse risks, and to a certain degree the impact from the discounting of insurance liabilities, remained the largest component of risk, accounting for 50.7% of total capital required. Overall insurance risk charges remained stable for the year given the stability of reserving policies and key best estimate assumptions used in the absence of major catastrophe and pandemic incidences in the domestic market.

The more volatile financial market conditions and bond yield movements did, however, have an adverse effect on the overall financial performance and profitability of the life insurers and takaful operators. The life insurance and family takaful sector recorded a lower level of excess income over outgo of RM13 billion (2012: RM17.9 billion) for the year (Chart 1.70). Despite an increase in net premium, life insurers, and to a lesser extent takaful operators, suffered a large amount of portfolio revaluation losses, totalling RM1.5 billion (2012: net gains of RM2.2 billion). Revaluation losses from debt security investments contributed

Chart 1.70

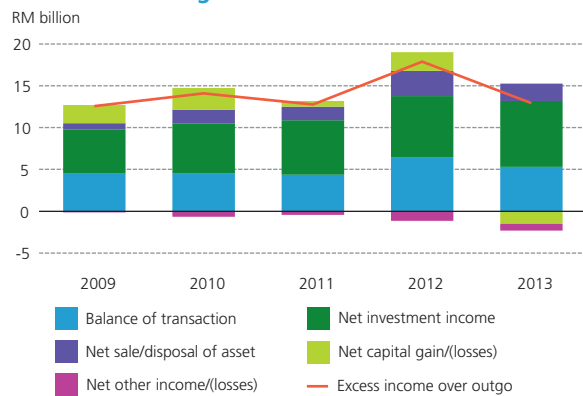
Insurance Sector: Profitability



Source: Bank Negara Malaysia

Chart 1.71

Life Insurance Sector: Composition of Excess Income over Outgo



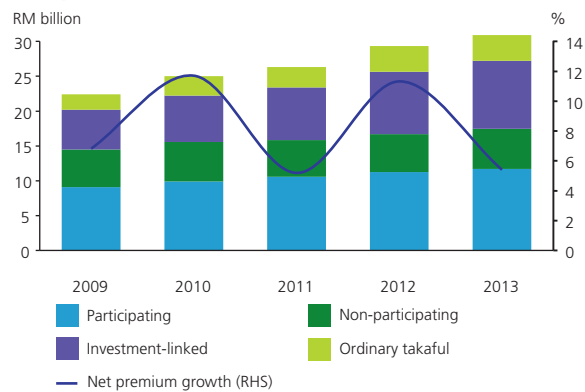
Source: Bank Negara Malaysia

to 88.6% of overall mark-to-market losses. In addition, net benefit payments were also higher by 14.8%, mainly due to payments on a larger number of policies that matured during the year and higher payments of medical benefits which increased by 26.4% over the previous year (Chart 1.71).

Overall net premiums for life insurance and family takaful business rose at a much slower rate of 5.4% (2012: 11.3%), driven by weaker growth from investment-linked policies which moderated sharply to 9.4% (2012: 18.8%), reflecting the more volatile market conditions (Chart 1.72). Since 2010, investment-linked policies have accounted for an increasingly significant share of

Chart 1.72

Life Insurance Sector: Net Premium Growth and Composition of Life Insurance Product



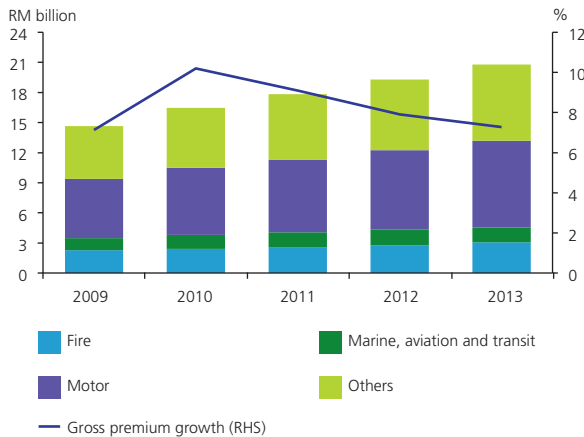
Source: Bank Negara Malaysia

new business premiums (40% of new business premiums in 2013) which has also resulted in greater volatility in new business growth in line with financial market conditions. This is more pronounced in the conventional insurance sector which can present some challenges for life insurers that have a higher concentration in this business segment. For such insurers, the associated volatility in growth would need to be weighed against the more efficient utilisation of capital typically associated with investment-linked business (investment-linked business is less capital-intensive as investment risks are borne by the policyholder). Net premium from participating and non-participating business continued to provide some stability to income for the industry as a whole. Premium growth in these segments has remained relatively stable, averaging 5.9% over the past five years from sustained demand for protection and savings products which continue to account for the bulk (56.5%) of total net premium. The rate of surrenders of policies also remained low at 1.7% of total policies in-force.

Overall investment yields of life insurers remained below the levels prior to the GFC. In 2013, the investment yield of life insurers ranged between 5% and 6% per annum, substantially lower than the yield of 9% per annum earned prior to the crisis. This continues to pose challenges to life insurers that had priced and sold products based on higher assumed rates of return in the past. For in-force policies, the yields on invested assets together with the buffers and surpluses accumulated over the years have largely been sufficient to maintain non-guaranteed benefits

Chart 1.73

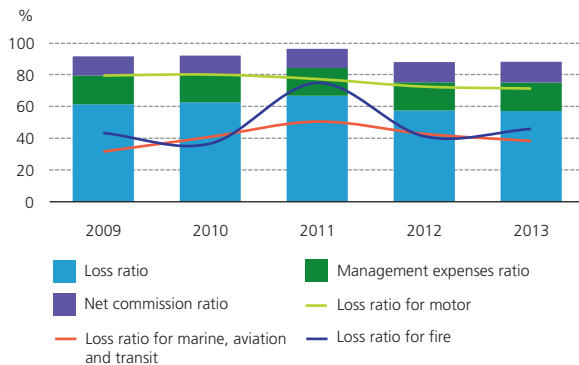
General Insurance Sector: Premium Growth and Composition of General Insurance Business



Source: Bank Negara Malaysia

Chart 1.74

General Insurance Sector: Combined Ratio and Loss Ratio of Selected Business Classes



Source: Bank Negara Malaysia

to policyholders, and the expectations of rising yields should mitigate reinvestment risks going forward. For newer products, insurers have begun to adopt more conservative assumptions to better reflect prevailing market conditions. Strengthened requirements on product risk management, disclosure and selling practices will also serve to further reinforce continued discipline in pricing practices by life insurers, while ensuring that policyholders are not misled in relation to expectations of future returns.

General insurers and takaful operators performed better, recording higher profits of RM3.2 billion (+11.1%) on the back of continued strong premium growth in the motor and fire insurance

segments and a stable loss ratio (57.1%) (Chart 1.73). Despite registering a stronger operating profit, the general insurers and takaful operators continued to be confronted with the challenge of managing the misalignment between premium rates and losses from claims for the compulsory motor third party liability insurance (motor 'Act') business. While the overall claims ratio for motor business improved marginally to 71.2% (2012: 72.4%), the much higher claims from the motor 'Act' business (which remains well in excess of 100%) continued to pose a significant drag on overall claims and underwriting performance for the motor segment (Chart 1.74). The progressive adjustments to the motor tariff since 2012 along with broader reforms being pursued under the New Motor Cover Framework to contain claims costs therefore remain critical to better align pricing to risk and preserve continued access to motor insurance coverage at reasonable rates over the long-term.

Stress testing of banks and insurers

Banks and insurers, both at the system and institutional levels, demonstrated sufficient earnings and capital buffers to weather extreme macroeconomic and financial conditions based on the macro stress test conducted by the Bank. The scenario-based solvency stress test for the period 2014 to 2016 incorporated simultaneous shocks on revenue, funding, credit, market and insurance risk exposures, taking into account a series of tail-risk events and downside risks to the global economic outlook. The simulated spillovers on the domestic economy were used to assess the compounding year-on-year impact on income and operating expenses, balance sheet growth and capitalisation of financial institutions, disregarding any loss mitigation responses by financial institutions or policy intervention by the authorities (Table 1.11). Scenarios assumed for the stress test purposes include disorderly fiscal and monetary policy adjustments in advanced economies, unresolved structural fragility of major banking systems, and more subdued growth in emerging market economies due to domestic structural adjustments, tighter external funding conditions and volatile capital movements.

Even under the adverse scenario, the post-shock aggregate TCR and CET1 capital ratio of the banking system were sustained at 10% and 7% respectively, remaining above the minimum regulatory requirement under Basel III based on the phase-in arrangements which are consistent with the global timeline. 75% of banks recorded

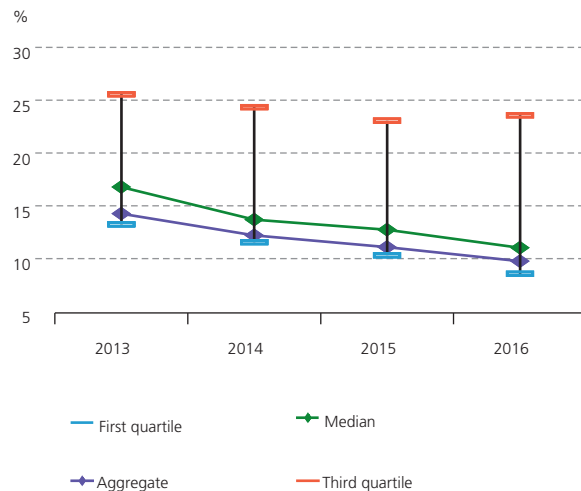
Table 1.11

Solvency Stress Test: Key Assumptions and Shock Parameters for the Adverse Scenario

Key assumptions	
Malaysia GDP shock	<p>Sharp slowdown (worse than the economic contraction in 2009) followed by a gradual recovery, taking into account:</p> <ul style="list-style-type: none"> • Spillovers from downside risks and tail-risk events from advanced economies, PR China and emerging market economies • Potential implications on the domestic financial system following disorderly adjustments in international financial markets due to tapering of quantitative easing in the US <ul style="list-style-type: none"> - Simulated reversal of capital flows worse than that experienced during the GFC (in terms of magnitude and pace)
Balance sheet and income projections	<ul style="list-style-type: none"> • Decline in income growth, differentiated across segments (interest income, fee-based and other income) of up to 62% • Moderation in credit growth of up to 2.7 percentage points
Credit risk shocks	<ul style="list-style-type: none"> • Probability of default (PD) shocks <ul style="list-style-type: none"> - Business loans up to 12% - Household loans up to 11% • Loss given default (LGD) shocks <ul style="list-style-type: none"> - Business loans up to 56% - Household loans up to 90% - Housing loans up to 30%, reflecting sharp adjustment in property prices • Default of selected business borrowers <ul style="list-style-type: none"> - Large corporations under close monitoring - Corporations affected by volatility in exchange rate movements
Market risk shocks	<ul style="list-style-type: none"> • Increase in MGS yields up to 330 basis points • Widening of PDS credit spreads up to 200 basis points • Higher basis risk • Decline in FBM KLCI of up to 40% • Depreciation in major currencies of up to 16%
External funding risk shocks	Reversal of claims by non-residents amounting up to 30% of interbank borrowings and deposits

Chart 1.75

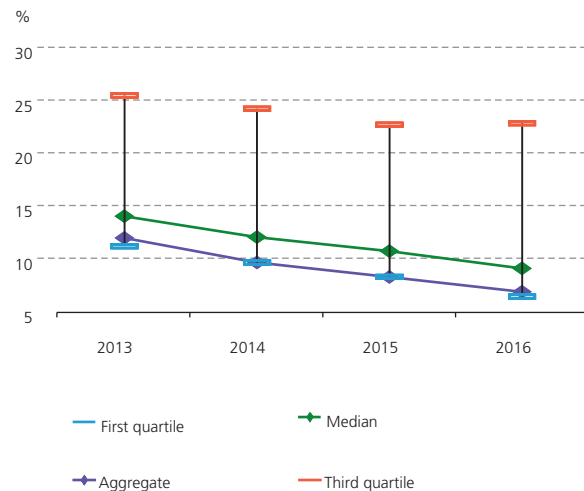
Banking System: Post-shock Total Capital Ratio in Adverse Scenario



Source: Bank Negara Malaysia and internal estimates

Chart 1.76

Banking System: Post-shock Common Equity Tier 1 Capital Ratio in Adverse Scenario



Source: Bank Negara Malaysia and internal estimates

a TCR above 8.8% and CET1 capital ratio of 6.7% at the end of the stress test horizon (Chart 1.75 and Chart 1.76). While cumulative losses from credit, market and funding shocks in the adverse scenario increased by 54.7% compared to the baseline scenario, the resultant 4.5 percentage points decline in the TCR over three years was well within the loss absorbing capacity of banks without taking into account planned capital raising activities during this period.

For the insurance industry as a whole, the post-stress capital adequacy ratio similarly remained above the minimum regulatory requirements under the adverse scenario, ranging between 157.1% and 256.4% for the period 2014 to 2016. The impact on capitalisation was more pronounced for the general insurance industry due to the impact of shocks applied in relation to higher provisions for motor claims. The resulting operating losses reduced the CAR for general insurers to 143% in 2014 (2013: 230.7%), before gradually improving to 153% in 2016. Life insurers on the other hand were more affected by mark-to-market losses in 2014, but maintained a strong CAR of 162%, before gradually improving to 297% in 2016.

OUTLOOK FOR DOMESTIC FINANCIAL STABILITY AND FOCUS OF SURVEILLANCE IN 2014

The Malaysian financial institutions continue to be well-positioned to manage external risks due to the exit from the unconventional monetary policies as prospects improve for economic recovery in the major advanced economies. Continued volatility is likely to persist in the domestic financial markets as investors adjust to changing expectations for the US monetary policy, as well as and developments in the euro area and PR China. Over the recent period, Malaysian financial institutions have demonstrated resilience particularly during such episodes of heightened volatility and have continued to strengthen the underpinnings of this resilience, notably by preserving strong financial buffers, ensuring that foreign currency funding mismatches remain low and observing continued prudence in risk taking. The deep and more efficient domestic financial markets will also continue to provide support for orderly market conditions.

Sustained favourable conditions in the domestic and regional economies will contribute towards managing the credit risk exposures of Malaysian financial institutions to businesses and households. This is further supported by the continued vigilance in financial institutions' liquidity, credit and market risk management, including in the overseas operations, and the improving overall debt servicing capacity (with low leverage positions) and balance sheet strength of businesses as noted in this Report. Coping with the higher cost of living will also be more challenging for vulnerable households while some businesses with high external borrowings and more rigid cost structures will need to deal with the more volatile exchange rate and elevated cost of materials and input. On aggregate, the risks to financial stability are manageable and are expected to remain well-contained. As the effects of the measures implemented by the Bank and the Government to promote the resilience of the households and ensure a sustainable property market continue to gain traction in the period ahead, this should mitigate any material adverse implications on financial institutions from exposures to the sector.

The impact on domestic financial stability conditions from both the external and domestic developments will depend critically on maintaining strong domestic fundamentals, including a resilient domestic financial system. The Bank's surveillance and supervisory priorities in 2014 will therefore continue to be focused on:

- ensuring that banks continue to maintain sound lending standards, and that improvements in the lending practices of NBFIs are sustained. This should contribute towards managing household leverage, especially among the more vulnerable groups;
- supporting the sustainable development of the property market, by ensuring that bank lending for the development and purchase of property are not encouraging speculative activity and valuation practices continue to be credible and robust;
- monitoring developments in the non-residential property market, focusing in particular on strong demand and rising prices in the shops segment, and rising risks of a possible oversupply of office space going forward;
- monitoring the level of external borrowings and business sector leverage positions and ensuring that banking system buffers remain strong

- against potential losses from businesses that are more exposed to potential financial stress;
- assessing changes in the risk appetite and business strategies of financial institutions and ensuring that such changes are aligned with prudent risk-taking in an environment where improving global recovery remains vulnerable to a disorderly exit from unconventional monetary policies in the advanced economies. The Bank will increase its vigilance over the overseas operations of domestic banking groups given the different challenges that will confront individual countries during the transition;
 - ensuring the continued robustness of the financial market infrastructure, in particular the payment and settlement systems;
 - assessing developments surrounding the systemically important NBFIs and the potential implications on the financial system;
 - further strengthening domestic crisis management arrangements in close coordination with other domestic regulatory authorities and government agencies; and
 - continuing to promote effective regional cooperation and coordination in financial regulation, consolidated supervision and crisis management through supervisory colleges and the Bank's active participation in multi-lateral platforms for central banks and supervisory authorities.